WELLS CATHEDRAL

Excavations and structural studies, 1978–93

Volume 1

Warwick Rodwell

ENGLISH HERITAGE

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Excavations and Structural Studies, 1978–93

Volume 1
Part 1. Historical and Structural Sequence

In Memoriam

George Rodwell
(1875–1959)

Thomas George Rodwell
(1901–1989)

Winston Rodwell
(1985–1998)

WELLS CATHEDRAL

Excavations and Structural Studies, 1978–93

Warwick Rodwell

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with contributions by

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and a Foreword by

The Very Reverend Patrick Mitchell

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Contents

Plates

Volume 1

Frontispiece Aerial view of Wells Cathedral and the Bishop's Palace (in the foreground), from the south, The site of the 1979 excavations shows as a brown area in the angle between the south transept and the cloister. The Vicars' Close is seen to the north of the cathedral. (*West Air Photography*)

Volume 2
(between pp. 572–3)

I John Carter's plan of the central and eastern parts of Wells Cathedral precinct, drawn in the early 1790s. His careful use of colour differentiates between grass, gravel and water. Courtesy of the Society of Antiquaries of London (*Warwick Rodwell*)

II Edmund Buckle's analysis of the structural stratigraphy of the east cloister wall, and the adjoining part of the south transept. After Buckle 1894

III Two views of the Dipping Place in the cloister, by Edward Carlos, 1825. Courtesy of the Dean and Chapter of Wells (*Richard Neale*)

IV Detail of the gold-braided ribbon which was apparently tied round a bundle of bones placed on the thorax of skeleton 40 (*Warwick Rodwell*)

V Side view of skeleton 71, showing the junction between bone which is in a 'normal' state of preservation, and the crumbling and efflorescing condition of the face and neck (*Warwick Rodwell*)

VI The crossing and eastern arm of Stillington's chapel during excavation in 1980. Note also walls of the earlier Lady Chapel and the Anglo-Saxon mortuary chapel (centre foreground) following the earlier building alignment (*Warwick Rodwell*)

VII Bishop Bubwith's chantry chapel in the nave of Wells Cathedral. Similar screenwork existed in Stillington's chapel (*Jerry Sampson*)

VIII William Smyth's fan vaulting over the nave of Sherborne Abbey. The nave of Stillington's chapel would have had a similar appearance (*Jerry Sampson*)

IX The 1477 diversion of the lead water pipe in the Camery. The pipe was laid in a stone duct, and packed all round with a jacket of green clay (*Warwick Rodwell*)

X The northern 'pot' and outflow channel of the springs at Wells, seen here in 1979 after draining the Bishop's Palace lake: compare with Figure 409 (*Warwick Rodwell*)

XI Examples of painted wallplaster from the Lady Chapel-by-the-Cloister: (a) Fabric C, F1435; (b) Fabric E, F449; (c) Fabric F_1, with underscoring, F472; (d) Fabric D, F1430; (e) F1347; (f) F1298; (g) note underscoring, F1322; (h) F449; (j) F620. All thirteenth–fourteenth century, except (a) which is probably twelfth century (*Jerry Sampson*)

XII Late thirteenth-century inlaid floor tile (design 54), showing the west front of a great church with birds perched upon the towers (*Warwick Rodwell*)

XIII Fragments of Anglo-Saxon jet and glass. Top row: jet rim (F296); pale blue vessel glass (F993); green vessel glass (F813, F1254, F779). Lower row: blue window glass (F1401); green vessel glass (F1445) (*Warwick Rodwell*)

XIV Fragment of Anglo-Saxon cross-shaft(?) with interlace, carved in Bath stone (no. 2). Found in 1894 (*Warwick Rodwell*)

XV The Anglo-Saxon font, with its Jacobean cover, in the south transept of Wells Cathedral (*Warwick Rodwell*)

Figures

Note: Photographs are by the author, unless otherwise credited in the full captions.

Tables

Foreword

The range of scholarship in these two volumes is prodigious. Set in the context of local geology and the early history of the Church in Wessex, we find detailed studies of the Saxon bishops of Wells, the various building materials of the region, the Saxon font, the burials from late Roman times onwards, the Vicars' Close, the medieval tiles and the vanished Stillington Chapel — not to mention a host of related subjects. The sequence of structures beside the Well (or spring) of St Andrew is skilfully disentangled.

The comparative neglect of serious archaeology in Wells before 1978, compared with Glastonbury Abbey and other early sites, makes the present work especially welcome. Certain insights, such as St John Hope's prediction of a Saxon cathedral to be discovered alongside the present Gothic building, were tantalizing hints of the riches to be found; but equally, there had been erroneous guesses, such as James Irvine's plan of a supposed octagonal building adjoining the east cloister, which confused the issue for a century.

The supreme importance of the Early English cathedral emerges, when it is realized how the fully developed Gothic architecture appeared in Wells at such an early date. The plan of the cathedral and cloisters influenced what was built soon after at Salisbury and elsewhere.

Dr Warwick Rodwell, who has been Consultant Archaeologist for the Cathedral since 1977, has been the driving force behind a series of excavations and countless areas of research. Some members of the team, whom he drew in for advice, have contributed to the present work: therefore, these volumes incorporate the best research by leading specialists. We now have a reliable and accurate account for all future reference.

Plans, diagrams and illustrations are admirably clear. Notes and references are accurate. Appendices and indexing are exemplary.

It was my privilege to have oversight of Wells Cathedral while the excavations in the Camery and many other investigations were made. I therefore saw Dr Rodwell's work at first hand and can vouch for the patience, skill and vision with which he directed operations. Now, with equal skill, he has written up a quarter of a century of discovery, with contributions by the experts named on the title page. To their work, I also wish to pay tribute.

I shall never forget the thrill of descending into the partially excavated remains of the apsidal crypt of the Saxon cathedral; and what an excitement it was to see the actual skeletons of the Saxon bishops of a thousand years ago! Their bones were reverently replaced, with Christian devotion, in their respective tombs.

As I warmly commend this publication, I hope that its readers will capture some of the thrills recorded in its pages.

The Very Reverend Patrick Mitchell, KCVO, FSA,
Dean of Wells 1973–89

Preface

Wells is one of the seven English cathedrals of the 'old foundation', that is an Anglo-Saxon episcopal church which was served by a group of canons who did not owe allegiance to any regular monastic order. The Cathedral Church of Saint Andrew continues today to fulfil the purpose for which it was built. Unlike some other episcopal seats that became monasticized after the Norman conquest, Wells remained a 'secular' cathedral throughout the Middle Ages. On account of this, the cathedral did not suffer the same level of despoliation at the Reformation as some of its monastic counterparts. Indeed, the ancillary buildings which made up the ecclesiastical complex remain very largely intact to this day: cloister, bishop's palace, deanery, college of vicars choral, canonical residences, medieval barns, the precinct wall and gatehouses. The only significant building loss from the complex was the college of chantry priests; and the sole structural element to be shorn from the cathedral itself was Bishop Stillington's Lady Chapel-by-the-Cloister. Its destruction in 1552 was consequent upon its being an episcopal chantry chapel. At the same time, Bishop Burnell's great hall at the palace was reduced to a ruin.

Individually, these losses were significant, but they were small in the overall ecclesiastical context at Wells. The architectural and archaeological legacy thus survives in an exceptionally complete state of preservation: in addition, it may be recalled that the major part of the entire corpus of English thirteenth-century figural sculpture adorns the west front of the cathedral. The 297 statues have, with some justification, been described as 'one half of our noblest art' (Prior 1904, 326). It was the need to embark, in 1974, on a restoration and conservation programme of unprecedented complexity on the west front that led indirectly to the archaeological investigations which are reported in these volumes.

In the mid-1970s it was jointly perceived by the Churches Committee of the Council for British Archaeology, and the Cathedrals Advisory Committee (now Cathedrals Fabric Commission for England) of the General Synod of the Church of England, that there was an emerging need for the capitular bodies of cathedrals to retain consultant archaeologists as part of their professional staff, and a recommendation to this effect was duly submitted to all deans and chapters. The Dean and Chapter of Wells, recognizing the archaeological implications of the work in hand, was one of the first to appoint a consultant archaeologist, in 1977. Over the course of the following decade, the importance of archaeology not only to the academic study of cathedrals, but also as a means of informing responsible repair and conservation, became transparent. Since the passing of the Care of Cathedrals Measure 1990, it has become a statutory requirement for every Anglican cathedral to retain an archaeologist.

Prior to the late 1970s, no archaeological surveys or excavations had been conducted to modern professional standards in the city of Wells, and hence there was no scholarly base upon which to build. Moreover, secure knowledge of the foundation and development of the cathedral is crucial to understanding the origins and history of the town of Wells. The first task for the newly appointed cathedral archaeologist was to carry out a rescue excavation on a critically important site adjacent to the east cloister where, in 1978, it was intended to create an extension to the masons' yard. This marked the beginning of a three-year excavation programme, the results of which contribute substantially to the present report. Archaeological involvement at the cathedral quickly extended into many other areas of the building and the precinct, where evidence was being revealed during maintenance and other works. That involvement continues to this day.

This study embraces a wide spectrum of material evidence relating to the origins and early development of Wells Cathedral, as well as much of later medieval and post-medieval interest. Chronologically, the report has necessarily to cover the entire history of the cathedral and its antecedent structures. Topographically, however, it is largely confined to the area between the south side of the cathedral church and the Bishop's Palace. This part of the precinct is basically divisible into three units. The central area is occupied by the medieval cloister; to the west is a small memorial garden (the Mary Mitchell Garden), fringed by a curious assortment of structures; and to the east is a much larger garden known as 'The Camery', beyond which lie the springs from which Wells derives its name.

Other investigations and researches carried out within the cathedral complex will for the most part be reported upon elsewhere, and consequently minimal reference is made to them here. These include a volume on the architectural history, archaeology and conservation of the west front, recently completed (Sampson 1998); a report on small-scale excavations inside the cathedral; an account of investigations into the tombs of the Anglo-Saxon bishops; and a study of the Vicars' Close.

The principle has been adopted in this report of presenting archaeological evidence in its appropriate architectural and historical context. Essentially, the excavations of 1978–80 investigated a succession of structures which were appendant to, or underlay, the existing medieval cloister, and it is therefore the development of the cloister complex in extenso which has been studied: the components only make historical and architectural sense as part of the whole. We have deliberately eschewed as inappropriate the conventional approach of compartmentalizing the several categories of evidence, in favour of an integrated analysis and discussion.

All phases in the development of this part of the cathedral precinct, from prehistoric to modern, are embraced by the study, but without attempting to incorporate minutiae of inconsequential value. These are to be found in the site archive. Full and conventional presentation of the stratigraphic evidence, and the finds, would easily have filled another volume. A great quantity of finds was recovered — mainly stone, tile, pottery and disarticulated bone — but, as usual on long-occupied sites, the vast majority was residual in the contexts from which it was derived; moreover, little was of genuine intrinsic interest. The temptation to publish catalogues of mediocre finds has therefore been resisted. In this report certain spellings which have long been traditional at Wells have been retained, in preference to the more common modern equivalents; particular instances include 'quire' (choir) and 'virger' (verger).

These volumes essentially contain a digest and preliminary interpretation of the evidence. While it would have been desirable to discuss architectural and historical comparanda for the many facets of Wells Cathedral that are introduced here, this again would have greatly increased the size of the work. Definitive coverage of the wide range of material available is not practicable in a single monograph. Many topics merit — and should receive — extended consideration: for example, the geomorphology of the springs; the significance of the Roman mausoleum within the evolving Christian community of the first millennium (particularly in relation to continental analogues); the foundation and early history of the planned town; the rôle of Wells in the development of the English secular cloister; detailed histories and analyses of the various claustral appendages; the architectural form and affiliations of Bishop Stillington's Lady Chapel; and medieval hydraulic engineering. On all of these, and many other, subjects Wells has much primary evidence to contribute. However, with considerable reluctance, it has been necessary to eschew wide-ranging discussion.

'I have considered the days of old, the years of ancient times.' (*Psalms* 77, v.5)

Postscript. This preface was written in March 1993, when the study was approaching completion, and publication was expected in 1994. However, the road to publication has been painfully slow, and a limited amount of revision and updating has been deemed essential. That was carried out in the early part of 1998, but the work remains substantially as written during the period 1987–93.

Warwick Rodwell
Downside, Somerset
April 1998

Acknowledgements

A long-term, multi-facetted project such as that carried out at Wells depends for its success upon the goodwill, co-operation, and professional collaboration of many parties. First, the Dean and Chapter of Wells, as owners of the cathedral precinct, not only gave permission for the excavations and surveys, but also provided a wide range of facilities and much practical assistance during the work. The Very Reverend Patrick Mitchell, formerly Dean of Wells, took a great personal interest in the archaeology and architectural history of his cathedral, and was directly responsible for instigating numerous lines of inquiry. His warm friendship and enthusiasm for promoting scholarly research have been an abiding source of inspiration and encouragement throughout the work. The late Mrs Mary Mitchell's kindness and hospitality were also much appreciated. Dean Mitchell set up an ad hoc Committee for Archaeology in the Camery of Wells Cathedral, which functioned during the 1978–80 excavations and provided much-valued support for the director and staff. The Right Reverend John Bickersteth, then Bishop of Bath and Wells, also showed a keen interest in the excavations, and both consented to and encouraged the investigations at the springs and the palace lake in 1979.

In more recent years, the continuing support of the Very Reverend Richard Lewis, Dean, and the Reverend Canon P. de N. Lucas, formerly Keeper of the Fabric, has been much appreciated. Successive cathedral architects, the late A.D.R. Caroe, Alan Rome, O.B.E., and Peter Bird, together with the west front architect, the late Martin Caroe, all gave full support to the projects, and did much to facilitate their execution. Practical assistance in many different forms was given, especially during the excavations, by successive master masons: the late W.A. (Bert) Wheeler, James Bambridge and David Rice. The former Superintendent of Works, Peter Cooley, was a bastion of support over many years. The staff of the masons' yard are particularly thanked for their work in constructing scaffolding bridges over the excavations, in order to maintain essential access to the cathedral lavatories, and so that visitors could view the work in progress. The cathedral virgers are also thanked for their patience and forbearance during the disruptions caused by archaeological investigations.

The excavations and surveys of 1978–80 were directed by the present writer and carried out under the auspices of the erstwhile Committee for Rescue Archaeology in Avon, Gloucestershire and Somerset (CRAAGS). The work was generously funded by the Department of the Environment, the Manpower Services Commission, the British Academy, the Society of Antiquaries of London, and the Maltwood Fund. Post-excavation work and the preparation of this report have been funded by English Heritage, and administered through the good offices of the Planning Department of Somerset County Council. Other investigations were wholly sponsored by the Dean and Chapter of Wells. We are grateful to Dr Christopher Young and Paul Gosling, successive Inspectors of Ancient Monuments for the Department of the Environment (and, latterly, English Heritage), for supporting the excavations and post-excavation programme. In respect of the latter, thanks are also due to Mrs Gill Andrews and Robert Croft for their assistance in the organization and smooth-running of the project. Dr Richard Gem, in his former capacity as an Inspector of Ancient Monuments, also gave valued advice and guidance. Richard Halsey courageously read the complete manuscript of this report and contributed many helpful suggestions.

Detailed plans of the cathedral church and cloister were prepared in 1978 by Nick Elkins and the late Dougal Hunter, sponsored by the Manpower Services Commission. These plans form the basis of several illustrations used here. The cathedral precinct and bishop's palace grounds were surveyed at a large scale by Simmons Surveys of Axbridge in 1980, and Derek Simmons is warmly thanked for this generous contribution to the topographical study of the cathedral.

Thanks are due to the former chairmen and officers of CRAAGS for their support, and to the staff who shouldered the burden of organizing the excavations and who contributed their skills in many ways; particular mention must be made of the part played by Miss Sally Smallridge, the Administrative Officer. I am grateful to the site supervisors and recorders: Miss Elizabeth James, Terry Pearson, Mrs Joanna Richards, Mrs Kirsty Rodwell, Jerry Sampson and Miss Jane Wadham. The finds shed was efficiently managed by Mrs Sarah Adams. The on-site services of palaeopathologist Dr Juliet Rogers proved to be invaluable, particularly in coping with the large quantities of disarticulated bone. Other on-site advice was gratefully received from Leo Biek.

The scholarly help given by the late Linzee Colchester, Cathedral Archivist, in tracing and interpreting historical documentation relevant to the Camery and cloister area is gratefully acknowledged, as is his willingness to share his encyclopaedic knowledge of many aspects of the cathedral and its environs. His successor, Mrs Frances Neale, is also warmly thanked for timely help with innumerable archival matters. Miss Patricia Humphries, lately Cathedral Librarian, Miss Jean Imray, formerly Wells City Archivist, and William Smith, the present City Archivist, all gladly answered queries. Likewise, the assistance of David Bromwich, Librarian to the Somerset Archaeological and Natural History Society, is acknowledged. Mrs Barbara Lowe kindly supplied

details of comparative medieval floor tiles from Somerset.

Successive curators of Wells Museum have generously provided a range of facilities. First, the late Norman Cook, made available storage and working space for the processing of finds during the excavations, as well as giving much personal encouragement and help in a multiplicity of matters. Secondly, Dr Desmond Donovan kindly applied his geological expertise to the study of stone types and sources, both in relation to the standing fabric of the cathedral and the finds and materials derived from excavations. Thirdly, Miss Lesley-Ann Kerr provided facilities for the study of earlier finds and records that are in the care of the museum.

Finally, I must thank the many colleagues who have contributed to the preparation of these volumes, in addition to those who have provided the individually acknowledged contributions. Miss Helen Fuller and Jerry Sampson, in particular, both spent long periods as research and finds assistants during the post-excavation process, and much of their work is incorporated in the main body of the report. The illustrations of artefacts are mainly by John Atherton Bowen (small finds) and Richard Bryant (architectural fragments and sculpture), and Alan Rome prepared the perspective reconstructions of the Lady Chapel-by-the-Cloister. The photogrammetry and rectified photography from which the cloister elevations were drawn was undertaken by English Heritage (Technical Services Group), and thanks are due particularly to Ross Dallas for organizing and overseeing this project. Simon Almy was responsible for the hand enhancement of the cloister elevation drawings. The plans, sections and other elevations published here are mainly by the writer, assisted by Mrs Christine Rodwell.

The bulk of the photography was undertaken by the writer, with periodic assistance from Jerry Sampson and Richard Neale; and many years of patient and skilful photographic processing have been carried out by Gordon Kelsey. Thanks also go to Alastair Currie for his photographic processing.

For the benefit of advice and discussion over the past twenty-one years, on a wide range of topics concerning Wells, I am grateful to many colleagues and friends, including: the late Norman Cook, Paul Drury, Dr Richard Gem, Mrs Kirsty Rodwell, Dr Juliet Rogers, Jerry Sampson, Professor Pamela Tudor-Craig (Lady Wedgwood) and Dr Jeffrey West. They and many others have given freely of their knowledge, but are not responsible for the shortcomings of this study: for those, I have to admit *mea culpa*.

Summary

A programme of archaeological excavation, fabric survey and historical research carried out between 1978 and 1993 partially elucidated the origins, and explored the early development, of Wells Cathedral. The study concentrated primarily on the cloister and its adjuncts, and in particular on the open space to the east, known as 'The Camery'. Here lay an ancient cemetery and the foundations of a succession of demolished buildings, ranging in date from Roman to post-medieval. Collectively, these enshrined a continuous development of religious and sepulchral activity, probably from the fourth or fifth century, to the mid-sixteenth. Subsequently, the area was turned over to secular uses, which have also been explored.

Adjoining the Camery is the group of powerful springs from which Wells takes its name, and a scatter of Mesolithic flints provides the earliest evidence for human activity here. In the Roman period, the site lay on the fringes of a settlement with well-appointed buildings, possibly a villa, but its nucleus has yet to be pinpointed. Serious development of the investigated area began only in the late Roman period, apparently with a cemetery.

Excavation yielded a complex stratigraphic sequence, demonstrating how an anonymous, but undoubtedly significant, late Roman burial which was contained in a mausoleum probably provided the *raison d'être* for the development of a middle Saxon cemetery and chapel, and hence for the origins of Wells Cathedral itself. The establishment of this sequence is uniquely important in the history of English cathedral archaeology, and sets Wells alongside similar developments in continental Europe.

The mausoleum — which is not intrinsically datable, but is likely to have originated in the fourth or fifth century — and the nearby springs became the eastern foci of a minster complex which received its first mention in surviving records in A.D. 766. By that time one of the springs had been adopted as a 'holy well', dedicated in honour of St Andrew.

The core of St Andrew's Minster lies beneath the extant medieval cloister and is unexplored, but the development of its eastern Lady Chapel, which fell within the excavated area, has been traced through numerous phases. That chapel was successor to the mausoleum. An extensive open cemetery developed during the Middle Saxon period around the mausoleum, especially to the west and north, and its bounds were formed by a pre-existing earthwork enclosure. The mausoleum was rebuilt, probably in the ninth century, and continued to serve as a sepulchre until the middle of the tenth century, when it was demolished and the burial chamber was packed with the contents of coffins that had formerly been housed in this or another nearby building. Meanwhile, in 909 Wells had become the bishopstool for the newly created See of Somerset.

A small, square, burial chapel, evidently a *memoria*, was constructed on the site of the demolished mausoleum, enshrining a close-knit group of earth-cut burials which had previously lain within the south-west corner of the mausoleum. To the west lay a separate building with a very deep foundation and curved east wall, which is interpreted as the apsidal crypt of St Andrew's Minster church.

In the eleventh century the chapel became the chancel of a new two-celled building which bore a dedication to St Mary the Virgin. The chapel was structurally linked to the eastern apse of St Andrew's in the late eleventh century, and at the same time became enmeshed in a claustral development, initiated by Bishop Giso. This was further developed by Bishop Robert of Lewes in the mid-twelfth century, although in *c.* 1090 the episcopal seat had been moved from Wells to Bath. The minster, stripped of much of its endowment, became a college of secular canons.

In *c.* 1175–76 Bishop Reginald de Bohun embarked upon the construction of a wholly new church at Wells, in the Early English style, on a site immediately to the north of the old minster. The orientation was also changed at the same time. Building began at the east end, and sufficient progress had been made by the late 1180s for the *opus dei* to be transferred to the new church. It was then possible to begin demolition of the Saxo-Norman cathedral, which was necessary in order to make way for a large Gothic cloister to adjoin the new building on the south.

The venerable sanctity and possibly the political importance of the old chapel of St Mary (*vis-à-vis* a continuing dispute over the diocesan status of Wells) assured its retention in the new complex, despite its non-conforming alignment. The chapel was restored in 1196 and linked to the structure of the cloister that was then under construction. At the same time the southern precinct of the church was enclosed by walls (the Camery), and a great conduit was built to carry the outflow from St Andrew's Well through that precinct and under the cloister, where a dipping-well was constructed in an underground chamber. This marked the beginning of a complex series of works to harness the waters of Wells for ecclesiastical, molendinary and domestic purposes.

Now designated as the Lady Chapel-by-the-Cloister, the restored chapel became a popular place for burial and special services. In the mid-thirteenth century it was variously extended, by adding a side chapel, north and south aisles, and a large eastern 'chancel'. A smaller building erected alongside it, against the cloister, may have housed the medieval consistory court, although by the fifteenth century the court was held in the chapel itself. Meanwhile, Wells had regained its episcopal seat in 1244.

The piecemeal erection of the early Gothic cloister, and its subsequent development, was extremely complex. Although there are now only three ranges, it can be shown that the missing north walk was not only intended, but was also partly constructed. Fundamental design changes were forced on the cloister when the west front of the cathedral was built (*c.* 1220–40) as an elaborate image-screen, instead of a straightforward twin-towered façade, as had originally been envisaged. Apart from the Lady Chapel and two entrance porches, there were no adjuncts to the cloister in the thirteenth century, although, it is argued, the original intention was to build a chapter house adjoining the east walk. The design for Wells later manifested itself at Salisbury.

The primary east walk was narrow, but it was widened *c.* 1250, vaulted at the north end, and an upper storey was added there. The east cloister was again modified in the 1420s, when it was completely re-vaulted and a library created over the full length of the range. Shortly afterwards, the west walk was rebuilt and an upper storey added to house a school. Finally, the south walk was vaulted, being completed in 1508.

In 1477, Bishop Stillington determined to rebuild the Lady Chapel-by-the-Cloister on a sumptuous scale, largely to provide an aggrandized setting for his own chantry. Total demolition of the old chapel ensued, and the new one conformed to the medieval cathedral alignment. Stillington was toppled with the Yorkists, died a prisoner, and was buried in his chapel in 1491. However, the enforcement of Edward VI's Chantries Act led, in 1552, to the complete destruction of the new Lady Chapel: it was blown up with the aid of gunpowder. With it went another small chapel, dedicated to the Holy Cross, which also opened off the cloister.

During the later Middle Ages, the cloister walks and garth were infiltrated by a succession of minor liturgical and sepulchral features, some of which have left slight traces in the fabric. Most significant, was the chapel of All Saints-by-the-Cloister which, it is suggested, was constructed in the aborted north walk.

Outside the cloister, to the west, lay a separately enclosed part of the precinct, an entrance-court which was formerly the *atrium* of the Anglo-Norman cathedral. The complex history of this area is outlined, through a study of documentary and structural evidence. A gatehouse (Penniless Porch) controlled public access to the cathedral from the market place, via the entrance-court and the cloister. In 1354 the *atrium* was taken over for a new choristers' house and garden. The house was extended several times and became linked to the west cloister, precipitating further changes in this part of the cathedral precinct. These included the reconstruction of the gatehouse, the formation of an access route which bypassed the garden, and the erection of a new entrance porch. Today, the ruined choristers' house stands in the Mary Mitchell Garden.

The history of the wells, and of the conduits and pipes which emanated from them, is traced. The great conduit, which still channels water through the cloister, has been explored, as has the lead pipe that was laid in *c.* 1451–53 to carry fresh water from the bishop's well-house to the cathedral and other buildings. The new waterworks was amongst the considerable benefactions of Bishop Bekynton.

After the Reformation, the Camery became a quarry for building materials, and was made over to secular uses, complementary evidence for which appears in the historical and archaeological record. The ancient *locus sanctus* from which the cathedral and city developed lay forgotten. However, the area was recovered by the dean and chapter in *c.* 1851 and re-established as a burial ground, which it remains today. Clearance soon led to the first archaeological discoveries, prompting the excavations of 1894, which revealed evidence for the two successive Lady Chapels-by-the-Cloister. These findings, coupled with topographical analysis, prompted the claim, in 1909, that the site of the Anglo-Saxon cathedral had been discovered. The opportunity to carry out a fresh appraisal of the area arose in 1978, when building works encroached on the Camery, thus initiating the present study.

In addition to the historical and structural sequences outlined here, studies of sculptural remains and other artefacts are included in the second volume. Amongst the former is the remarkable Anglo-Saxon font which continues in use today, and the large collection of decorated medieval floor tiles. The latter have provided a significant contribution to understanding the 'Wessex School' of tilers. Important sculptural assemblages from the Lady Chapels, dating from the mid-thirteenth and late fifteenth centuries, respectively, are also described. Finally, the study of three hundred burials is reported upon, from the points of view of both palaeopathology and sepulchral history.

A chronological outline of the sites and structures investigated is given in Appendix 1, and a hand-list of the numbered structures will be found in Appendix 2.

Résumé

Une campagne de fouilles archéologiques, accompagnée d'une étude des bâtiments et de recherches historiques, entreprise entre 1978 et 1993, a en partie élucidé l'origine de la cathédrale de Wells et a exploré les premières étapes de son évolution. L'étude s'est concentrée en priorité sur le cloître et ses annexes et surtout sur l'espace découvert à l'Est que l'on appelle le 'Camery'. Là se trouvaient un ancien cimetière et les fondations de divers bâtiments démolis qui se sont succédés à cet endroit, et dont les dates s'échelonnent entre l'époque romaine et l'époque post-médiévale. Collectivement, ils englobent une période d'évolution continue d'activités religieuses et funéraires s'étendant du quatrième ou cinquième siècle jusqu'au milieu du seizième. Par la suite, l'endroit a été rendu à des usages séculiers, que l'on a également examinés.

Contigu au 'Camery' se trouve un groupe de sources vigoureuses qui ont donné son nom à Wells (puits en anglais), et des silex du mésolithique éparpillés là ont fourni le plus ancien témoignage d'activité humaine à cet endroit. A l'époque romaine, le site se trouvait en bordure d'une occupation qui jouissait de bâtiments bien agencés, une villa peut-être, mais on n'a pas encore réussi à mettre le doigt sur son noyau. Le développement sérieux de la région étudiée ne survint que vers la fin de la période romaine, apparemment avec un cimetière.

Les fouilles ont mis au jour une séquence stratigraphique complexe qui démontre comment une inhumation de la fin de l'époque romaine, anonyme mais sans aucun doute important, incluse dans un mausolée a probablement servi de *raison d'être* (en français dans le texte) au développement d'un cimetière et d'une chapelle de l'époque saxonne moyenne, et de ce fait, est à l'origine de l'existence de la cathédrale de Wells elle-même. La reconnaissance de cette séquence est d'une importance unique dans l'histoire de l'archéologie des cathédrales anglaises et rattache Wells à des développements similaires en Europe continentale.

Le mausolée – qu'on ne peut pas dater intrinsèquement, mais dont l'origine remonte probablement au quatrième ou au cinquième siècle – et les sources avoisinantes devinrent le point focal occidental d'une église abbatiale dont il est pour la première fois fait mention dans des archives datant de 766 ap. J.-C. et qui ont subsisté. A cette époque-là, une des sources avait été adoptée comme 'puits sacré' et dédiée à St Andrew.

Le coeur de la cathédrale St Andrew se trouve sous ce qui existe encore du cloître médiéval et n'a pas été exploré, mais on a retracé les nombreuses phases de l'évolution de sa chapelle Notre-Dame, située du côté Est et qui se trouvait faire partie de la région fouillée. Cette chapelle a succédé au mausolée. Un vaste cimetière découvert s'est développé pendant la période saxonne moyenne autour du mausolée, en particulier à l'Ouest et au Nord, et ses limites étaient constituées par un enclos avec talus pré-existant. Le mausolée fut reconstruit, probablement au neuvième siècle, et continua à servir de sépulcre jusqu'au milieu du dixième siècle, date à laquelle il fut démoli et la chambre funéraire fut remplie avec le contenu des cercueils qui avaient auparavant été abrités dans ce bâtiment, ou dans un autre à proximité. Entre temps, en 909, Wells était devenu le siège épiscopal de l'évêché nouvellement créé de Somerset.

Une petite chapelle funéraire carrée, de toute évidence une *memoria*, fut construite sur le site du mausolée démoli, elle renfermait un groupe compact d'inhumations taillées dans la terre qui avaient auparavant reposé dans le coin Sud-Ouest du mausolée. A l'Ouest se trouvait un bâtiment séparé qui avait des fondations très profondes et un mur Est en arrondi, on l'a identifié comme étant la crypte absidiale de l'église abbatiale de St Andrew.

Au onzième siècle la chapelle devint le choeur d'un nouveau bâtiment à deux cellules qui portait une dédicace à la Vierge Marie. La chapelle fut effectivement reliée à l'abside Est de St Andrew à la fin du onzième siècle et se trouva en même temps incluse dans un agrandissement claustral dû à l'initiative de l'évêque Giso. Cet ouvrage fut encore agrandi par l'évêque Robert de Lewes au milieu du douzième siècle, bien que vers 1090 le siège épiscopal ait été transféré de Wells à Bath. La cathédrale, dépouillée d'une grande partie de ses richesses, devint un collège pour chanoines séculiers.

Vers 1175–76 l'évêque Reginald de Bohun s'embarqua dans la construction d'une église entièrement nouvelle à Wells, dans le style anglais primitif, sur un site juste au Nord de l'ancienne église abbatiale. En même temps, on en profita pour changer également l'orientation. La construction commença à l'extrémité Est, et d'ici la fin des années 1180 les travaux avaient suffisamment progressé pour qu'on puisse transférer l'opus dei dans la nouvelle église. On put alors commencer à démolir la cathédrale saxo-normande, démolition rendue nécessaire afin de faire de la place pour un grand cloître gothique qui devait venir s'ajouter au nouveau bâtiment du côté Sud.

La vénérable sainteté et peut-être l'importance politique de la vieille chapelle Ste Marie (face à une controverse prolongée au sujet du statut diocésain de Wells) ont permis de lui conserver sa place dans le nouveau complexe malgré son alignement non-conforme. La chapelle fut restaurée en 1196 et rattachée au bâtiment du cloître qui était alors en construction. En même temps, l'espace au Sud de l'église fut entouré de murs (le Camery), et on construisit une grande conduite pour assurer l'écoulement de l'eau du puits de St Andrew, à travers cet espace, jusque sous le cloître, où un bassin avait été construit dans une chambre souterraine. Ceci marqua le début d'une série complexe de travaux pour contrôler les eaux de Wells à des fins ecclésiastiques, meunières et domestiques.

Désormais désignée sous le nom de chapelle Notre-Dame-Près-Du-Cloître, la chapelle restaurée devint un endroit privilégié pour les inhumations et les offices spéciaux. Au milieu du treizième siècle, elle fut agrandie en divers endroits, on y ajouta une chapelle latérale, des bas-côtés Nord et Sud, et un vaste choeur à l'Est. Un plus petit bâtiment érigé le long de celle-ci, contre le cloître, aurait pu servir de domicile à une cour consistorale médiévale, bien qu'au quinzième siècle la cour se tenait dans la chapelle elle-même. Entre temps Wells avait retrouvé son siège épiscopal en 1244.

L'érection, en plusieurs étapes, du cloître gothique primitif et les changements qui s'en suivirent furent extrêmement complexes. Bien qu'il n'existe maintenant que trois préaux, on peut prouver que la galerie Nord manquante n'avait pas seulement été prévue mais bien partiellement construite. Des changements fondamentaux furent imposés au plan du cloître quand fut érigée la façade Ouest de la cathédrale, (vers 1220–1240) en un tableau d'images élaboré au lieu d'une simple façade à deux tours comme cela avait été envisagé à l'origine. A part la chapelle Notre-Dame et deux porches d'entrée, on n'ajouta rien au cloître au treizième siècle, bien que, suggère-t-on, on avait l'intention de construire une salle capitulaire adjacente à la galerie Est. Le plan de Wells fut plus tard réalisé à Salisbury.

A l'origine, la galerie Est était étroite, mais elle fut élargie vers 1250, voûtée à l'extrémité Nord et dotée d'un étage supérieur à cet endroit-là. Le cloître Est fut à nouveau modifié dans les années 1420, date à laquelle il fut complètement revoûté et une bibliothèque fut créée sur toute la longueur de l'allée. Peu après, on reconstruisit galerie Ouest et on lui ajouta un étage supérieur qui devait abriter une école. Finalement la galerie méridionale fut voûtée, les travaux se terminèrent en 1508.

En 1477, l'évêque Stillington décida de reconstruire la chapelle Notre-Dame sur une échelle somptueuse, en grande partie pour offrir un cadre grandiose à sa propre chantrerie. Il s'en suivit de la démolition complète de la vieille chapelle, et la nouvelle se conforma à l'alignement de la cathédrale médiévale. Stillington fut renversé avec les supporters du duc d'York, mourut en prison et fut enterré dans sa chapelle en 1491. Toutefois l'application de l'Acte sur les Chantreries d'Edouard VI conduisit à la destruction totale de la nouvelle chapelle Notre-Dame; on la fit sauter avec de la poudre à canon. Avec elle disparut une autre petite chapelle dédiée à la Sainte Croix, qui s'ouvrait aussi sur le cloître.

Au cours de la seconde moitié du Moyen Âge, une série de menus objets liturgiques et funéraires, dont certains ont laissé de légères traces dans les murs, s'infiltrèrent dans les galeries et le jardin du cloître. Plus significative fut la chapelle de Tous-les-Saints-près- du-Cloître qui, suggère-t-on, fut construite dans la galerie Nord qui n'avait pas été complètement réalisée.

A l'extérieur du cloître, du côté Ouest, se trouvait une partie de l'enceinte enclose séparément, une cour d'entrée qui avait été anciennement l'atrium de la cathédrale anglo-normande. L'histoire complexe de cette zone est esquissée à travers une étude de témoignages existant sous forme de documents ou de bâtiments. Une loge (le Porche Sans le Sou), contrôlait l'accès du public à la cathédrale à partir de la place du marché, via la cour d'entrée et le cloître. En 1354 une nouvelle maison pour les choristes et un jardin remplacèrent l'atrium. La maison fut agrandie à plusieurs reprises et se retrouva rattachée au cloître Ouest, ce qui précipita de nouveaux changements dans cette partie de l'enceinte de la cathédrale. Parmi ceux-ci on compte la reconstruction de la loge, la création d'une voie d'accès qui évitait le jardin, et l'érection d'un nouveau porche d'entrée. Aujourd'hui les ruines de la maison des choristes se trouvent dans le jardin Mary Mitchell.

On a retracé l'histoire des puits ainsi que celle des conduites et tuyaux qui en émanaient. La grande conduite, qui transporte toujours l'eau à travers le cloître, a été explorée, ainsi que le tuyau en plomb qui fut posé vers 1451–1453 pour amener de l'eau pure du puits de l'évêque jusqu'à la cathédrale et à d'autres bâtiments. Ces nouvelles canalisations comptent parmi les bienfaits les plus notables de l'évêque Bekynton.

Après la Réformation, le Camery devint une carrière pour matériaux de construction, et passa à des usages séculiers, des témoignages complémentaires à ce propos se trouvent dans les annales historiques et archéologiques. L'ancien *locus sanctus* d'où étaient nées la cathédrale et la cité gisait oublié. Cependant l'endroit fut recouvré par le doyenné et le chapitre vers1851 et rétabli comme lieu d'inhumation, ce qu'il est toujours aujourd'hui. Le déblaiement des lieux conduisit bientôt aux premières découvertes archéologiques, suscitant les fouilles de 1894, qui mirent au jour des témoignages relatifs aux deux chapelles Notre-Dame-près-du-Cloître successives. Ces trouvailles, associées à une analyse topographique, donnèrent lieu à la revendication, en 1909, que le site de la cathédrale anglo-saxonne avait été découvert. L'opportunité de mener à bien une nouvelle évaluation de l'endroit se présenta en 1978 quand des travaux de construction empiétèrent sur le Camery, ce qui eut pour résultat les recherches actuelles.

En plus des séquences historiques et architecturales décrites ici, le second volume comprend des études des vestiges de sculptures et autres objets manufacturés. Parmi les premières, on compte les remarquables fonts baptismaux anglo-saxons encore utilisés de nos jours et une importante collection de carrelages médiévaux décorés. Ces derniers ont fortement contribué à notre compréhension des carreleurs de 'l'Ecole du Wessex'. Un considérable assemblage de sculptures provenant des chapelles Notre-Dame et datant respectivement du milieu du treizième et de la fin du quinzième siècle sont également décrites. Finalement on présente un compte rendu de l'étude de trois cents inhumations, à la fois du point de vue de la paléo-patologie et de l'histoire des sépultures.

Un aperçu chronologique des sites et des bâtiments étudiés est donné dans l'appendice 1 et on trouvera une liste succinte des structures dans l'appendice 2.

Traduction: Annie Pritchard

Zusammenfassung

Ein zwischen 1978 und 1993 durchgeführtes Forschungsprogramm, bestehend aus archäologischen Ausgrabungen, Bauaufnahme und historischer Forschung warf Licht auf die Ursprünge und frühe Entwicklung der Kathedrale von Wells. Die Untersuchung konzentrierte sich vor allem auf den Kreuzgang und seine Anbauten, inbesondere den freien Raum im Osten, der als '*Camery*' bekannt ist. Hier lagen ein alter Friedhof und die Fundamente einer Abfolge zerstörter Gebäude, die von römischer bis in nachmittelalterliche Zeit datieren. Zusammengenommen bewahrten sie vom wahrscheinlich vierten oder fünften bis zur Mitte des sechzehnten Jahrhunderts eine kontinuierliche Entwicklung religiöser und sepulkraler Aktivitäten. Danach wurde das Gebiet sekulären Nutzungen übergeben, die ebenfalls untersucht wurden.

Neben der *Camery* befindet sich die Gruppe starker Quellen, die Wells seinen Namen gegeben haben (Englisch 'well' = gefaßte Quelle). Der früheste Beleg menschlicher Aktivität an dieser Stelle ist eine mesolithische Silexstreuung. Während der römischen Periode lag der Platz am Rande einer Siedlung mit gut ausgestatteten Gebäuden, möglicherweise einer *villa*, aber das Zentrum dieser Siedlung muß erst noch ausgemacht werden. Wirkliche Erschließung des untersuchten Gebietes begann erst in spätrömischer Zeit, offenbar mit einem Friedhof.

Ausgrabungen erbrachten eine komplexe stratigraphische Abfolge. Sie demonstrierte, wie eine anonyme, aber zweifellos bedeutsame spätrömische Bestattung, die in einem Mausoleum enthalten war, wahrscheinlich die Existenzgrundlage für einen sich entwickelnden mittelsächsischen Friedhof mit Kapelle darstellte, und somit für die Ursprünge der Kathedrale von Wells. Der Beweis dieser Abfolge ist von einzigartiger Wichtigkeit in der Geschichte englischer Kathedralenarchäologie, und setzt Wells parallel zu ähnlichen Entwicklungen in Kontinentaleuropa.

Das Mausoleum, das nicht direkt datiert werden kann, aber vermutlich aus dem vierten oder fünften Jahrhundert stammt, und die nahen Quellen wurden die östlichen Bezugspunkte eines Münsterkomplexes, das in den erhaltenen Schriftdokumenten zuerst 766 n. Chr. erwähnt wurde. Zu diesem Zeitpunkt war eine der Quellen zu einem St Andreas geweihten 'heiligen Brunnen' geworden.

Der Kernbereich des St Andreas Münsters liegt unter dem noch vorhandenen mittelalterlichen Kreuzgang und ist ununtersucht. Lediglich die Entwicklung der östlichen Marienkapelle, die innerhalb des Grabungsgebietes lag, konnte durch zahlreiche Phasen verfolgt werden. Diese Kapelle ersetzte das Mausoleum. Während der mittelsächsischen Periode entwickelte sich vor allem im Westen und Norden ein ausgedehnter offener Friedhof um das Mausoleum herum, dessen äußere Grenzen von einer älteren Erdwalleinfriedung gebildet wurden. Das Mausoleum wurde wahrscheinlich im neunten Jahrhundert umgebaut und diente danach weiterhin als Grabstätte. Als es in der Mitte des zehnten Jahrhunderts abgerissen wurde, war die Grabkammer vollgefüllt mit dem Inhalt von Särgen, die zuvor in diesem oder einem benachbarten Gebäude untergebracht gewesen waren. In der Zwischenzeit war Wells 909 Bischofssitz für das neugeschaffene Bistum Somerset geworden.

An der Stelle des abgebrochenen Mausoleums wurde eine kleine rechteckige Grabkapelle, offenbar eine *memoria*, errichtet. Sie bewahrte eine dichte Gruppe von Erdbestattungen, die zuvor in der südwestlichen Ecke des Mausoleums gelegen hatten. Westlich davon befand sich ein separates Gebäude mit sehr tiefen Fundamenten und einer runden Ostmauer, das als Apsiskrypta der Münsterkirche St Andreas interpretiert wird.

Im elften Jahrhundert wurde die Kapelle zum Altarraum eines neuen, zweizelligen Gebäudes, das der Heiligen Jungfrau Maria geweiht war. Im späten elften Jahrhundert war die Kapelle baulich mit der östlichen Apsis von St Andreas verbunden und wurde damals in eine von Bischof Giso initiierte klösterliche Entwicklung eingebunden. Diese wurde von Bischof Robert von Lewes in der Mitte des zwölften Jahrhunderts fortgeführt, obwohl um 1090 der Bischofssitz von Wells nach Bath verlegt worden war. Das Münster, seiner Stiftungsmittel beraubt, wurde ein Kolleg von Säkularkanonikern.

Etwa 1175–76 begann Bischof Reginald de Bohun in Wells, unmittelbar nördlich des alten Münsters, den Bau einer gänzlich neuen Kirche im Stil der englischen Frühgotik. Gleichzeitig wurde die Ausrichtung geändert. Das Bauen begann am Ostende. In den späten 1180er Jahren war man genügend weit fortgeschritten, um das *opus dei* in die neue Kirche überführen zu können. Damit war es möglich geworden, mit dem Abriß der sächsisch-normannischen Kathedrale zu beginnen, der einem großen, südlich an den neuen Bau angrenzenden gotischen Kreuzgang Raum machen mußte.

Die ehrwürdige Heiligkeit und möglicherweise politische Wichtigkeit der alten Marienkapelle (in Anbetracht des andauernden Disputs über den Bistumstatus von Wells) gewährleistete ihre Beibehaltung im neuen Baukomplex trotz der anderen Ausrichtung. Die Kapelle wurde 1196 restauriert und mit dem Kreuzgang verbunden, der sich zu dieser Zeit im Bau befand. Gleichzeitig wurden das südliche Kirchengelände durch Mauern eingefaßt (die *Camery*) und ein großes Leitungsrohr gebaut, das den Überfluß des St Andreas Brunnens durch das Gelände und unter den Kreuzgang leitete, wo in einer unterirdischen Kapelle ein Brunnen errichtet wurde. Dies

markierte den Anfang einer Reihe von komplexen Baumaßnahmen, um die Wasser von Wells für kirchliche, mühlenbezogene und häusliche Zwecke nutzbar zu machen.

Die restaurierte Kapelle wurde unter der neuen Bezeichnung Marienkapelle-am-Kreuzgang zu einem populären Ort für Bestattungs- und Spezialgottesdienste. In der Mitte des dreizehnten Jahrhunderts wurde sie verschiedentlich erweitert, und es wurden eine Seitenkapelle, ein nördliches und südliches Seitenschiff, und ein großer östlicher 'Chor' hinzugefügt. In einem kleineren Gebäude daneben, das direkt an den Kreuzgang angebaut wurde, mag das mittelalterliche Konsistorialgericht untergebracht gewesen sein, obwohl im fünfzehnten Jahrhundert in der Kapelle selbst Gericht gehalten wurde. In der Zwischenzeit hatte Wells 1244 seinen Bischofsstuhl wiedererhalten.

Der stückweise Errichtungsprozess des frühgotischen Kreuzgangs und seine anschließende Entwicklungsgeschichte sind äußerst kompliziert. Obwohl es jetzt nur drei Wandelgänge gibt, läßt sich zeigen, daß der fehlende Nordgang nicht nur beabsichtigt, sondern auch teilweise gebaut worden ist. Als die Westfassade der Kathedrale nicht, wie ursprünglich vorgesehen, als einfache Fassade mit Zwillingstürmen, sondern als kunstvoll ausgearbeitete Schmuckfassade gebaut wurde, wurden dem Kreuzgang grundlegende Konstruktionsänderungen aufgezwungen. Abgesehen von der Marienkapelle und zwei Eingangsportalen gab es im dreizehnten Jahrhundert keine Anbauten an den Kreuzgang, obwohl hier argumentiert wird, daß ursprünglich beabsichtigt war, an den Ostgang angrenzend einen Kapitelsaal zu errichten. Der Plan für Wells wurde später in Salisbury ausgeführt.

Der Ostgang war anfänglich eng, doch wurde er um 1250 verbreitert sowie am Nordende überwölbt und mit einem Obergeschoss versehen. In den 1420er Jahren wurde der östliche Wandelgang erneut umgebaut und vollständig neu überwölbt, so daß über seine volle Länge eine Bibliothek eingerichtet werden konnte. Kurz danach wurde der Westgang umgebaut und hier ein oberes Stockwerk hinzugefügt, in dem eine Schule Platz fand. Schließlich wurde 1508 auch die Überwölbung des Südgangs fertiggestellt.

Im Jahr 1477 entschied Bischof Stillington, die Marienkapelle-am-Kreuzgang in großartigem Stil neu aufzubauen, vor allem um seinem eigenen Votivaltar einen größeren Rahmen zu geben. Es folgte der totale Abriß der alten Kapelle. Die neue Kapelle schloß sich der Ausrichtung der mittelalterlichen Kathedrale an. Stillington wurde von den Anhängern des Hauses York abgesetzt, starb als Gefangener und wurde 1491 in seiner Kapelle beigesetzt. Die Ausführung des als *Chantry Act* bekannten Gesetzes Edward VI führte freilich im Jahr 1552 zur vollständigen Zerstörung der neuen Marienkapelle: sie wurde mit der Hilfe von Schießpulver in die Luft gesprengt. Mit ihr verschwand eine andere kleine Kapelle, die dem heiligen Kreuz geweiht war, wodurch der Kreuzgang nach außen offen war.

Während des späteren Mittelalters drangen eine Reihe von kleineren liturgischen und sepulchralen Elementen in die Wandelgänge und den Hof des Kreuzgangs ein. Einige davon haben leichte Spuren am Bau hinterlassen. Am wichtigsten war die Allerheiligenkapelle-am-Kreuzgang, die — so meinen wir — im abgebrochenen Nordgang errichtet wurde.

Westlich des Kreuzgangs lag ein separat umfriedeter Teil des Geländes, ein Eingangshof, der früher das *atrium* der anglo-normannischen Kathedrale gewesen war. Die komplexe Geschichte dieses Gebietes wird mittels einer Studie urkundlicher und baulicher Hinweise umrissen. Ein Torhaus (*Penniless Porch*) kontrollierte den öffentlichen Zugang zur Kathedrale, der vom Marktplatz durch den Eingangshof und den Kreuzgang führte. 1354 wurde das *atrium* für ein neues Chorknabenhaus und einen Garten in Beschlag genommen. Das Haus wurde mehrfach ausgebaut sowie mit dem westlichen Wandelgang des Kreuzgangs verbunden, wodurch weitere Veränderungen in diesem Teil des Kathedralengeländes beschleunigt wurden. Diese schlossen den Wiederaufbau des Torhauses, die Schaffung eines den Garten vermeidenden Zugangswegs, und die Errichtung eine neuen Eingangsportals ein. Heute steht das Chorknabenhaus als Ruine im Mary-Mitchell-Garten.

Verfolgt wird die Geschichte der Brunnen und der Leitungen und Rohre, die von ihnen ausgingen. Untersucht wurden das große Leitungsrohr, das nachwievor Wasser durch den Kreuzgang leitet, und das Bleirohr, das etwa 1451–53 gelegt wurde, um frisches Wasser vom Brunnenhaus des Bischofs zur Kathedrale und zu anderen Gebäuden zu leiten. Die neuen Wasserleitungen zählen zu den beachtlichen Leistungen Bischof Bekyntons.

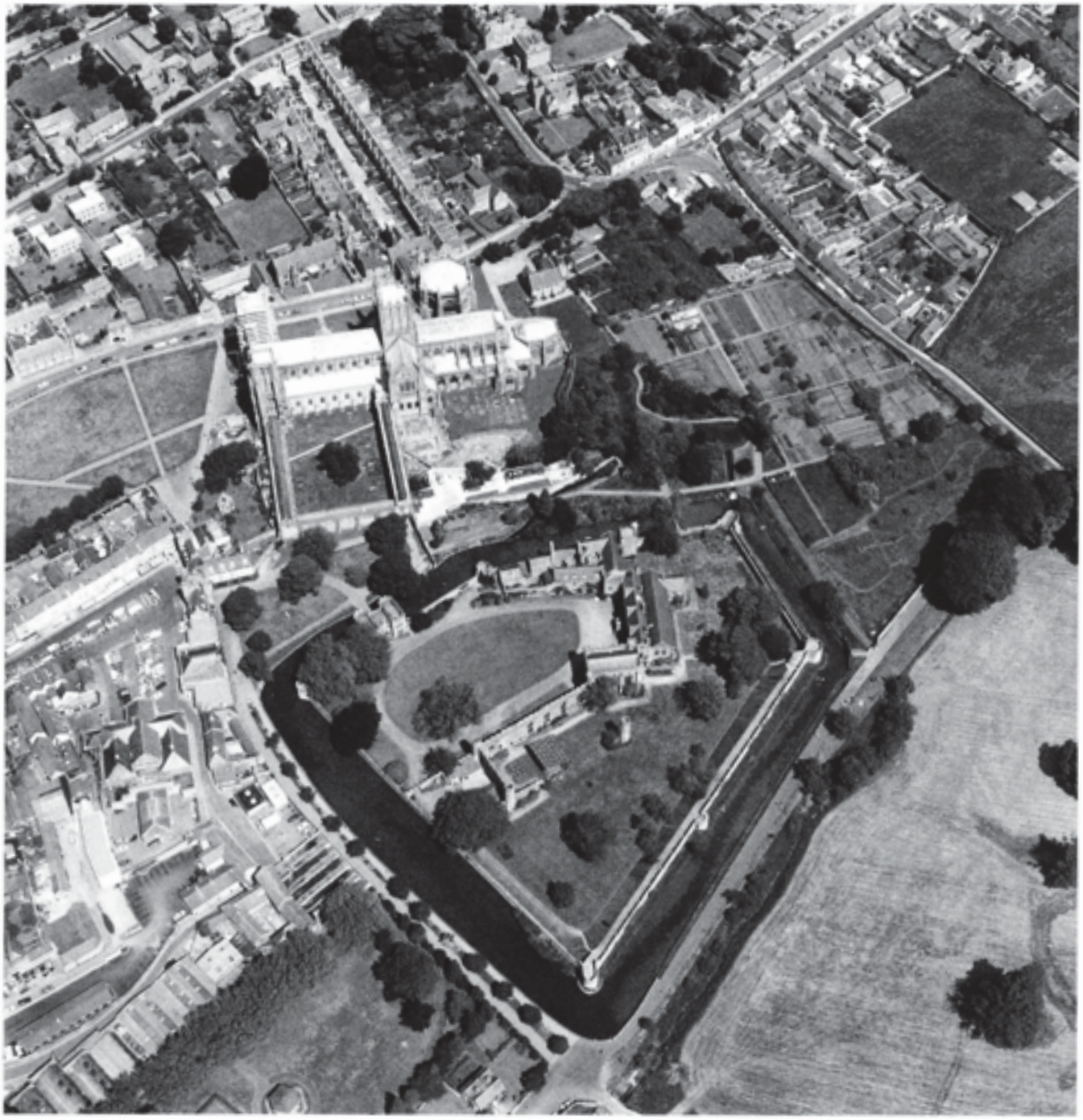
Nach der Reformation wurde die *Camery* zum Steinbruch für Baumaterial und weltlichen Verwendungen übereignet, worauf sich gegenseitig ergänzende historische und archäologische Dokumente hinweisen. Der alte *locus sanctus*, aus dem sich die Kathedrale und die Stadt entwickelten, war vergessen. Etwa 1851 wurde das Areal jedoch von Dekan und Kapitel zurückgewonnen und als Begräbnisstätte wiederhergestellt, die es heute noch ist. Räumungsarbeiten führten schon bald zu den ersten archäologischen Entdeckungen und veranlaßten die Ausgrabungen von 1894, bei denen Hinweise auf die zwei aufeinanderfolgenden Marienkapellen-am-Kreuzgang zutage kamen. 1909 führten diese Befunde zusammen mit einer topographischen Analyse zu der Behauptung, daß der Platz der angelsächsischen Kathedrale entdeckt worden sei. Die Gelegenheit zu einer neuen Einschätzung des Geländes ergab sich 1978, als Bauarbeiten in die Camery vordrangen und den Anstoß zu vorliegender Untersuchung gaben.

Als Ergänzung zu den hier skizzierten historischen und baulichen Abfolgen enthält der zweite Band

Studien der plastischen Überreste und anderen Artefakte. Zu jenen gehört der bemerkenswerte angelsächsische Taufstein, der nachwievor in Gebrauch ist, sowie die große Sammlung verzierter mittelalterlicher Bodenfliesen. Letztere haben einen beachtlichen Beitrag zum Verständnis der Fliesenleger der 'Wessex Schule' geleistet. Außerdem werden wichtige plastische Inventare aus den Marienkapellen beschrieben, die in die Mitte des dreizehnten, bzw. das späte fünfzehnte Jahrhundert datieren. Schließlich wird sowohl aus paläopathologischer als auch aus grabgeschichtlicher Perspektive über die Untersuchung von dreihundert Bestattungen berichtet.

Anhang 1 gibt einen chronologischen Überblick der untersuchten Plätze und Gebäude. Eine Aufstellung aller numerierten Gebäude kann man in Anhang 2 finden.

Übersetzung: Cornelius Holtorf



Aerial view of Wells Cathedral and the Bishop's Palace (in the foreground), from the south, The site of the 1979 excavations shows as a brown area in the angle between the south transept and the cloister. The Vicars' Close is seen to the north of the cathedral. (West Air Photography)

1 Introduction

Historical prologue

Wells, it is often claimed, is the smallest English cathedral city. It lies at the foot of the Mendip Hills, close to the centre of the historic county and diocese of Somerset (discounting the 'arm' that stretches westwards into Exmoor), and is 28 km inland from the Bristol Channel (Fig. 1).[1] Until the later nineteenth century, development in Wells did not extend far beyond the limits of the early medieval nucleus and the modest later medieval suburbs. There was no semi-industrial housing developed in the seventeenth century, as at Frome, and no streets of Georgian terraces laid out in emulation of Bath or Bristol. Expansion in the nineteenth century was slow and piecemeal, and there is thus no obtrusive Victorian imprint on either the plan or the architecture of the city. When William Simes produced the first detailed map of Wells in 1735, he depicted an intact medieval layout.[2]

Fortunately for archaeology, Wells failed to attract any significant volume of industry or commerce, even with the coming of the railway, and thus the pressures for growth and redevelopment never reached a level that threatened to eclipse the integrity and the fabric of the historic city. The lines were closed in the 1960s, and once again there is no railway. Today, the cathedral is still surrounded by very nearly its full complement of late medieval ecclesiastical buildings, and the whole ensemble articulates with the adjacent secular development (Fig. 2). However, the topographical relationship between the cathedral and the market place — and in particular their divergent alignments — is certainly unusual and hints at changes in early medieval town planning. The potential of Wells for prolonged scholarly study was enthusiastically enunciated by John Britton:

> There is not, perhaps, a Cathedral in England more interesting to the artist and architectural antiquary than that of Wells. It abounds in fine and curious features, is connected with several ancient monastic edifices, and is surrounded by bold and even grand scenery. The design,

Fig. 1 The topographical setting of Wells in relation to the historic county and diocese of Somerset. Other places mentioned in the text are indicated; present and former cathedral sites are starred

> construction, and execution of the Church itself are alike objects of study and admiration; and are worthy of the most careful examination by the professional architect. (Britton 1836a, 91)

The See of Somerset

Wells lies in the historically 'grey' border-area between the Anglo-Saxon kingdoms of southern England and the residual Celtic enclave of south-western Britain. Not surprisingly, therefore, the origins of the cathedral and the city are obscure, and where fact has been deficient supposition has conveniently filled the *lacunae*. It has long been held that Wells was an Anglo-Saxon foundation *de novo*, and was thus markedly different from the majority of English pre-Norman cathedrals, which were established in towns of Roman origin (Rodwell 1984, 3–9). Wells, like Hereford, had no such ancestry. The 1980s excavations have, however, demonstrated that the position at Wells is perhaps not as clearcut as it once seemed: there was a significant level of occupation here in the Roman period, although not on an urban scale.

The problems of recognizing and assessing the potential importance of residual British Christianity in Somerset have been discussed by Radford (1961–62) and Rahtz (1991), and as discoveries continue to be made the significance of the subject looms ever larger. A sound introduction to the ecclesiastical history of the diocese was published in 1911, but could now benefit from updating (VCH 1911, 1–65). The documented history of the Anglo-Saxon church in central southern England begins in 635 with the conversion of the king of the West Saxons by Birinus, whose bishopric was first established at Dorchester-on-Thames, Oxfordshire. In 652 Cenwealh, king of Wessex, fought the British at Bradford-on-Avon, Wiltshire,[3] and in 658 he was victorious in the battle of Pensel Wood (Fig. 1): with these defeats at its borders, the Anglo-Saxon conquest of most of Somerset quickly followed.[4]

In 661, the huge see of Dorchester was subdivided and an additional bishopric was established at Winchester: the latter embraced Somerset. By the final quarter of the seventh century, major Anglo-Saxon churches were being founded in the county, under the auspices and patronage of two key figures. These were, first, Aldhelm, a missionary priest of noble birth, who later became the first bishop of Sherborne (705–09). His *Vita* was penned by William of Malmesbury.[5] The second figure was Ine, a nobleman of Wessex who was destined to become king (688–726). Aldhelm is recorded as having built churches in honour of St John the Baptist at Frome, St Peter at Bruton and St Lawrence at Bradford-on-Avon (Fig. 1). Ine founded a second church at Bruton, in honour of St Mary, and is credited with the refounding of Glastonbury Abbey.[6]

In 704, upon Ine's determination, the diocese of Winchester was subdivided, and the bishopric of Sherborne created for the benefit of Dorset and Somerset. Aldhelm was consecrated bishop in 705. He lasted barely five years, dying in 709 at Doulting, a village 10 km east of Wells. William of Malmesbury records that Aldhelm actually died in the wooden church at Doulting, without claiming it to have been built by him.[7] That Aldhelm's area of responsibility was primarily east Somerset is made clear by references to Selwood Forest: he was described as 'bishop to the west of the wood'.[8] Aethelweard, who was ealdorman of Wessex, west of Selwood, and the first translator of the *Anglo-Saxon Chronicle* said that Aldhelm's diocese was 'commonly known as Selwoodshire'.[9] By 709 Ine was active in west Somerset, where he built a fortification at Taunton, and may well have founded the church there too.[10]

There is thus a viable and plausible context for the potential foundation of an Anglo-Saxon church at Wells in the late seventh century, or in the opening years of the eighth, but there is no near-contemporary record of such a foundation. Nevertheless a strong local tradition exists, repeated many times in medieval and later histories of the cathedral, that it was founded by King Ine of Wessex, and a date of *c.* 705 has sometimes been cited. Undue credence should not be given to the date, since that is merely an all-too-convenient link with the establishment of the Sherborne bishopric in 705. However, the fact that Ine is credited with the foundation of the church at Wells in the earliest recorded history of the cathedral merits serious consideration. The document in question, compiled in *c.* 1175 by an anonymous canon of Wells and entitled *Historiola de Primordiis Episcopatus Somersetenis*, carries the interesting but otherwise unsubstantiated claim that there was an ancient bishopstool at Congresbury (north Somerset), and that this was transferred to Wells under Ine.[11]

The first historical mention of Wells by name (*Wielea*) is in a charter of 766, in which Cynewulf, king of Wessex, endowed St Andrew's Minster beside 'the great spring' with an additional eleven hides of land. This charter not only confirms the presence of an established minster church, but also the associated 'holy well' from which the placename itself was derived (Birch 1885, no. 200; HMC 1907, 496; Sawyer 1968, no. 262).[12] History is otherwise silent about Wells and its church, until 909, when diocesan reorganization took place once again. By this time, the Anglo-Saxon conquest had pushed into the south-west peninsula and Sherborne was no longer a convenient centre for the bishopstool. Hence the old diocese of Sherborne was divided into four parts, and three new sees were created: Wells, Ramsbury (Wiltshire) and Crediton (Devon). The diocese of Wells was alternatively known as the See of Somerset, the two territories being coterminous. St Andrew's Minster at Wells was elevated to the status of cathedral church. Its first bishop was Athelm, a benedictine monk of Glastonbury. There is, however, no evidence to suggest that monastic rule was ever introduced at Wells (VCH 1911, 7).

Once again silence reigns until after the Norman conquest, the upheaval of which did not unseat Giso, who was not only the last Anglo-Saxon bishop of Wells (1040–88), but also the last to survive in office in England (Keynes 1997). Giso's successor was John de Villula, a priest and physician from Tours. He was consecrated bishop of Wells, by Archbishop Lanfranc at Canterbury, in July 1088. Coincidentally, the abbacy of Bath fell vacant at this time, and moreover in the same year the city was ravaged by Robert of Mowbray during the short-lived rebellion against William Rufus. John de Villula capitalized on the unfortunate state of affairs in Bath, when he sought and obtained a grant from the king, with the archbishop's agreement, conveying to him the dilapidated abbey of St Peter, together with all its possessions. The bishop thereby became the titular abbot of Bath in 1090. Furthermore, he purchased the entire city and its mint from the king.

At the Council of London in 1075, Lanfranc had secured an order that all episcopal sees which were currently in rural localities should be transferred, as soon as practicable, to cities.[13] De Villula's acquisition of Bath facilitated such a move. Thus, in 1090 the bishop transferred his see to Bath, and Wells Cathedral was demoted to the status of college of secular canons. This saw the beginning of a long battle, fought by the canons of Wells, to regain their ancient status (Gransden 1982, 24–35). A similar battle took place at Lichfield, following the transfer of the see to Chester in 1075 (VCH 1990, 9–10).

A small step towards the recovery of their former status was secured by the canons of Wells in the constitution drawn up by Bishop Robert of Lewes, and endorsed by Pope Alexander III (VCH 1911, 12–13). A new twist to the struggle was introduced by Bishop Savaric who, in 1193, having obtained the abbacy of Glastonbury in addition to that of Bath, styled himself Bishop of Bath and Glastonbury. He died in 1205, and in 1219 Glastonbury was dropped from the title.

It was not, however, until after the death of the next bishop, Jocelyn of Wells, in 1242, that the dispute between Wells and Bath was finally resolved. In 1244, Pope Innocent IV ruled that elections were to be joint and the see was to be known as 'Bath and Wells' (VCH 1911, 13). That is still the diocesan title today, although the cathedral priory of Bath was dissolved in 1539. No provision for the bishopstool was made in its subsequent resurrection as a parish church in 1572.

Cathedral church of St Andrew

The existing cathedral is a wholly Gothic building, and very little is known about the physical structure of the church at Wells in the Anglo-Saxon and Norman periods. Indeed, even its siting was in doubt until recently. The paucity of historical documentation relating to Anglo-Saxon and early medieval Wells is in part explained by the lack of any notable saintly cult associated with the cathedral. This was exceptional, and was an omission which the canons attempted to remedy in the early fourteenth century, when they unsuccessfully petitioned for the canonization of William de Marchia (bishop 1293–1302). The inspiration for this was at least partly derived from the Hereford canons' success in obtaining the canonization of their saintly bishop, Thomas Cantilupe, in 1320 (Morgan 1982). As a substitute, and a strictly illegal one at that, the Wells canons appear to have treated the corporeal remains of their Anglo-Saxon bishops as saintly relics (Rodwell 1996a, and forthcoming).

Given Wells's diminished status in the twelfth century, it is remarkable that the old minster-cum-cathedral church was swept away and replaced by a wholly new building which stood at the forefront of English Gothic. The structure and its dating have been extensively discussed in recent years (Colchester and Harvey 1974; Harvey 1982) and only the briefest summary is necessary here. The eastern arm was begun in the mid to late 1170s, from which work progressed westwards, through the transept and crossing in the late 1180s, moving into the nave in the 1190s, reaching the north porch (midway along the nave) by *c.* 1206. After a short break, probably associated with the Interdict under King John (1208–13), work continued on the nave, culminating in the erection of the semi-incomplete west front of the 1220s and 1230s (Sampson 1998). A cloister on the south formed an integral part of this last building phase, but its plan was evidently conceived much earlier. The whole project was regarded as complete — albeit not properly finished — by 1239, when dedication took place. The surroundings of the building were then tidied and various parts of the precinct designated for use as cemeteries in 1243 (HMC 1907, 73–4).

The early Gothic collegiate church in *c.* 1240 thus comprised an aisled quire of three bays — terminating in a rectangular east end and a projecting Lady Chapel — a crossing with a low tower, aisled transepts, a nave with a monumental north porch, and a twin-towered west front. There was a cloister on the south, although its state of completeness is uncertain. After a pause, a series of additions then followed, beginning with the chapter house in the middle of the thirteenth century. Not completed until *c.* 1306, it is unconventionally sited on the north side of the cathedral; the more usual place for it would have been adjoining the east walk of the cloister, as at Salisbury, but the site in question was already occupied by the venerable and revered chapel of St Mary.

By *c.* 1319 the eastern arm of the cathedral had been extended: first, a new polygonal Lady Chapel was built — as a detached edifice — then the quire was lengthened by a further three bays, to link up with the newly constructed Lady Chapel. A retroquire and pair of lesser (eastern) transepts were provided at the same time: the work was well in hand, if not complete, by 1325 (Colchester and Harvey 1974, 205, 208). This brought Wells Cathedral essentially to its present form (Fig. 3).

The cloister was rebuilt, in stages, during the course of the fifteenth century, and various ancillary structures were erected within the precinct.

Finally, we come to the curious structure known as the 'Lady Chapel-by-the-Cloister', of which there is virtually nothing surviving above ground. This was the old chapel of St Mary, mentioned above, which in the fourteenth century had to be assigned the suffix *iuxta claustrum* in order to distinguish it from the 'new' Lady Chapel behind the High Altar. Although architecturally a relatively humble edifice — an appendage to the east cloister — the chapel held a position of unusual importance in the life of the cathedral, and in 1477–88 the old structure was replaced by a grandiose new building which was to serve also as the sepulchre and chantry for Bishop Robert Stillington (d. 1491), its builder. Stillington's chapel was demolished in 1552, being a casualty of Edward VI's Chantries Act: its site and the surrounding cemetery were eventually lost beneath a garden, known today as the 'Camery' (for which, see chapter 10). In the mid-nineteenth century the area was once again designated for use as the cathedral cemetery, and continues as such to the present day. It is here that excavations took place on several occasions in the nineteenth century, and again on a larger scale in 1978–80; the results of these excavations, and associated research, comprise the core material of this volume.

Although now only a secluded walled garden in the south-east corner of the precinct, the archaeology of the Camery has proved to be of pivotal importance in understanding the origins of the cathedral, and its development into the early Middle Ages. In this report the term 'Middle Ages' is used to denote the period between the late eleventh century and the mid-sixteenth century.

Liberty of St Andrew

Most medieval cathedrals are set within a precisely defined, and often well defended, precinct which is usually known as the 'cathedral close'. But this term has not been generally applied at Wells, although it certainly was occasionally used in the past: thus, William of Worcestre referred to Brown's gate as leading into *Le Close* (Harvey 1969, 294), and Daniel Defoe spoke of the bishop's palace as lying in the 'Closs' (Defoe 1983, 2, 29).

Wells Cathedral and its associated ecclesiastical buildings stand within a large and irregular enclave, known as the Liberty of St Andrew (Fig. 2). While this includes the cathedral's physical precinct, it also embraces the area over which the dean and chapter had complete legal jurisdiction (Bailey 1981). The Liberty, as the name implies, was exempt from civil and parochial controls. In the Middle Ages, Wells was a town with a single parish, with its own church dedicated to St Cuthbert.[14] St Cuthbert's parish covered a huge area, extending well beyond the built-up town, and out of it was carved the extra-parochial Liberty of St Andrew. By the nineteenth century, the Liberty had come to be regarded (albeit incorrectly) as a kind of 'cathedral parish', and was labelled 'St Andrew's Parish' on the 1886 Ordnance Survey 1:500 map.

Wells was also a medieval borough, the bounds of which excluded the Liberty (below). That part of St Cuthbert's parish which lay within the borough boundary was known as St Cuthbert Within (or simply 'In'); the remainder bore the suffix 'Without' (or 'Out'). No detailed study of the Liberty of St Andrew has been published, and a brief account is deemed necessary here, in order to establish a context for the buildings and other structures to which frequent reference is made in subsequent chapters.

The 1886 map provides the earliest cartographic depiction of the precise extent of the Liberty. It is immediately striking that where the boundary of the Liberty abutted an undeveloped area it tended to follow a continuous and easily definable feature, such as a road or stream. This contrasts markedly with the situation adjoining the built-up areas of the town, and the eastern suburb (St Thomas's Street), where the boundary dog-legged between properties. The maximum distance between the relatively well-defined north and south boundaries was 510 m. The east and west boundaries were very irregular, but the distance between them averaged *c.* 400 m.

The date of creation of the Liberty is unknown, but it could well have originated at the time of Bishop Robert's new constitution, which was given to the chapter in the mid-twelfth century. Alternatively, it could be associated with Bishop Reginald's grandiose schemes initiated in *c.* 1175. The all-embracing nature of the Liberty certainly suggests that its initial definition antedated the era when physical divisions began to appear between episcopal and capitular territories, and that implies a date before the end of the twelfth century.

The extent of the Liberty was clearly reduced at various times, since some of its recorded boundaries are intrinsically datable to the fifteenth century, or later. The most obvious example concerns the block of twelve properties known as the *Nova Opera*, or the 'New Works', in the Market Place. The boundary of the Liberty runs along the back (*i.e.* north side) of these houses, which were erected only in 1451 (Fig. 2; p. 402). The site was previously part of the cathedral churchyard, and no physical boundary existed on this line. Doubtless, the original Liberty boundary was on the market place frontage, where the churchyard wall stood. Thus, the boundary was set back expressly to exclude new properties with secular uses from the Liberty. The same phenomenon can be seen on the east side of Sadler Street, and on part of New Street, at its junction with North Liberty.

Further north, in New Street, a rectangular plot, end-on to the road, appears to have been cut out of the Liberty. This was the site of Mountroy Chantry College, which was founded *c.* 1401, dissolved in

1548, and thereafter converted for domestic use (Serel 1875, 132–7). The dog-legged plan of the eastern Liberty boundary (north of St Thomas's Street) can be explained by the loss of canonical houses here, and the subsequent secularization of their sites.

By the late eighteenth century it was evidently no longer considered essential to ensure that property within the Liberty was used for ecclesiastical purposes only. This is demonstrated by the fact that the present market square, town hall (1779), market hall (1835; now a post office), and other secular buildings in that area all fall within the Liberty. Previously there had been a canonical house on the site of the market square and town hall, and the palace mill lay where the post office now is (p. 381). Taking the known and probable boundary changes into account, it is possible to reconstruct, with a reasonable degree of confidence, the limits of the medieval Liberty of St Andrew, based on the maximum ecclesiastical holding. It enclosed not less than 23 ha (57 acres). The Liberty is bisected across its centre by a through road, the eastern part of which is known as St Andrew Street, and the remainder as Cathedral Green.

The internal topography of the late medieval Liberty was broadly divisible into three zones. Occupying a more-or-less central block was the cathedral church and its immediate appurtenances, including the cemeteries and the springs. The second zone, to the south, was given over to the Bishop's Palace, its mill, its barn and a generous area of open land. The third zone, lying to the north of the cathedral, was the residential area for the clergy and staff. Here also were the two ecclesiastical colleges of Wells: Mountroy College (*alias* New College of St Anne), and the College of Vicars Choral. The former has disappeared entirely (Sellers 1959–60), but the latter survives as a compact, self-contained unit and is known today as the Vicars' Close (Rodwell 1982d).

The residential northern zone was anciently divided into a number of plots to which access was gained via three medieval streets: North Liberty, East Liberty and College Road (as well as St Andrew Street and Cathedral Green, already mentioned). Upon these plots were erected the deanery, canonical houses and ancillary buildings, including the canons' barn; there was also some open land. The major surviving buildings are indicated in Figure 2.

There is no evidence that there was ever an intention to provide the Liberty of St Andrew with a comprehensive system of defences, or to erect an encircling wall with gates, as existed around other non-monastic closes, such as Salisbury and Lichfield. Nevertheless, various sectors of the Liberty were enclosed piecemeal by high walls and gates in the later Middle Ages. The first evidence for this is in the form of a royal licence to crenellate, granted to Bishop Ralph of Shrewsbury in 1340. He was empowered to build, 'for the glory of God, the honour of the cathedral church of Wells, and the saints whose bodies repose there, and the security and quiet of the canons and ministers resident there, an embattled wall with towers around the churchyard, the canonical houses and his own residence'[15] (Dunning 1982, 235).

In the event, it appears that Ralph may have provided defences only for the Bishop's Palace, including the prestigious moat (frontispiece). It is possible that he undertook, or at least started work on, a more comprehensive scheme, since the churchyard wall was mentioned in 1451 (when part of it was demolished), and in 1391 there is a record of a gatehouse, with a chapel above, in Tor Street (HMC 1914, 21). The gate, which lay on the eastern boundary of the Liberty boundary, was demolished in 1445–46 (Colchester 1987, 180). Bishop Ralph was also responsible for the construction of the Vicars' Close, which has its own enclosure wall and gatehouse. This work dates from *c.* 1348 onwards (Rodwell 1982d).

Supposedly, it was not until the middle of the fifteenth century that other parts of the Liberty were enclosed by walls, pierced by monumental gateways. This work was carried out by Bishop Thomas Bekynton (1443–65), whose rebus and arms are emblazoned on all his architectural benefactions. He created an outer enclosure around the moated palace, and in *c.* 1451 built the prestigious portal opening off the market place, known as Palace Gate (Fig. 4). He is also credited with enclosing the cathedral and its cemeteries, providing three gatehouses at the points of entry: Penniless Porch (or the 'Bishop's Eye')[16] in the market place (probably 1451), Brown's Gate (or the 'Dean's Eye') in Sadler Street, and the Chain Gate (1459) in St Andrew Street. Parts of the enclosing wall still survive around the North and East Liberty, and in New Street (indicated on Fig. 2).

A *caveat* should, however, be entered at this point, since the long-held view that the cathedral environs were only enclosed in the late Middle Ages is now open to serious doubt. In addition to the lost gate in Tor Street, it is clear that Bekynton's Penniless Porch incorporates an older gatehouse (p. 341). Also, in 1997, it was discovered that the undercroft of the Vicars' Hall, which forms one flank of the gatehouse to the Vicars' Close, is of late thirteenth-century date, and is therefore anterior to Bishop Ralph's collegiate foundation. In the nearby garden of Wells Museum, the base of a small tower was uncovered during excavations in 1996, and associated finds indicate that it too dates from the thirteenth century.[17] It is also worth observing that the Liberty wall has nowhere been dated archaeologically. Moreover, the Camery wall, which encloses the south-east part of the cathedral precinct, can now be assigned to *c.* 1200 (chapter 10). Clearly, the history of defence at Wells is in need of comprehensive re-evaluation.

The Deanery (now Old Deanery), with its own high-walled courtyard and gatehouse, owes its present form to Dean Gunthorpe (1472–98). East of the Deanery, and within Bekynton's wall, lay the houses of

the other senior cathedral dignitaries: the chancellor (now Wells Museum), the archdeacon of Wells (now Cathedral School) and the precentor (Tower House). In addition, there were at least another twenty-two canonical houses in the Liberty, but the number fluctuated over time (Bailey 1982). A few were within Bekynton's wall, but most were outside. Several of the houses survive, in varying states of completeness: one of the finest, now known as The Rib, is in St Andrew Street, immediately east of the cathedral (Fig. 2). Another important structure, located just beyond the North Liberty, was the late twelfth-century Canons' Barn, now incorporated in one of the buildings of the Cathedral School (Weller 1989).

Town and Borough of Wells

The origins of the town are obscure. The problem has been considered by Aston and Leech (1977, 147–54), Rodwell (1980b, 42–3), Havinden (1981, 210–14), Haslam (1981), Aston (1984, 193–4) and Scrase (1989a; 1993). The development of the town, and more especially that of its street pattern, is directly related to changes in the cathedral precinct: the subject is briefly reviewed in chapter 5.

The first reference to a market at Wells is in 1136, and this is confirmed before 1160 in a grant mentioning three fairs in the 'broad places' of the town (HMC 1907, 430; 1914, 547). The town appears to have obtained borough status — or had it confirmed — under Bishop Robert, sometime between 1136 and 1166 (SRS 1932, x), and the bounds were first described in Bishop Savaric's charter, datable to between 1199 and 1201 (SRS 1932, 2–3). The Liberty of St Andrew was clearly excluded. There is no evidence to suggest that the town was ever given defences, although their provision was envisaged in a charter of 1341, when the burgesses were granted the right to 'enclose and fortify their said borough according to the ancient bounds thereof with a wall of mortar and stone and with dikes, and may crenellate the wall and so hold the same' (SRS 1932, xv). The charter gave rise to a protracted dispute, and the grant was revoked.

Certain other buildings and topographical features of the town are alluded to in subsequent chapters, and it is convenient to introduce them here, and locate them on plan (Fig. 2). The parish church of St Cuthbert, evidently of pre-Norman origin, lies at the west end of the town. It retained sole parochial rights until the mid-nineteenth century. There was, however, a chapel dedicated to St Thomas the Martyr in Southover (the south-west extremity of the town), and Scrase (1982a) has demonstrated that it was probably much older than the dedication might suggest: it seems originally to have honoured St Etheldreda. The chapel, which Leland records as having disappeared by 1542, had its own churchyard (HMC 1914, 626, charter 366; Toulmin Smith 1964, 145; Searle 1985–86).

Also in the western part of the town lay what is variously known as the Hospital (or Priory) of St John the Baptist. Founded *c.* 1220 and dissolved in 1539, it is poorly documented, and attempts to discover the extent of both its buildings and its lands have met with considerable difficulty (Serel 1875, 122–31; Duncan 1981–82; Scrase 1989a, 37–41). There was, finally, one more religious foundation in the city, St Saviour's Hospital — otherwise known as Bubwith's Almshouses — immediately north of St Cuthbert's Church. The hospital was begun in 1436, using funds bequeathed by Bishop Nicholas Bubwith, who died in 1424 (Parker 1866a, 49–52; Godfrey n.d., 31; Scrase 1989c).

The watercourses and mills of Wells are separately considered in chapter 11.

Antiquarian scholarship at Wells

Early travellers' descriptions

A steady trickle of travellers, antiquaries and topographical artists has passed through Wells, and some have left records of what they saw. The earliest surviving account, made more than five hundred years ago, was penned by William Worcestre (Harvey 1969, *passim*). In 1480 he paced out the principal dimensions of the cathedral, the cloister, the Vicars' Close and the Bishop's Palace, and commented upon features that he found of especial interest. The next record comes from John Leland, official antiquary to Henry VIII. He visited Wells in 1542 and noted various aspects of its topography, including the ecclesiastical buildings, gatehouses, water supply and market place (Toulmin Smith 1964, 144–6).

In 1662 William Schellinks, a Dutchman, spent a night at the *George* in Wells, and the next day wrote an antiquarian description that was not bettered for the next hundred years.

> 22 July [1662]. Wells lies in Somerset, it is a small town with a bishop's seat, the town has its name from the wells or springs of gushing water, so the church was in olden days called Fountain Church. On account of the many inhabitants, fine buildings and street, it is the principal town of this county. The west front is very unusual, with oval niches from top to bottom and sections separated by pillars, in which can be seen in old sculptures the entire history from Adam to Christ even to the last judgement, and all the remarkable stories from the Old and New Testament. It was in a bad condition because of its great age, as well as the war, but it is all being repaired. Inside the church is very wonderfully built, without any woodwork in the choir area, very strongly supported by stone arches standing in the crossing of the church a support for the tower. The retrochoir or lady's choir or chapel is very wide and a beautiful building. On the wall

on the left side is a clock showing sun, moon months, days, hours, and minutes. A sitting man strikes with his heels all the quarters, and with his hands the half and whole hours. Behind the choir are the tombs and graves of several bishops. On the north side one goes up some stone steps to the chapter house, where the deacons and canons meet, it is a very fine, beautiful building, circular, with a pillar in the centre on which the vaulting rests. Around the periphery are seats etc.
Going up some stairs one comes into the refectory of the clergy, next to it is the Vicars' Close Hall, and also dwellings on both sides for the choristers and others, each dwelling with a little garden. These were built by Bishop N. ...
... A very large organ was in hand to be installed in the church. Next to the church is the bishop's palace, which was badly damaged; in it is a very beautiful hall. The town or parish church is called St. Cuthbert's Church. In the High street stands a very old, high and graceful stone building, or Cross, and next to it a large market and assizes or court house is being built. (Exwood and Lehmann 1993, 107–8)

The springs usually attracted comment by later writers, and sometimes nothing else. When Celia Fiennes passed through the city in 1698 she described it only briefly:

... Wells is what must be reckoned halfe a Citty, this and the Bath makeing up but one Bishops See; the Cathedral has the greatest curiosity for carv'd work in stone, the West Front is full of all sorts of figures, the 12 apostles, the King and Queen with angells and figures of all forms as thick one to another as can be, and soe almost all round the Church; the assizes was in the town which filled it like a faire, and little stands for selling things was in all the streetes; there I saw the Town Hall — the streetes are well pitch'd — and a large market place and shambles; the Bishops Pallace is in a park moated round, nothing worth notice in it; St Andrews Well which gives name to the town bubbles up so quick a spring and becomes the head of two little rivers which encreases a little way of[f] into good rivers. (Morris 1949, 241–2)

In a similar vein, Daniel Defoe did not feel the need for an extended description during his visit in 1724–26, even though he was clearly impressed with Wells.

Four miles from Glastonbury lies the little city of Wells, where is one of the neatest, and, in some respects, the most beautiful, cathedrals in England, particularly the west front of it, is one complete draught of imagery, very fine, and yet very ancient.

This is a neat, clean city, and the clergy, in particular, live very handsomely; the Closs, or part of the city where the Bishop's Palace is, is very properly called so; for it is walled in, and lock'd up like a little fortification, and has a ditch round it.
The dignified clergy live in the inside of it, and the prebendaries and canons, which are very numerous, have very agreeable dwellings, and live very pleasantly. Here are no less than seven-and-twenty prebends, and 19 canons, belonging to this church, besides a dean, a chancellor, a precentor, and three arch deacons; a number which very few cathedrals in England have, besides this. (Defoe 1983, 2, 29–30)

Other travellers in the eighteenth and nineteenth centuries variously waxed lyrical about the cathedral, or made derogatory remarks, according to whim. Historical accuracy was not always in evidence: thus the Revd William Gilpin, who wrote fluently on 'picturesque beauty', insisted on describing the building as 'Saxon': 'the cathedral is a beautiful pile, notwithstanding it is of Saxon architecture. The front is exceedingly rich ... there is too much ornament.' (Gilpin 1798, 130). Wells featured prominently in the illustrated journal of an antiquarian tour by Edward Carlos in 1824.[18] For a traveller, his record of historical detail was exemplary (Pl. III).

Observation, research and publication since 1655

Unlike some of the greater cathedral cities, Wells did not attract a high level of scholarly antiquarian study in the eighteenth and nineteenth centuries, with the consequence that no voluminous history of the city was compiled. Nor was a detailed architectural survey of the cathedral and other ecclesiastical buildings tackled and, remarkably, the only topographical plan of the city prepared prior to the Ordnance Survey's 1886 map was William Simes's map of 1735. It includes a birds-eye view of the cathedral from the south (Fig. 355). Two other prospects of Wells were drawn by Samuel and Nathaniel Buck: one is of the city generally (1736), the other is a fine view of the Bishop's Palace (1733), taken from the cathedral tower (Buck 1774; Reynolds 1881, opp. li).

This is not to suggest that Wells was overlooked: on the contrary, the cathedral received its share of attention from ecclesiastical artists and prominent antiquaries. The two earliest depictions are an elevation of the west front, and a south prospect, both drawn by Richard Newcourt of Somerton (Somerset), in or before 1655.[19] Unfortunately, the cloister is entirely omitted from the prospect. The first attempt to compile a history of Wells was in *c.* 1680, when Nathaniel Chyle (who was the bishop's secretary) compiled a very lengthy manuscript, entitled 'The History of the

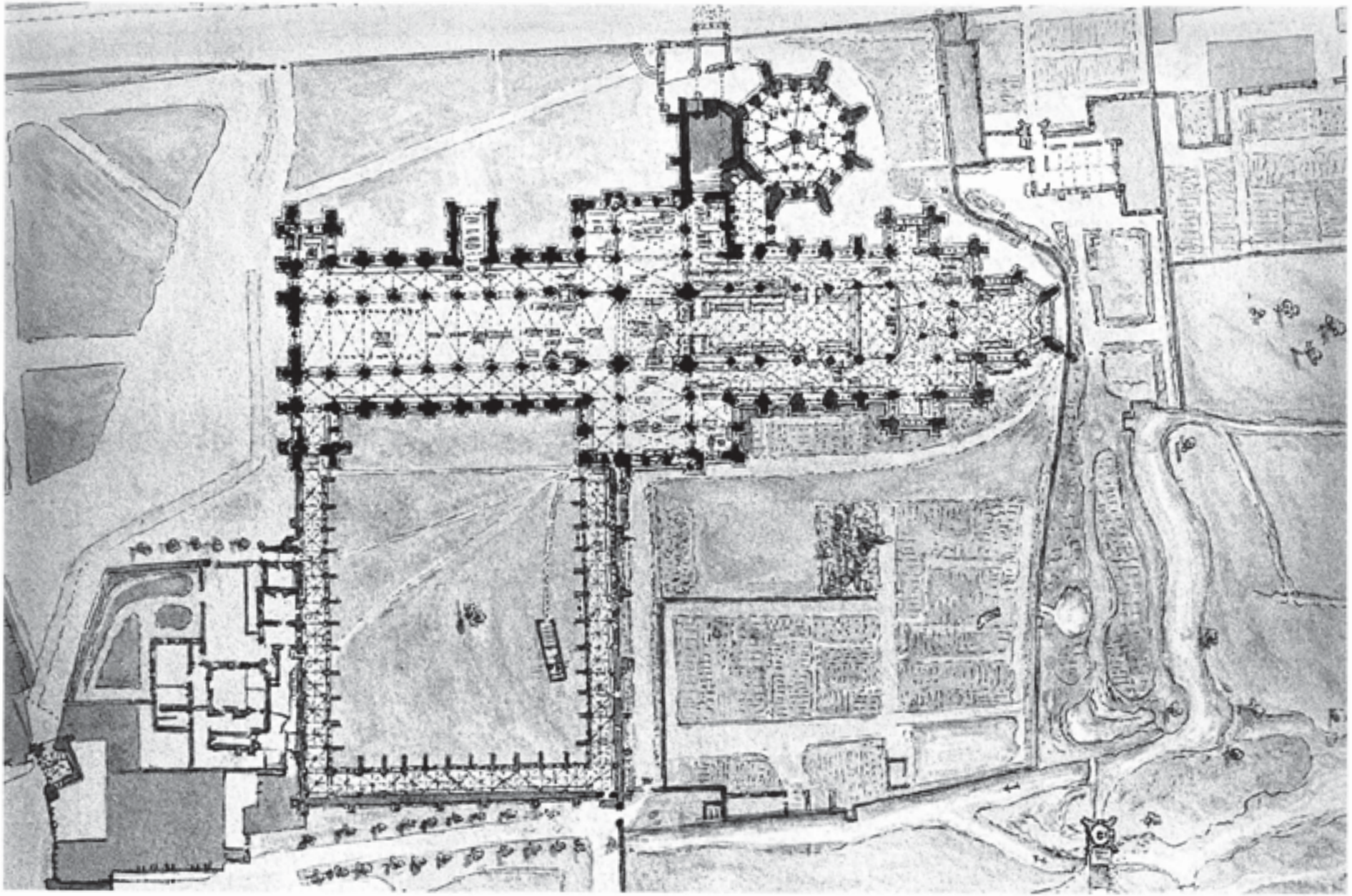


Fig. 5 Extract from John Carter's ground plan of the environs of Wells Cathedral, c. 1795. It is executed in pen and watercolour (Courtesy of the Society of Antiquaries of London)

Cathedrall Church of S. Andrew in Wells ...', but it was never published, except in a heavily edited form (Reynolds 1881, xi–cxcvi).

Samuel Gale visited Wells in 1711, and penned a short description.[20] In the 1720s, Browne Willis prepared plans and descriptions for his *Survey of the Cathedrals*, the first volume of which was published in 1727, but Wells was not included. Nevertheless, Willis had evidently drafted a description of the cathedral as early as 1718, and sent a copy to Bishop Hooper.[21] He was also in possession of a plan, which is the earliest known: it is still unpublished.[22] The first published plan of the cathedral occurs as an incidental embellishment in one corner of a fine prospect by Thomas Fourd, dating from *c.* 1730 (Colchester 1987, 54),[23] and is reproduced here as Figure 381. However, a seriously detailed plan of Wells Cathedral and its precinct was first produced by the indefatigable John Carter, who visited the city on several occasions between *c.* 1784 and 1794, and his voluminous sketches are in the British Library.[24] Carter subsequently prepared a set of colour-washed drawings for the publication of a Wells Cathedral portfolio, but the project was never completed.[25] The plans and sections are meticulously detailed and of immense value for topographical and building studies (Fig. 5; Pl. I). Carter was evidently attracted by the undercroft to the chapter house (generally referred to as the 'crypt') and the antiquities that it contained. He drew a plan of the undercroft and vestibule, and listed the principal antiquities displayed there (Fig. 6). He also sketched the occasional curiosity, such as an old key 'picked up from the rubbish in Wells Cathedral' (Carter 1795, 47).[26]

The earliest guide-book to the cathedral was published by John Davis, the virger, in 1809, and went through several editions (Davis 1809). John Britton, however, was the first to prepare a comprehensive architectural description, which was published in 1824. Many pencil sketches and watercolours of ecclesiastical structures at Wells were made by John Buckler, and a few by J.C. Buckler, mainly in the period *c.* 1825–39, but some are as early as 1804. The Bishop's Palace was especially well represented.[27] In 1825, Sir Stephen Glynne described the architecture of the cathedral in some detail, during his ecclesiological tour of Somerset (McGarvie 1994, 359–63). Many references and illustrations, also of the 1820s, are found in the journals of a Somerset antiquary-cleric, John Skinner.[28] Wells itself produced two early antiquaries of interest. The first was John Bowen, a priest-vicar in the late eighteenth century, who assembled a history of Wells and Glastonbury which was never published (Reid 1965). The other was Thomas Serel, a solicitor's clerk, who collected documents and wrote histories of several local ecclesiastical buildings (Serel 1875).

The Somerset Archaeological and Natural History Society was founded in 1851, and the first volume of its *Proceedings* contained a substantial account of the history and physical morphology of Wells Cathedral (Clerk 1851). This presaged many contributions yet to come, both in the Society's journal and more generally. Also in 1851, the (Royal) Archaeological Institute held its annual summer meeting at Bristol, which included a day's excursion to Wells. There, in the Court House, a pair of seminal lectures was delivered by 'the two learned professors', C.R. Cockerell and the Revd Robert Willis.[29] Cockerell's researches were published in monograph form, becoming the first significant statement on the art history of the west front (Cockerell 1851). Willis's lecture, however, was not published, and consequently Wells does not feature as 'one of those masterly discourses' for which he was renowned in the 1850s and 1860s. All that survives is a commentary on the lecture, published as part of the 'Proceedings' of the Institute's meeting (Willis 1853).

By the middle of the nineteenth century, the remarkable west front of Wells Cathedral had begun to command widespread attention, and numerous illustrations of its sculptures appeared in antiquarian publications. Scaffolding erected in conjunction with restoration facilitated close inspection of the statuary, and prompted observations by Benjamin Ferrey (1873), the architect in charge of the work. Much later, a detailed re-appraisal of the figures on the west front was offered by Hope and Lethaby (1904).

In 1863, Willis was given a second chance to expound on the cathedral, when he was invited to address the annual general meeting of the Somerset Archaeological and Natural History Society at Wells. Once again, only a commentary on the lecture was published (Willis 1863–64). Unlike so many other cathedrals, Wells did not benefit from a seminal study by Willis, and that was probably because no major restoration scheme was in hand at the time. In most instances, his involvement with a cathedral stemmed from the opportunities for research posed by full-blooded Victorian restorations. Wells was not entirely saved from such excesses, but there were certainly fewer opportunities for the enquiring antiquary to pursue his researches (Rodwell 1996b).

Another contributor to the 1863 meeting was Professor E.A. Freeman, who gave 'An Introductory Discourse on the General Antiquities of Wells', in which he dealt with the archaeological background to the present cathedral (Freeman 1863–64). He subsequently widened the scope of his interests, pronouncing generally on the early architecture of the building (Freeman 1888).[30]

The publication of a wide-ranging and characteristically controversial history of Wells, based on a series of lectures given in 1869, was contributed by Freeman (1870). One of his many complaints was the fact that the dean and chapter's archives were uncalendared and virtually inaccessible to study. Almost immediately, the situation began to be remedied, and in 1885 the Historical Manuscripts Commission published a report on the material at Wells (HMC 1885). This was

followed by a very scholarly series of papers based on original documentary research by Canon Charles Church (1888; 1894b).[31] At the same time, the Historical Manuscripts Commission calendared the major part of the cathedral's muniments (HMC 1907; 1914). Subsequently, the Somerset Record Society has published bishops' registers, wills and other documents in its own monograph series (SRS *passim*).

Church was the first scholar to devote prolonged attention to the history of Wells Cathedral. Being a residentiary canon and sub-dean, he was well placed to carry out researches into the cathedral archives, and his studies remain fundamental. He was not, however, an architectural historian or archaeologist, and was thus unable satisfactorily to match documented evidence to that in the fabric.[32]

Another *magnum opus*, produced by H.E. Reynolds in 1881, consisted largely of transcripts of key documents relating to the history and constitution of the cathedral. Concurrently, other scholars began to tackle specific topics of antiquarian interest, such as the memorials in the cathedral (Jewers 1892).[33]

The principal Victorian account of the architectural history of Wells Cathedral was written by James Thomas Irvine (1873/74) when he was clerk of works for the restoration of the west front. Irvine was an astute observer, and meticulous recorder of detail, but his scholarship was not always sound. Thus, his contribution on the cathedral suffered from a fundamental flaw: he believed that the west front was erected first, with construction progressing eastwards during the thirteenth century, whereas the reverse order is actually the case.[34]

The wider environs of Wells Cathedral received undeservedly little attention from early antiquaries, the only notable general account being John Henry Parker's *Architectural Antiquities of the City of Wells* (1866a; 1866b).[35] The Bishop's Palace also received attention from Parker (1861–62; 1865a), before a detailed study and analysis was carried out by the diocesan architect, Edmund Buckle (1888). Some finely executed drawings of the Bishop's Palace and the Deanery, together with a fuller treatment of the Vicars' Close, were contained in A.W. Pugin's *Examples of Gothic Architecture*, published posthumously (Pugin and Pugin 1836/1895).

The Wells Natural History and Archaeological Society was founded in 1888 and, although cathedral dignitaries have been continuously associated with it for more than a century, the society has never been closely involved with the archaeology of the cathedral, or of the city in general. Its *Annual Reports* reflect this unexpected situation. While there have been a handful of notable papers on aspects of Wells published in these *Reports*, over the past century, there has been no local tradition of recording archaeological discoveries made on development sites, or during the demolition of historic buildings.

Archaeological study of the kind involving the systematic search for hidden evidence was tackled only once at Wells, in 1894, when the dean and chapter instigated excavations in the south-east corner of the cathedral precinct, in what had lately been a privately leased garden, but was anciently known as the 'Camery' (Fig. 2); some sporadic digging had already taken place in 1851 and 1873. The purpose of the 1894 campaign was to explore the foundations of demolished chapels that had once adjoined the east side of the cloister (Church 1894a; Buckle 1894). The excavations, carried out under the direction of Edmund Buckle, the cathedral architect, were disorganized and unscientific in their approach, highly destructive in their effect, and poorly recorded even by the standards of the time; but the results were fairly dramatic, and included the recovery of the complete plan of Bishop Stillington's large cruciform chapel (Fig. 9). The remains of earlier structures, at a lower level in the ground, were less easy to interpret in architectural terms, although their identity as the historically important Lady Chapel-by-the-Cloister was not in doubt.

The excavations revealed a curiosity which defied immediate explanation: while Stillington's chapel followed the general alignment of the cathedral, and adjoined the cloister squarely, its predecessor was markedly askew. The discrepancy amounted to 12°. The same skewed alignment was observed in the positioning of a decorated medieval coffin lid which was shortly afterwards unearthed close to the south-east transept of the cathedral (Fig. 16; Anon. 1903).

It was not until 1909 that (Sir) William St John Hope advanced the theory that the early Lady Chapel both marked the site, and reflected the axial alignment, of the Anglo-Saxon cathedral (Fig. 72A). This was an important conceptual advance, since down to this time nothing whatever was known concerning the site or the archaeology of the pre-Gothic churches at Wells. Hope's paper, first read before a meeting of the Somerset Archaeological and Natural History Society, was treated with scepticism: one canon regarded it as 'speculation and very interesting speculation', reminding the audience that 'because it was interesting, they must not forget that it was speculation'.[36] In the following year, Hope delivered a similar paper to the Royal Archaeological Institute (Hope 1910).

Despite the undoubted early importance of Wells as a minster, and later as a cathedral church, little serious consideration was given by scholars to the Anglo-Saxon and Norman periods, principally owing to the paucity of relevant documentation. More puzzling than the lack of historical evidence was the almost total absence of architectural remains relating to those epochs. Indeed, only two pieces of carved stone could be cited as material evidence for pre-Gothic structures on the site. The first was a small fragment of interlaced cross (Fig. 488.2), found in the Camery excavations in 1894 (Browne 1894), and the second a chevron-decorated block — perhaps from a string-course — built into the south-west corner of the Vicars' Hall (Fig. 438). It still serves as a decorative lintel over a pseudo-blocked doorway, and was placed here sometime prior to the nineteenth century.

Considerable advances were made in historical studies at Wells during the first quarter of the present century, and the scholarly lead was taken by Dean Joseph Armitage Robinson, who succeeded Canon Church as the cathedral's resident historian. Robinson's published works include a study of the Anglo-Saxon bishops of Wells, and their retrospective sepulchral effigies, seven of which now lie in the quire aisles of the cathedral (Robinson 1914; 1919). But undoubtedly the most important issue addressed by Robinson was the date of commencement of the present church. Arguing from documentary evidence, he asserted that construction was under way in the mid-1180s; this carried far-reaching implications: Wells's Gothic was remarkably early (Robinson 1928). A radically different view was taken by Dr John Bilson, who argued that the rebuild at Wells must post-date the splendid late Romanesque Lady Chapel at Glastonbury by some years. The latter was begun in 1184, following the abbey's disastrous fire (Bilson 1928). Bilson argued his case on architectural-stylistic grounds: to him, it seemed impossible that two great ecclesiastical buildings, only seven miles apart, could exhibit such profound differences in respect of the proposed dates of their erection. How could the Gothic of Wells antedate Glastonbury's Romanesque work by almost a decade? The Robinson and Bilson articles constitute an important pair, demonstrating the pitfalls of stylistic dating.

Wells featured prominently in Sir Harold Brakspear's seminal study of the 'school' of West Country masons working in the early Gothic style (Brakspear 1931). After this, however, studies entered a period of stagnation, and little consideration was given to unravelling the cathedral's architectural history further until the early 1970s, when the late Linzee Colchester became cathedral archivist. Like Church and Robinson before him, he developed an encyclopaedic knowledge of the building, its history and archives. He joined forces with the late Dr John Harvey, and together they published a further succinct but prescient review of the documents and the evidence encapsulated in the fabric, bearing upon the question of the origins and development of the Gothic cathedral (Colchester and Harvey 1974). Subsequent papers by Harvey expanded upon these themes (Harvey 1978; 1982).

Despite its obvious importance as a medieval cathedral city, with Anglo-Saxon origins, Wells did not receive any study involving modern archaeological techniques prior to 1978. This situation contrasted markedly with Glastonbury, where no less than thirty-four seasons of excavation had taken place in the abbey ruins since 1904 (Aston and Leech 1977, 57–65, 147–54). Recognizing the need to fill the *lacuna* caused by the dearth of archaeological study at Wells, both above and below ground, Dean Patrick Mitchell appointed the first Cathedral Archaeologist in 1977, and later set up a small advisory committee to explore the opportunities and needs for professionally conducted investigations.

This action was timely. A major programme of conservation and repair had already begun on the west front, under the direction of the late Alban Caroe, cathedral architect, and other works of restoration and improvement were imminent. The principal archaeological response was the excavation programme described in this volume, which took place in the Camery between 1978 and 1980. Other archaeological projects included opening and recording the Saxon bishops' tombs (1978–79); repairing the Camery Wall (1982); a minor excavation in the north quire aisle of the cathedral (1982) and, most importantly, a detailed programme of recording and research on the west front, down to the completion of the work in 1986 (Sampson 1998).

Alongside these large and medium-sized projects, scores of other lesser observations have been made by Jerry Sampson and the writer over the course of more than twenty years of almost daily contact with Wells Cathedral. Some of that material has been included here, where it is relevant to the principal theme of the volume.

In 1978, the British Archaeological Association held its annual conference at Wells, resulting in the publication of a volume of papers on the archaeology and architectural history of the cathedral (Coldstream and Draper 1981). A further collection of papers, commissioned and edited by Colchester (1982), eventually filled a long-felt need: *Wells Cathedral: A History*. This was followed by a popular, but impressively erudite, guide-book, also the work of Colchester (1987). Additionally, he and others have been responsible for a long succession of scholarly booklets which have been published by the Friends of Wells Cathedral. Many brief but useful notes on aspects of the cathedral church and its furnishings have also been published in the Friends' *Report* (annually since 1953), and their *Journal* (annually since 1990).

Studies of the canonical houses of Wells, and of the dean and chapter's manor of Canon Grange were published by the late Dr Sherwin Bailey, chancellor of the cathedral (Bailey 1982; 1985). One house (no. 3, North Liberty) was archaeologically recorded during restoration in 1988, and a detailed study of the medieval deanery was undertaken during its refurbishment in the early 1990s.[37] More recently, a series of excavations has been conducted in the garden to the north of Wells Museum, which was another of the medieval residences of the *quinque personae*.[38]

The Vicars' Close received limited archaeological study in 1978–80, when a major repair programme was carried out under the supervision of Martin Caroe. Important new evidence for the structural history of the houses emerged (Rodwell 1982d) and, in 1991, the complete refurbishment of the best preserved house (no. 22), provided the first opportunity for detailed internal scrutiny. Similarly extensive work in the

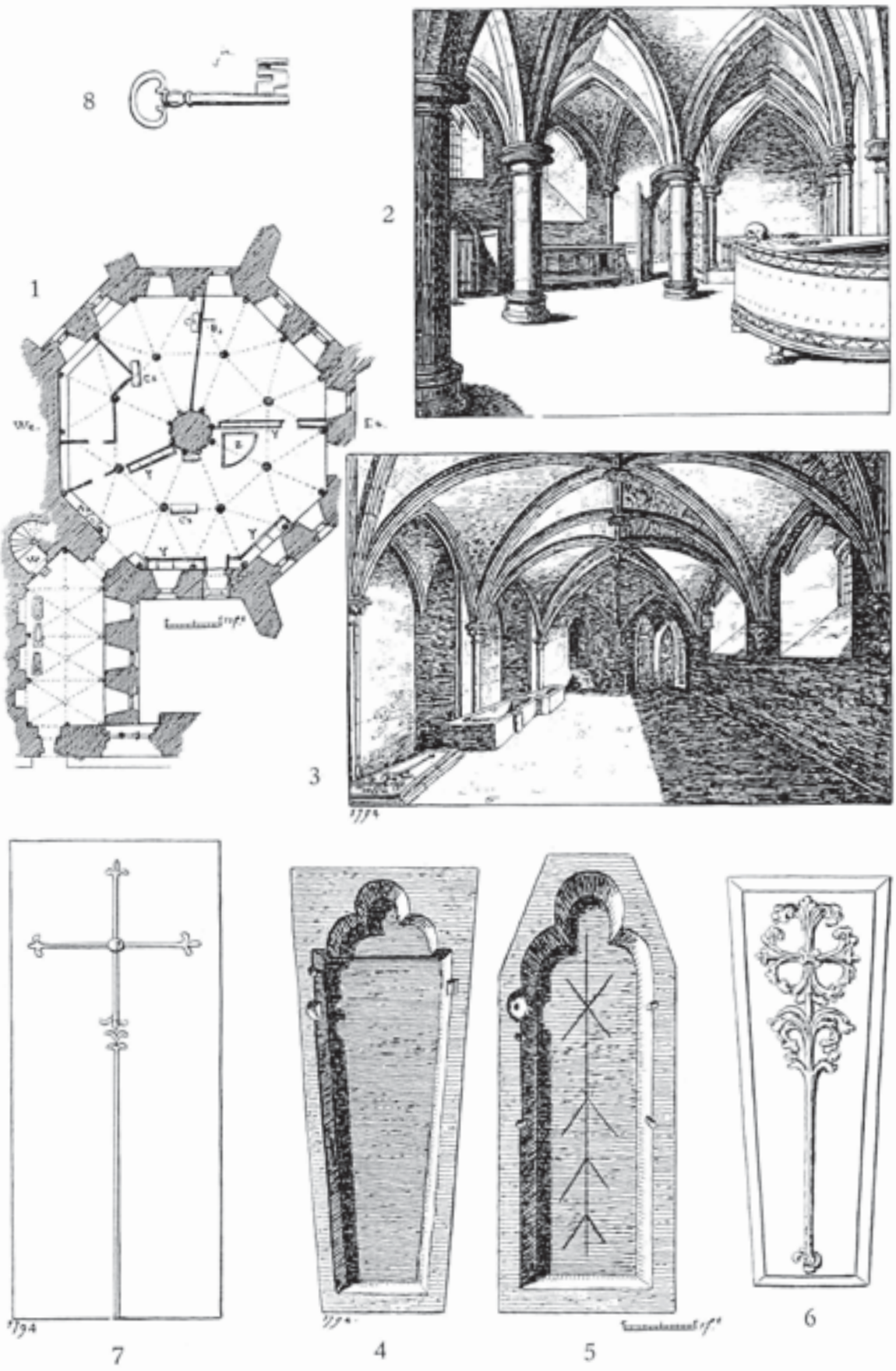


Fig. 6 Illustrations of antiquities at Wells by John Carter, 1794. 1 Plan of the chapter house undercroft and vestibule, showing locations of antiquities on display; 2 View of the interior of the undercroft; 3 View north along the vestibule, showing a cross-slab and two coffins; 4 Coffin no. 3; 5 Coffin no. 1; 6 Floriated cross-slab no. 2; 7 Matrix for a brass cross; 8 A key After Carter 1795

Vicars' Hall and its undercroft, in 1997, yielded new evidence which has profound implications for the architectural history of that building.

Finally, mention must be made of the sustained research carried out over two decades by Tony Scrase on the morphology and development of the town (Scrase 1978; 1982a; 1982b; 1989a; 1989b, 1989c and 1993).

Local museums and collections

The general level of antiquarian interest in England in the later eighteenth century led to a miscellany of items being assembled in the undercroft, beneath the chapter house, evidently with a view to public display. It is not known when this occurred, or who was responsible, but the collection was in place by 1794. In that year Carter sketched and planned the undercroft and the vestibule leading to it (Fig. 6). Various cabinets and the medieval cope chest were housed in the undercroft, while in the vestibule two stone coffins and a foliate grave-slab were displayed. Interest obviously waned, and in the early nineteenth century the area became a store for lumber and building materials.

John Coney's undated (*c.* 1814) illustration of the chapter house undercroft shows two of the stone coffins that formerly resided there along with other impedimenta (Fig. 7).[39]

Edward Carlos, visiting the cathedral in 1824, commented:

> In addition to the architectural features of this crypt, it is interesting as the depositary of several antiquities collected at various times, and placed in this apartment, not however with any order or regularity, but merely to be out of the way, in consequence there is a collection of articles of some value mixed up with lumber of all kinds, instead of being arranged as it ought to be, in a kind of museum.[40]

The first recorded museum in Wells was established in 1824 in another undercroft, this time at the Bishop's Palace. The museum was instigated by George Henry Law, who was translated to the episcopacy in that year. His collection mainly comprised prehistoric and Roman antiquities from the Mendips, and geological specimens, but medieval antiquities from the cathedral were also included. Carlos mentioned the newly created museum in connection with the transfer of the medieval wooden pyx-cover from the cathedral to the palace. Britton saw it in the chapter house undercroft in 1823, and illustrated it there (Britton 1836a, pl. XI), but when Carlos arrived it had been 'lately removed into the museum at the Episcopal palace'. A view of the palace undercroft (1830), showing antiquities on display, was later published by Britton (1836b, opp. 70).

The Reverend John Skinner, rector of Camerton, was responsible for most of the acquisitions (Wicks 1932). He was a keen antiquary and recorded his

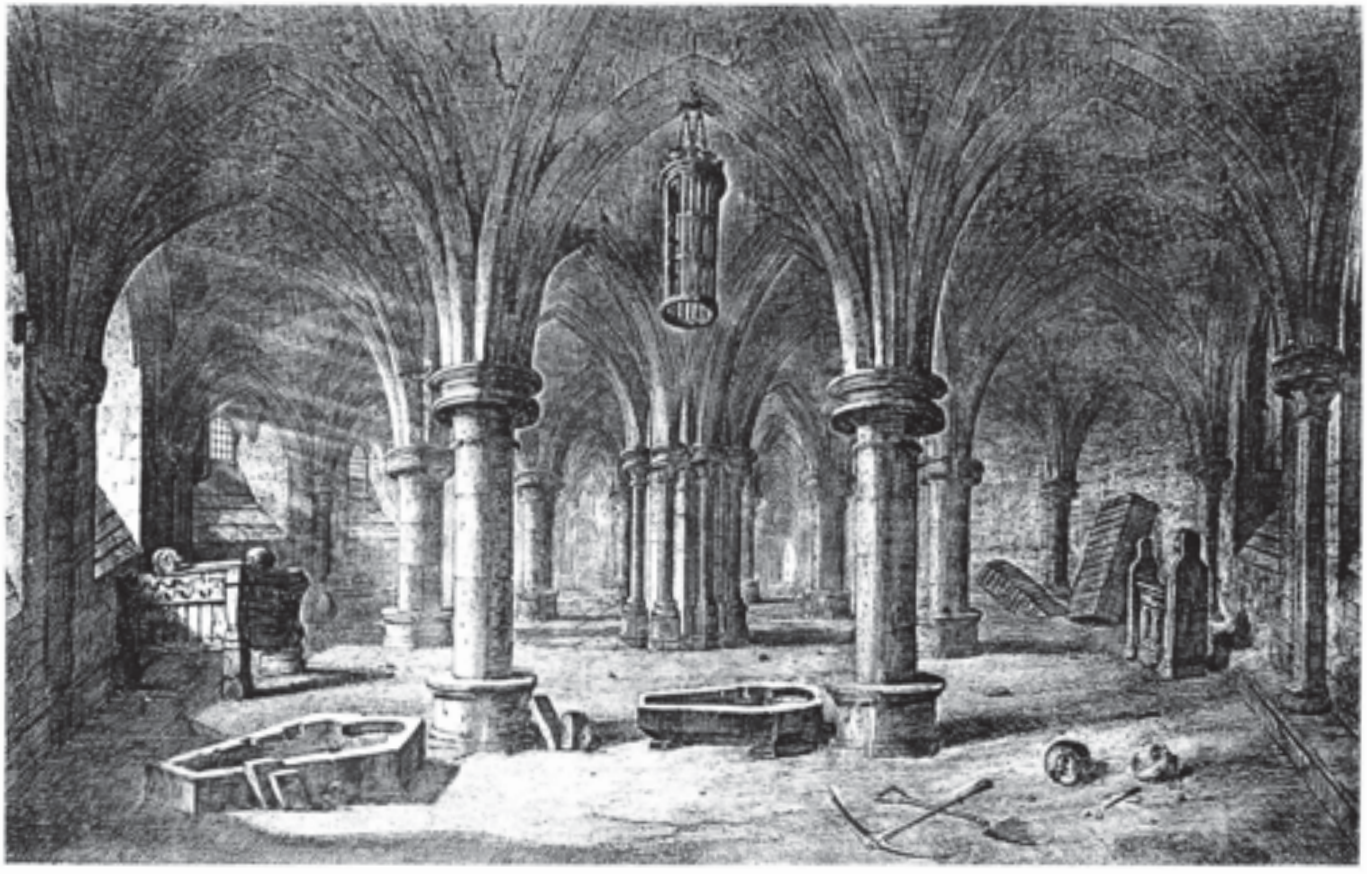


Fig. 7 John Coney's view of the chapter house undercroft, c. *1814, showing medieval stone coffins, pyx-cover and other antiquities. For details of the coffins, see Fig. 495: no. 1 is in the centre, no. 2 on the left. After Coney 1842*

excavations, topographical studies and local travels in voluminous journals, which he illustrated with ink and watercolour drawings.[41] In 1826, Skinner cast covetous eyes on the cathedral, and obtained permission from the dean and chapter to take objects 'which were of no value' from the chapter house undercroft (or crypt, as he called it) for the new museum. He recorded:

> Under the conduct of the verger, we examined a great mass of rubbish, piled up in a kind of recess, consisting of the mutilated bodies of saints, at least I suppose them to have been such, which probably occupied the niches over the High Altar, and in the choir of the Cathedral, and were hurled from their commanding situation by the Iconoclasts. These did not strike my fancy, and I prowled round in quest of other prey and was not long in finding it, for under a great heap of slates which had been taken from a part of the roofing it seemed to me the covering of a stone coffin was concealed: on removing some of the superincumbent mass, the men came to a most beautiful foliated cross, the most perfect I have anywhere seen ... This was accordingly pitched upon for a transfer; I also petitioned hard for the stone coffin of some dignitary of the Church, although of rude form and of immense weight. But it seemed the verger did not think he was warranted to permit its removal without the consent of Mr Beadon, one of the Canons. Warner and myself accordingly accosted him after evening service. Mr Beadon very politely acquiesced in our views, but said of himself, he could give no permission; but at the next Chapter he would mention the things the Bishop wished to have and begged they might be conveyed to the Museum in the interim, as no doubt could exist in his mind of the perfect acquiescence of the Chapter to his wishes.[42]

Before dinner, both the foliated cross and the stone coffin 'were safely lodged in the museum'. It is not recorded what else was taken from the cathedral, although it evidently included the pewter mortuary chalice that was found with the coffin.

The palace museum did not, apparently, outlive its creator: it was closed and the contents dispersed, probably soon after Bishop Law's death in 1845. The items obtained from the cathedral must have been returned thence, since the pyx-cover soon afterwards hung again in the undercroft, and the coffin and cross-slab (sketched by Skinner) are currently in the cloister. The chalice, too, is in the cathedral library.[43] The three items are illustrated in Figs. 491, 495 and 516.

In 1865, some of the cathedral's treasures were loaned for an exhibition at the South Kensington Museum (*i.e.* the Victoria and Albert Museum) and, upon their return, the chapter house undercroft was described in the following terms.

> The venerable Glastonbury lantern [*i.e.* the pyx-cover] is again safely replaced in the crypt of Wells Cathedral ... The inner door of the crypt which had likewise been lent to the Museum, is again rehung ... The carved miseres [misericords] ... the alabaster alto relievo of the Ascension, the metal heart depository, the iron-banded chest, the quaint chalice that had been entombed, and a few other relics that were sent as a loan to South Kensington, may now again be seen in their accustomed places in the crypt, which may be regarded as a kind of local museum attached to the cathedral, it being full of rich and varied and valuable *debris* — in itself, a school of architectural detail and sculptural thought.[44]

Late nineteenth-century references to stone vault-bosses and other items displayed in the undercroft show that this was, in some sense, still serving as the cathedral museum (p. 227). Two coffins there were marked on Paul's plan of 1891 (Fig. 3). Other items, including the notable medieval pyx-cover, found their way into the cathedral library before the end of the century (Fig. 300A).

While the cathedral collection slumbered, efforts were periodically made during the second half of the nineteenth century to establish a town museum. There is an enigmatic reference in 1843 to the Registrar General granting immunity from rates to Wells Museum (Balch 1932, 23). Nothing is otherwise known of this, but it presumably concerned the Bishop's Palace (unless the collection had been moved into other premises). Various attempts were subsequently made to re-establish a museum: a loan collection was put together in 1862, but that was dispersed. In 1886 premises were secured for a museum, but it was not established, and it was not until 1895 that a town museum finally opened. Created by Herbert Edward Balch, it was housed in the long room over the north end of the west cloister, which the dean and chapter granted, rent free, for the purpose (Balch 1932, 23). Subsequently, the museum expanded into a second room.[45] From the outset, the Wells Natural History and Archaeological Society (founded 1888) closely identified itself with the museum. It is therefore surprising that the Society's *Reports* reflect so little active involvement with the archaeology of the cathedral. In 1932, Wells Museum moved into a former canonical house on Cathedral Green, where it remains today.

The museum's collections contain a number of furnishings and other artefacts deriving from the cathedral, but very few excavated antiquities from the cathedral precinct, the Bishop's Palace, or the city. Nor have such items found their way into museum collections elsewhere. There is an extraordinary dearth of archaeological material from Wells. The majority of the finds made during the various nineteenth-century

excavations in the Camery can no longer be traced. There is a collection of medieval floor tiles in the museum which clearly derive from the 1894 excavation, and the flower-beds in the museum garden are edged with carved and moulded stone fragments which must have come from Stillington's Lady Chapel-by-the-Cloister. There is no associated documentation, nor are there any extant field plans, notes or photographs relating to that excavation. Some of the finer vault-bosses from Stillington's chapel were built into a permanent exhibit in the east cloister (Figs. 241 and 242).

In common with most cathedrals, Wells formerly possessed a large and diverse collection of moulded and carved stone fragments. These have been variously shunted around the cathedral and its precinct, during which process the collection has been greatly depleted.[46] The material displayed in the chapter house undercroft was dispersed when this space was converted for use as a vestry in 1936.[47] Some choice pieces of medieval sculpture were displayed on racking at the head of the stairs leading to the Chain Gate bridge (they were removed in 1982); but a great deal of material was consigned to the garden of the choristers' house (now Mary Mitchell Garden) which served as an informal *lapidarium*. In the 1960s the garden was cleared, and the stones were buried in a pit in the north-east corner.[48]

In the late 1980s a concerted effort was made to locate and collect together all surviving loose stones of archaeological interest. They were catalogued and placed on racks in the south nave triforium.[49] At the same time, racking was installed for storing the finds derived from the excavations of 1978–80.

Excavations and discoveries, 1851–94

The earliest reported discovery to arouse antiquarian interest in the Camery was apparently in 1851, when 'very limited excavations' were carried out by Prebendary D.M. Clerk in what was then still a private garden. Clerk, writing about the lost Lady Chapel-by-the-Cloister, records that he 'went into Miss Parfitt's

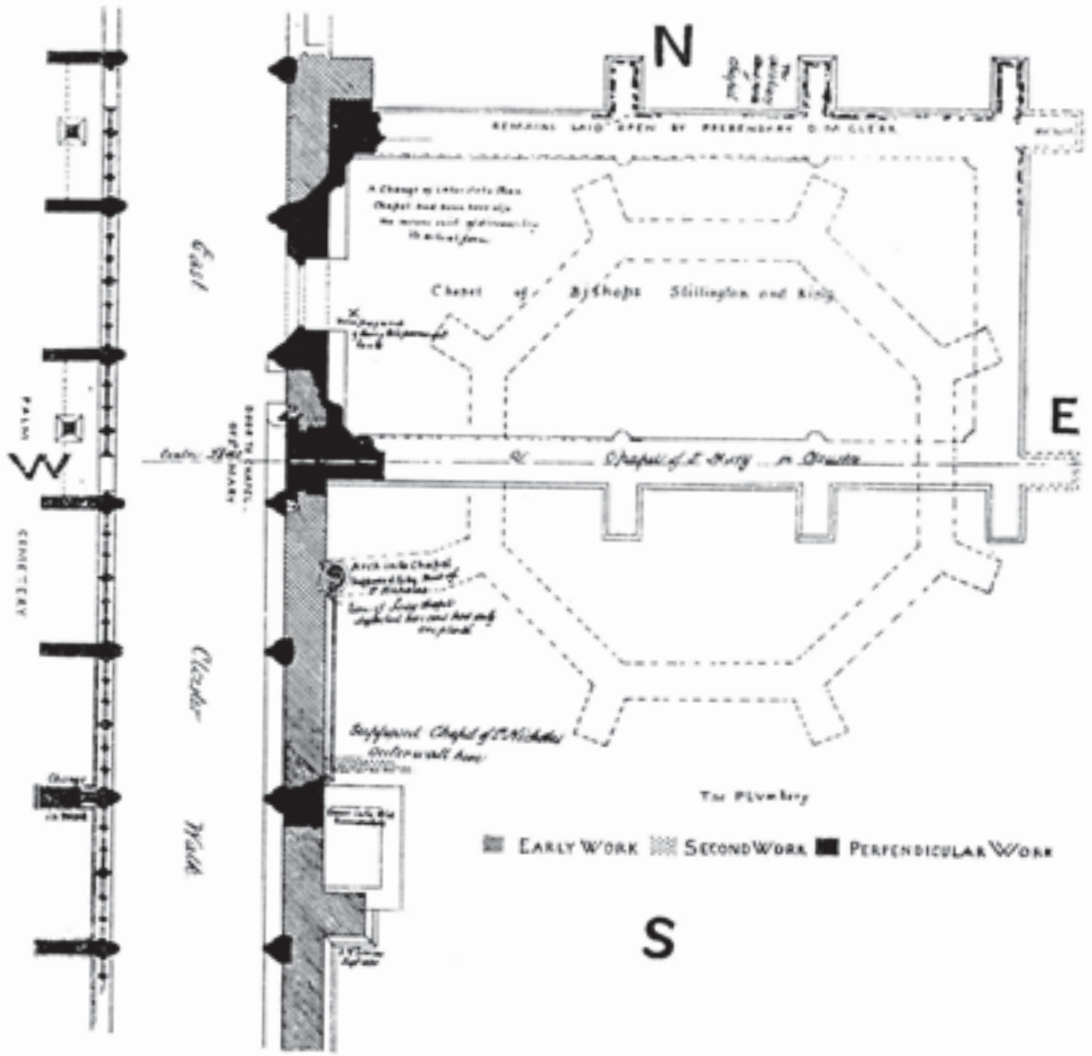


Fig. 8 James Irvine's plan (1885) of the supposed octagonal building adjoining the east cloister, based on keyhole excavations in 1851 and 1873(?). At first thought to be the site of an early chapter house, the building was subsequently interpreted as a chapel; later excavations proved its outline to be entirely spurious. After Church 1888

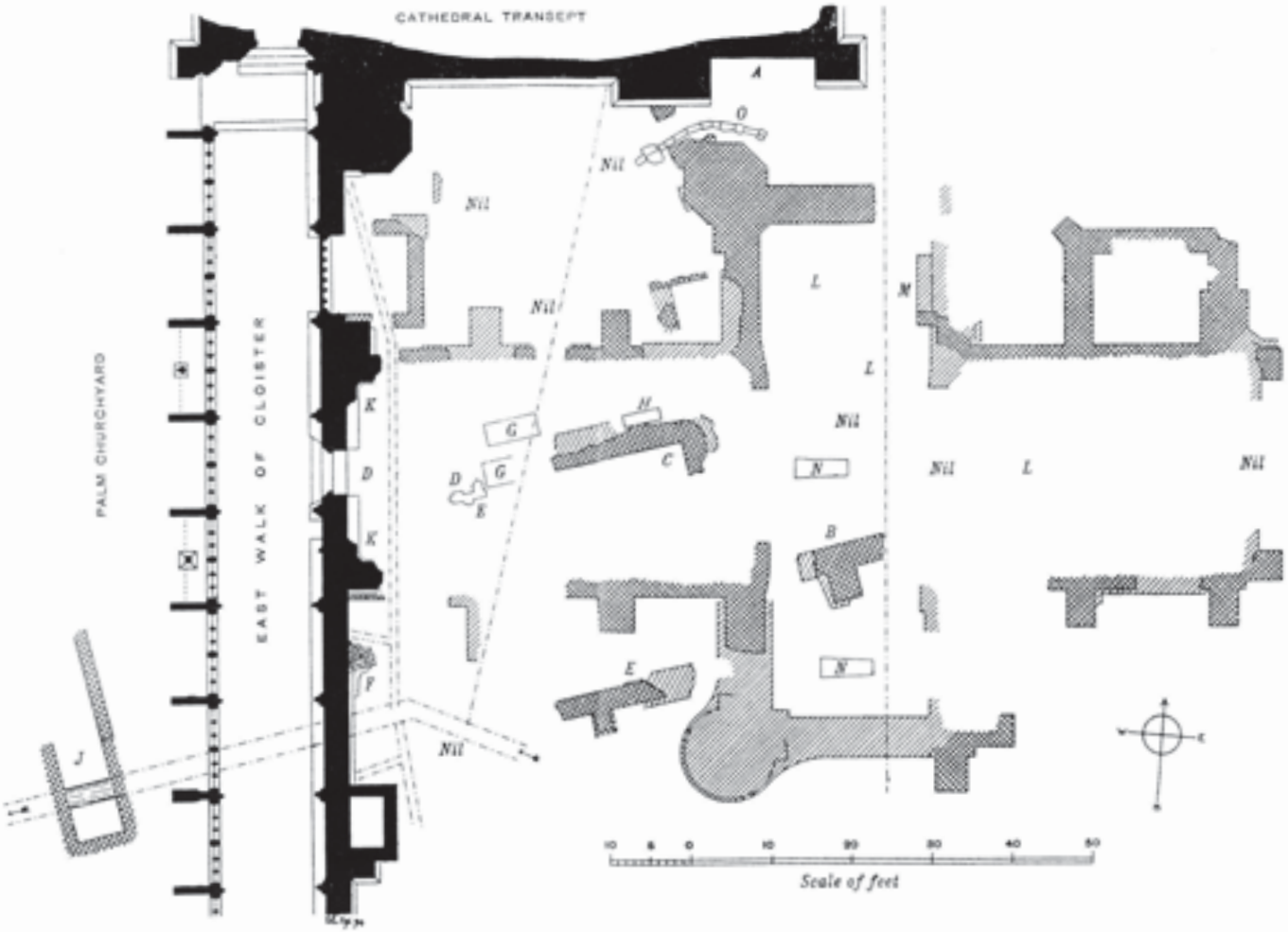


Fig. 9 General plan of the foundations and other features uncovered during excavations in the Camery in 1894. After Buckle 1894

garden to see if I could make it out; it is not very difficult to do so, on trying the ground.' (Clerk 1851, 87). His plan of the cathedral showed a rectangular buttressed building projecting from the east side of the cloister. There is no record of the investigation, beyond a passing mention by Church (1894a, 19).

The general plan accompanying Irvine's substantial paper on the development of Wells Cathedral shows the tentative outlines of two buttressed buildings in the Camery — one rectangular, the other octagonal — adjacent to the east side of the cloister (Irvine 1873/74). Some additional evidence must therefore have been recovered since 1851, implying that further excavations had been made. In all probability these were carried out by Irvine himself in the early 1870s, after the dean and chapter had recovered possession of the garden and restored it to use as a cemetery.[50]

One of these investigations was probably inspired by, or connected with, discoveries made during the laying of a gas main through the Camery, to supply the new lighting in the cathedral. The line of a long-defunct main was rediscovered in 1979, traversing the structure which Clerk and Irvine had planned. The pipe, which ran parallel to the cloister and dog-legged around the transept, appeared to be heading for the quire (Fig. 12, F1510). Unfortunately, the date of its laying is uncertain, but the first appearance of gas lighting in the quire was in 1865. Work on lighting the transepts and nave began in 1873, and it is known that a further gas supply had to be installed to cope with the additional demand.[51] The pipe encountered in the Camery was probably for the new supply of 1873.

Clerk, in 1851, laid bare only parts of the buttressed north wall of the rectangular chapel, and it seems to have been Irvine, in or before 1873, who exposed the south wall and trenched sufficient of the interior to discover a number of fallen bosses from the vaulted roof. These were put on display in the chapter house undercroft. Irvine also discovered fragmentary foundations that be believed to belong to an octagonal building, antedating the Lady Chapel. It may be deduced from later references that Irvine's octagonal building was initially posited as the site of the first chapter house (*i.e.* a predecessor to the present one on the north side of the cathedral).

In 1885 Irvine redrew his plan of the chapel complex, on which he significantly shifted the position of the octagonal building (Fig. 8).[52] While this may have been consequent upon further investigations, it seems more likely that Irvine merely reassessed the small

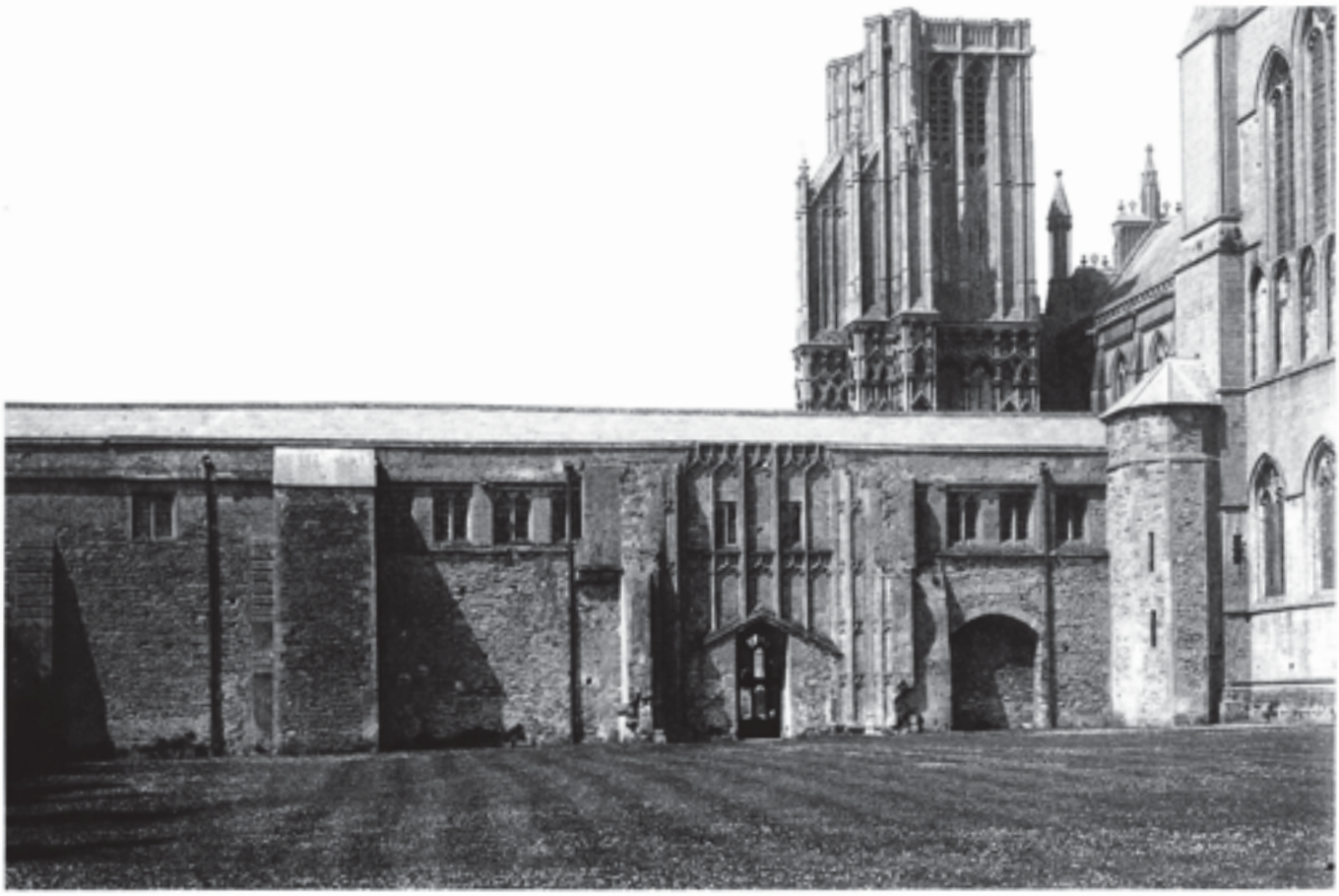


Fig. 10 The east wall of the cloister, seen from the Camery between 1895 and 1900, showing attachment scars of former chapels. From the Phillips collection (Dean and Chapter of Wells)

amount of evidence available for the supposed octagonal building and decided to amend his reconstructed plan. The two successive structures and their historical context were briefly discussed by Church, who corrected the misconception that there had been a chapter house on this site. He recognized the earlier structure as being the documented Lady Chapel-by-the-Cloister, and the later one as Bishop Stillington's fifteenth-century rebuild of it (Church 1888, 104–7).

Irvine's revised plan was incorporated in Roland Paul's article on Wells Cathedral in *The Builder* (Paul 1891) but, almost immediately, fresh evidence came to light when two further trenches were excavated across the Camery in a north–south direction. Both trenches traversed the chapel complex, and one demonstrated that the rectangular building was much larger than previously believed.[53] One trench was dug in 1893 to carry the cast iron outflow pipe from the new hydraulic blower that powered the cathedral organ (Fig. 12, F140–1). This trench bisected Stillington's chapel. The second trench was dug further to the east, at about the same time, to receive a salt-glazed drain for carrying roof-water away from the south side of the quire and transept (F37).

The discovery of masonry walls, beyond the supposed eastern limits of the chapel complex must have been responsible for prompting a fresh archaeological initiative. Thus in January 1894, at the instigation of Canon Church, the dean and chapter commenced further excavations, in order 'to be satisfied as to the form and dimensions' of the buildings which had previously been unearthed, and whose plans had been conjectured on the basis of 'very limited excavations in 1851 and 1875 [*sic*], and on rather vague inferences' (Church 1894a, 19).[54] We are informed that 'interest grew as the blocks of old foundations unexpectedly appeared in the soil', and a full-scale excavation was launched, superintended by Buckle. Understanding of the site was radically changed: Stillington's chapel turned out to be a large cruciform building, and the posited octagonal structure was shown to be non-existent, although there was an earlier chapel on the site.

Buckle prepared a report on his excavations in which he primarily concerned himself with presenting and interpreting the architectural evidence relating to the two principal chapels. Lesser structures, graves and artefacts were almost entirely ignored (Buckle 1894). The general site plan (Fig. 9) shows only the areas of masonry that were uncovered, together with the locations of four stone coffins and two patches of encaustic floor tiling. No indications as to the limits of excavation were given, and in those places where trenching failed to reveal solid masonry, the word 'nil' was simply written on the plan, *in vacuo* (Buckle 1894, pl. 1).[55]

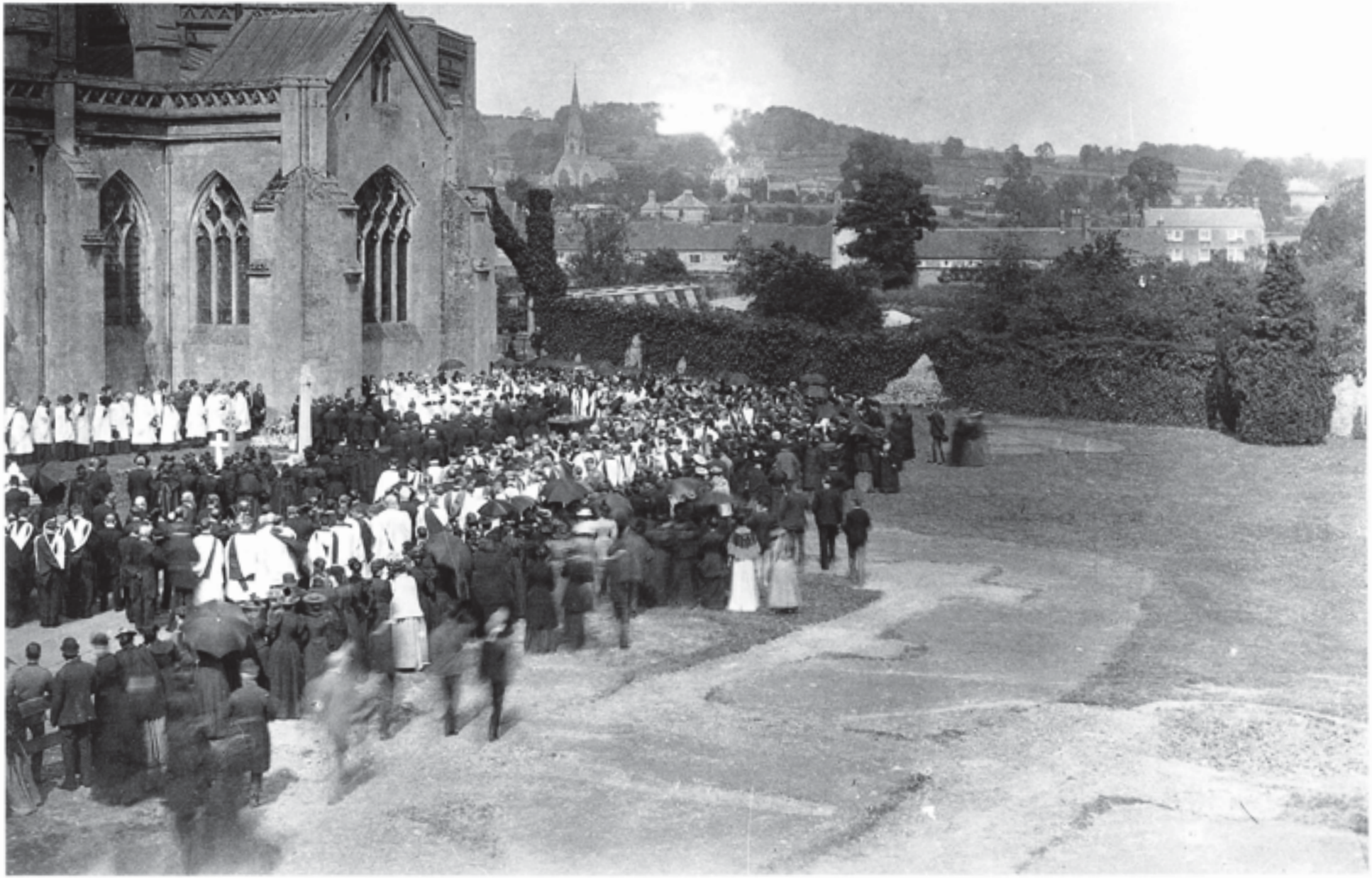


Fig. 11 View north-east across the Camery on the occasion of Bishop Hervey's funeral, 14th June 1894. The recently infilled excavation trenches can be seen, defining the outline of the chancel and south transept of Stillington's chapel. In the background is the ivy-clad Camery wall. The view was taken from the library roof by the local photographer, Thomas Phillips (Dean and Chapter of Wells)

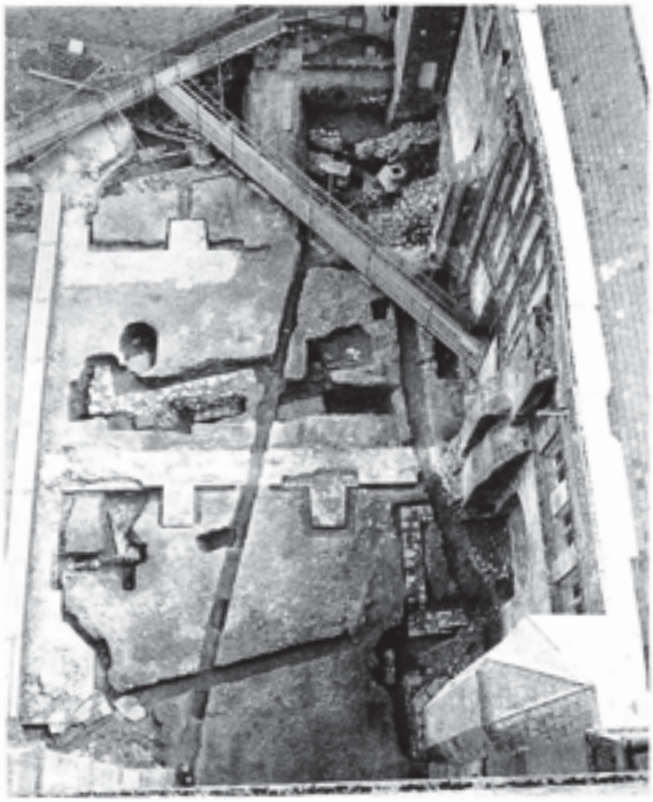


Fig. 13 The nave of Stillington's Lady Chapel (Structure 15) and parts of other structures, as revealed by Victorian trenching. View south, from the roof of the cathedral transept, after re-excavation of the trenches in 1979. Scales of 2 m

Fig. 14 Detail of re-excavated Victorian trenches which exposed the north wall of the nave of the Lady Chapel-by-the-Cloister (Structure 11), and a fragment of medieval tile paving (bottom right). View east, 1979. Scale of 2 m

Buckle also studied the archaeologically complex east wall of the cloister which still bears scars of the lost attachments (Fig. 10; Pl. II). This was a creditable early exercise in fabric analysis, and in the union of above-ground and below-ground archaeology.

Despite extensive searches, no photographs or other site records of Buckle's excavation have been traced, which is surprising in view of the scale and duration of the operation. Excavations continued for more than four months, and the cause of their cessation was probably the death of Lord Arthur Hervey, Bishop of Bath and Wells, on 9th June 1894. His funeral took place a week later: the bishop was buried in the Camery, close to the south-east transept of the cathedral. Thomas Phillips, the local photographer, recorded the committal from the roof of the library above the east cloister.[56] His photographs plainly show the outlines of the recently backfilled trenches over the southern half of Stillington's chapel (Fig. 11). It is indeed surprising that Phillips did not photograph the excavation in progress.

Immediately below the turf, the excavations of 1978–80 revealed a maze of later nineteenth-century disturbances, from which it has been possible to reconstruct a general plan of the Victorian excavations (Figs. 12 and 13). It is readily apparent from the criss-crossing of trenches that three phases of activity can be detected, although not reliably ordered. A few of the slit trenches are certainly assignable to the activities of 1851 and 1873: amongst these are F139, F348, F397, F990 and F991, which picked up skewed wall alignments associated with the pre-Stillington Lady Chapel (Fig. 14). Inaccurate plotting and liberal interpretation of these scant remains gave rise to the conjectured plan of an octagonal building, which the larger scale excavations of 1894 demonstrated to be wholly spurious. For the most part, the early trenches that located portions of Stillington's nave must have been engulfed by the extensive works of 1894, but F137, F347 and F1193 are separately identifiable.

The *modus operandi* of Buckle's trenching can be broadly reconstructed from the excavation plan. He evidently drove trenches *c.* 80 cm (2½ ft) wide (F343, F346) along the outer edges of the north and south walls of Stillington's nave, the positions of these walls being readily apparent from the obtrusive scars on the east side of the cloister. It must then have been found that the chapel was not a simple rectangle, as previously supposed (when trench F1202 failed to locate the east wall), but opened laterally into transepts. Trenching followed the walls, expanding at the

Fig. 15 Re-excavation of foundations exposed by trenching in 1894 of a small building (Structure 18) adjoining the east cloister; this was identified at the time as an 'office', but is probably the chapel of the Holy Cross-by-the-Cloister. Scale of 2 m

north-west and south-west corners to reveal the extent of the two stair-turrets (F351, F5). The clasping buttresses at the south-east angle of the south transept were fully exposed, but not the corresponding ones of the north transept. The eastern arm of the chapel was located, and again trenches were driven along the outer faces of the north and south walls (F1209, F1205). The vestry on the north was encountered, and trenched around (F1174). The clasping buttresses marking the eastern angles of the chapel were located, but an attempt to find the east wall itself was fruitless: the plan (Fig. 9) was duly marked 'nil' at the appropriate point (F1174a).

Once the plan-form of the chapel had been established, internal trenches were dug on the axes of the sanctuary (F1175, F1201) and crossing (F41, F1172, F1194). In the south transept, F41 encountered a stone-lined grave, and a buttress associated with the pre-Stillington chapel; the trench was expanded to explore this feature (F1195). In the centre of the crossing, at the intersection of trenches F1175 and F1194, another stone-lined grave was encountered and opened up (F1197). At the centre of the north transept, where a further group of graves lay, the trench was expanded into a squarish pit (F1172).

Other trenches located disconnected sections of the pre-Stillington Lady Chapel (F5a, F339, F340, F361), as well as a stone coffin which was lifted and put on display in the chapter house undercroft, along with other antiquities (Fig. 497, no. 5).[57] In the northern angle between Stillington's chapel and the cloister a small, square, structure — identified as an 'office' (Buckle 1894, 60) — was revealed in trench F341 (Fig. 15).

Excavations in the space between Stillington's north transept and the cathedral failed to find an early vestry which had been suspected here on account of there being a blocked doorway and roof weathering between the southern buttresses of the cathedral transept (Fig. 116; Buckle 1894, 45 and 57). South of Stillington's chapel, an irregular hole was dug down to the top of the medieval conduit which traverses the site (F128).

Sundry other disturbances of mid or late nineteenth-century date were recorded, as well as a more recent abortive grave close to Stillington's vestry (F1196). The base of a Victorian excavation spoil-heap was found adjacent to the masons' yard wall (F10).

Excavations and surveys, 1978–80

Excavations in The Camery

In 1974 a twelve-year programme of repair and conservation began on the west front of Wells Cathedral, and it was intended from the outset that the majority of the masonry renewals, replacement mouldings and carvings should be carried out by the cathedral's own skilled workforce, suitably augmented with outside expertise. Since the thirteenth century, the masons' yard has lain in the south-east corner of the cathedral precinct, in a long narrow strip of land adjacent to the Bishop's Palace moat. This strip, cut off from the Camery by a stone wall erected in the mid-nineteenth century, was probably not separately defined hitherto.

By 1977 it was clear that the existing masons' yard was too cramped; in particular the need was felt for a large new stone saw, and a storage area to receive the massive limestone blocks as they arrived from the quarry at Doulting. The only possible direction for expansion of the masons' yard was northwards, into the Camery, and a scheme for an extension was prepared by the cathedral architect. This involved breaching the south wall of the Camery and building a trapezoidal enclosure to house the new stone saw. Ground level in the Camery was almost 1.5 m higher than in the masons' yard, in consequence of which a considerable reduction had to be achieved. Although the affected area lay just to the south of the transept of Stillington's chapel, there was every likelihood that archaeological deposits of interest would be encountered along the southern edge of the Camery, and these would necessarily be destroyed during the process of soil removal.

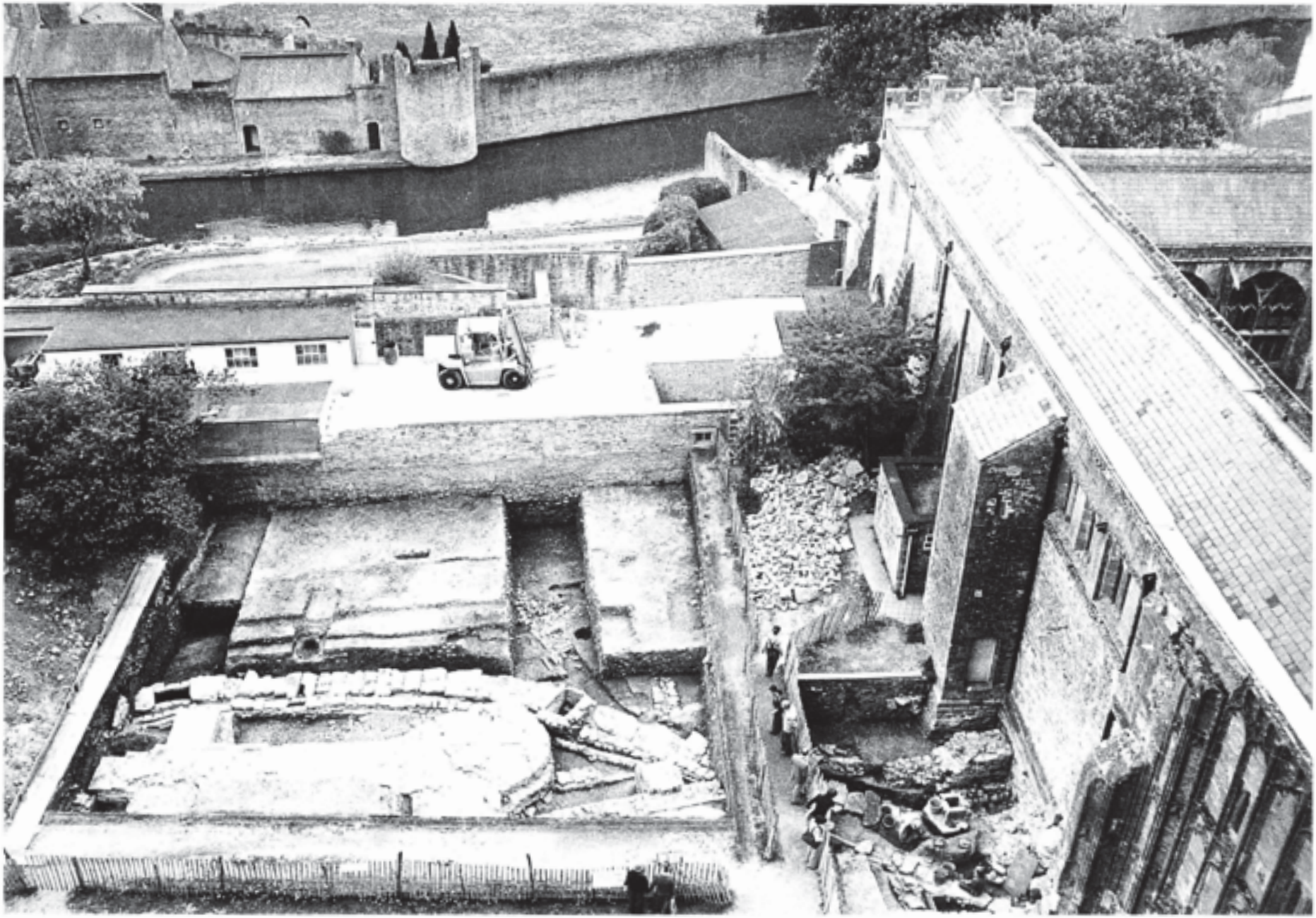


Fig. 17 General view of the excavations in 1978 (Areas 1–4), looking south towards the masons' yard and Bishop's Palace

Fig. 18 View south-west, across the excavation of the eastern arm and north transept of Stillington's Lady Chapel in 1980

At the invitation of the architect, the Committee for Rescue Archaeology in Avon, Gloucestershire and Somerset (CRAAGS) submitted a proposal for investigating the threatened area. The Committee assumed the rôle of contractor for the purposes of excavating and carting away the unwanted spoil, down to an agreed level. Apart from two *sondages*, and certain contractors' works, archaeological deposits below the level at which the new reinforced concrete slab was to be laid were not disturbed. Excavation was carried out during the period March to June 1978 (Figs. 16 and 17; Areas 1–3).

Also in 1978, a separate trench was opened against the east side of the cloister, above the point where the medieval conduit carrying the outflow from St Andrew's Well was known to pass underneath (Area 4). The purpose of this secondary investigation was to establish the cause of the acute dampness in the masonry and wallplaster within the east cloister walk.

The cause of the cloister dampness was found to be a combination of factors: high external ground level, poor drainage in the Camery, and ineffective disposal of the rainwater discharged from the library roof above. The only solution was to reduce ground levels in the Camery, and to provide a comprehensive and effective drainage system for the area. To achieve this in an archaeologically acceptable manner, it was necessary to carry out a substantial area excavation across the western part of the Camery. The site had already been badly damaged through nineteenth-century trenching, and it was considered that further piecemeal digging and salvage recording was an unacceptable approach to the archaeology of a site that was clearly of fundamental importance to any study of the origins of Wells Cathedral. Here, according to Hope's hypothesis, lay the potential for discovering the middle Saxon minster and late Saxon cathedral church (p. 10).

It was therefore determined that excavations should proceed on the basis of a combined rescue and research programme. During the period April to July, 1979, an area-excavation was carried out against the east side of the cloister, extending from the south transept of the cathedral to the library latrine tower (Areas 5–7). At the same time, a small trench was opened against the east wall of the Camery, at the point where it crossed the medieval conduit (Area 8). The purpose of this investigation was to clear the crumbling wall of vegetation and débris, and to examine its foundations, preparatory to repairs being carried out (in 1982).

The main excavation revealed the substantial and impressive nature of the foundations of Stillington's chapel, particularly the nave and north transept, and the dean and chapter resolved to landscape the Camery in such a fashion that these would remain visible, for the interest of visitors to the cathedral. In order to display the remains meaningfully it was necessary to excavate and

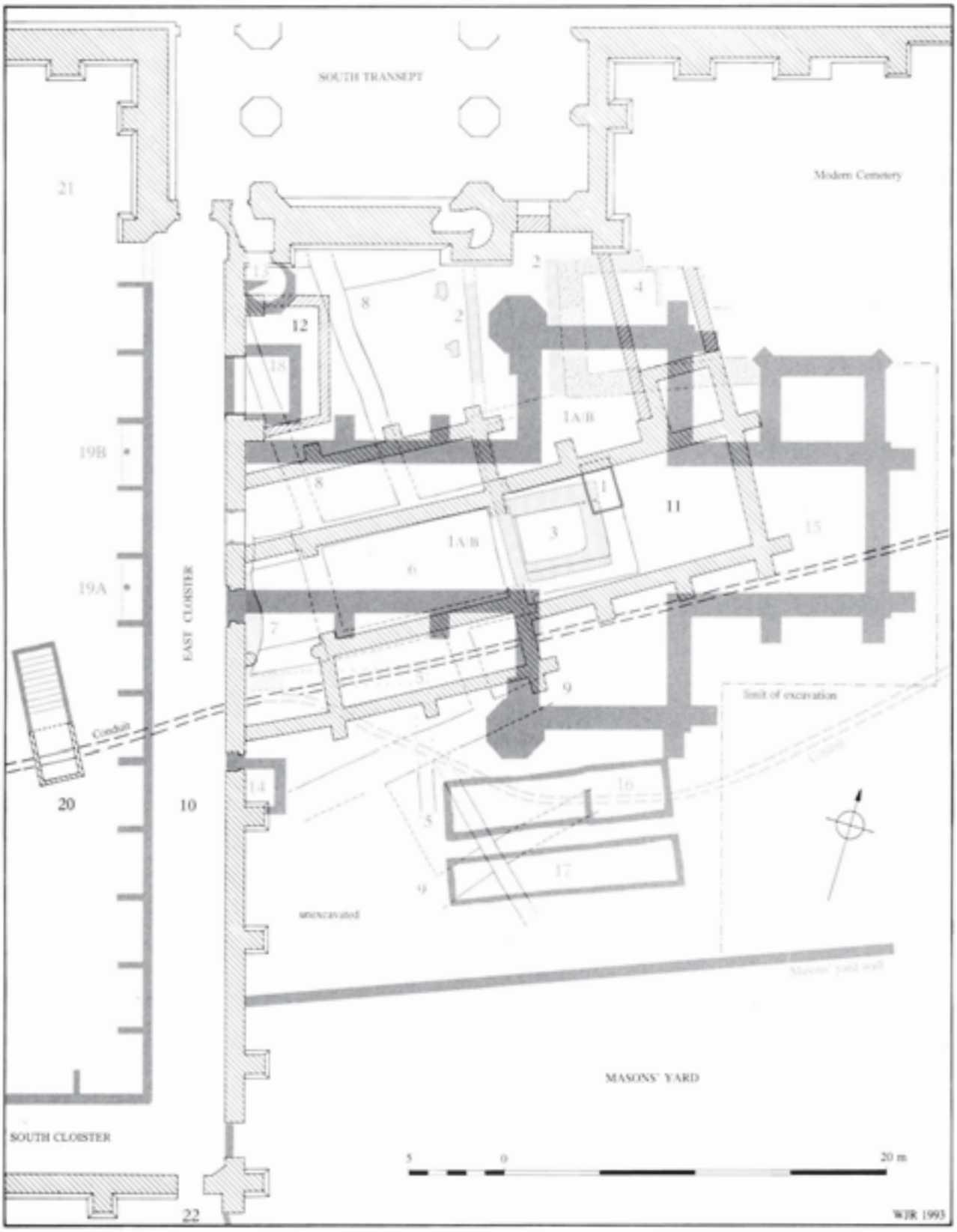


Fig. 19 Composite plan showing spatial relationships between all the masonry structures in and adjoining the excavated area: Red, Roman, Anglo-Saxon and Norman; Black, early medieval; Grey, late medieval and post-medieval. 1 Roman mausoleum (burial chamber only); 1A/B Mausoleum (outer structure); 2 Unidentified cemetery structure; 3 Anglo-Saxon mortuary chapel; 4 Late Anglo-Saxon chapel(?); 5 Uncertain Roman or Anglo-Saxon walls; 6 St Mary's chapel (Saxo-Norman); 7 Probable apse of St Andrew's church; 8 Possible Norman cloister; 9 Late Saxon and Norman domestic(?) building; 10 East cloister; 11 Early medieval Lady Chapel-by-the-Cloister; 12 Medieval office(?) and stair to upper cloister; 13 Library stair-turret; 14 Library latrine tower; 15 Bishop Stillington's Lady Chapel-by-the-Cloister; 16 Workshop (north); 17 Workshop/stable (south); 18 Holy Cross chapel; 19A/B Cloister pentices; 20 Dipping-well; 21 All Saints' chapel (possible site of); 22 South cloister porch (site of). Scale 1:300

Fig. 20 The east cloister wall in 1982. The landscaped foundations of Bishop Stillington's Lady Chapel are seen in the foreground; and of the Holy Cross chapel in front of the segmental arch (right) (George H. Hall)

expose also the eastern arm of Stillington's chapel: in this way the complete plan of this once-remarkable cruciform building could be comprehended. Accordingly, the third and final season of excavation was carried out between June and August 1980 (Areas 9–11; Figs. 16 and 18; Pl. VI). Over much of the area, only the later medieval and post-medieval levels were excavated, while the earlier deposits were left intact for future exploration.

In all, an area of 1,050 m^2 was investigated, containing a depth of between *c.* 1.5 m and 2.5 m of stratified deposits. In 1981 the Camery was laid out as a garden, and planted to a scheme devised by Penelope Hobhouse. Whereas the Camery was formerly uninviting, being merely an area of grass punctuated by a clutch of undistinguished late nineteenth and twentieth-century tombstones, it has now become an interesting and much frequented corner of the cathedral precinct. It was determined as a matter of principle that only Bishop Stillington's chapel, and the small adjacent chapel of the Holy Cross, should be displayed (Fig. 20 and front cover). The remains of all earlier structures are not only more deeply buried, but are also very fragmentary and not suitable for display.

The excavations revealed a palimpsest of foundations, ranging in date from the Roman period to the eighteenth century. For ease of reference, these have been labelled Structures 1 to 18, and are shown on plan in Figure 19. Except in a few restricted areas, and for essential reasons, structural masonry was not dismantled: where earlier features underlay foundations, they were permitted to remain. Otherwise, archaeological deposits in Areas 4–7 were excavated as fully as possible. The northern half of Area 1 was similarly treated. Within Areas 9 and 10 only the crossing and north transept of Stillington's chapel were fully excavated, and superficial investigation was carried out in the south transept and in the eastern arm (Area 11). Pre-thirteenth-century levels there were not examined at all. The same largely applies in Areas 2 and 3, and the southernmost part of Area 1. It is clear that early levels, deeply sealed and waterlogged, are generally well preserved beneath the southern part of the site, and they extend beneath the masons' yard.

A serial numbering system was used for recording on site and has been retained in this report: all contexts were assigned a *feature* (F) number. A separate series of

burial (B) numbers was created for articulated skeletal remains, however fragmentary. Disarticulated human remains were treated as 'finds' within their contexts. Drawings of sections, elevations and profiles of structures and features were numbered consecutively in a *section* (S) series; the same enumeration has been retained here. Post-excavation work was carried out, and the report written, during the period 1987–92. The present account supersedes earlier interim reports and discussion papers (Rodwell 1980b; 1981a; 1982a; 1982b; 1982c; 1987).

Finds and records

The finds and other samples derived from excavations and restorations are all the property of the Dean and Chapter of Wells, and currently reside in the archaeological store in the south nave triforium. The site records of the 1978–80 excavation are deposited in the Somerset County Museum, Taunton Castle. Data accruing from palaeopathological study are held at the Department of Medicine, University of Bristol. Records relating to excavations and observations carried out by the archaeological staff of the Somerset County Planning Department are deposited in the Sites and Monuments Record, County Hall, Taunton. Architectural records and documentation relating to the fabric mostly reside in Wells Cathedral Library.

Surveys

Concurrent with the excavations, three survey projects were initiated with a view to providing accurate base-plans on which to locate the excavated evidence and other observations. The only existing large-scale plan of the cathedral environs was the Ordnance Survey 1:500 map, surveyed in 1884 (Fig. 4). This was updated and supplemented in 1980, by a detailed ground survey, prepared for CRAAGS by Simmons Surveys Ltd, of the cathedral precinct and Bishop's Palace. The Camery and adjoining areas were also planned at 1:200 scale.

In common with most cathedrals, Wells lacked large-scale, accurate drawings of the major ecclesiastical buildings; the most comprehensive plan available was that published in *The Builder* (Paul 1891), reproduced here as Figure 3. It was therefore decided that a set of measured plans of the cathedral, the cloister and the Vicars' Close should be prepared, under the supervision of the cathedral's architect and archaeologist; in 1978 two recently qualified architects, Nicholas Elkins and the late Dougal Hunter, were contracted to work on this project for nine months. The cathedral and cloister were planned at two levels, at a scale of 1:100.[58]

The third survey project, carried out as a teaching exercise by the North-East London Polytechnic in 1978, was the preparation of an outline photogrammetric survey of the external east face of the cloister,[59] which displays the attachment scars, and some physical remnants, of the several buildings that were excavated in the Camery (Fig. 20). A more detailed survey of the east cloister wall, involving photogrammetry and rectified photography, was carried out in 1992 by English Heritage, preliminary to a future repointing programme. A set of rectified photographs was also taken of the south cloister wall.

Miscellaneous observations, 1980–93

In addition to the substantive excavations and surveys noted above, miscellaneous investigations and observations have taken place in the Camery, Mary Mitchell Garden and cloister area, as and when opportunities availed themselves during building and maintenance works. Since these findings are relevant to understanding the development of structures on the south side of the cathedral, they are incorporated in this report. The principal works in question comprise the following; for their locations, see Figs. 2 and 4.

Bishop's Palace lake

The palace lake was drained in August 1979, following a prolonged drought, and the water level in St Andrew's Well was lowered at the same time, by pumping. Observations were made concerning the structure of the lake and the supply to the medieval conduit which passes through the Camery, and under the cloister.

The Camery wall

In 1984, the medieval wall which bounds the Camery on the east side, dividing it from the grounds of the palace, was stripped of vegetation, repaired and repointed on both faces. A general photographic survey was made on behalf of English Heritage, and observations recorded concerning the structural sequence.

Cloister

Between 1979 and 1987, a succession of repairs and building works was carried out in the cloister, and the traceried screens were fully reglazed. The northern end of the west walk was enclosed to form the cathedral shop (1981), and the remainder became a restaurant (1982). At the same time, kitchens were established in the ancillary structures to the west, and the offices on the upper floor were refurbished. These works enabled observations to be made concerning the foundations and superstructure of the cloisters.

In order to draw the various observations into a coherent whole, and to fill further significant *lacunae*, additional research and recording were carried out on the cloister in 1990–93, and in 1995 observations were made when the path and drains were relaid in the garth, adjacent to bay 35. The results have been incorporated in this study.

Mary Mitchell garden

The foundations of the medieval enclosure wall were examined during the refurbishment of this area as a memorial garden in 1987–88, and a further examination was carried out when the path leading from the cathedral green to the west cloister porch was relaid in 1989. The ruins of the medieval choristers' house were also photographically recorded.

Lavatories

Permanent lavatory facilities were constructed in the Camery in 1989–90, replacing temporary 'Portaloos' which had been erected in the south-west corner in 1982. These in turn superseded a small lavatory block built in 1948, adjacent to the medieval library latrine tower. Observation of the foundation and drainage works was carried out by the County Archaeologist, Somerset County Council. The site in question directly adjoined the excavations of 1978–80, and is designated on the relevant plans as Area 12. The shallowness of the groundworks carried out here meant that only post-medieval dumps of soil and rubble were encountered, as well as the eighteenth-century cloister drain; medieval levels were scarcely penetrated, and no structures or graves were revealed.

2 Topography and Early Settlement

Physical environment and natural resources

Wells is situated in central Somerset, on a bench at the foot of the Mendip Hills, beyond which is a broad, low-lying, expanse of river plain, known as the Somerset Levels, or Moors. The city thus falls at the interface of two distinct geographical zones (Fig. 1). On the one hand are the limestone hills — rich in many minerals — rising sharply to the north, while on the other hand a network of rivers and streams weaves its way around to the south and west.

There is plenty of good agricultural land close to the city and the levels provide another remarkably rich and varied natural resource, including pasture for grazing. Moreover, fresh spring water is always available in abundance. Wells thus not only enjoys a secure and sheltered location, with a south-facing prospect, but is ideally situated for the exploitation of mineral wealth and the rich natural habitat. Scenically, the southern skirt of the Mendips also provides an idyllic setting, which is one of the modern attractions.

John Leland visited Wells, apparently in 1542, and commented upon its setting:[1]

> The toune of Welles is sette yn the rootes of Mendepe hille in a stony soile and ful of springes, whereof it hath the name. The chefest spring is caullid Andres welles, and risith in a medow plot not far above the est end of the cathedrale chirch, first renning flat west and entering into Coscumb water sumwhat by south. (Toulmin Smith 1964, 144)

A general introduction to the geology of Somerset has been published by the Victoria County History (VCH 1906, 1–34), and there has been a local study of the area around Wells and Cheddar (Green and Welch 1965). The soils of the region have been studied too (Findlay 1965). The drift geology is mixed: the underlying rock is limestone conglomerate, capped by a layer of red marl. This in turn is overlain by what is locally termed 'gravel', not the familiar yellow river gravel of much of southern England, but broken limestone rock in a matrix of marl. The Pleistocene sequence at Wells has been discussed by Donovan (1988).

Stone types used for building at Wells

A variety of different stone types has been used in the construction of the cathedral and its furnishings, most of which are of local or sub-regional origin (Fig. 21). During the course of archaeological studies at Wells it has become clear that the different stone types and their precise sources have a singular importance in unravelling the chronology of building works. It is therefore useful to begin by listing these. There have been three locally published papers on the subject (Donovan and Reid 1960; Colchester 1972b; Colchester and Wallis n.d.).

Doulting stone

Of the many types of Somerset Jurassic limestone, the one most favoured at Wells for the past eight centuries has been quarried at Doulting, 10 km east of Wells, near Shepton Mallet. The rock is a shelly, oolitic limestone of rather coarse texture, known as Inferior Oolite, and is of mellow cream colour. When fresh, it is fairly soft and easy to carve, yet has a relatively good weathering capacity for this type of rock. Doulting is an excellent building stone for high quality ashlar work, but is less suitable for precision carving and fine detailing on account of the coarseness of its texture.

The quarries at Doulting belonged in the Middle Ages to the monks of Glastonbury, and the stone was extensively employed at the abbey. Since Wells Cathedral had no proprietary rights over the Doulting quarries, it was dependant upon the goodwill of the abbey to obtain supplies. However, in 1381 the dean and chapter were able to open their own quarry, as a result of taking out a lease of a field for that purpose, from the vicar of Doulting (Colchester 1972b, 20; Seal 1993, 113–14).

It was first suggested by Colchester, and has now been convincingly demonstrated by Sampson, that when major construction works were in hand at Glastonbury, the supply of Doulting stone to Wells was curtailed. Wells had then to seek alternative sources of limestone. This applied especially to the decades immediately following the fire of 1184 at Glastonbury. The observation is of signal importance in establishing architectural chronologies at both Wells and Glastonbury, and for cross-linking building campaigns at the two places (Sampson 1998, ch. 1; see further pp. 134–43).

The stone must have been transported to Wells by road, although by which of two routes is uncertain. It could have been carted along the Fosse Way to Shepton Mallet, and then down the Sheppey valley (the river itself was too insignificant for water transport) to Dulcote, and across the bishop's park (Colchester 1972b, 20–1). Alternatively, since the quarries were close to the Roman road heading west towards Charterhouse, it might have been easier to take this route for a short distance, turning off near Maesbury Camp and entering Wells from the north (for a map, see Figure 41).

Doulting stone appears first to have been quarried in the Roman period, although not on a large scale. There is no certain evidence that the quarry was operational in the Saxon period, although no explanation for this can be offered. Doulting is still active today,

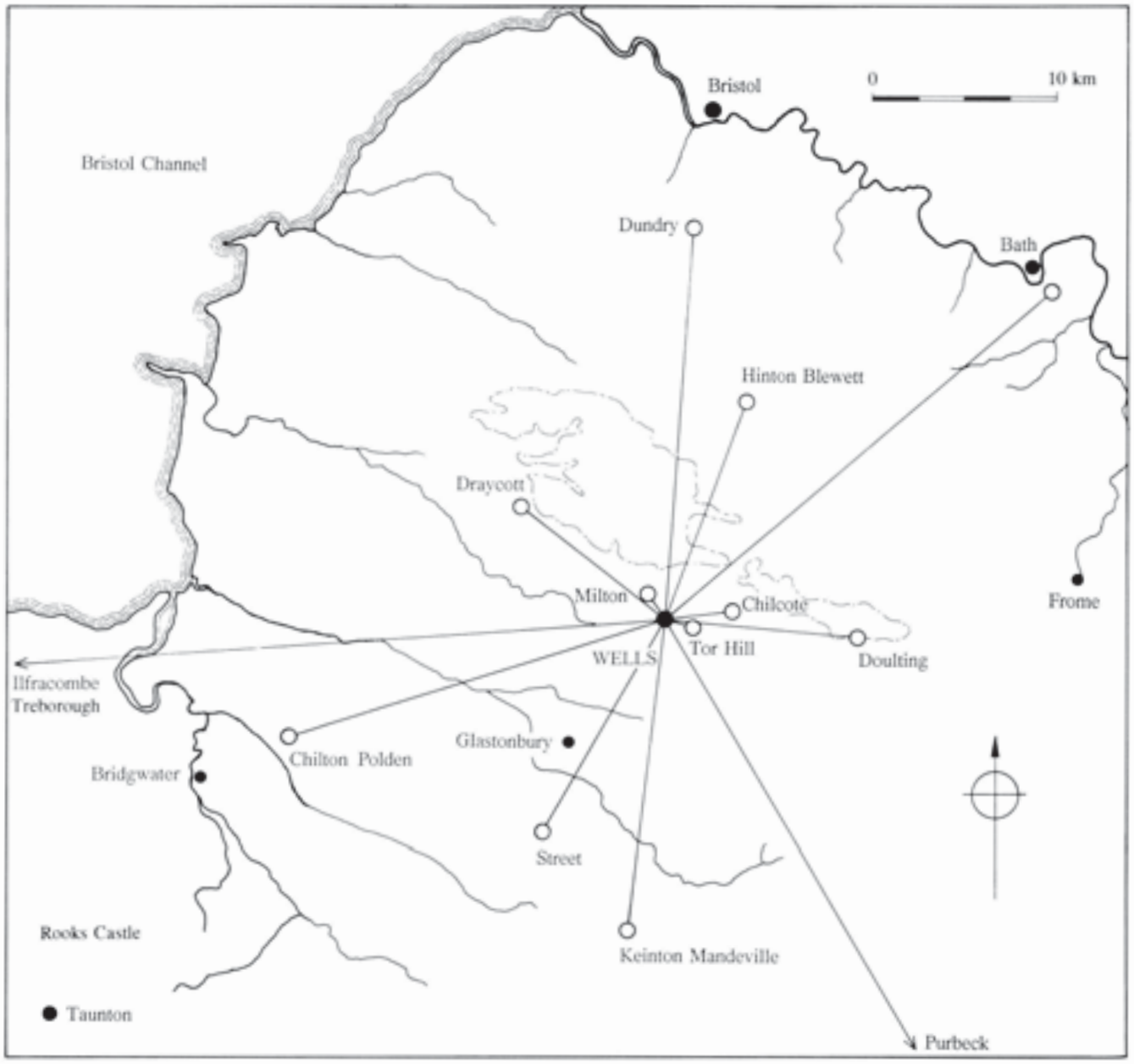


Fig. 21 Map showing the principal sources of stone used at Wells Cathedral in the Middle Ages

and supplies stone for the repair of the cathedral and local churches. Over the past century Doulting limestone has been employed on a huge scale elsewhere, for example: the rebuilding of Arundel Castle (1890–1903), and the refacing of parts of Canterbury Cathedral, as well as for new work on the cathedrals at Guildford and Bury St Edmunds.

Chilcote conglomerate

This is also a limestone, a calcareous conglomerate known to masons as 'bastard freestone'. It is pale cream in colour, and is characterized by its pock-marked surface, resulting from the detachment of former pebble inclusions. The rock is a littoral development from the Lower Lias, and occurs banked up against the southern Mendip slope to the east of Wells, between West Horrington and Shepton Mallet (Fig. 22).

Chilcote stone had to be transported only half the distance from Doulting to Wells. It is a significantly harder and more durable stone than Doulting: it cuts well into ashlar and the finer beds can also be employed for coarse mouldings. Exceptionally, the rich carving of the south transept doorway is in Chilcote stone (Fig. 120). However, if it could be avoided, Chilcote stone was not used for detail.

Chilcote conglomerate occurs fairly extensively at Wells, both as ashlar and as rubble, in the Romanesque and in certain early Gothic building phases: it was the stone to which the masons turned when they were unable to extract from Doulting on account of the prior needs of Glastonbury Abbey. Rough slabs of conglomerate were generally used as covers for cist-graves. Undressed conglomerate, probably of Chilcote origin, occurred in the Anglo-Saxon foundations.

Bath

This Upper Oolitic limestone was quarried at various locations to the east and south-east of Bath. It is pale cream in colour, often much finer in texture, and is softer than Doulting stone. Being very easy to carve and capable of sustaining crisp arrises, Bath stone was used for tombs, effigies and much of the fine sculpture at Wells. It does not generally weather well, and was thus normally reserved for internal detailing. It was, however, the usual stone employed for Anglo-Saxon sculpture in central Somerset, when Doulting seems not to have been favoured (p. 158).

Transport of Bath stone across the Mendips was not easy over a distance of some 30 km by road, and conveyance by water was not practicable. Hence Bath stone was not employed as a general building material at Wells.

Dundry stone

This is another Jurassic limestone of Inferior Oolite age. It is creamish-brown in colour and generally fine grained, which makes it suitable for intricate carving. The stone was quarried at Dundry Hill, 8 km south-west of Bristol. As with Bath stone, transport to Wells was not easy: it had to be carted some 23 km by road over the Mendips. Dundry stone is only rarely found at Wells, and its use seems to have been confined to sculptural work, principally on the west front of the cathedral (Sampson 1998, 33).

Triassic sandstone

This is the ubiquitous local red sandstone, employed for rubble walling. Coarse in texture, and with numerous inclusions, it was quarried on the north side of Tor Hill, less than 1 km south-east of the cathedral; hence it is often referred to as Tor Hill stone. Some blocks can, with difficulty, be roughly squared, but it does not form ashlar. It has been used at all periods, from Roman onwards, at Wells.

Pennant sandstone

Small pieces of this dark, purplish-red stone occur naturally in the local gravel deposits, from which they were gleaned and occasionally used in rubble walling. Pennant pebbles are smooth and rounded and generally fist-sized, although larger boulders are occasionally found. This material occurs particularly in foundations and wall-cores of the Anglo-Saxon period. It was also used at a much earlier date, including for the manufacture of prehistoric saddle querns, of which one has been found during the excavations. A quarry site, of Roman origin, has been identified at Beacon Hill, Doulting (Webster and Croft 1993, 139).

Some Pennant paving has been introduced around the cathedral in recent years.

White lias

A hard, dense rock of creamy-yellow colour, dating from the Lower Lias age. It outcrops sparsely on the southern flank of Mendip, in the area around Wells, and the nearest recorded source is Upper Milton, little more than 1 km distant from the cathedral. Other, more prolific, sources are known in the area of Hinton Blewett, some 13 km north of the city.

White lias was sometimes used for fine carving at Wells, including the quatrefoil angels on the west front, but more commonly it is found as a building stone in coursed rubblework. It splits easily into small slab-like pieces. White lias was used at all periods, from Roman onwards.

Blue lias

This hard, bluish-grey stone was quarried extensively from the Lower Lias beds in the area of Street and Keinton Mandeville, 10.5 km and *c.* 15 km south of Wells, respectively. Blue lias has a distinctive appearance, and contains occasional large bivalve shells; the stone is shale-like and tends to laminate when subjected to prolonged exposure. Some beds yielded a dense black stone which in the past has often been mistaken for Tournai marble. Three particular qualities of blue lias were exploited in architectural work at Wells: its colour provides a striking contrast to the cream limestones, it can be carved with extremely fine detail, and it is capable of taking a polish (Donovan and Reid 1960, 12–13). It could also be quarried in very long lengths and formed into slender monolithic shafts. Although the shafts were normally only 10 cm in diameter, some of those on the west front of the cathedral were 5 m in length.

Blue lias was used extensively for abaci, capitals, bases, shafts and string-courses in the thirteenth century, and later for floor paving. Although it was employed for the most exquisite architectural detailing at Glastonbury Abbey in the middle of the twelfth century (Zarnecki *et al.* 1984, 184–5), only the occasional shapeless fragment of blue lias has been recovered from Norman foundations at Wells. There was no appearance of blue lias, decoratively, in the present cathedral until after 1200 and perhaps as late as *c.* 1220, when it made its début in the doorways of the west front, and was thereafter used in profusion.[2] The stone was also employed for one of the earliest incised effigial grave-slabs in England: this is the tomb of Bishop William de Bytton II (d. 1274), in the south quire aisle of the cathedral (Greenhill 1976). In structural contexts at Wells, blue lias served as a locally acceptable substitute for Purbeck marble.

Blue lias was probably transported via the waterways of the Levels. In addition to its specialized medieval use, a now-lost bed of this stone — almost black and very hard — was coveted for making high quality ledger-slabs in the seventeenth and early eighteenth centuries.[3] Blue lias was also extensively employed for

kerbs and paving in the eighteenth and nineteenth centuries. The inability to obtain suitable stone for replacing the long shafts on the west front of the cathedral, during the restoration of 1870–74, led to the import of Kilkenny marble from Ireland as a substitute.

Purbeck marble

This familiar greenish-grey shelly limestone, quarried in the Isle of Purbeck, Dorset, and widely exported throughout medieval England, needs no description. Purbeck marble was employed sparingly at Wells and is found in two contexts. First, as might be expected, it was used for high-class sepulchral monuments between the thirteenth and fifteenth centuries.[4] Secondly, it was employed architecturally for polished shafts, although not until after the bulk of the cathedral had been completed: the twelfth-century shafting was all of Doulting stone, and in the thirteenth century it was of blue lias. It has been argued that the architectural use of Purbeck marble at Wells did not begin until the chapter house was under construction (Donovan and Reid 1960, 13–14). That implies a date close to 1300. Purbeck was used in the fourteenth-century quire and retroquire, but even so it did not entirely oust blue lias. By contrast, at Salisbury Cathedral the use of Purbeck marble was ubiquitous in the thirteenth century for shafts, abaci and string-courses.

Purbeck was the only structural stone employed at Wells from outside Somerset, until the late nineteenth century.

Draycott conglomerate ('marble')

Draycott stone is a coarse Triassic conglomerate of reddish colour, derived from scree deposits. It was quarried near the village of Draycott, 9 km north-west of Wells. The stone was generally used as rubble, although it occurs only in small quantities; the contexts at the cathedral are thirteenth century and later.

Draycott stone is capable of being polished, and has thus acquired the misnomer 'marble', or 'Wonderstone'. There are few occurrences of polished Draycott stone at Wells Cathedral (Colchester 1972b, 23–4). These include four shafts on the inside of the west front, and five mid-seventeenth-century ledger-slabs.[5]

Tufa

This is a lightweight, porous limestone, almost white in colour, deposited in the beds of streams deriving their water from sources rich in calcium carbonate. Deposits of tufa occur in several places at the foot of the Polden Hills, and the nearest recorded quarry is at Ford Farm, Bawdrip, 20 km south-west of Wells. Other sources closer at hand may have been worked out.

Tufa, which is soft and easily cut when freshly quarried but hardens on exposure, was employed almost exclusively for packing the webs of vaults, on account of its light weight (Colchester 1987, 68; fig. 162). It occurs in the vaults of the chapter house, retroquire and Lady Chapel, but no others, indicating that the material did not appear at Wells much before *c.* 1300. Fragments found in the excavation indicate that tufa was used in the vaulting of Stillington's Lady Chapel.

Slate

The roofs of the ancillary buildings around the cathedral (cloister, Vicars' Close, canonical houses, etc.) were mainly slated or stone-tiled in the later Middle Ages. Some of this material was a greenish-grey shale originating in west Somerset and popularly known as Treborough slate. It was quarried at various localities west of Taunton, including Treborough, Wiveliscombe and Tracebridge, into the early twentieth century. The overland journey to Wells was around 60 km. Another source, Rooks Castle (between Taunton and North Petherton), was somewhat closer to Wells (38 km). This quarry was supplying slates for St Mary's Church, Bridgwater, in 1393–94 (SRS 1938, 229).

Blue slate from Devon or Cornwall was also in use at Wells, and attention has been drawn to the cathedral's importing of 'stones from Ilfracombe' in 1390/91. It is assumed that these were blue slates (Colchester 1972b, 24; Jope and Dunning 1954).

The rebuilt east cloister was slated in the 1420s, and its thirteenth-century predecessor seems to have been similarly covered. The roofs of the Vicars' Close were slated in the second half of the fourteenth century, and secondhand slates (probably mid-thirteenth century) were incorporated as a crude damp-proof course in the foundations of Bishop Stillington's chapel in the late 1470s. The earliest occurrence of slate at Wells is however as packing between ashlars in the construction of the north transept triforium, *c.* 1190 (p. 420). The material was reused, having presumably been derived from the Norman cathedral.

Springs and streams of Wells

The city of Wells has grown up beside a group of springs whose copious yield was an obvious attraction to early settlers. The springs, which lie immediately to the south-east of the cathedral, were clearly of local importance in antiquity, but there is no evidence that their properties attracted wider attention, unlike the spa waters of Bath or Bristol. The water at Wells is chillingly cold, all year round. Nevertheless, there has been a good deal of antiquarian interest in the springs, and a certain amount of extravagant speculation, in modern times.

There are two aspects to the study of the springs: first the geomorphology and topography of the southern Mendips, where the 'wells' rise and, secondly, the various man-made works associated with their harnessing and the distribution of water over a period of at least seven centuries, and probably much longer.

The first aspect will be briefly examined here, while the second is discussed in the context of archaeological evidence in chapter 11. Both are fundamental to any study of the origin and development of the city of Wells.

Two popular accounts of the springs and watercourses of Wells have been published. The first was by Balch, who amassed an immense amount of information from diverse local sources, but this was never recorded in detail. His published paper (Balch 1925), which is devoid of maps and illustrations, relies upon the reader's knowledge of local personalities and topographical descriptions which were comprehensible seventy years ago, but which can now only be penetrated after considerable research. In a supplementary paper, Balch attempted to explain the physical phenomenon of the water supply to Wells (Barnes 1928). The second account, by Dr William Stanton, is not only a useful summary of the current state of knowledge about the watercourses of Wells, but also contains geological and hydrological evidence explaining the origins and mode of functioning of the springs (Stanton 1987–88).

The disposition of the natural watercourses of Wells is a complex subject, and the details are still not fully understood. There are two elements: first, a series of streams, arising from springs in minor valleys, which enter the city from the north and east and, secondly, the cathedral springs or 'wells'.

The wells comprise a close-knit group of five large and several small springs, all in the grounds of the Bishop's Palace (Fig. 385). They rise in a small cove, or embayment, in the south-facing slope of the Sheppey valley.

Natural and canalized watercourses

Streams from three small valleys discharge their waters into the area between the Bishop's Palace and the east end of the cathedral. From the north flows water from Walcombe valley, and from the east it comes from Chilcote valley, into which also feeds Biddlecombe valley (Figs. 22 and 23, A and B, respectively). Both Balch and Stanton have discussed the possible courses taken by the original, combined stream through the city, without reaching a wholly convincing solution to the problem. What is certain is that the natural and man-made watercourses have been modified on several occasions over the past millennium, with the consequence that the evidence is now very confused.

Prior to interference by man, the cathedral springs gave rise to several pools, the continuous overflow from which collected to feed two westward-flowing streams, one of which came to be called St Andrew's stream. It was alongside these watercourses that the city of Wells developed. The streams, which also picked up water *en route* from other minor valleys on the north, left the city

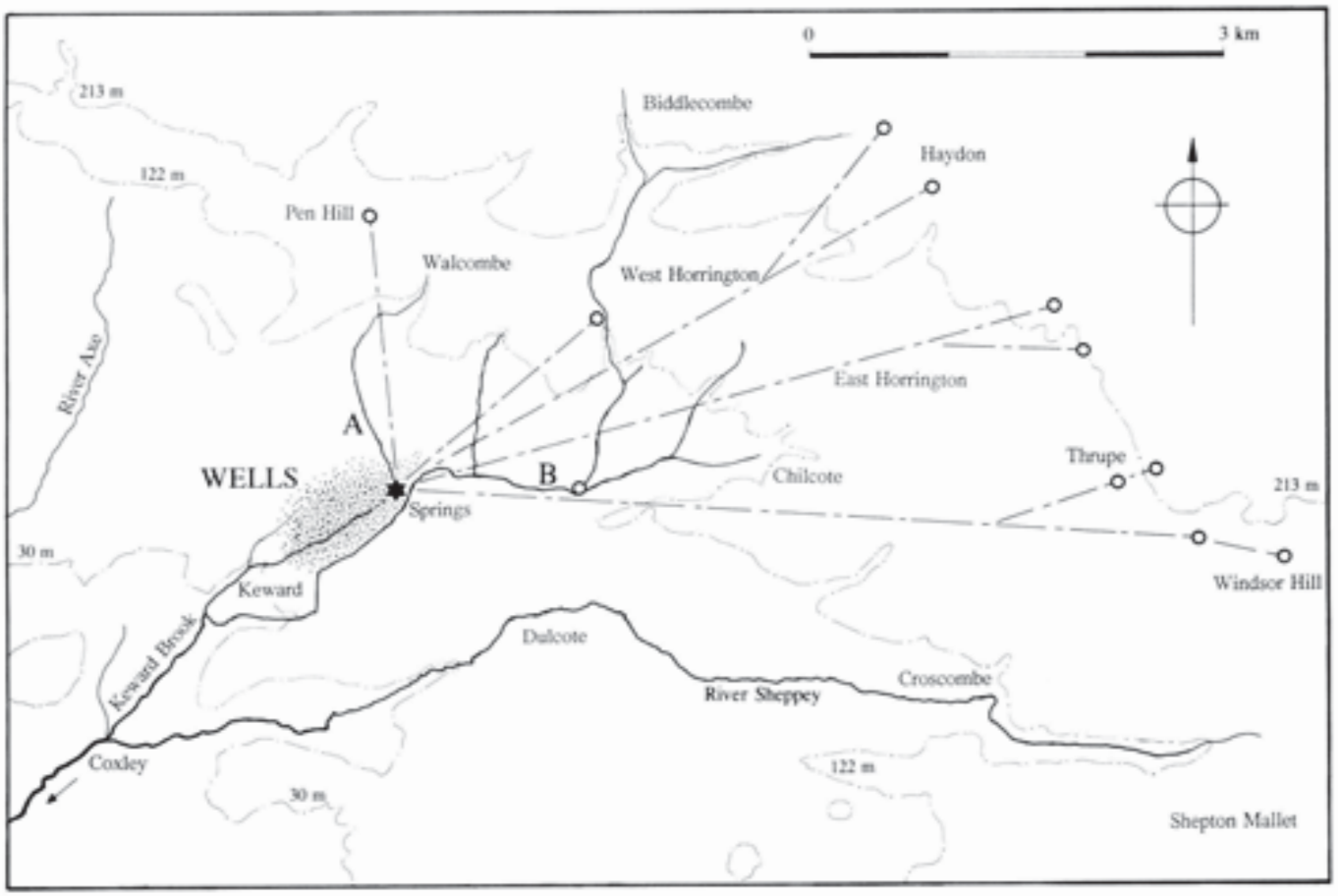


Fig. 22 The topography of Wells, showing the natural drainage pattern and known swallet holes contributing water to the cathedral springs. Swallets are indicated by circles. After Stanton 1987–88, with additions

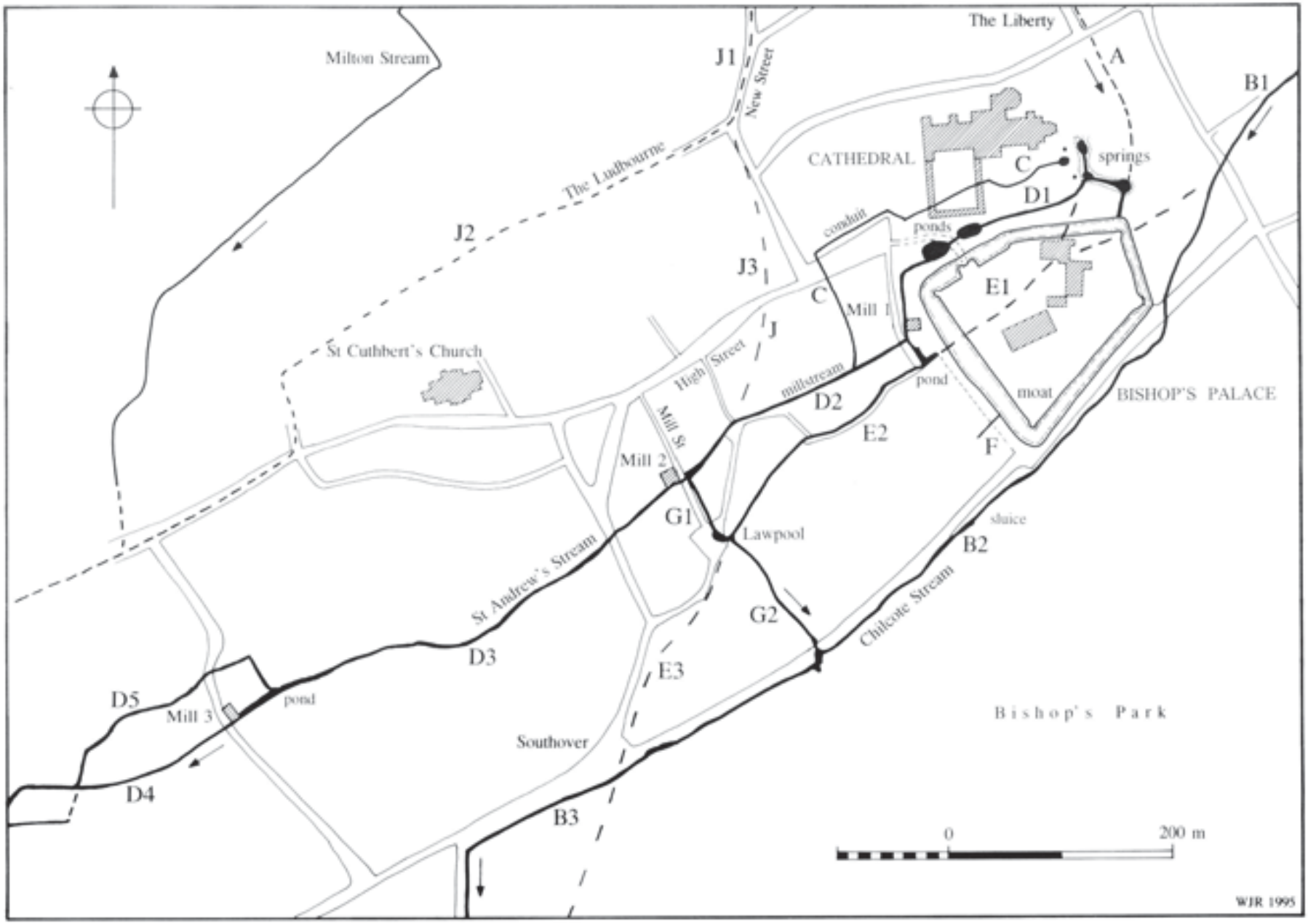


Fig. 23 Plan showing the principal watercourses flowing through Wells. Scale 1:5000

in a south-westerly direction, via the suburb of Keward, where they converged. From hereon the watercourse is little changed, and is known as the Keward brook. This flows into the river Sheppey at Coxley, which in turn discharges its waters into the Somerset Levels (Fig. 22).

Determining the original route of St Andrew's stream through the town is problematic, and introduces the second element of the enquiry, namely the history of the watercourses within the city of Wells. This is a complex and ill-understood subject: confusion and contradictions abound in antiquarian literature. Although it has been noted above that there are basically two incoming streams which flow towards the cathedral springs, there were no less than four watercourses leaving the area. All converged downstream.

The principal watercourses entering and leaving the cathedral precinct are illustrated in Figure 23 where, for ease of description, they are lettered. Suffix numbers have been added, to distinguish the various sections of each watercourse.

A. Former stream entering from Walcombe, and feeding into the wells. This is culverted within the city.
B. Stream entering from Chilcote and Biddlecombe, possibly once also feeding into the wells (B1: Chilcote stream). This now flows around the south side of the Bishop's Palace, as an un-named open watercourse[6] which skirts the southern boundary of the city (B2–3). It also receives the overflow from the palace moat, although this is a modern arrangement.
   There is no particular reason for supposing this to be an artificial channel, although it may well have been straightened in the Middle Ages, especially where it doubles as the boundary of the medieval bishop's park. The stream has a sharp change of direction immediately to the south-west of the city, which is clearly an artificial feature, but the final stretch to Keward is natural (Fig. 22).
C. The northernmost outlet from the wells is wholly artificial, being the cathedral conduit. This was sometimes ambiguously referred to as St Andrew's stream, and is the only channel known to have taken water from the holy well. Prior to the construction of the conduit, in the 1180s, the water from St Andrew's Well presumably mingled with the overflow from the other springs. The conduit is fully discussed in chapter 11.
D. This is St Andrew's stream today, and was so named on the earliest Ordnance Survey maps. Leland's description, in *c.* 1542, of St John's Hospital 'stonding hard on the ripe by south of S. Andreas streme' confirms unequivocally its identity (Toulmin Smith 1964, 145). The uppermost section of the stream is also known as the Millstream, and this is mostly if not wholly an artificial creation (D1, D2), since it dog-legs around the palace moat. However, the watercourse further west is undoubtedly natural, albeit that sections have been canalized (D3). It has a northern tributary known as the Ludbourne (see below).
E. Another stream flowed slightly to the south of D, but is now almost entirely infilled and forgotten; its rump is shown on Simes's map of 1735. This was part of the boundary between the Liberty of St Andrew and the borough, and was obliquely referred to in Savaric's charter of *c.* 1199–1201 (SRS 1932, 3). The curving central section is suggestive of a natural channel (E2), and Balch (1925, 17) argued that it once continued south-westwards (hypothetically E3), to join the Chilcote stream (B3) at Southover. The palace moat has cut off the easternmost section of the stream (E1). A partial investigation of this line, immediately west of the Bishop's Palace moat, took place in 1987–88 (Dennison 1987, 206; 1988, 235–7).

It is disputed to what extent one or more of these watercourses represents the 'natural route' through Wells. Stanton has pointed out that the valley floor at Wells is more-or-less flat over a broad area, and that the stream may well have changed course of its own accord. Basically, he argued that St Andrew's stream (D3) and its eastern continuation, the millstream (D1–2), were wholly artificial, and that the park boundary (Chilcote) stream (B2–3) was the natural course. The dislocation caused by the construction of several mills, emparkment and the fourteenth-century moating of the palace have all obscured the evidence. Even so, the issue is possibly not beyond resolution. Although Balch argued that there was a single stream (E) which had its origin east of Wells, and that it was fed *en route* by the cathedral springs, he conceded the possibility that there were actually two streams through the valley.

Both Balch and Stanton argued that the primary watercourse ran through what is now the palace courtyard, prior to the mid-fourteenth century; the same view had previously been held by Buckle (1888, 78–9, pl. VI). This makes sound topographic sense, and would account for the orientation of Bishop Burnell's late thirteenth-century hall. It has been noted that, west of the hall, the curtain wall of the palace has a series of relieving arches in its foundations, indicating that an unstable filling had to be bridged. Balch reported that, prior to modern silting, the moat was deepest at this point. It may also be noted that the curtain wall along the north side of the palace, towards the north-east corner, has an arched foundation. In all, there is a strong case for believing that a pre-fourteenth-century watercourse (E1) traversed the northern part of the palace *enceinte*.

Surveying the topographic and archaeological evidence as a whole, it becomes apparent that a single stream through the Wells valley — whichever course is preferred — cannot plausibly account for all the known features. Two streams are inevitable. This was not an

uncommon feature and it could be exploited to advantage in complex molendinary systems. It is therefore suggested that the Chilcote stream (B) flowed into Wells from the east, passing under the palace *enceinte* (as E1), through the town centre (E2–3), then veering south-west across the corner of the Bishop's Park, to Keward. The Walcombe stream (A) and cathedral springs fed into this watercourse at what is now the north-east corner of the moat.

The second stream came from the north. It seems to have originated in another branch from the Walcombe valley, which entered Wells on or near the line of New Street (J1). Now diverted and culverted under Chamberlain Street (J2), this was known as The Ludbourne. Originally, it may have headed for the centre of the town (hypothetically J3), becoming what is now St Andrew's stream, and then following a more-or-less straight course (D3) out to the south-west. The two streams merged at Keward.[7]

Confusion over nomenclature has abounded: not only have the cathedral conduit (C) and the millstream (D) been called St Andrew's stream, but Stanton has compounded the problem by applying the name also to the park boundary stream (B). He coined the terms 'St Andrew's stream north' and 'St Andrew's stream south', respectively, for watercourses D and B (Stanton 1987–88, 37–41). Historical evidence establishes that C and D were variously known as St Andrew's stream, but never B. Adherence to the traditional nomenclature is strongly to be advocated, but in the interests of clarity we shall reserve St Andrew's stream for the semi-natural watercourse west of Mill Street (D3). East of this point, the appellation Millstream is traditional, current and appropriate. The artificial watercourse leading out of St Andrew's Well (C) is best referred to as the cathedral conduit. The unnamed and partly artificial channel coming from the Chilcote direction, which forms the boundary between the borough and the Bishop's Park, may simply be called the Chilcote stream (B).

The cathedral springs

In the Middle Ages it was the ceaseless upwelling from one of the springs (the 'holy well') which kept St Andrew's stream flowing through the cathedral conduit, while the output from the other springs turned millwheels and filled the palace moat.

Each spring mouth is known as a 'pot', in consequence of its crater-like form. Three of the springs are now joined together to form a L-shaped lake, created around 1830 (Fig. 4; p. 395). These are generally referred to as the north, central and east pots, respectively. The last is actually a double-pot (Fig. 385). A fourth spring stands slightly apart, in a rectangular plot of ground between the lake and the eastern boundary (Camery) wall of the cathedral precinct. This area is now known as 'Scotland', but was formerly part of the bishop's Camery, and the spring rising in it is properly called St Andrew's Well, or St Andrew's Fountain.[8] The topography and archaeology of this site are discussed in chapter 11.

Other, minor, springs which, over the course of time, vary in number, activity and location, lie mainly north-west of the lake, close to the Lady Chapel of the cathedral. Some are under the lawn of the former canonical house, now called 'The Rib'. Much infilling with rubble and other débris has been carried out in this area in the past, and concealed culverts have been formed in order to channel the spring water into the north pot. There was formerly a well close to the north-east transept.[9]

The pots are volatile: their respective outputs can vary periodically, they are capable of maintaining slightly differing heads of water, and the smaller pots can close over and disappear from sight, erupting again years later without warning. The gross output of the wells has been approximately calculated, averaging about 4 million gallons per day (18,000 cu m). In conditions of extreme drought the figure drops to about one million gallons per day, but rises to 40 million in times of flood (Stanton 1987–88, 29).

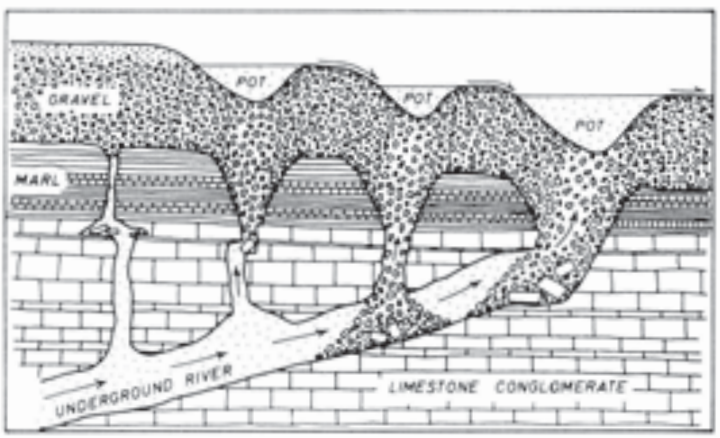


Fig. 24 Diagrammatic section through the 'pots' at Wells, showing their mode of operation. After Stanton 1987–88

Observations and experiments carried out in the 1920s and 1930s by Balch, and in the 1970s by Stanton, have established the mode of functioning of the wells, and the sources from which they draw their water. Eleven separate sources have now been identified along a 7 km stretch of Mendip, from Pen Hill, due north of Wells, to Windsor Hill above Shepton Mallet (Fig. 22). At each of these locations a surface stream sinks into a swallet hole, leading to an invisible limestone cave. These caves all connect with a common underground river network which debouches through the pots at Wells. Water entering the most remote swallet, at Windsor Hill, 6 km east of Wells, takes at least 24 hours to reach the pots, and in drought conditions the time taken can extend to a week (Stanton 1987–88, 29).

The underground river breaks to the surface near the cathedral, through fissures in the solid limestone bedrock. The water rising into these clefts has forced passages through the overlying marl and gravel which form the superficial deposits in the valley floor above. At each point where the water breaks through, a spring, or pot, is created. In times of flood, when great pressure is exerted within the system, silt and gravel are forced out of the ground by the springs, and the pots can enlarge. The ground visibly heaves. When flood conditions subside and pressure is reduced, sand and gravel sink back into the clefts in the rock, gradually choking their outlets. Depending upon the degree of choking, an individual pot may become more, or less, active than its neighbours. Similarly, the extent of the choking regulates the pressure at which water reaches the surface, and thus the level to which it rises within a given pot: hence the differential heads. This has been illustrated diagrammatically by Stanton (1987–88, fig. 2; reproduced here as Figure 24).

Prehistoric settlement

Despite the favourable location and remarkable water supply, not a great deal is known about the archaeology of Wells and its environs prior to the Middle Ages. While a considerable volume of study has been devoted to the prehistory of Mendip — including such notable local sites as Wookey Hole caves and the vast ceremonial complex at Priddy — no systematic fieldwork has been carried out on the valley floor through which St Andrew's stream runs, and few finds have been reported.[10] Much of the area is, of course, masked by the city, its suburbs and adjacent villages. Moreover, pre-medieval deposits at the foot of the Mendips are likely to be blanketed by hillwash and cultivation soils.

Early prehistoric

The first evidence of human occupation in the area around the cathedral springs belongs to the Middle Stone Age, and it is likely that activity continued thereafter. Prehistoric occupation is attested solely by the presence of flint and chert artefacts and waste material. Flint and chert are not indigenous to the site, and therefore all occurrences of these materials infer human activity.

Finds of some 1,773 pieces of struck flint and chert were recovered from the excavations, and 1,225 of these were unretouched flakes. Cores and core fragments were also present. Microliths, microburins, scrapers and piercers all occurred in modest numbers, together with a miscellany of other retouched material. Regrettably, the great majority of this collection was residual in later deposits, and has therefore to be regarded as unstratified.

At the lowest level of the excavations, truncated and fragmented buried-soil horizons were encountered in many places, directly overlying the natural red clay and gravel. The survivals cannot be satisfactorily correlated, but it seems likely that they basically related to a single buried soil which formerly underlay most if not all of the site. A full profile did not survive anywhere, but it seems clear that this was a cultivated soil. Consequently, it yielded not only prehistoric flints but also Roman-period artefacts. There was nothing of later date from it, apart from the occasional intrusive medieval sherd, pressed in from above.

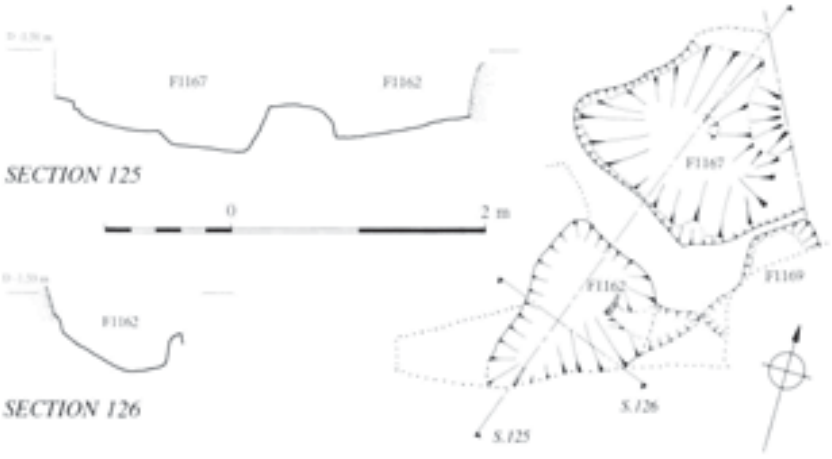


Fig. 25 Plan and profiles of two early prehistoric pits (F1162 and 1167) in Area 6. For site location, see Fig. 28. Scale 1:60

The vast majority of the flints and cherts were scattered throughout the Anglo-Saxon and medieval levels, with the greatest numbers in features that were just above, or dug into, the buried-soil horizon. There is thus little doubt that the buried soil was the parent material from which the bulk of the lithic assemblage derived. That there were modest prehistoric features sealed beneath that soil was evidenced by the chance survival of two irregular pits and some slight scoops in the surface of the bedrock. The site may once have been densely featured, but if so nothing penetrated the bedrock to any great depth within the area investigated. Surviving islands of buried soil were so small that no useful deductions can be made concerning the spatial distribution of artefacts.

The remnants of the two prehistoric pits (F1162 and F1167), and possibly the edge of another (F1169), were found below the floors of some of the shallower Anglo-Saxon graves in the south-east corner of Area 6 (Fig. 25). The fills were of red sandy clay, closely similar to the adjacent natural. Traces of the lower horizons of the ancient topsoil survived on the surrounding ridges. The pits yielded microliths, a piercer and retouched flakes, as well as unretouched flakes, cores and burnt flints. Crumbs of fired clay, a possible sherd of pottery (too decayed for certain identification) and charcoal flecks were present in the fill of F1167; there was also extensive charcoal flecking in the surrounding subsoil. This evidence, taken in conjunction with the numerous burnt flints, indicates fires in the vicinity, and thus presumably a mesolithic camp site.

The entire lithic assemblage has been analyzed in detail by Alan Saville (chapter 14), who concludes that the various groups recovered from the buried soil, pits and other potentially informative locations, are in fact very mixed and cannot be regarded as deposits of single-phase material. The diagnostic artefacts in the Wells assemblage are predominantly mesolithic in date, although some items are potentially later.[11]

Later prehistoric

A barbed-and-tanged arrowhead is assignable to the Bronze Age, and a sandstone saddle-quern probably of the Early Iron Age has also been found in the buried-soil horizon, F1489 (Fig. 521).[12] There were also a few small sherds of undistinguished hand-made pottery which are likely to be of Iron Age date; first-century Durotrigian Ware is noted in the Romano-British section (see below).

Various items of prehistoric metalwork have been casually discovered in the vicinity of Wells, and a few Iron Age finds are known, but no systematic archaeological fieldwork has been carried out in the area with a view to locating late prehistoric settlements. That they existed and their occupants were materially rich and sophisticated is made plain by the discoveries in the Somerset Levels during both past and recent research programmes. It would be surprising if an Iron Age settlement does not, in due course, come to light in the general vicinity of the springs at Wells.

Fig. 26 Plan of King's Castle earthwork, Wells. After Burrow 1924

Finally, mention should be made of the enigmatic earthwork known as King's Castle which occupies a commanding spur 1.5 km east of the springs (Fig. 41). The earthworks have variously been dismissed as natural (VCH 1911, 529) and described as an Iron Age hillfort.[13] Although now much degraded, there can be little doubt that these are the remains of a univallate promontory enclosure, apparently associated with an adjacent Celtic field system. There is also said to be a barrow and other features in the immediate vicinity (Scrase 1978, 38–41). When the site was partially cleared in the early 1920s, the earthworks were revealed as 'a very clearly defined inclosure of a roughly triangular shape with the base on the east and the apex towards the west. The bank is from 8 to 10 feet above the level of the ditch, which has silted up a good deal. At two points... are the remains of circular stone buildings, which appear to be ancient; and lower down the hillside, on the south, near the level of the surrounding fields, are the remains of a low bank of earth and stones, now largely demolished.' (Burrow 1924, 146, 147 pl.).

The plan and a contemporary watercolour (Figs. 26 and 27) show a single rampart cutting off a spur around which there may have been a slight defence at the natural break of slope, but this is indeterminate. The earthworks have been mapped by the Ordnance Survey; nevertheless, King's Castle appears to have been largely ignored by modern prehistorians.

The possibility that later prehistoric settlement moved down from the defended hill-spur to the valley at Wells — as commonly occurred elsewhere in the Wessex region — should not be overlooked, but a great deal more fieldwork and excavation is required before a plausible argument can be advanced.

Fig. 27 King's Castle, Wells. Watercolour showing the earthwork crossing the spur, viewed from the west after partial clearance of the trees in the early 1920s. After Burrow 1924

Settlement in the Roman period

The evidence for Roman-period occupation on the cathedral site is unequivocal but tantalizing. A few sherds of Durotrigian Ware, together with more than two hundred sherds of Roman pottery, ranging in date from the mid-first to the fourth century, were recovered from pre-Saxon buried-soil horizons, from various small features dug into the buried soil, and from Anglo-Saxon and early medieval levels generally. Although the collection is small, in terms of Romano-British site yields, its contents are mildly surprising. In particular, it is interesting to note the presence of a few pieces of pre-Flavian and Flavian samian ware. These would not normally be expected as site finds from first-century domestic occupation in rural Somerset, and are potential pointers to a nearby military presence. Pre-Flavian samian pottery is only likely to have arrived in Somerset through the activities of the Roman army, a subject previously discussed in relation to the ceramic assemblages from Ilchester (Rodwell 1982e).

The pottery of the second to fourth centuries includes both local and imported wares. Apart from some fragments of vessel glass and a shale bracelet (Fig. 521), no other portable artefacts of certain Roman date have been found. A beast-headed bronze mount may be late Roman, or post-Roman (Fig. 513.19). The glass is interesting in that two out of the four recognizable pieces are from good quality vessels: one is from an amber-coloured, two-handled *cantharos*, and the other from a pillar-moulded bowl of clear glass. Both date from the first century A.D.

The excavations yielded a small collection of Roman building materials. Again, this was mostly scattered through post-Roman levels, but it is nevertheless indicative of buildings in the vicinity that were at least partly of masonry construction. There were many fragments of distinctive Roman mortar, and some of *opus signinum* flooring; a few pieces of wallplaster were also recovered. Roman bonding tiles, clay roof tiles and hypocaust tiles were present, in several different fabrics. These must point to more than one phase of construction.

Superficially, it appeared that Romano-British finds were distributed thinly throughout the site and, since more than 90% were derived from features of unambiguous middle Saxon or later date, it seemed that the collection was almost entirely residual and therefore of no stratigraphic value. There is, however, a small nucleus of finds, mainly pottery, which was excavated from the buried-soil horizons, and minor features therein, towards the south-west corner of the site (Areas 1 and 4). No post-Roman material was recovered from these features, but that alone is insufficient to prove their Roman date: they could be Anglo-Saxon.

The features in question were modest, comprising postholes, gravel spreads and interleaving soil layers. Associated with these was a short length of dry-stone foundation, perhaps a sleeper wall for a timber-framed building. Despite its very fragmentary nature, the evidence pointed to at least one, and probably several, building phases. In an attempt to discover whether the occurrence of Romano-British finds on the site was potentially meaningful, or purely random (*e.g.* resulting

Fig. 28 Distribution of Romano-British artefacts throughout the excavated site. Solid circles represent building materials (brick, tile, mortar and plaster); open circles represent pottery. Scale 1:250

from the casual spreading of débris during cultivation), a distribution map was prepared. Figure 28 shows the gross distribution of Roman-period finds, regardless of the dates of the contexts from which they were recovered. Pottery and building materials are separately distinguished.

The map demonstrates unequivocally that the distribution of Romano-British material across the site was not random. The paucity of findspots in the eastern and south-eastern areas is undoubtedly due to the fact that the lower archaeological levels remain unexcavated, and therefore no significance attaches to the pattern that emerges in those locations. The central, western and northern areas were, however, excavated almost in their entirety, and the map must therefore be truly reflective of the evidence. From the centre of the site came a scatter of pottery and a slightly lesser quantity of building materials: this is the area around the mausoleum (which is described below). To the west is a striking void in the map, despite total excavation. Leading from the centre to the south-west corner is a marked concentration of findspots of Roman pottery, but scarcely any of building materials. The pottery was mostly recovered from the buried soil and the enigmatic features mentioned above.[14] In the north-west corner of the excavation lay a high concentration of Roman building materials, but little pottery. It may be no coincidence that the eastern limit of this nucleus was coterminous with an early, but undated, boundary bank (for which see p. 61).

It may also be noted that a few sherds of Roman pottery were recovered from the small excavation close to St Andrew's Well (Area 8, which is not included in Figure 28).

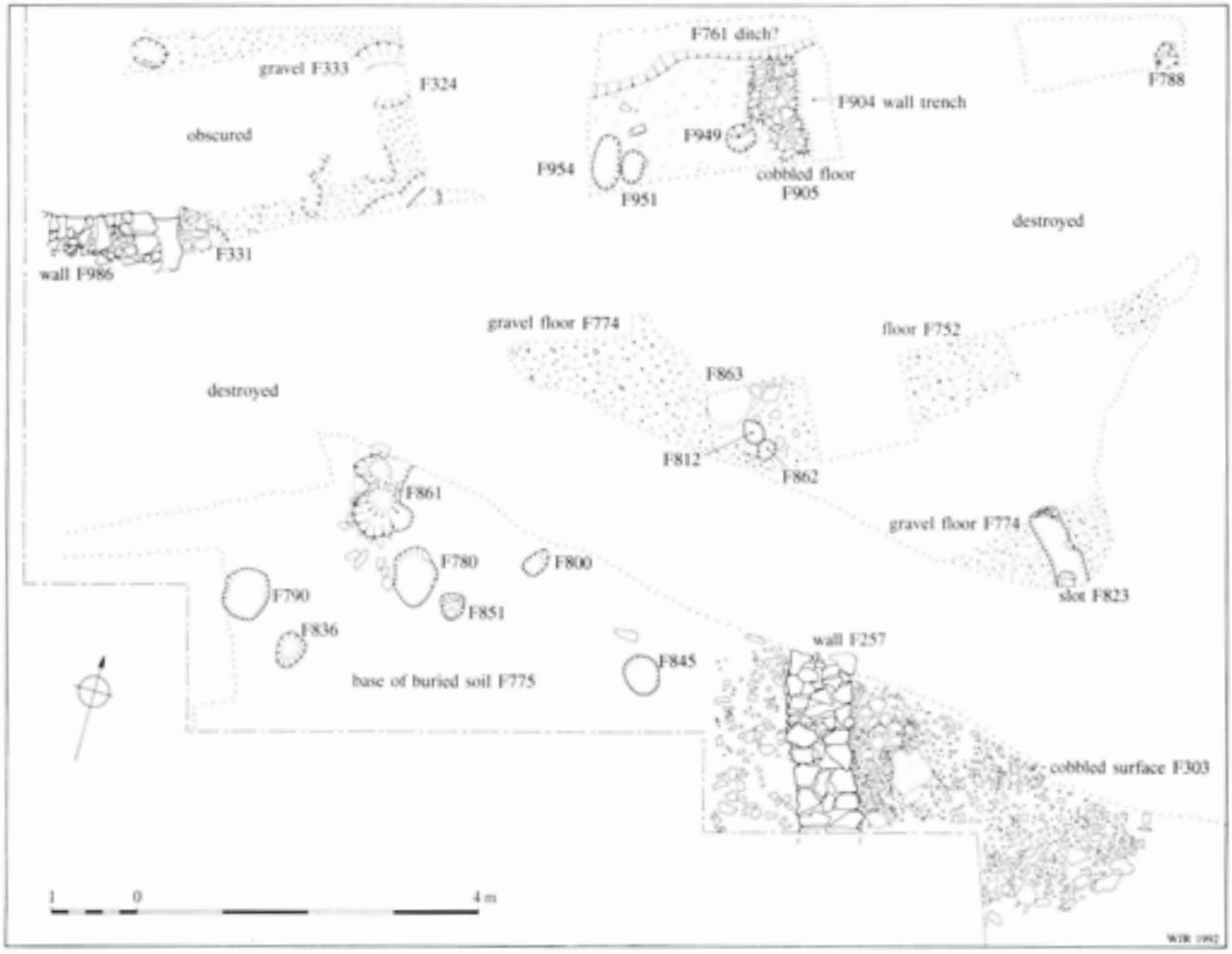


Fig. 29 Plan showing Structure 5 and other features potentially of Roman date in Areas 4 and 5. Scale 1:80

The most straightforward explanation of the evidence is to posit occupation of a broadly domestic nature on the southern part of the site — that is, the slope leading down to the stream — and a masonry building of unknown purpose somewhere beyond the excavation limits to the north or north-west. All features surviving in the south-west corner of the site which could potentially be of Roman date are shown on plan in Figure 29. Associated with these were layers of soil and fragmentary metalling, as well as a drystone foundation, F257.[15]

Structure 5

Projecting from beneath the medieval cloister was a stub of foundation masonry, F986, of unknown date (Fig. 29). At the time of excavation it was assumed to be Anglo-Saxon, and in some way connected to the apse of the minster church (Fig. 64). The possibility should, however, be acknowledged that the foundation could be older, especially since it was on an east–west alignment which did not harmonize with the known Anglo-Saxon walls. Only the lowest masonry course of F986 survived and was encapsulated between the foundations of the Saxo-Norman nave of St Mary's chapel and a later cloister buttress (Fig. 74). The foundation was composed of conglomerate and other rubble, set in a loamy matrix, resting on the bedrock. The northern edge was intact and although the southern one was missing, a former width of *c.* 90 cm seems to be indicated. A flat slab of conglomerate marked what was possibly the eastern termination of the foundation. If so, this points either to a corner (returning south), or to a break in the wall, *i.e.* a doorway or other opening.

No eastward continuation of the foundation could be traced, owing to thorough destruction by later features, but a length of wall running at right-angles to it (*i.e.* north–south) was preserved, a short distance to the south-east (Fig. 29, F257). Here, the lowest two courses of a roughly laid foundation of conglomerate and lias rubble were set in a matrix of clayey loam. The trench containing the foundation was 85 cm wide, and cut into the lowest buried-soil horizon. The feature continued southwards and is still preserved, unexcavated, beneath the masons' yard.

Wall F257 was abutted on both sides by areas of metalling. That on the east was well laid and mainly composed of water-worn pebbles, but incorporated

other material including a large block of conglomerate (F303).[16] West of the wall, the metalling was more patchy. Overlying both surfaces, and a nearby spread of mortar, was a buried soil of dark grey loam containing charcoal flecks (F260). The lack of finds from this layer, particularly Roman, might suggest that it accumulated in the post-Roman period.[17] Wall F257 seems to have been demolished to the top of this level.

Another possible wall-trench, running north–south, is represented by F904; on its west side was a well-laid floor of water-worn cobbles F905 (Fig. 29). Surviving peaks of stratification elsewhere in Area 5 embodied buried-soil horizons, gravel metalling and other ephemeral layers. Some of these sealed, and others were cut by, a miscellany of postholes and shallow scoops, the details of which need not be described.

It is tentatively suggested that foundations F986 and F257 were part of an early building or walled enclosure (here labelled Structure 5) which may have been of either Roman or early Anglo-Saxon date. A cemetery established in the middle Saxon period, immediately to the north of Structure 5, echoed the alignment of its walls (p. 60). That cemetery seems to have been demarcated by a boundary which incorporated F324 and ditch F761 (both undated).[18]

Romano-British sepulchral remains

While little *in situ* evidence of Roman domestic buildings has been found, a sepulchral structure of uncertain but probably late Roman date has been excavated. This lay beneath the east end of the Anglo-Saxon minster complex and is certainly the earliest masonry structure directly connected with the development of the cathedral so far located at Wells. Its identification as a burial chamber with a superincumbent building can hardly be in doubt.

Two other artefacts with sepulchral associations are also likely to be of Roman origin. One is a stone coffin, the other is a fragment of an inscription on stone.

The mausoleum (Structure 1)

Description

The structure comprised the remains of a rectangular stone-lined chamber, sunk into the natural gravel (Figs. 30 and 31). The chamber measured *c.* 1.6 m wide internally and was of uncertain length, but it exceeded 2.1 m. It was incomplete owing to the destruction of the northern end by the foundations of the thirteenth-century chancel of the Lady Chapel-by-the-Cloister (Structure 11; F1327).

The construction of the chamber was a two-stage operation. First, a rectangular pit with vertical sides, F1513, was dug from an unknown level, passing through the buried-soil horizon (F1489) and into the natural red clay-and-gravel (Fig. 32B). The floor of the

Fig. 30 General view of the mausoleum burial chamber (F1480) from the north-west after excavation. The material differences in the floor are geological. Scale of 75 cm

Fig. 31 Overhead view of the fully excavated burial chamber of the mausoleum. North is to the right; the masonry at that end belongs to the medieval Lady Chapel-by-the-Cloister. Scale of 75 cm

pit was flat and lay *c.* 65 cm below the surface of the bedrock, and at least 95 cm below the contemporary ground level. Postholes F1501 and F1500 were dug in the south-west and south-east corners of the pit to a depth of 15 cm and 20 cm, respectively, below the floor. A more-or-less opposed pair of postholes was also dug part-way along the east and west sides, both penetrating the floor to a depth of 18 cm (F1499 and F1502). It is likely that two further postholes, at the north-east and north-west corners of the pit, have been lost. The interval between the extant postholes on the long sides was 1.2 m and, if regular spacing was adopted, the internal length of the structure would have been *c.* 2.4–2.5 m. That is on the assumption that it was two bays in length: it is unlikely to have been of three bays or more, since the masonry would have re-emerged — and thereby been discovered — beyond the north side of the medieval wall.

It is therefore suggested that the original arrangement consisted of six posts set within and close to (but not touching) the edges of a pit, the overall measurements of which were 2.0 m wide at the maximum point

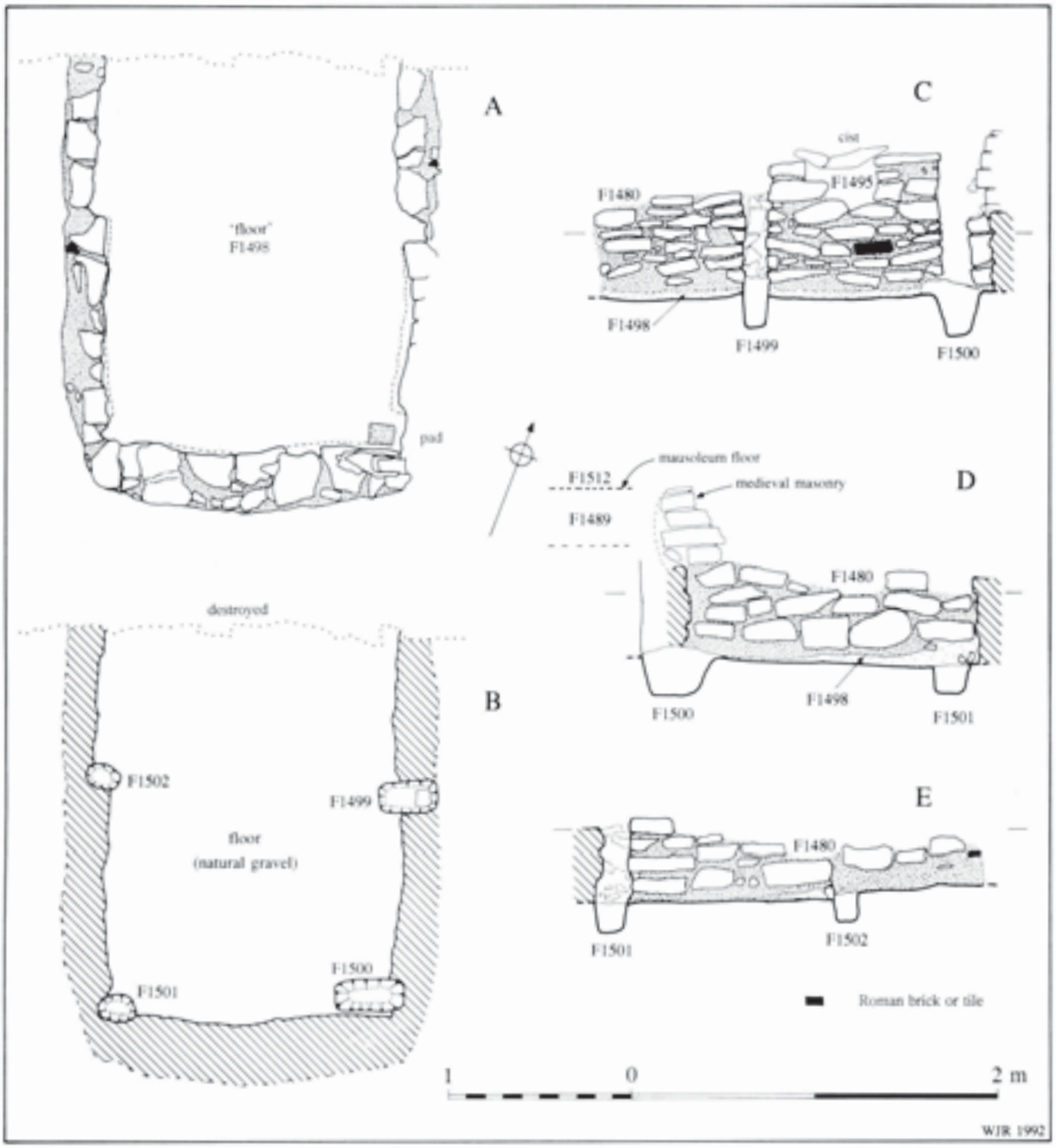


Fig. 32 Plans and elevations of the burial chamber of the mausoleum. A Plan at wall-top level, showing the construction pit. Broken lines indicate the wall-base level, where there is a batter; B Plan at chamber floor level, showing the relationship between the wall face and the postholes; C East elevation of the chamber; D South elevation of the chamber; E West elevation of the chamber

and in the order of 3.0–3.1 m in length. The extant postholes differed markedly in plan: the two on the east were sub-rectangular, and would appear to have been dug for timbers measuring up to *c.* 20 cm by 10 cm. A single packing stone remained in F1499. The postholes on the west were of sub-circular form and could not have housed timbers more than 10 cm across; whether these were square or rounded is unknown. The difference in plan between the postholes on the east and those on the west was so marked as to suggest that it was not fortuitous.

The second constructional phase involved lining the pit with mortared masonry, which partly enveloped the timber posts. Several pieces of evidence make it plain that the masonry belonged to a secondary phase. First, a thin layer of fine sandy soil, F1498, had accumulated in the bottom of the pit prior to the insertion of any masonry. This material contained charcoal flecks, small fragments of grey lime-mortar and innumerable tiny chips of red brick. The deposit was found as a general layer over most of the bottom of the pit, but was thicker beneath the masonry lining; it also

occurred in the fills of the postholes. It may be deduced that F1498 was once a substantial layer on the floor of the pit, but it was largely cleaned out some time after the masonry lining had been inserted. Hence the masonry of the walls was founded well above the eventual floor of the pit in some places (see section, Fig. 32D).

The walls were built around the timber structure, partly encasing the posts, and sealing the primary fills of the postholes. There was no meaningful bonding of the masonry at the two southern corners, where it could be seen that stones had simply been wedged between the posts and the edge of the pit (Fig. 33). Moreover, the wall faces were not straight, that on the west being markedly stepped where it abutted post F1502. A sharply defined vertical channel in the east wall demonstrated that the timber rising from posthole F1499 was 10 cm in width (Fig. 34).

The masonry was roughly coursed, and bedded in a generous matrix of yellow-brown sandy mortar. Brick chips were employed as an aggregate. A mixture of materials was used in the walls: the predominant stone was white lias, but there were also pieces of blue lias, conglomerate, red sandstone, Pennant sandstone and Roman brick. Oolitic limestone was absent. Three fragments of Roman brick were noted, the largest being in the east wall: it was 5 cm thick and 18 cm long. Two small pieces of Roman brick or tile were seen in the core material at the top of the west wall (Fig. 32E). The structure was not dismantled, and it may well incorporate other ceramic material which was not readily visible.

The east wall survived to a maximum height of 80 cm above the floor of the pit, the south wall stood to 50 cm, and the west wall averaged 30 cm. The walls were all truncated by later Saxon and medieval features. The posts appear to have rotted *in situ*, and traces of the post-pipes remained, filled with dark sandy soil. The pit itself was backfilled in the later Saxon period with clay and gravel, interleaved with charnel deposits, all overlying the thin layer of brown sandy soil, F1498. Layers above F1498 belonged to a period after the timber posts had decayed; they are discussed on pp. 75–8.

There is possibly some evidence for contemporary floor or ground level associated with the structure, although robbing and later features have removed any firm stratigraphic link. An island of buried soil (F1489) survived adjacent to the south-west corner, and another island was seen largely in section (unexcavated) adjacent to the east side. On the surface of this horizon was a compact and smooth layer that was evidently a thin floor composed of pebbles and decayed fragments of cream coloured stone (F1512; plan, Fig. 43). At first sight, the floor had the appearance of being weathered chalk, but was found upon close inspection to be decayed nodules of white lias. This layer, which was 95 cm above the floor of the chamber, may have been waste material derived from masons' work. No similarly constituted floor was found elsewhere on the site, and it lay below construction levels associated with the known Anglo-Saxon buildings (Fig. 76, S.144).

Fig. 33 The south-east corner of the burial chamber, showing the elongated post-pit (F1500) which extends beneath the wall. Scale of 75 cm

Fig. 34 The east side of the burial chamber, showing posthole F1499 and the channel in the masonry above it. The slabbed void to the upper right is a medieval cist-burial

Sequence, dating and interpretation

There were undoubtedly two distinct phases to this structure, and suggested reconstructions are given in Figure 35.

Phase 1

This involved the excavation of a rectangular pit, almost 1 m deep, and the insertion of a timber lining (presumably of horizontal planks) which was held in place by, probably, six upright posts. It is suggested that backfilling took place behind the lining, using sandy soil containing mortar and brick chips (F1498); this was builders' débris from an unknown source, but it is unlikely to have come from far away. In due course the timber lining decayed, allowing the backfill behind it to fall onto, and spread across, the floor of the chamber.

It is clear that the posts were not merely stakes which held back the lining: they must have risen above ground or floor level and supported a superstructure.

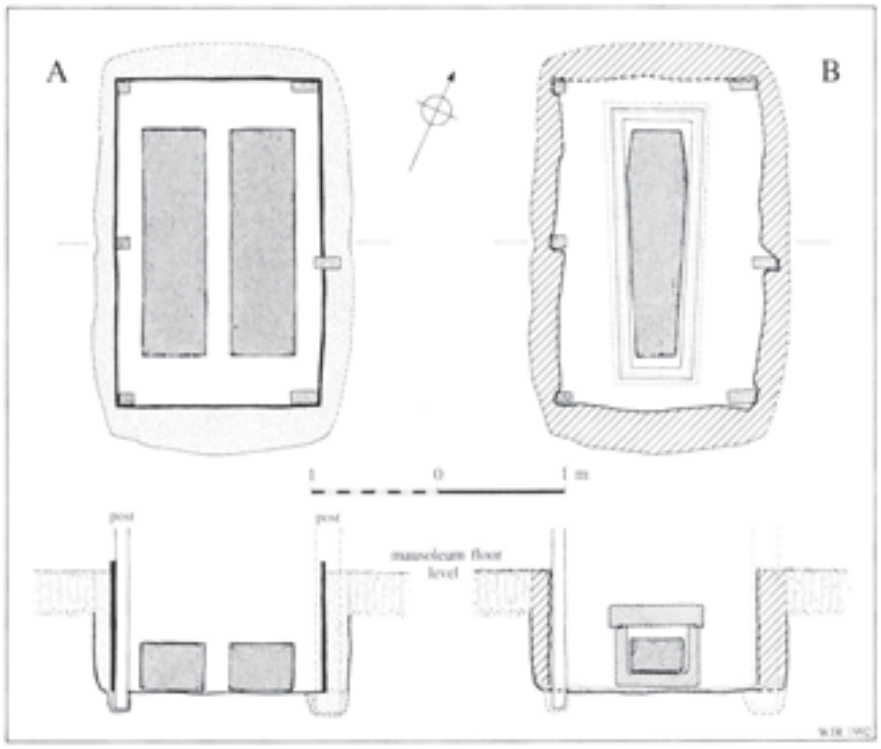


Fig. 35 Reconstructed plans and sections across the burial chamber. A The timber-lined chamber (Phase 1), with two hypothetical lead coffins in place; B The stone-lined chamber (Phase 2), with a hypothetical lead-lined, stone coffin in place. Scale 1:60

This can be the only logical reason for their retention, in their original positions, into the second phase. There is no evidence for there ever having been a prepared floor inside the chamber: instead, the surface of the clay-with-gravel bedrock was smooth and compact.

Phase 2

The chamber was refurbished, presumably in response to the decay of the timber lining (but not, at this stage, the posts). The interior of the pit was lined with mortared masonry, leaving the posts in position. The surrounding floor of white lias chips is likely to belong to this phase, since lias was the principal stone used in the construction. A trampled layer of sandy soil and mortar (F1498) at the bottom of the chamber was not cleared out, and thus incidentally formed a 'floor'.

Dating

Secure dating evidence is lacking. The two mortars which occurred in association with the structure were distinctive, and found nowhere else on the site, other than as small fragments residual in later deposits. This was also the only excavated structure in which Roman brick had been used. The mortar was not however the near-ubiquitous one — hard and white with brick chips — employed in many Roman buildings constructed during the prime centuries of the empire.[19] Poorer quality, sandy mortars were not uncommon in the latest Roman buildings in Britain. All that can be securely claimed is that the materials used in the mausoleum are consistent with a late Roman date.

All deposits associated with eighth-century and later cemetery activity on this part of the site were at, or dug from, a higher level: some sealed and others cut the lias floor. Thus generalized *termini post et ante quos* are provided, respectively, by the late Roman style of construction, and the overlying middle Saxon cemetery. The burial chamber, and whatever structure may have housed it, must therefore have been either late Roman or early post-Roman in date. Unsatisfactory though such imprecision is, it would be misleading to try to refine the dating when the evidence is so sparse.

Interpretation and discussion

The plan and dimensions invite comparison with Roman burial chambers of the type often found beneath the floors of mausolea. Other interpretations have been considered and rejected. The feature was not, for example, deep enough to have been capable of holding water, thereby dispelling any notion of its being a water tank or bath. Nor were there any water-laid silts inside it, and the mortar was of an inappropriate type (*i.e.* non-hydraulic) for use in a water-holding structure. The chamber was too small and certainly too shallow to have functioned as a cellar beneath a domestic or cult building, unless that building was raised on a podium. There is no evidence for a podium or for the substantial building to which such a feature could have belonged. Roman cellars are invariably found beneath buildings of substance or pretension.

The most reasonable interpretation — the one firmly embraced here — is that of a burial chamber sunk into the floor of a mausoleum of late Roman type. Such chambers were not intended to be filled with soil

or rubble around the coffin, and in many cases the *depositum* was probably not concealed at all. The structural evidence is not compatible with interpretation as a *hypogeum*, as at Glastonbury Abbey (Clapham 1928), or an underground shrine of the type found beside the Romano-Celtic temple at Lamyatt Beacon, Somerset (Leech 1986, fig. 7).

The burial chamber and coffin

Interment in a mausoleum was highly prestigious and must have entailed the use of a good quality coffin, which would probably have been of stone or lead, rather than timber: all these materials were in frequent use in late Roman Somerset (Leech 1980). If of stone, there would have been insufficient space in the chamber to accommodate more than a single adult-sized coffin, given that a certain amount of room for manoeuvring was necessary. The maximum usable space between the mid-wall posts was 1.4 m. Typically, a late Roman masonry coffin in Somerset was roughly hewn out of a single block of Bath stone or Ham Hill stone, *c.* 2.1 m long, and measured *c.* 60 cm across the widest point (*cf.* Combe Hay: Price and Watts 1980, fig. 12). Such coffins were, however, used for burial directly in the ground, and represented the lowest level of manufacture in stone sarcophagi. Theoretically, two such coffins might have been squeezed into the chamber, but the likelihood of this being done is so remote that it can be discounted.

Nothing remained of the primary interment, or any secondary additions, owing to the fact that the chamber had been cleaned out and used as an ossuary in the later Saxon period (p. 75). The floor of the chamber and the underlying sandy layer were carefully examined for imprint evidence of one or more coffins, but none was found. The surface of the bedrock here was so firm that even a heavy stone coffin would have been unlikely to cause a discernible indentation.

A coffin of 'display' quality would be expected in a chamber which was intended to remain open, or in some way to be accessible for inspection. Here, it is relevant to turn to the Roman-Christian cemetery at Northover (Ilchester), where a higher order of sepulchral provision obtained than at sites of the Combe Hay type. Hamstone coffins of accomplished workmanship, tapered form, and larger dimensions have been found. These were between 72 cm and 84 cm wide at the head end, and 2.2 m in length (Gray 1933, 103–5). A pair of coffins of even finer quality, made of Bath stone, has been recorded at Keynsham, and the circumstances of their discovery are such that they were probably in a mausoleum, albeit unrecognized at the time of excavation (Gray 1922). The larger coffin, which contained a lead shell, measured 2.4 m long by 73 cm wide at the head-end, tapering to 55 cm at the foot. The lid was a little larger, and overhung all round. Such a coffin could have rested with dignity in the Wells tomb chamber (Fig. 35B).

Alternatively, the deposition of one or more lead coffins must be considered. These too have been found in high-status burials in Somerset, and are especially associated with Roman-Christian cemeteries. At least five examples have been recorded at Northover and Ilchester (Gray 1933, 105; Toller 1977, 39–40). Several others have been found elsewhere in the county, including a recent discovery at Shepton Mallet (Leach 1990, 47). Not unnaturally, the average dimensions of lead coffins tend to be significantly less than those of stone coffins, the overall width seldom exceeding 60 cm (Toller 1977, 5). It cannot therefore be doubted that two average-sized lead coffins could have rested comfortably in the Wells chamber (Fig. 35A). In support of this it may be recalled that the Lullingstone mausoleum, in Kent, contained a pair of lead coffins in a timber-lined grave chamber (Fig. 36D; Meates 1979, fig. 32b).

Finally, with the above-mentioned Keynsham discovery in mind, the possibility should be acknowledged that the Wells coffin could have been of composite type, involving both stone and lead. Stone coffins containing inner linings, or shells, of lead are generally rare and appear to belong to the highest order of sepulchral furnishing in late Roman Britain; they are plausibly connected with the Christian burial rite. No less than three examples of composite coffin construction, in addition to that from Keynsham, are known from Somerset. These are from Farmborough, Yatton, and a recent find from Shepton Mallet. At the last site, the foundations of a rectangular mausoleum were discovered, within which lay a large stone coffin with a lead lining (Leach 1990, 52). Thus the local ingredients for a late Roman burial of high social status in south Somerset are reasonably well established. Reconstructions to illustrate the various options, and how they might fit with the available evidence, are given in Figure 35. A pair of lead coffins of average size (180 × 50 × 38 cm) is placed in the chamber, illustrating that such an arrangement would have been feasible.

The phase 1 timber-lined grave chamber is shown in Figure 35A, with six structural posts of the sizes suggested by the surviving evidence. There is clearly an interpretation difficulty with the central post on the east side: if the planks lining the pit on that side had passed behind the post there would have been a pronounced deflection in the wall. That is barely credible. One possibility is that the seemingly rectangular posts on the east side were in fact made up of conjoined pairs of posts, and that the wall planking passed between them. Alternatively, the posts may have been rebated or trenched to receive the side planks. Possibly, a difference in the form of the superstructure is indicated on the east, requiring heavier posts.

Late Roman graves with simple timber linings, or even timber vaults, have been reported from a number of sites, but are not well understood in detail (Philpott 1991, 69–70). The former presence of timber linings,

and an appreciation of their structural form, can only be detected through meticulous excavation, but few graves have received such treatment. Although not well recorded, one of the best known timber-lined graves is the first-phase structure at Lullingstone, Kent (Meates 1979).

The reconstructed phase 2 stone-lined grave chamber is shown in Figure 35B, with the timber posts retained and partly encased. The mortary soil which spread across the floor of the chamber, before the masonry was inserted, is indicated in the section, as is the white lias floor found outside the chamber at ground level. The stone coffin with an inner lead shell illustrated here simulates the Keynsham example, again demonstrating that such an arrangement would have been possible.

The refurbishment of the Wells grave pit, and its adaptation from a timber-lined chamber to a stone-lined one, may represent long-term maintenance of a revered grave, or decisive reuse, with one burial succeeding another. Whichever alternative is preferred — and the former is perhaps more likely — the fact that the timber posts survived and were encased by masonry can only imply that they carried a superstructure which remained intact throughout this process. The nature of that superstructure, if it could be determined, would be of the greatest interest. At its simplest, a canopy of honour — in effect a *baldachino* — may be implied. A more elaborate interpretation might be that the posts carried an elevated shrine. The south-east corner post must have rotted during the life of the mausoleum, and a padstone was placed under its foot, covering the posthole itself (Fig. 32A). During the refurbishment process the coffin must have been removed from the chamber, since the layer of mortary soil associated with the second phase spread unimpeded across the floor.

The mausoleum and its superstructure

It cannot be seriously doubted that the grave chamber lay within a building, but whether this was a small rectangular mausoleum, of the kind seen at Poundbury, Dorset (Farwell and Molleson 1993), is questionable. The latter did not have sub-floor chambers, and a more elaborate structure may have to be envisaged at Wells. The mausoleum discovered at Shepton Mallet in 1990 was a three-celled building, and contained a large stone coffin with a lead lining (Leach 1990, 52). Unfortunately, definitive evidence for the size of the Wells building is lacking. No contemporary levels survived to the north or south, and on the west there was only a small island of stratigraphy which included the floor of white lias nodules. At 1.25 m west of the chamber wall the floor was cut away, but the lias was seen to be thinning out at this point, which may provide a hint that either the west side of the mausoleum lay close by, or that there was an internal division. Traces of what is taken to be the same floor were seen in section in an unexcavated block of stratigraphy east of the chamber, but sufficient evidence would not appear to have survived for establishing a true limit (these two patches of flooring are shown in Figure 36E).

The possible form and dimensions of the mausoleum may next be considered, together with options for the reconstruction of the ground plan. On the not unreasonable assumption that the grave chamber was centrally placed within the mausoleum, and that there was at least 1.25 m of floor space all around it, an overall internal dimension for the building might have been in the order of 5.2 m by 4.1 m. There is no evidence to indicate whether the walls might have been of timber or of stone; if the latter and, say, 60 cm thick, an external measurement of *c.* 6.4 m by 5.3 m would be indicated. It is stressed that these figures represent no more than a suggested minimum order of magnitude, based on logical principles and analogues.

The structure could, however, have been larger, perhaps comprising more than a single cell. Evidence with a possible bearing on this will be considered in detail in the next chapter, where it is shown that middle Saxon burials in the vicinity of the mausoleum apparently ghosted the outline of a Roman (or early post-Roman) building (pp. 56–7). That seems to have been considerably larger than the dimensions adduced above. In order to interpret the Roman period, it is necessary briefly to look forward.

In essence, two fragments of robber trench were recorded, one to the west and the other to the north of the burial chamber (Fig. 43, F976 and F1532), and these could mark the positions of two of the outer walls of the mausoleum. This will be referred to as Structure 1A, since contemporaneity with the burial chamber cannot be unequivocally established. A hypothetical reconstruction, with the grave chamber at the centre, indicates a building *c.* 12 m square (Fig. 36E).

Comparison with other Romano-British mausolea

Few late Roman mausolea have been excavated in Britain, and even fewer have received critical study. Indeed, serious pursuit of the subject has been hindered by fragmentary structural remains, poor excavation, and inadequate publication. Several sites have features in common with Wells, and comparison is instructive (Fig. 36).

The first point to note is that there were two basic types of Romano-British mausoleum. The simpler type comprised a single-celled structure, which could be square, rectangular, circular or polygonal in plan. Internal floor level corresponded more-or-less to external ground level, and graves were individually dug into the floors. The most noteworthy group of these structures in the south-west was found at Poundbury, on the western outskirts of Dorchester, in what is generally acknowledged to be a Roman-Christian cemetery

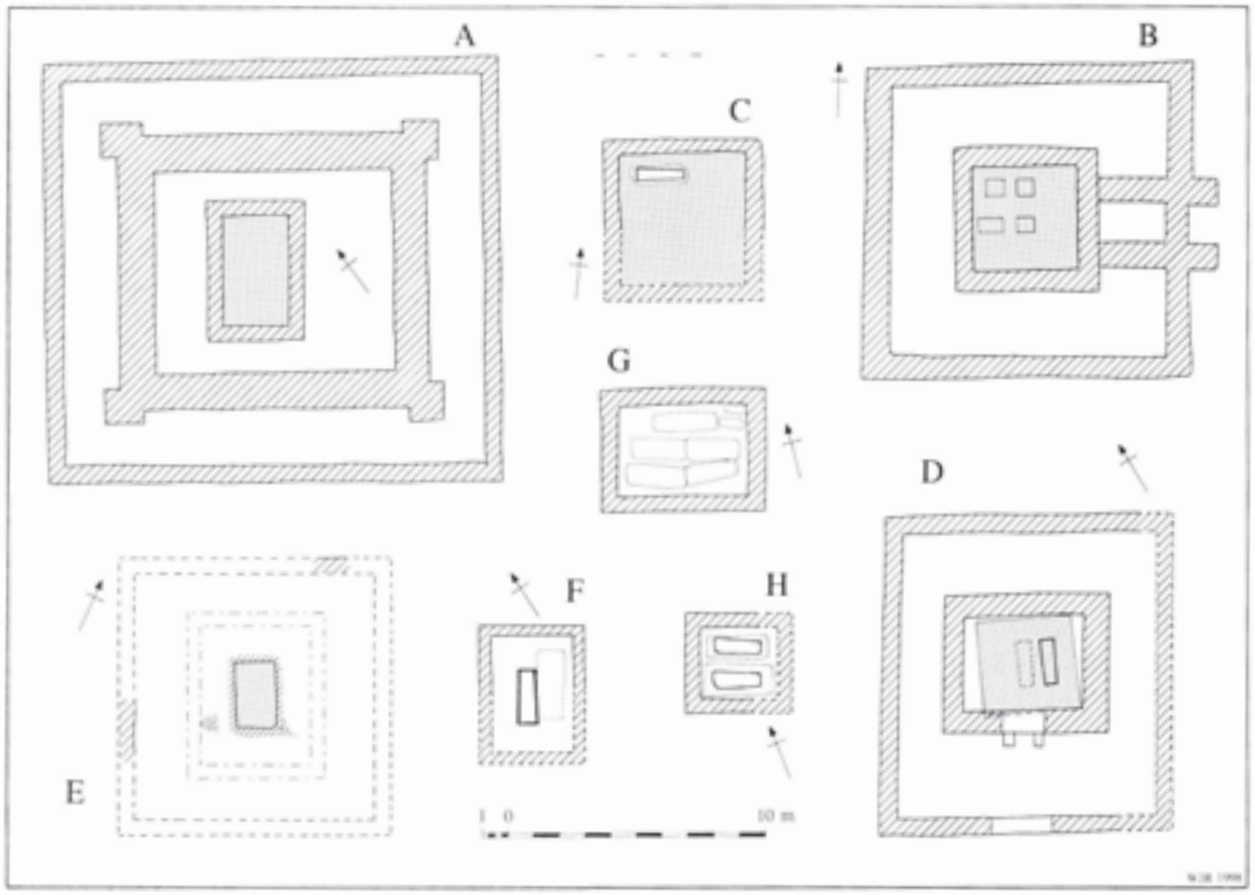


Fig. 36 Comparative plans of Romano-British mausolea and temple-mausolea (some partially reconstructed). A Hemel Hempstead (after Neal 1984); B Bancroft (after Williams and Zeepvat 1994); C Kingsholm, Gloucester (after Hurst 1985); D Lullingstone (after Meates 1979); E Wells; F Cambridge (after Fell 1955); G Poundbury, R8; H Poundbury, R9 (after Farwell and Molleson 1993). Sunken-floored tomb-chambers are indicated by grey tone. Scale 1:300

(Farwell and Molleson 1993). No less than seven rectangular stone-built mausolea were found, with two or more interments in each. Typically, the burials were orientated east–west, and both stone and lead coffins were present.

Unfortunately, the complete plan of only one of the Poundbury structures (R8) survived, and that measured 6.8 m by 4.6 m (Farwell and Molleson 1993, fig. 41; here, Fig. 36G). It contained multiple burials. A smaller mausoleum (R9), which was 3.9 m in width, and probably not much more in length, contained a pair of symmetrically positioned graves. Both held lead-lined timber coffins (Fig. 36H).

Another incomplete example was the stone-built mausoleum at Arbury Road, Cambridge, where a limestone coffin with an inner lead shell lay off-centre beneath the floor of a rectangular building, with another grave alongside. The orientation of this mausoleum was ambivalent, being south-west to north-east (Fell 1955; here, Fig. 36F). The significant difference between the Wells mausoleum and those at Poundbury and Cambridge is that the latter examples did not contain subterranean masonry-lined chambers to house one or more coffins. Essentially, these were small rectangular or square buildings with earth-cut graves in their floors.

Mausolea belonging to a second *genus* are characterized by having a double-concentric outline. An inner chamber, or *cella*, of square or rectangular plan, was surrounded by an ambulatory. The form is reminiscent of the commonest type of Romano-Celtic temple, and the term 'temple-mausoleum' has therefore been coined. The type was first recognized at Lullingstone, Kent (Meates 1979, 122–32; here, Fig. 36D). A second defining characteristic seems to be the presence of either a sunken floor, or a solidly constructed tomb chamber, in the *cella*. The Lullingstone temple-mausoleum was of at least two periods (as well as being subsequently incorporated in a medieval church), but the inadequacy of the excavation has left the site ill-understood. The *cella* measured 6.4 m by 5.3 m, and the overall size of the structure was *c.* 12.5 m by 11.5 m. Under the centre, and on a slightly skewed axis, lay a squarish (*c.* 3.6 m), timber-lined vault.

Two subsequent discoveries have demonstrated that the Lullingstone temple-mausoleum was not *sui generis*. A slightly different arrangement obtained at Bancroft, Milton Keynes, Buckinghamshire (Williams and Zeepvat 1994, 89–102). Here, a temple-mausoleum was discovered which was only slightly larger than Lullingstone, but had a square, sunken-floored *cella* (5.5 m externally) surrounded by an ambulatory (Fig. 36B).

The 4 m square floor was of *opus signinum* and lay *c.* 1.4 m below the level of the ambulatory. There was room for several coffins to rest side-by-side in the chamber, and the low pedestals upon which two had stood still remained. Their disposition indicated that the coffins were aligned east–west.

The excavators of the Bancroft temple-mausoleum dated the construction of the building to the late second century, and its demolition to the mid-fourth century. Although earlier in date and larger scale in scale, the Bancroft evidence for an 'open' burial chamber, contained within a building, is comparable to Wells (phase 2).

Nearer at hand and closer in date is the late Roman mausoleum which was excavated in the Kingsholm suburb of Gloucester (Hurst 1985, 15–17). This too had an *opus signinum* floor which was sunk *c.* 60–70 cm below the surrounding ground level. Sometime in the first half of the fifth century, a coffined inhumation was cut through the floor; it was aligned east–west. The full plan of the mausoleum was not recovered but, if square, it would have been slightly larger than the Bancroft chamber (Fig. 36C). The Kingsholm site was badly disturbed, and no certain evidence was found for a surrounding ambulatory, although various post-Roman timber slots were recorded parallel to its north and east walls. Perhaps more telling was a line of late Roman graves, orientated north–south, 3.5 m north of the mausoleum. They may have ghosted the position of a former ambulatory. The evidence is tantalizingly fragmentary at Kingsholm, but the possibility of a temple-mausoleum of Bancroft type certainly cannot be ruled out.

Another very fragmentary structure, described by the excavator as a 'sub-Roman mausoleum or church', has been located beneath the floor of the church of St Mary de Lode, Gloucester (Bryant 1980, 8).

A variant on the Bancroft plan was found at Hemel Hempstead, Hertfordshire, where a rectangular, sunken-floored chamber was asymmetrically sited within a larger *cella*, and the whole surrounded by an ambulatory (Neal 1984, 194–9). This was a monumental structure, markedly rectangular in plan, and having buttressed angles to the *cella* (Fig. 36A). Internally, the chamber measured 4.4 m by 2.65 m, and was at least 1.3 m deep; its axis lay north-east to south-west. No useful dating evidence was found, for either its construction or its demise. At Bancroft, Hemel Hempstead and Lullingstone (in its final form), the temple-mausoleum comprised a double-concentric structure, having an outer ambulatory, an inner *cella* and a sunken burial chamber. Kingsholm could have been similar. While it must be admitted that the evidence for a double-concentric structure at Wells is fragmentary and inconclusive, its former existence is not impossible. A temple-mausoleum of the size seen at Lullingstone, but having the internal arrangement of Hemel Hempstead, would provide a convincing explanation for the disposition of structures and burials on the site in the middle Saxon period (pp. 55–60).

Comparison of dimensions is also instructive (Fig. 36). The meagre evidence at Wells has been discussed above, and a minimum overall size for the building (*c.* 6.4 m by 5.3 m) deduced on the basis of a fragmentary floor around the burial chamber. With these figures in mind, it is interesting to note that the *cella* of the mausoleum at Lullingstone measured 6.4 m by 5.2 m (Meates 1979, 123), and the east–west dimension of the Kingsholm mausoleum was 6.1 m. The probable mausoleum at Stone-by-Faversham, Kent, measures 6.0 m by 5.8 m (Fletcher and Meates 1969, 276), and a similar structure at St Martin's, Canterbury, is 6.7 m by 5.8 m (Jenkins 1965). The mausoleum at Cambridge was smaller, at *c.* 5 m by 4.04 m (Fell 1955, 14). A somewhat larger square building (8 m), discovered in a Roman cemetery at Colchester (St John's Abbey), was of uncertain date.[20]

Finally, the vexed question of orientation and religious affinity must be addressed. The orientation of the Wells mausoleum chamber was north-north-west to south-south-east, and its axis lay almost at right-angles to that of the Anglo-Saxon cathedral complex. In liturgical terms, it is basically a north–south orientation, and not therefore easily susceptible to interpretation as a Christian sepulchre. In this respect, as well as having a timber lining, the grave chamber may be likened to that at Lullingstone villa, Kent, for which a pagan origin has been asserted (Meates 1979, 127–32). On the other hand, a north–south timber-lined burial chamber, with posts at the corners and along the sides, was found beneath the floor of an apsidal building in the Butt Road cemetery at Colchester. That building is now interpreted as a Roman-Christian church (Crummy 1980, 266–7). It is, of course, feasible that the Wells tomb chamber in its first (timber) phase contained a pagan interment, and that the reconstruction in masonry was associated with Christianization. Orientation is far from a reliable indicator of religious affinity, especially in an equivocal age, and on a site with a long-evolving structural history.

Whatever religion prevailed at the time of its initial construction, it is inescapable that the Wells mausoleum must have acquired sanctity within a Christian *milieu* before it became enveloped by the Anglo-Saxon minster church. In this respect, the history of the Wells building is paralleled at certain other Romano-British mausolea. A mausoleum-like structure at Canterbury became the chancel of St Martin's church, and an almost identical building at Stone-by-Faversham was incorporated in the chancel of a church there; but perhaps the most immediately relevant analogue is found at Lullingstone. There, a three-stage development is witnessed, from timber-lined tomb chamber, through stone-built mausoleum, to early medieval church. There are other instances too: one of the probable mausolea at Gloucester lies beneath the nave of St Mary de Lode church; and at St Bride's, Fleet Street, London, it has been suggested that a small masonry structure at the west end of the earliest church was

possibly a mausoleum (Rodwell 1993b; Milne 1997, 23–4). Likewise, at Deerhurst, Gloucestershire, part of an early masonry structure which may be of late Roman date has been found just outside the west end of the Anglo-Saxon church (Rahtz and Watts 1997, 154–6). Although nothing is yet known of the structures involved, the martyrdom of Alban, at Verulamium, provides the context for a building sequence on the site of St Alban's Abbey, stretching back to the late Roman period (Biddle 1977).

The sequence at Wells is replicated in churches all over western Europe: grave chambers, mausolea and Roman temples all gave rise to medieval churches, which were often, but by no means always, the foci of local saintly cults (Biddle 1986). It is instructive to compare Wells also with Xanten, in the Rhineland, where the origins of the medieval collegiate church of St Victor have been explored archaeologically. Here, a mid-fourth-century double burial chamber with timber lining was found under the centre of the church. The two interments lay side by side, and a double *cella* was erected over them, the external plan of which was consequently rectangular. There was a small chapel to the west. Local topography determined that these — and later the medieval church — were orientated south-west to north-east. In the early fifth century the double *cella* was replaced by a rectangular enclosure, defined in plan by a series of posts and having a solid wall at the north-west (*i.e.* liturgical 'north') end. There must have been a canopy or superstructure. A separate *martyrium* was erected alongside: it was a small rectangular building and its axis, liturgically speaking, was also north–south. It was only in the third phase at Xanten that a martyrial chapel, with east–west orientation, was constructed, encompassing the site of the original grave within its north-east corner (Bader 1964, 99; Radford 1968, 32–3).

At Biel-Mett, in Switzerland, a fourth-century Roman tomb was enshrined in a mausoleum in the following century, and that in turn became the chancel of a small church which grew organically throughout the Middle Ages (Lehner 1978). Excavation has similarly revealed very long sequences of religious activity on some church sites in Holland. Thus at Elst, in the Province of Gelderland, two successive Roman temples underlay the core of the church, and in both cases the liturgical axis of the *cella* was north–south (Glazema 1951; Stoepker 1990).

Stone coffin

The broken remains of a coffin cut from a single block of oolitic limestone — apparently Bath stone — were found in the chancel of the Lady Chapel-by-the-Cloister (Fig. 145). The coffin contained a collection of disarticulated skeletal remains, and had evidently been disturbed and put to use as an ossuary when the foundations were dug for Stillington's chapel, in 1477. Prior to that, it must be presumed that the coffin, which was set hard against the north wall of the Lady Chapel, had previously contained a burial of the thirteenth century, or slightly later. However, the form of the coffin is unlike any of the undoubted medieval examples from Wells.

*Fig. 37 Roman stone coffin (F1294), modified in the Middle Ages, and reused in the Lady Chapel-by-the-Cloister (*cf. *Fig. 69). Scale of 25 cm*

The coffin, F1294, measures 1.85 m long, and tapers in width from 60 cm at the head-end to *c.* 40 cm at the foot (Figs. 37 and 38). The head-end is both rounded and slightly flattened, giving it a roughly elliptical plan. The coffin is thin walled and of the same shape both internally and externally. Its depth is 30 cm.[21]

The distinctive form of the head-end is typical of late Roman coffins in Somerset and Gloucestershire, although treatment of the plan can vary slightly, from a true semi-circle to a flattened ellipse. This coffin type has been discussed by Willmore, who refers to numerous Roman-period examples from the vicinity of Bath, and illustrates one from Dyrham (Willmore 1939, 140).

Three similar examples have been found in a late Roman cemetery at Combe Hay, but these are less carefully finished than the Wells coffin (Price and Watts 1980, fig. 12). A pair of finely detailed coffins found at Keynsham includes one which is almost identical to that at Wells. They are the same length and the

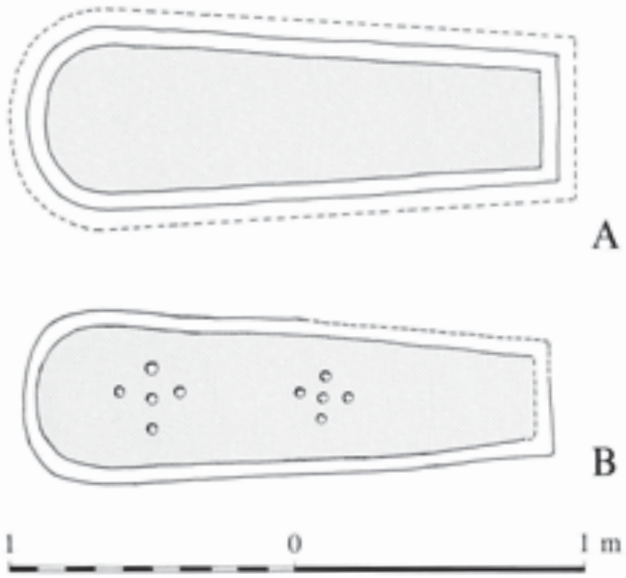


Fig. 38 Comparative plans of Roman stone coffins. A Keynsham: the broken line represents the overhang of the lid (after Gray 1922); B Wells: the drainage holes are a medieval addition

same width at the head-end, and the curvature is such a precise match that the same template could have been used in the setting out of both. The only difference is in the width of the foot-end (Fig. 38).

Two further examples of the same type of coffin, also of Bath stone, were found during early excavations at Glastonbury Abbey, but their likely antiquity has not hitherto been appreciated, and they remain unpublished. The coffins are preserved in the Abbey Museum: one is of a size suitable for a small adult, the other for a child.[22] The larger of the coffins was found at an unspecified depth beneath pavement level in the crossing of the abbey church; it was broken and empty. The excavator described it as 'apparently of early date', by which he would probably have meant early medieval (F.B. Bond 1908, 125). The coffin cannot have been associated with the crossing of *c.* 1200, on both typological and petrological grounds: either it was recycled in the thirteenth century, or later (which, in this context, is highly improbable), or Bond unwittingly recovered it from an earlier horizon, unrelated to the crossing. Bath stone was used only in the pre-Norman era at Glastonbury; thereafter Doulting stone was adopted; see also p. 134. No record of the discovery of the second Glastonbury coffin has survived. Both are roughly tooled, like the Combe Hay examples.

It was probably when the Wells coffin was recycled in the Middle Ages that the drainage holes were drilled in its base; these are in two groups of five. Drainage holes are ubiquitous in medieval coffins, but are unknown in Somerset in the Roman period. It is also likely that the interior of the coffin was re-tooled at the same time, to create a smoother surface than it originally possessed. There are no drainage holes in the Glastonbury coffins.

There is naturally some temptation to suggest that the Wells coffin was originally a component of the mausoleum burial, but this is thought to be unlikely for three reasons. First, the coffin is rather small for the size of the burial chamber. Secondly, it is not a 'display' sarcophagus and, thirdly, it was found (reused) in the Lady Chapel-by-the-Cloister, in a context that could be no earlier than the late thirteenth century. Since the mausoleum had been cleared of its Roman contents in or by the tenth century, there is an unaccountable time-lapse. It is considered more likely that the excavated coffin was derived from another Roman burial outside the mausoleum, and was perhaps discovered when the foundation trenches for the extended Lady Chapel were being dug.

Inscription on stone

This is a problematic find, which may be of late Roman, 'sub-Roman' or Anglo-Saxon date. It comprises a piece of Doulting limestone, found in one of the earliest floor layers (F707) inside the nave of the medieval Lady Chapel-by-the-Cloister (Figs. 39 and 40). The context indicates a date prior to the rebuilding which took place in the twelfth century. The adhesion of much pink mortar to the broken edges of the stone, infers that it was formerly used as core rubble in a wall bonded with this material. Pink mortar was extensively employed in the late Anglo-Saxon and Norman structures, and the layer which yielded the inscription contained material that almost certainly came from the Saxo-Norman north wall of the chapel. That being so, the inscribed fragment was already being used as rubble in the eleventh century. There can thus be little doubt that the stone is pre-Conquest in date.

The fragment is 20 cm high by 6.5 cm wide, and has a maximum thickness of 11.8 cm. The back and all edges exhibit fractures: only the inscribed front face presents an original surface. This is fairly smooth, given the coarse-grained nature of the stone, and exhibits no clear tool marks. It carries fragments of two lines of inscription, with a blank area below, perhaps suggesting that we have the last line.

Parts of two letters remain in the upper line, but the identification of neither can be absolutely certain:]**LI**[seems most likely, although Dr Elisabeth Okasha suggests that 'the first lost letter could be L or E or C,[23] followed by I or P or R' (Okasha 1993, 58–9). The lower line contains three letters, the reading of which seems to be]**ETI**[.[24]

The letters are 38 mm high and the cut is V-shaped in section. The style is basically Roman, the lower-line 'I' having slight serifs, while the 'T' has one clearly defined serif. It would appear that the top bars of the 'E' and 'T' have been run together. The quality of the lettering is too poor for this to be considered a classical Roman inscription, and it is more immediately

Fig. 39 Fragment of late Roman or Anglo-Saxon inscription cut on Doulting Stone. Scale 1:2

Fig. 40 Inscribed Doulting stone fragment. Scale 1:2

reminiscent of the sub-Roman lettering found on funerary monuments of the fifth and sixth centuries throughout western Britain (Nash-Williams 1950). From what little survives, the text could be in Latin. Okasha (*ibid.*) suggests that the letters are 'probably Anglo-Saxon capitals'.[25]

The inscription is both tantalizing and important, and its significance would be greatly enhanced if it could be determined whether the fragment was Roman or Anglo-Saxon. The principal argument against the latter is the use of Doulting stone, which is currently unknown in Anglo-Saxon building and sculpture (p. 27). This slightly favours acceptance of a late Roman or sub-Roman date, although there is current uncertainty regarding the extent to which Doulting stone was quarried in the Roman period. It was not in common use for building: most of the freestone employed in south and east Somerset came from the Bath area, or from Ham Hill. However, Doulting stone occurs in Roman structures at Shepton Mallet (Seal 1993, 20), and a late Roman sculpture from Pagans Hill has been identified as probably of Doulting origin (Boon 1989, 201). Oolitic limestone of Doulting type has sparingly been found in pre-Norman levels at Wells, but not in contexts where its use is likely to have been primary.

The best that can be said at present is that the Wells inscription probably dates from somewhere between the late Roman and the late Saxon periods. Although incapable of proof, its association with one of the phases — Roman or post-Roman — of the mausoleum is a distinct possibility, in which case the inscription will have been funerary-related.

Wells in the Roman period: a discussion

'The City of Wells is not a Roman site, though a few coins have been found sporadically', wrote Wicks (1941, 25). Wells has not traditionally been considered as a place of Romano-British settlement, a comment made by many writers (*e.g.* Reid 1973, 9). Not only has there hitherto been a lack of finds of the period from the historic core of the city, but even its wider environs have yielded little.[26] Consequently, it has been claimed, and not unreasonably so, that Wells as a settlement was founded *de novo* sometime in the Anglo-Saxon period. This view now needs modification, since the excavations of 1978–80 have shed fresh light on the origins of the cathedral and the community that served it. Those origins were firmly rooted in the pre-Saxon era, and it is therefore apposite to provide here a brief excursus into the setting of Wells in the Roman period. It does not pretend to be any more than a first essay into a subject that deserves extended treatment.

The assemblage of Roman material recovered from the excavations, modest though it is, is indicative of long occupation, and well-appointed buildings in the vicinity. The Camery, however, is clearly not at the heart of the Roman settlement, but somewhere on its fringes.

Observations of small-scale contractors' excavations to the west and north of the cathedral have not so far revealed any traces of Roman occupation, nor have recent archaeological excavations carried out in the grounds of Wells Museum (which is on the north side of Cathedral Green). It therefore seems more likely that the nucleus of the site should be sought somewhere to the south or east: *i.e.* in the vicinity of the Bishop's Palace or its undeveloped allotments. The palace site is a distinctly favourable location, but no significant disturbances of the ground here have taken place in recent years, and hence the archaeological potential of this large area has not been assessed. A small amount of Roman material was discovered immediately to the west of the palace, on the Clares Carlton factory site in 1987–88 (Dennison 1987, 206; 1988, 237).

Hitherto, the only specific evidence that has come to light, and received note, was in 1939 when an anti-tank trench was being dug through the extremity of the Bishop's Park, some distance to the south of the palace. The trench apparently ran from Park Wood westwards to Coxley, a distance in excess of 2.5 km. The discovery of Roman material was reported in such a manner as to suggest that an extensive settlement site was encountered. The finds were described as 'many evidences of Romano-British occupation in numerous fragments of samian and black pottery, and some other contemporary relics in lead and bronze'.[27] The exact locations of the various discoveries were not recorded: some were close to Coxley village, but a Roman pewter cup and sherds of pottery, including samian and amphora, came from Park Wood, nearly a kilometre to the south of the palace (Fig. 41).

Few other Roman-period sites in the locality are known. A settlement at Wookey Hole has been explored only casually, and primarily on account of its interest for earlier archaeological periods (Branigan and Dearne 1990). The wartime finds at Coxley have been mentioned, and there are scanty reports of finds from south-east of the city, at Worminster and Chessels (both North Wootton parish): the latter apparently included a masonry building. An extensive site has also been reported at nearby Churchill (Dinder) and identified as a potential villa, but without any supporting evidence (Wicks 1923, 35; 1941, 26).

West of Wells, in the lower Axe valley, in the region of Cheddar and Axbridge, local fieldwork has identified a rash of Romano-British sites, and there is no reason to doubt that many more await recognition both in that locality and in the valley of the Sheppey. The nature of the settlement at Cheddar is uncertain, but it has been suggested that there was a port here on the river Yeo (Leech and Leach 1982, 69).

Attention needs to be given to the important matter of communications on Mendip and its hinterland. Prehistoric tracks and Roman roads have received no serious study in the area, yet they are vital to any understanding of local settlement patterns. Two major Roman military roads which cross the Mendips, and intersect north of Shepton Mallet, have commanded excessive attention, at the expense of the regional network. The Fosse Way, a temporary frontier road established in *c.* A.D. 47, became one of the arteries of the South West, spawning small-town developments at places such as Camerton and Shepton Mallet and, further south, the more important defended centre at Ilchester. The extent and nature of the newly discovered roadside settlement at Stratton-on-the-Fosse has yet to be determined.[28]

Running along the crest of Mendip, through Charterhouse to the Bristol Channel coast, was the other great military road, whose main purpose was probably to facilitate the efficient export of lead. Such a road was of little relevance to mainstream life in Roman Somerset. There has long been a tendency, more often implicit than explicit, to regard Wells as inaccessibly, or at least inconveniently, sited because it was not close to one of the military roads. Such an assumption is not only fallacious, but also undermines the foundations of settlement history. Landscape studies undertaken in eastern England have demonstrated how field and road patterns established in the Iron Age, if not earlier, persisted in recognizable form through the centuries of Roman rule, and well beyond (Rodwell 1978; Drury and Rodwell 1980). It has been shown how Roman military roads sliced across agrarian landscapes and frequently avoided existing settlements. Sometimes new field layouts were also established.

Successive patterns of landscape utilization are thus commonly discernible, with the Roman superimposed upon the more ancient. Sometimes the two coalesced, although more often one element emerged dominant in post-Roman times. It is clear that in Somerset, local road and field patterns of prehistoric origin were not suppressed. Indeed, they have survived into the modern landscape: 'For the great number of lesser roads and tracks which must have linked the already existing Iron Age settlements... we need look no further than the very lanes and tracks that have survived to the present day' (Leech and Leach 1982, 72). Horizontal stratigraphy in landscape features between Camerton and Shepton Mallet clearly shows how the Fosse Way was superimposed on an older field pattern which still exists in part today.

Recognition of the survival, for several millennia, of local road and field patterns is a key factor in understanding the accessibility of Wells throughout history. Running along the bench at the foot of Mendip is a slightly sinuous route of undoubted prehistoric antiquity. It begins at the coast and runs inland on an easy course through Axbridge, Cheddar, Wells, Shepton Mallet, and beyond (Fig. 41). It was effectively the predecessor of the Roman military road which ploughed a straight course along the crest of Mendip. Wells lay also at the point where one or two of the routes that traversed the hills descended to the

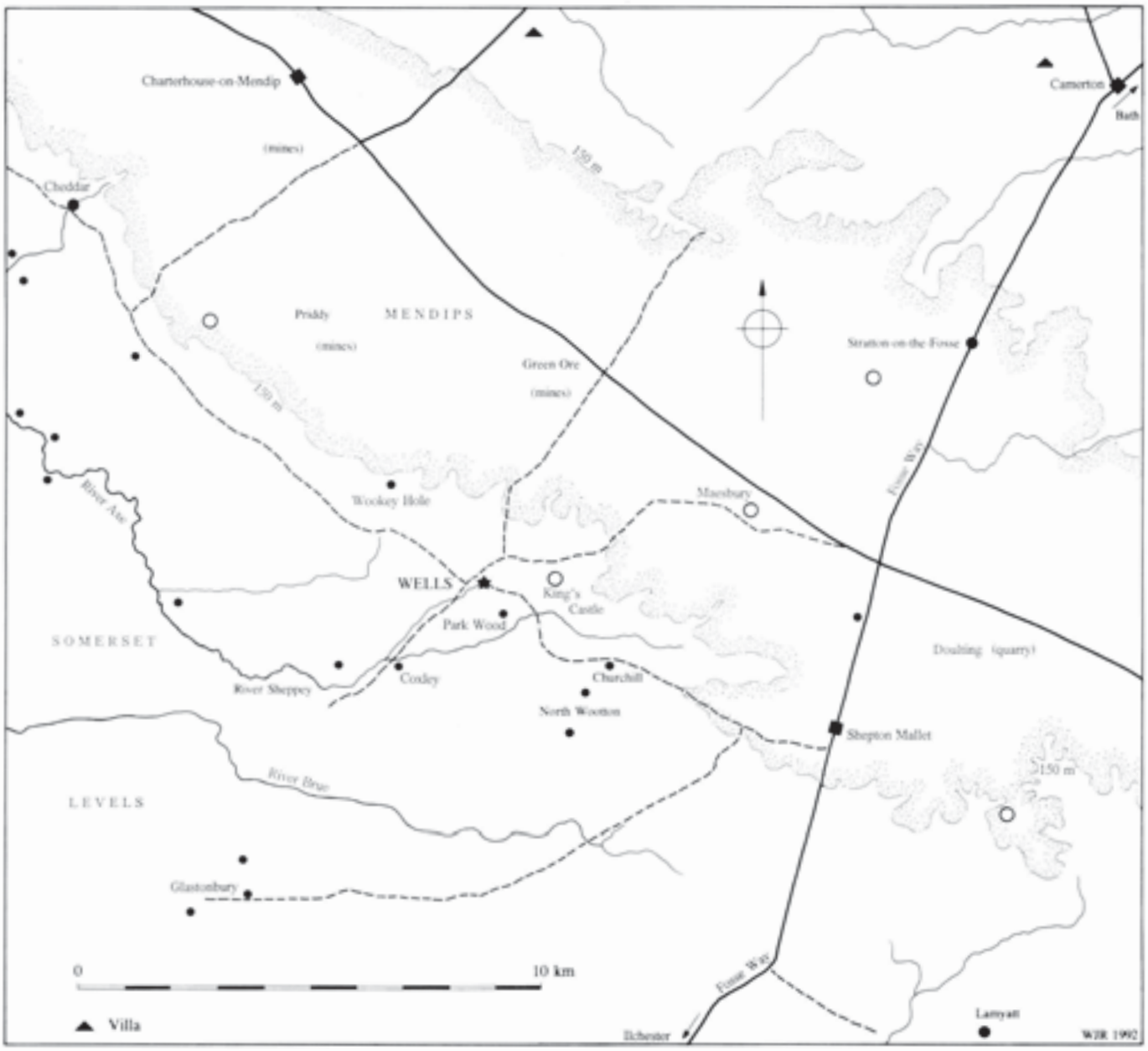


Fig. 41 Outline map of the Roman topography of the Wells area. Military roads are indicated by heavy solid lines; local roads, probably of prehistoric origin, but still preserved in the landscape today, are shown by broken lines. Open circles represent Iron Age earthworks

moors (Somerset Levels). It was therefore a nodal point in the communications network and, with the added attraction of its springs, it is not difficult to appreciate how Wells became the focus for the development of a significant settlement. The nature of that settlement needs to be interrogated.

Wells lay at some remove from even the smallest of towns in the Roman period: the lead-mining settlement at Charterhouse-on-Mendip was 11 km to the north, and the roadside settlement on the Fosse Way at Shepton Mallet was 8 km distant. The mining of galena and smelting of lead was a major industry on Roman Mendip (Elkington 1976), and settlement sites along the southern bench are likely to have had close economic ties with the industry. Silver production was also part of the process.

The area can hardly have been impoverished, but few villa sites have yet been positively identified: indeed, the southern slope of Mendip is notably devoid of them. But that may be more apparent than real. In 1978 Scrase argued that the pattern of villa settlement on the northern and western slopes of the Mendips would, if continued around the southern slope, suggest similar sites at Westbury-sub-Mendip, Wells and Draycott (Scrase 1978, 25). It has yet to be seen whether fresh discoveries will fill the *lacunae*.

The newly excavated evidence from Wells could lend support to such a hypothesis. The sheltered valley site with fertile land, an abundant water supply, and a range of other natural resources close at hand, was ideal to sustain a villa economy. More than this, the remarkable upwelling of the springs made Wells a site

to covet and, in a pagan *milieu*, one to venerate. It was a place where the forces of the underworld were made manifest, and where a local religious focus could most naturally emerge.

It would therefore have been more remarkable if there was *not* a shrine at Wells in the Roman period devoted to a water cult, than if there was one. Such a focus would have functioned in a purely local context — an adjunct to the settlement — and there can be no suggestion that it was a place of pilgrimage; it cannot be remotely compared to Bath. The water was too cold at Wells for it to have been considered as a potential spa at any period in its history. Speculative though it must be, on present evidence, the most plausible explanation for the status of Wells in the Roman period is as the centre of a substantial agriculturally-based estate, a villa. It is posited that the nucleus lay under or near the Bishop's Palace, probably straddling St Andrew's stream, and that the religious and sepulchral components of the estate were focused around the springs, with particular emphasis on the north bank of the stream. A possible analogue for Wells is Southwell Minster, where the collegiate foundation of *c.* 956 lay within a former Roman villa complex (Summers 1988, 18).

That the settlement was both established and not of inconsequential status, even in the years shortly following the Roman conquest, is confirmed by the presence of mid-first-century samian pottery. As already observed, it is difficult to envisage how such material could have reached the area other than through military supply mechanisms. The probability that the Mendips and their rich mineral resources were managed under Imperial control has received frequent discussion (*e.g.* Branigan 1976); the early finds from Wells might reasonably be viewed in that context.

Until additional material evidence for early Roman structures comes to light, further speculation is pointless. Serious attention must, however, be paid to late Roman activity at Wells. The presence of a relatively undistinguished Roman stone coffin does not of itself denote that a burial of especially high status occurred here in the late Roman period although, equally, the expense implied by this form of sepulchral provision would not be expected of the inhabitants of a farmstead. More importantly, it is the presence of a mausoleum of late Roman type — whatever its precise date — that signals the elevated status of the settlement at Wells. Individual mausolea were the hallmarks of elitist burial, both in suburban and villa cemeteries. They were not the preserve of one religion: some of the interred were as conspicuously pagan as others were inconspicuously Christian.

The north–south orientation of the grave chamber at Wells should conventionally be seen as an attribute of non-Christian burial, but doubt has already been cast on the applicability of a hard-and-fast ruling in this matter (*cf.* Colchester). That the Wells mausoleum was a focus for contemporary burial in the eighth century, and was still standing into the tenth century — as will be demonstrated in chapter 3 — is sufficient proof *suo iure* of its ancient Christian connotations. It is inconceivable that a place of overt pagan sepulture would have been retained and honoured for so long unless there had been a Christianizing occurrence of at least local significance. It is just possible that the refurbishing of the mausoleum chamber, when its lining was changed from timber to stone, was associated with reuse for a fresh *depositum*, accompanied by a shift of religious affinity.

Whatever the detailed sequence of events and chronology, the spiritual significance of the mausoleum — and of its principal occupant — must have been profoundly Christian. Whether the deceased was a local martyr, the founder of a religious community at Wells, or its benefactor, is beyond the realms of tolerable speculation. Unlike St Albans, there is no martyrology for Wells to provide a possible clue, and not even in the twelfth-century history of the church, the *Historiola* (p. 2), is there a hint as to the origins of the religious community. The precise significance of the mausoleum must have faded with its physical loss in the tenth century. This hagiographic vacuum stands in marked contrast to the multifarious claims of Glastonbury Abbey where, in the Middle Ages, its history was awash with supposed saintly connections (Crick 1991). It is ironic that among English cathedrals, St Albans is the only one with a secure martyrology extending back to the Roman period — yet has so far yielded nothing of the structural sequence earlier than the Norman era — while at Wells, which has never claimed hagiographic distinction, archaeology has revealed the most substantive physical remains to date.

Wells must now be added to the steadily growing list of early Christian sites in Somerset. The most recent addition has been Shepton Mallet, where a Roman-Christian cemetery associated with the small town has been excavated (Leach 1990). The site yielded a range of sepulchral paraphernalia, including lead coffins and a small mausoleum (aligned north–south). The evidence strongly suggests a succession from pagan to Christian burial practices; one artefact, a silver cross bearing a Chi-Rho monogram is of seminal importance. When the evidence from Shepton Mallet is fully published, it will be instructive to make closer comparisons with Wells.

Both the settlement and the cemetery at Shepton Mallet were abandoned and disappeared as features of the landscape before the onset of the Middle Ages. Interestingly, but almost certainly not coincidentally, the same happened at Camerton. It was the Fosse Way itself that provided the *raison d'être* for these and other settlements like them. One of their chief economic functions must have been as *mutationes* in the *cursus publicus*, the Roman Imperial post. The demise of these roadside settlements would have followed in the wake of the collapse of Roman administration in Britain. It was only while that administration was fully

operational that the military roads acted as magnets for settlement. Both Camerton and Shepton Mallet gave rise to medieval villages, which were almost certainly successors to their Roman counterparts, but they were on new sites, better suited to their new rôles. Not surprisingly, Charterhouse moved too. It is perhaps worth nothing that an early Anglo-Saxon cemetery has been recorded at Camerton, between the Roman town and the medieval parish church, perhaps providing a glimpse of the physical process of settlement migration (Wedlake 1958, 96–7; Meaney 1964, 218).

An appreciation of the dynamics of early settlement in Somerset is fundamental to understanding relationships, known or projected, between late Roman religious and funerary sites and post-Roman ecclesiastical foundations.

3 The Anglo-Saxon Minster of Saint Andrew

The Anglo-Saxon archaeology of the Camery has proved to be the most difficult to analyze, on account of three factors. First, it was intrinsically complex, there being several structural components and cemetery phases with differing alignments. Second, only a small part of this palimpsest has been examined archaeologically, and the pre-medieval levels were not explored to the east of the mausoleum. Third, the extent to which later foundations and other features had truncated or eradicated the Anglo-Saxon archaeology in most areas greatly diminished its intelligibility. Thus structural plans are extremely fragmentary and tenuous, and the spatial development of the Anglo- Saxon cemetery cannot be expounded except in the broadest terms.

The deep foundations of the two successive Lady Chapels-by-the-Cloister, and the two courses of the medieval conduit across the Camery all cut swathes through the early archaeological deposits, leaving pinnacles, narrow strips and small islands of stratigraphy, which for the most part defied inter-correlation. The only area where a reasonably full sequence of cemetery deposits was encountered lay in the open space between Stillington's chapel and the south transept of the cathedral (Area 7). Even so, this was fragmented by several early medieval foundation trenches.

Alignments

Broadly speaking, there were two alignments of structures and graves: one reflected that of the mausoleum and the Lady Chapel that ultimately succeeded it; the other was a closer approximation to true east–west and was not far off the orientation of the present cathedral (Fig. 42). There was not, however, a logical progression from the former to the latter, and the similar alignment shared by some of the earliest Anglo-Saxon features and the Gothic church is purely fortuitous. Clearly, there were oscillations and localized influences at work. A brief description of the dichotomy may be useful here, as a preliminary to the more detailed exposition of the various components.

Stratigraphically, the earliest structures on the site were the burial chamber of the mausoleum, and two boundary features. The latter were earthworks, lying at right-angles to one another. One lay to the north-west of the mausoleum, and comprised an earthen bank (F1142, running north–south) into which the foundation of an accompanying boundary wall had later been dug. The other was a length of east–west ditch (F324/761); it was close to Structure 5, for which a Roman date has been suggested (p. 39). Neither of the boundary features is intrinsically datable: they may be prehistoric, Romano-British or Anglo-Saxon. However, the restricted distribution of Roman-period finds on the site tends to favour an early date, at least for the north–south bank (p. 38).

The mausoleum followed a different alignment from these boundary features, and the two components are unlikely to be of contemporary origin. Unfortunately, no firm evidence can be adduced to establish which was the earlier, and both were responsible for influencing the orientations of later structures and graves in their vicinity. Although it was the mausoleum orientation that ultimately prevailed into the early Middle Ages, the boundaries were profoundly influential in the early history of the cemetery, suggesting that they were merely components of a more extensive topographical framework. Nevertheless, the two sets of structures must have co-existed, and were so close together that there may have been physical connections, but a swathe of destruction had removed all the deposits in this critical area. On balance, it is likely that the boundary features antedated the mausoleum in origin.

The mausoleum in the Anglo-Saxon period

The problem of the plan

The final abandonment and infilling of the burial chamber beneath the mausoleum (Structure 1) did not take place until the later Saxon period (p. 75), and it is therefore a *sine qua non* that the mausoleum was a significant and accessible component within the ecclesiastical complex, at least in its early days. The structure evidently became a focus for burial, the overall pattern of which may hint at the likely plan-form and dimensions of the original mausoleum. Although the size of the burial chamber has been established, the extent of the building that housed it is unknown. Some discussion of the problem, from a Roman point of view, has already been entertained, and it has been argued that two fragments of foundation trench mark the lines of the outer walls on the west and north, respectively (Structure 1A; p. 56). Further consideration of the form of the mausoleum is, however, needed in relation to its Anglo-Saxon context. In order to pursue this enquiry it is necessary to look forward to the succeeding chapel, and its structural components.

The orientation of the Roman burial chamber was not quite the same as that of the partly overlying Anglo-Saxon mortuary chapel (Structure 3), although the difference between the two was no more than 4° (Fig. 42). Moreover, the west wall of the primary phase of the chapel embodied a yet older foundation which was precisely aligned with the Roman burial chamber. Although no stratigraphic link was preserved, there can be little doubt that the two elements were in some way related. The foundation could not represent the original perimeter wall of the Roman mausoleum because it

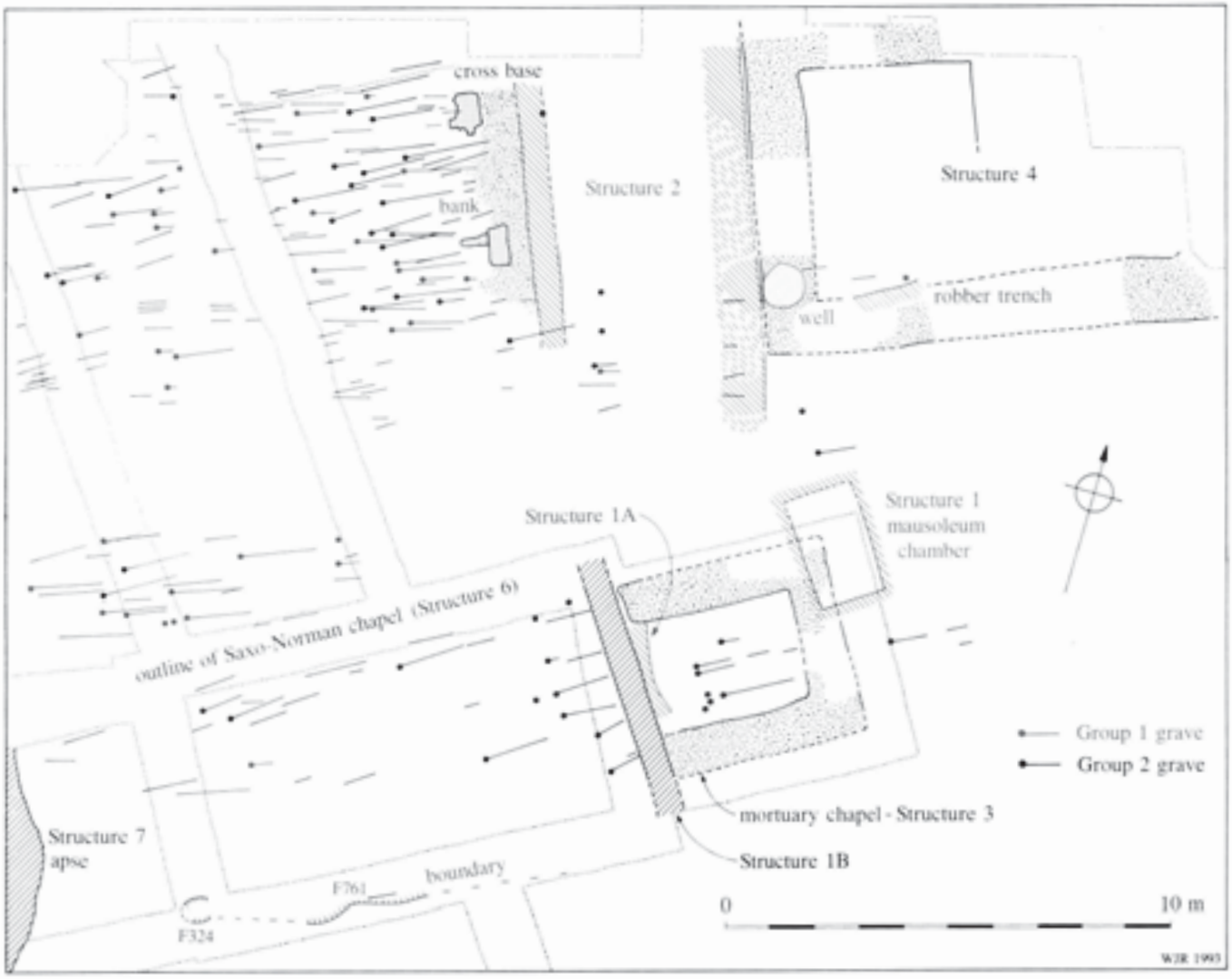


Fig. 42 Composite plan of all Anglo-Saxon and earlier structures and graves in Areas 5–10, differentiating the two major alignments. Early structures and group 1 graves are shown in red; later Saxon structures and group 2 graves are in black. Foundation trenches of the Saxo-Norman buildings are indicated by a dotted outline

overlay a row of middle Saxon graves, as well as the foundation trench for Structure 1A. It is therefore interpreted as belonging to a secondary phase of the mausoleum (Structure 1B).

The underlying interments, however, exhibited a very precise relationship to the burial chamber. Not only were they at right-angles to its axis, but they also clearly ghosted the outline of something which had once bounded the chamber, at least on the west. Plausibly, that was the primary wall of the enshrining building.

The evidence was extremely fragmentary, owing to the destruction of all deposits immediately to the north of the mausoleum chamber, while early levels to the east, and to some extent to the south, remain unexplored. On the west, however, a closely packed line of seven graves was found, all with their feet overlain or severed by the earliest masonry wall of the chapel complex, F806 (Fig. 43). These graves were part of the main Anglo-Saxon cemetery which extended westwards from this line (p. 60; Fig. 45). The fact that the graves lay in a well defined north–south row, that there was more than one phase of burial, that the broad confines of the row were not broken, and that there was no adjacent row on the east, strongly suggests the presence of a physical barrier here, lying parallel to the axis of the mausoleum. In other words, wall F806 may be seen as a middle or later Saxon replacement for an earlier demarcation on a closely similar line.

Evidence of that demarcation was found. A length of sinuous, flat-bottomed trench F976, cut into the subsoil, seemingly marked the site of a robbed structure anteceding the wall F806. Only the eastern edge of the feature remained, the west having been removed by the wall itself (Fig. 76, S.91). North of the mausoleum chamber, and also in sympathy with its alignment, were the vestigial remains of two undated but demonstrably early burials, B299 and B301,[1] alongside the lip of a fragmentary robber trench, F1532 (see further p. 73). These burials might have lain just outside the north wall of the building. Despite the extent of the destruction of early levels on this part of the site,

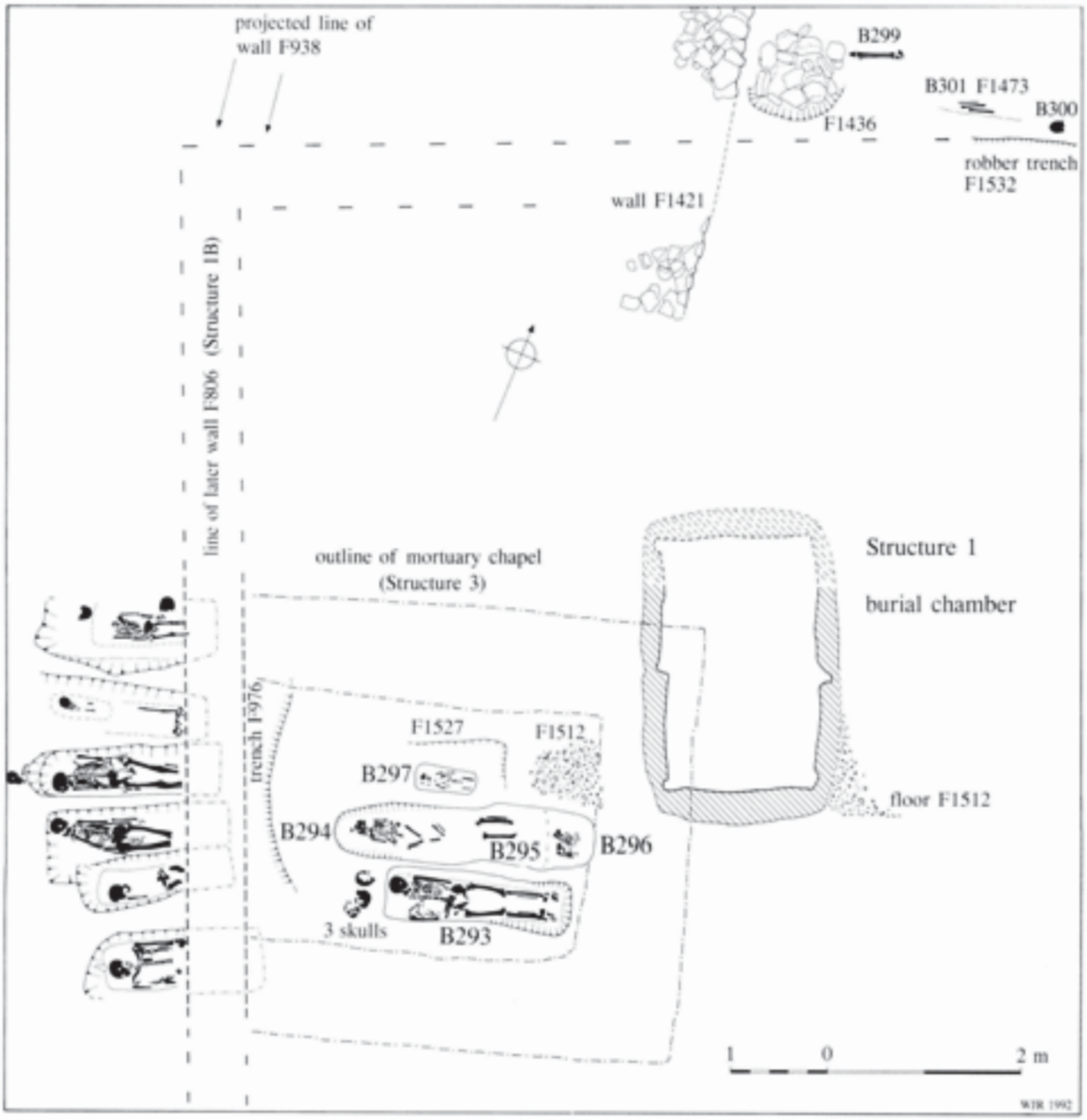


Fig. 43 Tentative reconstruction of the outline, on the north and west, of the mausoleum (Structure 1), showing relationships with the row of early burials outside the building to the west, and the cluster of Anglo-Saxon graves which was enshrined in the later mortuary chapel (Structure 3)

various islands of subsoil survived in closer proximity to the mausoleum chamber, but no relevant burials were detected in these. Even more significantly, no graves were seen to be intercepted by the foundations of the Anglo-Saxon mortuary chapel (the small group of burials centred within the chapel, and shown in Figure 43, has no relevance to the period under consideration; see p. 81). The dearth of early graves immediately around the mausoleum chamber was a reality: the burial-free zone extended 4.4 m west of the chamber, and 4.0 m north of it.

In sum, the evidence is best accommodated by positing the existence of an enclosure surrounding, and parallel to, the walls of the mausoleum chamber (*i.e.* Structure 1A). The physical nature of that enclosure could not have been monumental — deep foundations would have survived — and it may have been no more than a timber wall on a drystone footing. The significance of the enclosure as a sepulchral focus is suggested by the way that graves were dug hard against its west side. Surely this was the outer wall of the Roman mausoleum?

An *advocatus diaboli* might argue that there is little positive evidence for the suggested perimeter of the mausoleum in the primary phase, and it has to be admitted that the case is largely argued circumstantially. But there is no room for doubt when it comes to the next phase. The west side of the reconstructed mausoleum was carried on a well-built masonry foundation,

Fig. 44 Simplified plan of the Anglo-Saxon cemetery, showing burials of group 1, together with structures on related alignments. Their spatial relationship to the mausoleum is also shown. Dotted lines indicate the extent of relevant surviving stratigraphy. Scale 1:125

F806, which partly overlay the first row of middle Saxon graves (Structure 1B; Figs. 42 and 43). The foundation survived three-to-four courses high; it was 60 cm wide, free-built, and with a good face and an offset on the west, but was of cruder construction on the east where it was built into the fill of the earlier trench F976. The masonry was roughly coursed: the lowest (offset) course mainly comprised large blocks of Chilcote stone, and the courses above were of small mixed rubble, set in a pink mortar matrix (Fig. 76, S.91).

Altogether, a 4.7 m length of this foundation survived: it was truncated at both ends, and its projected course was entirely obliterated by medieval foundations for several metres to north and south. The remaining portion was well preserved, on account of its having been encased in the foundation of the Anglo-Saxon mortuary chapel, Structure 3 (Fig. 45). If, for the sake of argument, it is supposed that the masonry foundation was a straightforward replacement for an essentially timber wall, the course of which is indicated on the west, and might perhaps be deduced on the north from grave positions, the approximate location of the north-west corner may be evinced; unfortunately, a medieval buttress foundation subsequently occupied that site.

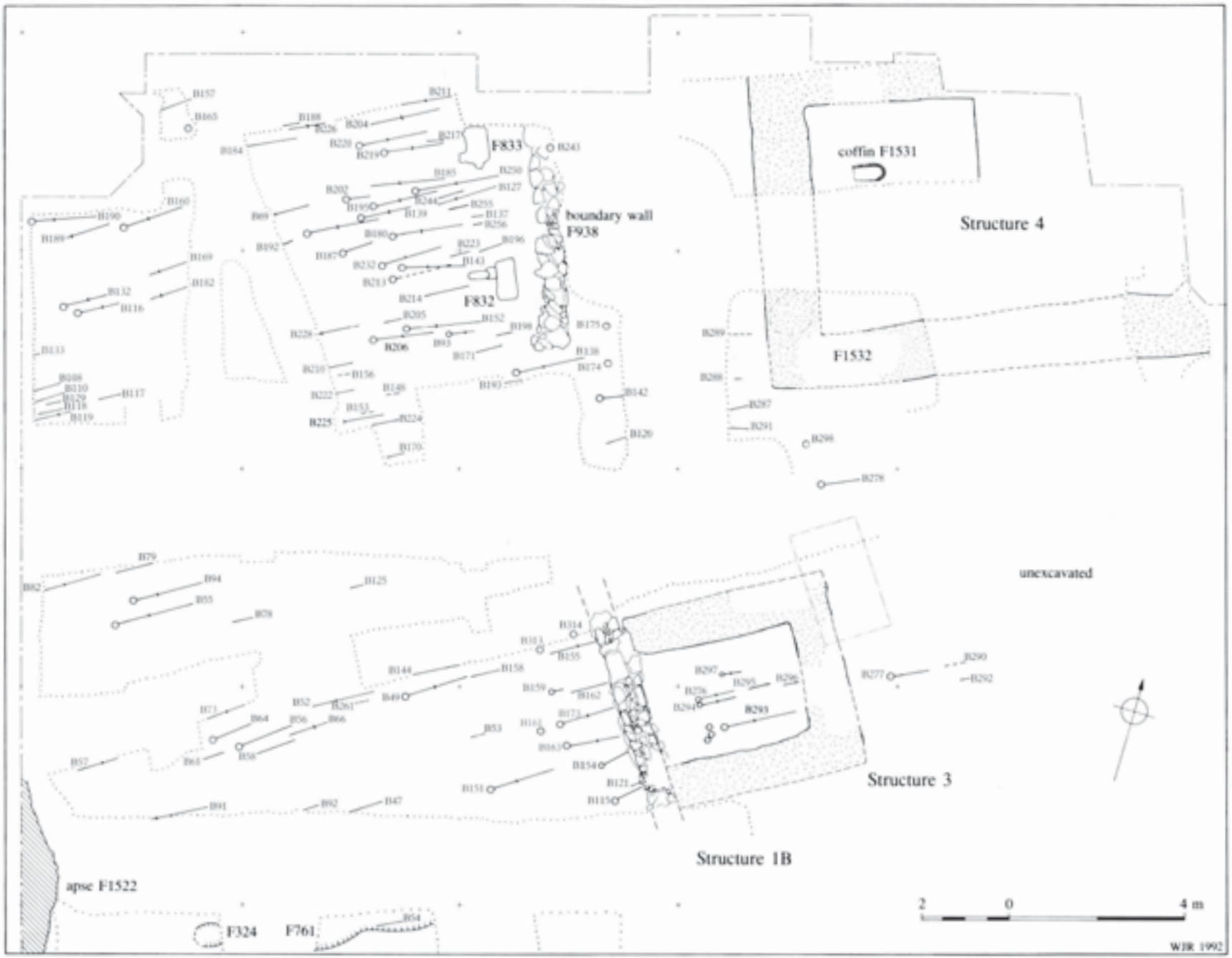


Fig. 45 Simplified plan of the Anglo-Saxon cemetery, showing burials of group 2, together with structures on related alignments. Dotted lines indicate the extent of relevant surviving stratigraphy. Scale 1:125

The argument for the overall size of the mausoleum may be somewhat tenuous, but the matter is of critical importance in the early history of Wells Minster. It is not without interest to note that the previously mentioned early bank (F1142) and a succeeding boundary wall (F938), north-west of the burial chamber, were found to run directly towards the posited corner of the mausoleum, as though it were their point of reference (Fig. 43). While this is another piece of circumstantial evidence, it is worthy of consideration.

Whatever its structural form, it seems inherently likely that the mausoleum served as a major liturgical focus within the emergent middle Saxon cemetery, perhaps as a *memoria*, or a mortuary chapel. Its successor, Structure 3, was undoubtedly a building with such a function. However, before examining the structural sequence which was to follow the mausoleum, it will be helpful to consider the general development of the open cemetery to the west and north.

The Anglo-Saxon cemetery

The excavations have primarily shed light on an area of early cemetery lying between the mausoleum (and its successor, the mortuary chapel, Structure 3) and the main body of the minster church (Structure 7) to the west (Fig. 42). Here, a dense agglomeration of burials was encountered, which continued north until it was truncated by the present cathedral's foundations. Clearly, here was a major lay cemetery. Little can be said about burial to the east of the mausoleum, since the early levels have not been excavated, although such insight as has been gained has not yielded evidence for dense interment. The situation on the south is more specific, the evidence being overwhelmingly negative.

Although substantial areas of the ground south of the mausoleum had been removed to bedrock level by medieval foundation trenches and conduits, numerous islands of early stratigraphy remained which failed to yield graves. The incidence of disarticulated human bone in later fills was also very low. There is thus little doubt that the cemetery had a southern boundary approximately on the site later occupied by the south wall of the medieval Lady Chapel-by-the-Cloister (Structure 11). The fragments of ditch, F324/761, probably mark the line.

Outlying graves

South of this demarcation, only two pre-medieval graves were found, and each was a singular oddity. The first, burial B11, was orientated north-east to south-west, and the head, had it survived, would have been towards the former. The grave was, however, truncated at the knees by a Saxo-Norman foundation (F248), and the feet had been removed by the late medieval conduit, F131 (Figs. 87 and 92). Essentially, all that remained *in situ* were the tibiae, the fibulae and some tarsals. The grave lay in the earliest buried-soil horizon, F254, and its cut was invisible; nor was there any indication that a coffin had been present. The grave was stratigraphically the earliest feature on this part of the site: it could be pre-Saxon, especially in view of its reversed orientation. A late Roman date would not be inappropriate. On the other hand, the grave happens to share the same alignment as the Saxo-Norman building, Structure 9, but this may be purely fortuitous.

The second grave, B14, lay a little to the east; most of the torso had been removed by the foundation for Stillington's chapel (Structure 15). The burial was conventionally orientated and generally in accord with the alignment of the earliest Anglo-Saxon graves on the site, except that the upper part of the corpse was deflected southwards at the waist. This was demonstrated not only by the position of the surviving right humerus, but also by the angle of the pelvis to the femora (Fig. 87). The loss of the lower right arm indicates that it was probably placed across the thorax, and not alongside the pelvis. This grave also lay in the buried-soil horizon, and a possible trace of the cut survived on the south. The marked deflection of the body indicates that either the corpse was contained in a capacious coffin (for which there was no physical evidence), or that it was deposited somewhat haphazardly in an ample grave or pit. The latter seems more likely.

Cemetery west of the mausoleum

To the west and north-west of the mausoleum lay a substantial cemetery of mixed inhumations, all nominally orientated east–west, with the head towards the latter. The sole exception was an infant, B96, whose orientation was reversed (Fig. 46). It is however clear that the graves are divisible more-or-less equally into two groups on the basis of orientation. In group 1 the alignment of the graves lay between 5 and 10° north of true east–west, while in group 2 the alignment was

Table 1 Examples of secure stratigraphic relationships between interments on differing alignments

Italic numbers indicate burials in group 1

Group 1 burials overlying group 2 burials

86		*194*		*190*		*97*			*166*
104		225		*208*		127	139		210
116		224		189	160	244	186		

Group 2 burials overlying group 1 burials

78		56				220			125
113		64				*221*			*130*
		68							

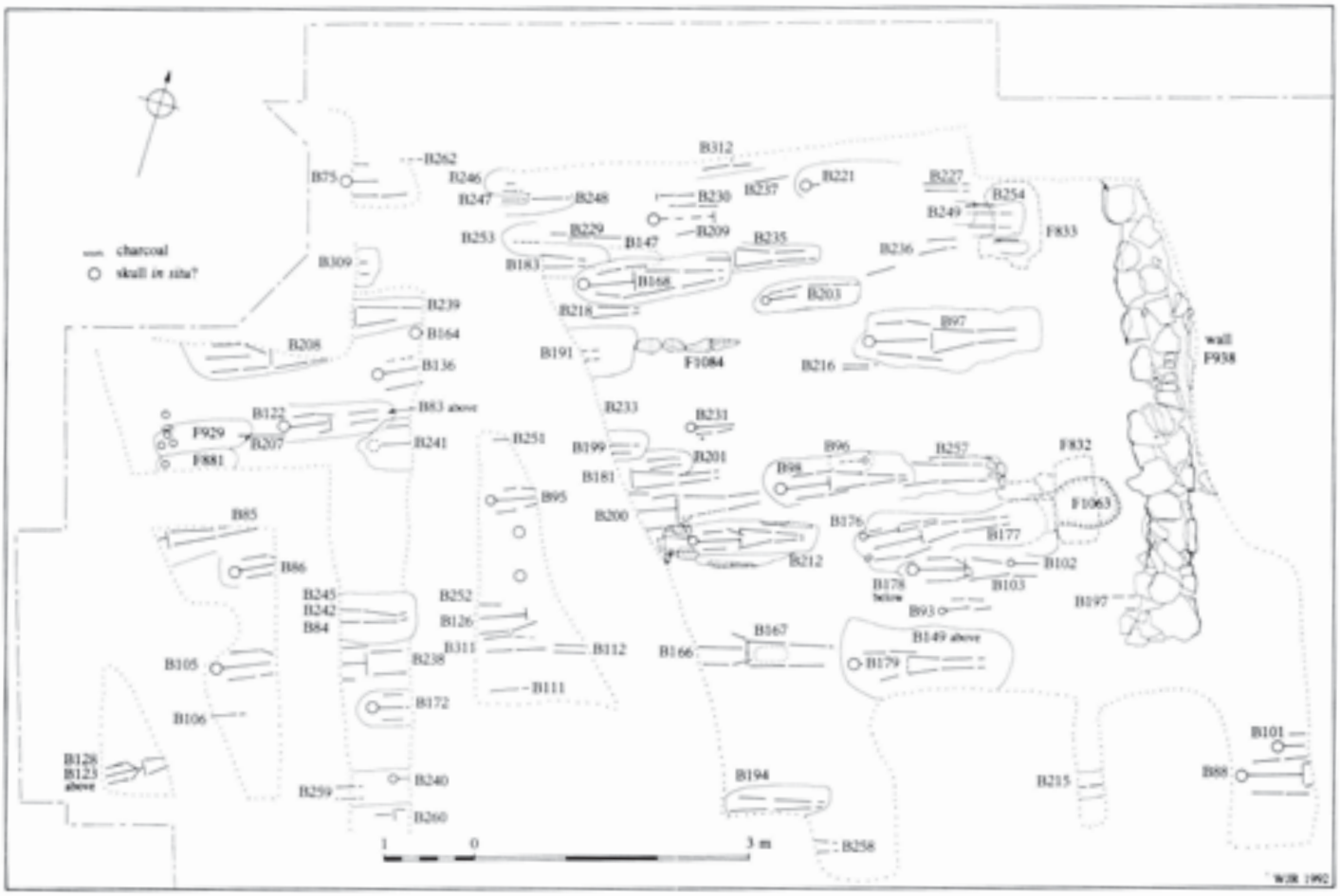


Fig. 46 Area 7: plan of graves in group 1. Scale 1:80

turned north-of-east by 15–25°. A very small number of graves lay outside these limits, but some 90% fell definitively into one or other group. Ambiguity was largely confined to the small number of fragmentary graves that lay immediately north of the mausoleum.

A general topographical picture of the cemetery and its related structures is given by the pair of plans, Figs. 44 and 45. These show the extent and grouping of graves on the basis of alignment, but it must be emphasized that they do not necessarily represent two distinct phases in the history of the cemetery.

Various locally stratified sequences of graves occurred which included examples of both alignment groups. No consistent chronological relationship between the two could be established, although there was a preponderance of instances where burials of group 1 overlay those of group 2. This was particularly apparent in the northern part of the cemetery, but in the southern area several instances pointed to the converse.

As previously described, there were two separate topographical alignments on the site which exerted influences on the work of grave diggers. The alignments were drawn from buildings and boundary structures. Spatially, the two burial groups were neither mutually exclusive nor individually focused to an obvious extent. All that can be claimed is that while group 2 burials were found over the entire area of the cemetery, those of group 1 were noticeably absent from the south-east corner of the site; *i.e.* they did not occur in the immediate vicinity of the mausoleum and its successor, the mortuary chapel (Structure 3).

Group 1 burials

Some 108 burials have been identified as certainly or probably belonging to this group (Figs. 44, 46 and 47). The limits are unknown on the north and west, where the cemetery has been attenuated by the foundations of the cathedral and cloister; on the south no graves have been found beyond the southern side of the medieval chapel built by Bishop Stillington (Structure 15), and it is suggested that ditch F324/761 was the boundary.

The eastern limit of burial, in the northern part of the cemetery, was evidently defined by a low bank and a wall, a 5 m length of which remained, albeit in a much denuded condition. The bank (F1142) was composed of red clay and pebble, derived from the local bedrock, and was overlain by an old topsoil which contained a small amount of animal bone and residual flints. The bank — which is effectively undated but is potentially of Romano-British or earlier origin (p. 38) — was evidently the primary feature in the area, and contained no human bone in its make-up. There was

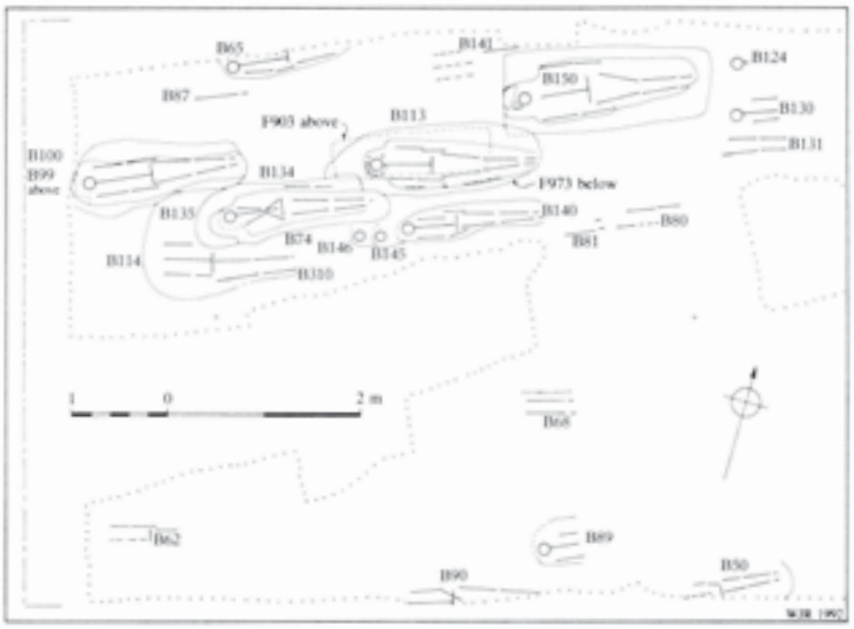


Fig. 47 Area 6: plan of graves in group 1. Scale 1:80

no evidence for a ditch, although it is possible that one could have lain to the east; if so, it did not extend further south than the remaining section of bank.

The feet of several graves adjacent to the bank abutted, or just clipped, its western edge, clearly respecting it as a boundary. The southern area of the cemetery did not extend as far eastwards as the northern area, and it appears that the immediate vicinity of the mausoleum was deliberately avoided. This negative evidence has validity, since early deposits hereabouts were not destroyed by later activity.

Separate from the main area of the group 1 burials were three outliers, seven metres to the east. They were very fragmentary and may only have been the survivors of a once larger group. These burials lay close to the line suggested for the northern limit of the mausoleum (p. 56). Two of them comprised only leg bones (B299, B301), while the other was represented by the skull alone (B300). Although their alignment accorded with that of group 1 burials further west, this is insufficient evidence for necessarily connecting the two areas: other burials east of the bank, and on a similar alignment, were certainly of later date. A localized influence on feature alignment, north of the mausoleum, seems to have persisted.

The three outlying burials were undoubtedly early, a deduction based upon their depth and stratigraphic position. The graves were cut into the bedrock, and in the case of B299 truncation on the west by both a wall foundation (Structure 2) and a pit (?well) demonstrated unequivocally that the burial was the earliest feature in this particular area (for Structure 2 and the pit, see below, p. 73).

Little can be said with conviction about the layout of group 1 burials within the cemetery, owing to the fragmentation of the plan. There is no obvious evidence for graves having been organized in rows, or for accompanying markers made of any long-lasting material. The only distinction specially noted was in a group of mostly large and well defined graves towards the southern end of the cemetery: one was a double grave and had a stone cover (B99/100), and several others had cut-out places for the head at the west end. These features are discussed below.

Group 2 burials

A total of 115 burials has been assigned to this group, including six inside the mortuary chapel (Structure 3), which will be discussed separately. Distributionally, graves in group 2 were more widespread than group 1, and that seems to reflect a direct connection with the mortuary chapel (Figs. 45, 48 and 49). It has already been noted that the west wall of the chapel was constructed partly over a well-defined row of graves (p. 55; Fig. 43). Otherwise, there is no convincing evidence for an organized layout amongst the group 2 burials, but again the evidence is too fragmented to enable firm assertions to be made. There were a few very large graves in the northern part of the cemetery, and one had a carefully shaped recess at the west end (B152).

Group 2 burials undoubtedly spread further east than group 1, but the southern boundary evidently remained the same. One grave, B54, occurred in the fill of the posited boundary ditch, F761 (Fig. 45), and it is possible that the two aberrantly aligned outliers encountered further south, burials 11 and 14, should also to be included (Fig. 87; p. 60).

Extent of survival

In less than 10% of the total number of graves was the full skeleton present, owing to intercutting and truncation by later features. Definition of grave-cuts was also

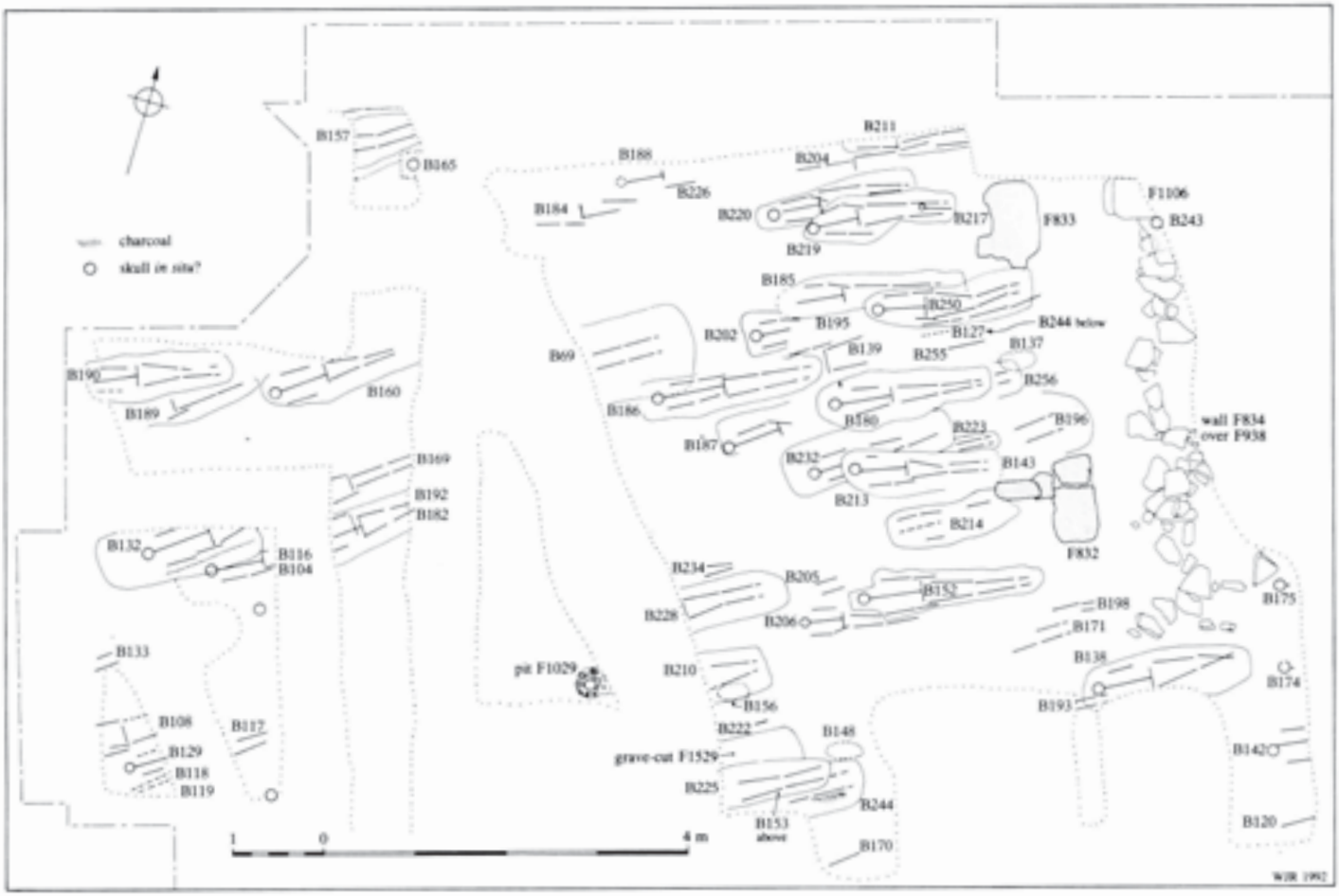


Fig. 48 Area 7: plan of graves in group 2. Scale 1:80

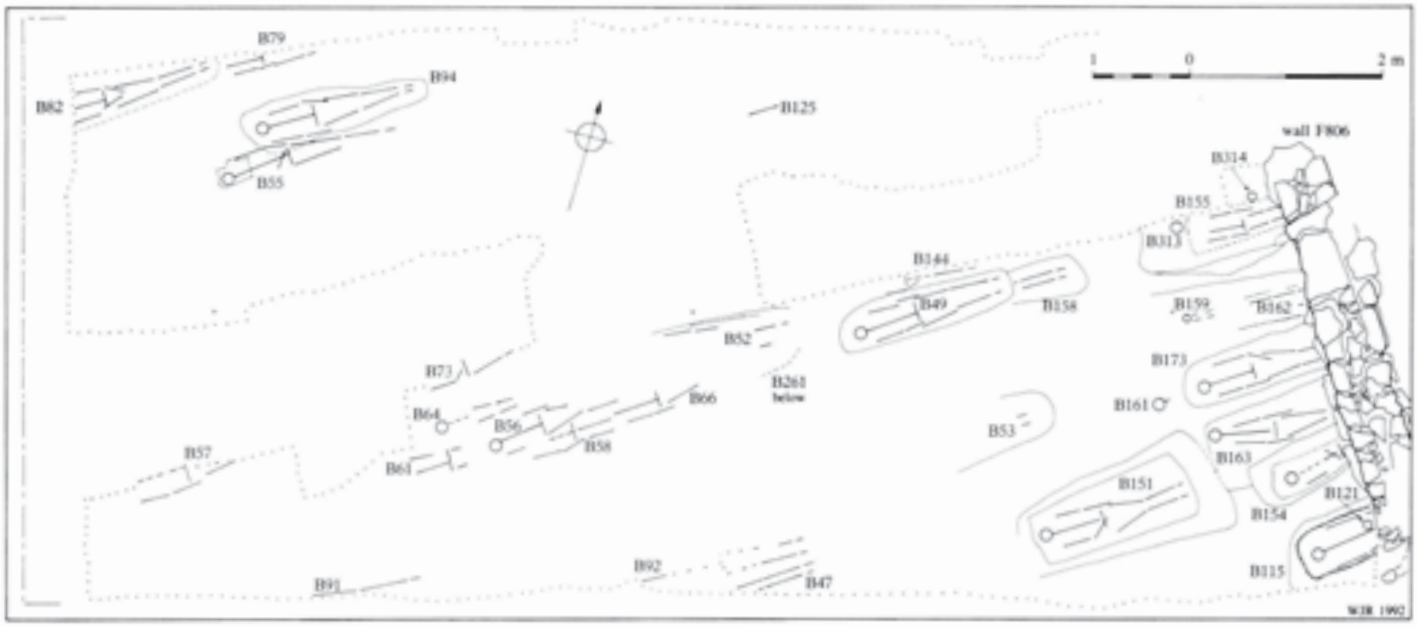


Fig. 49 Area 6: plan of graves in group 2. Scale 1:80

Fig. 50 Skull and femur in pit F1029, packed around with stones. Scale of 25 cm

Fig. 51 Rough stone lining of the cist containing burial 212. Note the jumbled bones in the thoracic region. Scale of 25 cm

impossible in many instances in the red pebbly loam that made up the grave soil. Likewise, the former surfaces from which graves were dug could not be determined except in a few instances. It is however clear that graves were shallow: few, if any, could have been as much as 70 cm deep, and many were only half that depth. Individual grave-cuts were discernible where they penetrated the bedrock, and in some higher levels where a localized soil change occurred (*e.g.* piercing a lens of mortar), or where the grave itself was distinguished by having a stone or mortar lining, *i.e.* a cist.

The cemetery soil was replete with disarticulated bone derived from disturbed burials, and instances where only the head, the feet, or one limb survived in an articulated form were numerous, demonstrating the extent of reuse of the site. Even the stratigraphically earliest graves mostly yielded disarticulated bone in their fills, pointing to the fact that total loss of at least some of the earliest interments had occurred. Some of these may well have been of Roman date. Further indications of lost burials were seen in the form of residual grave ends and sides, which survived as recognizable features but without any skeletal remains *in situ*; these have not been assigned burial numbers. Likewise, there were examples of isolated skulls, with mandibles, that were potentially the last vestiges of otherwise destroyed burials. These are marked on the plans, but have not been assigned skeleton numbers.

Several former burials of infants could be detected, particularly in the later levels, as jumbles of disarticulated bone. The field evidence suggested that their shallow graves had been severely disturbed by burrowing animals. Thus, for example, at the north-west corner of the site two tiny grave-cuts were found, F881 and F929, associated with an irretrievable jumble of decayed infant bones which included five skulls (Fig. 46).

Fig. 52 Child burial 83, with a crude rubble edging to the grave. Scale of 25 cm

Although *disiecta membra* were widely scattered, no significant assemblages of charnel occurred in the cemetery, and only one small deposit deserves mention. This was an adult skull and femur which had apparently been buried together in a small pit (F1029) cut into the natural subsoil. The deliberation attached to this act was emphasized by the way that small stones and a piece of Roman brick had been carefully packed round the skull (Figs. 48 and 50).

Grave types

Graves were all earth-cut and, in so far as the evidence remains, they appear to have been very shallow. None was lined with ashlars or stone slabs, in the medieval manner (p. 539), but in a few instances rough pieces of stone had been placed along the edges, crudely retaining the sides of the grave. The nearest approximation to a fully stone-lined cist was seen in burial 212: it had a head-recess crudely formed with three pieces of uncut stone, and other slabs flanked the sides (Figs. 46 and 51). The stone was probably derived from mixed building rubble, and included Chilcote, Doulting, lias, red sandstone and Pennant sandstone. Two metres north of this, the northern flank of an otherwise destroyed grave was represented by four contiguous pieces of limestone, F1084 (Fig. 46); and a perimeter setting of mixed stones appeared to have surrounded the grave of a child, B83, who was aged between eight and eleven years (Fig. 52).

There were very few occurrences of cover-slabs over burials, and no recognizable fragments of decorated stone grave-covers or markers were found in the excavation of the cemetery. Two graves had their covers intact, B99/100 and B152; both are described below.

In the majority of cases, little can be said about the true form of the grave since so many were incompletely preserved and grave-cuts all too frequently eluded definition. The clearest grave outlines were seen where the bedrock was penetrated, and that effectively means that the data are biassed in favour of the earlier graves.

Three basic grave types were present:

Type 1 Rectilinear plan, more-or-less parallel sided, usually with rounded corners. Some graves were generously proportioned and evidently held timber coffins (see further below).

Type 2 Irregular plan with rounded ends; usually too restricted to have received a coffin, although lining timbers were sometimes included.

Type 3 Tapering rectilinear plan, with carefully formed head-recess at the west end. Not capable of receiving a coffin.

Some of the better examples of type 1 lay in the row of graves immediately to the west side of the mausoleum (Figs. 49 and 60); and several individual instances occurred in the northern part of the cemetery, *e.g.* burials 69, 132 and 232 (Fig. 48).

Type 2 was ubiquitous and often associated with the meaner burials. Type 3 was confined to a close-knit group of four deep graves lying axially to the west of the mortuary chapel, burials 100, 113, 135 and 150 (Fig. 47), and a single outlier to the north, burial 152 (Fig. 48). This last type was clearly more prestigious than the others, and may have been associated with a distinct social class. The five examples of the type deserve individual description.

Burial 152 (Figs. 53–57)

The burial of a male aged 35–40 years was contained in a grave that was carefully cut into one of the general grave-earth layers (F993) in the northern part of the cemetery. The grave was tapered and provided with a head-recess at the west end (F994). There was no timber or stone lining, but the sides had been fully plastered directly against the earth. In effect, a lime-plaster cist had been created; the floor was earth. The plaster was a coarse, yellow material which had been crudely applied using the hands and a piece of wood, rather than a trowel. The wall of the grave was anything but smooth, there being pronounced finger furrows and other impressions in it. The apparent crudeness of the lining was exaggerated by distortion and fracturing caused by later soil movement.

The corpse was placed in the grave, without any soil infilling, and covered by a single, undressed slab of local red sandstone (F992). The slab was bedded on mortar similar to that which lined the cist. The corpse was laid supine, and was a close fit in the grave. It was evidently wrapped in a cloth shroud, traces of which adhered to the plaster lining. The lack of any firm packing material over the body allowed considerable bone movement during decay (post-depositional bone movement is discussed on p. 543).

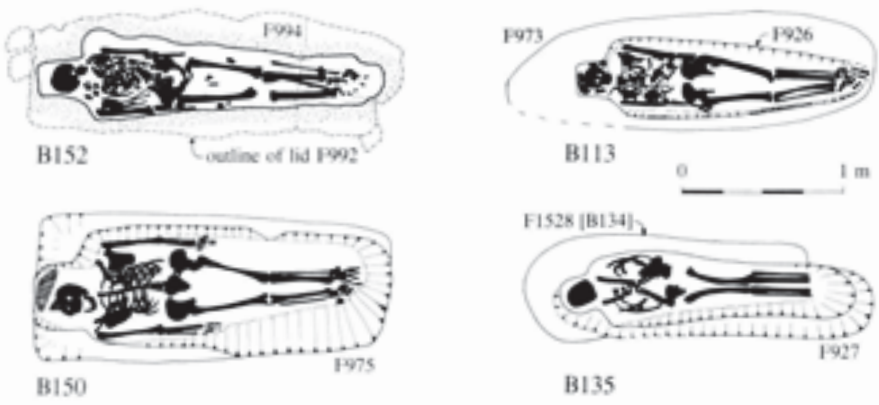


Fig. 53 Plans of type 3 burials with shaped head-recesses: B113, 135, 150 and 152

Fig. 54 Burial 152, with the cover-slab in place. View west. Scale of 75 cm

Fig. 55 Burial 152, after the removal of the cover-slab, revealing an earth-cut cist with a plaster lining. Scale of 75 cm

Fig. 56 Burial 152. Detail of the plaster-lined head-recess and jumbled vertebrae. Scale of 75 cm

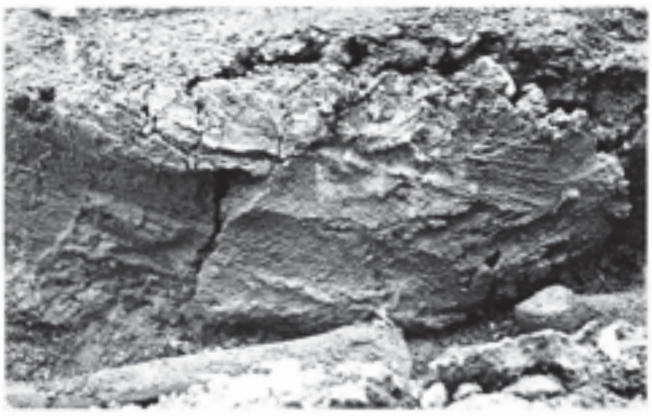


Fig. 57 Burial 152. Detail of the crude wipe-marks on the plastered wall of the earth-cut cist (south side)

Burials 99 and 100 (Figs. 58 and 59)

The grave containing a pair of directly superimposed burials, 99 and 100, was unusual in several ways and was clearly of higher status than most. The grave itself was dug relatively deep into the pebbly natural and was covered with a single large slab of white lias averaging 5 cm in thickness (F901). The slab was roughly dressed and slightly tapered, and had fractured into several pieces.[2]

The grave (F902) had been carefully prepared for the first interment, B100, a male aged over 45 years. The skeleton was unusually well preserved. Although the outline of the grave, after excavation, had a ragged appearance, it was clear from studying the bottom that the burial had been placed in a more precisely defined cavity. Over the base of the grave was a thin spread of charcoal fragments and white lime mortar, evidently the remains of a laid floor. Furthermore, this exhibited traces of straight edge-lines, and in particular a boxed outline around the skull was ghosted in the floor. The evidence is consistent with the grave having been originally fitted with a shaped timber lining, and given a thin lime mortar floor. In other words, this was a wooden cist. The irregular space between the timber wall and the sides of the grave pit was doubtless backfilled with spoil.

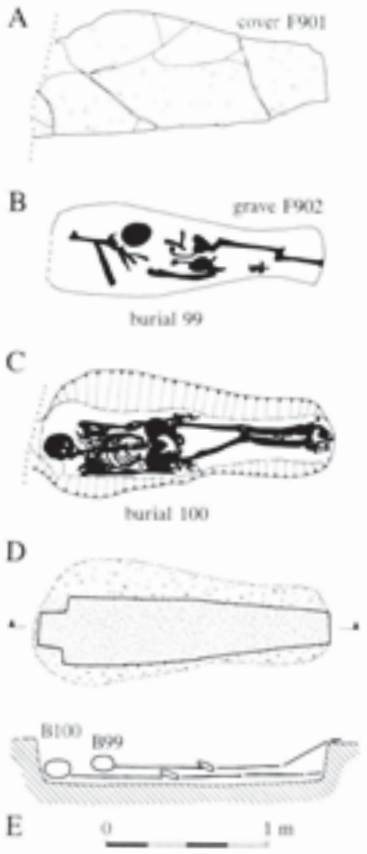


Fig. 58 Superimposed burials 99 and 100. A Plan of the grave-cover, as found; B Burial 99; C Burial 100; D Reconstruction of the timber-lined cist; E Longitudinal sketch section through the grave as found, showing the effects of compression during corporeal decay

The hardness of the natural subsoil here, and the inclusion of pebbles and irregularly sized pieces of rock would have rendered it virtually impossible to cut a neatly profiled grave: inserting a coffin-shaped lining of timber within the hole was a simple and effective means of achieving the desired result. The corpse was laid supine, with the knees touching and the hands placed tightly alongside the thighs, reflecting the constraint imposed by the grave lining. After deposition, the grave must have been either backfilled with spoil, or firmly packed with some organic material that has entirely disappeared. The correct and precise positioning of every bone demonstrates that the corpse was firmly supported during the decay process, and was not simply covered with a lid which left a void below. For the postulated use of organic packing material in medieval cists, see p. 544.

A second corpse added to the same grave was that of a woman aged 25–35 years (burial 99). This was also supine: her head lay on the man's chest, and her feet extended just beyond the east end of the original grave-cut. She must have been interred very soon after the man, before his corpse (and surrounding packing) decayed and flattened. As the two corpses compressed, the woman's lower legs tilted downwards towards the west, on account of her ankles being firmly lodged beyond the end of the grave-cut (see sketch section, Fig. 58E).

Fig. 59 Burial 100. Scale of 25 cm

Finally, the lias cover was placed over the grave, directly on top of the upper burial. The woman's body was not firmly encased, either by soil or other packing material, with the result that it decomposed in a void beneath the slab. The skull rolled out of position, the arm bones were seriously displaced and most of the vertebrae and ribs had been destroyed by the decay mechanisms. Although burial 99 was sealed by the cover-slab and plainly had not been disturbed subsequently by human agency, it represented a scene of severe disarray. There could hardly have been a greater contrast with the immaculate preservation of burial 100. Differential corpse decay is discussed on pp. 542–3.

Burials 113, 135 and 150 (Fig. 53)

Immediately east of burials 99/100 lay a further three graves, deeply cut into the bedrock; all had head-recesses. They were not, however, provided with stone covers, or if they were the slabs had been lost during later grave digging at a higher level.

Axially east of B100 lay a large round-ended grave, F973, the contents of which had been totally removed for the insertion on the same spot of the smaller grave B113. The *disiecta membra* of the earlier corpse were dumped in the backfill over B113. The grave-cut for the latter (F926) was narrow, had battered sides, tapered towards the east and had a head-recess to the west. Remains of a charred board, evidently a timber lining, were found on the south side of the grave, pressed against the sloping wall. A slight hint of a similar feature was noted on the north.

The skeletal remains were of a woman, aged 19–20 years. The long bones were all correctly positioned, and the hands were again alongside the thighs; the skull was carefully wedged in its recess by many small pieces of stone. The ribs and vertebrae, however, were in total disarray, and the sacrum had moved up to the thoracic region. It seems clear that either there was a plank covering the body, or a void was otherwise created over the torso, allowing the displacement of bones during decomposition. The bones were blackened through water-staining associated with the decay of oak.[3]

Burial 135 was also superimposed on, and had almost entirely destroyed, an earlier grave (F1528) containing burial 134. The latter was an adult of which only the left leg survived *in situ*. The later interment had also partly removed an adjacent coffined adult burial (B114). Burial 135 lay in a tapered grave, with steeply battered sides and a head-recess. The skeleton was that of a man, up to 45 years old, and the burial posture was unique on this site: the body was supine, but the arms were fully crossed on the chest. The bones were again stained black. There was no evidence for a grave lining and, although bone preservation was not good in the thoracic region, displacement seemed not to have occurred during decomposition.

Burial 150 was in a grave of monumental proportions, which had been excavated into the bedrock to a depth of 70 cm, and was the deepest on the site. At contemporary ground level — probably the top of the ancient buried soil F718, here forming a mixed grave earth — the grave outline was rectangular and measured 2.2 m long, by up to 0.9 m wide. Towards the eastern end of the grave the sides were battered, but towards the west the batter gave way to a marked ledge; below this the sides of the grave stepped in, and a head-recess was formed. Two pieces of stone were wedged behind the skull as supports. Partial disturbance of the upper section of the grave fill occurred in the Middle Ages, and it is possible that the late Saxon silver coin (p. 518, no. 3) found in the fill of the grave above (B42) was originally included in burial 150. The interment was that of a tall and well-built male, aged 23–25 years, buried in a supine position with the hands beside the thighs. The bones were in good condition, although stained black. There was no evidence of any lining to the grave, but its regularity and side-ledges are suggestive of a timber covering. The orderly bone dispositions indicated, however, that the burial had been firmly protected against post-depositional movement.

Coffins

Conventional evidence for coffined burial was scanty. No sets of corner cleats or other Anglo-Saxon metal coffin fittings were found, although occasional nails occurred in graves, usually singly but in a few instances two or three were present. The surviving end of a child's burial, B165, yielded an opposed pair of nails exactly where the two western corners of a coffin might be expected; unfortunately, the remainder of the grave was destroyed (Fig. 48). The only iron artefact of recognizable form, which was not a nail, was a tiny flat wedge which came from burial 180 (Fig. 48). The reason for its presence is unknown: it may have been in a piece of timber, or merely a residual object.

In a large number of cases where a grave-cut could be discerned it was not of a form which would easily have admitted a coffin (type 2), and it must be presumed that the corpse was enveloped in nothing more than a shroud. The absence of shroud pins from these early graves is not, however, indicative; pins were present only in medieval burials and then but rarely. Burial 94 provides a good example of type 2: the grave was relatively narrow, tapered along its length, had sloping sides, and was rounded at both ends (Figs. 49 and 60). Furthermore, no corporeal displacement had occurred, indicating that the corpse was firmly enveloped.

In cases where the grave-cut was of rectilinear outline (type 1), and especially where it was oversized in relation to the corpse, it seems highly probable that a timber coffin was present, even if no other supporting evidence was found. The more prominent graves in this category included burials 69, 151 and 232 (Figs. 48, 49 and 60). A single nail was recovered from

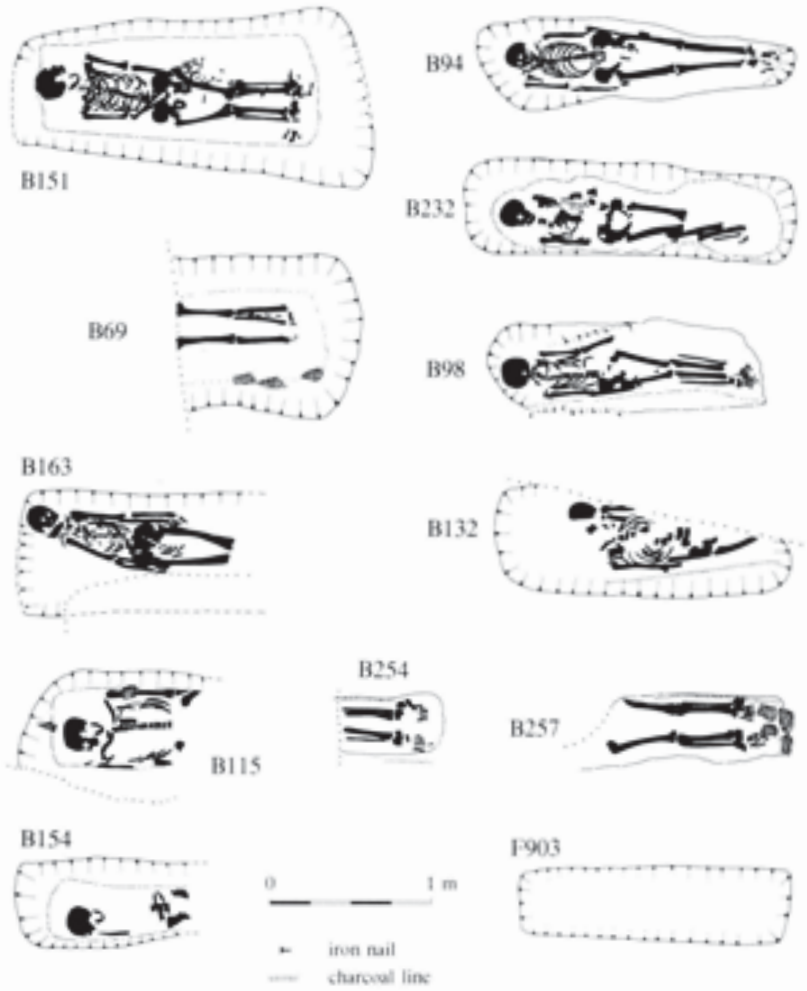


Fig. 60 Sample plans of grave types 1 and 2, variously showing evidence for timber linings, coffins and earth-cut cists

the fill of the last mentioned. In burial 151 an inner rectangle within the floor of the grave ghosted the position of the coffin, and in B232 several pieces of stone which had been deposited with the backfill, between the wall of the grave and the south side of the coffin, provided a similar indication.

Axially adjacent to B151 was burial 163. The grave was large and markedly rectilinear, but the skeleton lay askew to its axis, with the skull tucked into the north-west corner (Figs. 43 and 61). No evidence of a coffin or lining was present, and the positioning of the corpse within the grave militates against the likelihood of one. Moreover, the distinctive drawing in of the shoulders suggests that the corpse was buried in cramped circumstances: it was probably tightly wrapped in a shroud. There seems little doubt that this is a case where grave and corpse did not match. Burial 163 probably ousted an earlier and potentially coffined interment.

In a small number of graves soil-stains derived from timber decay and linear interfaces between different fills were discernible at a low level, providing more tangible evidence for the presence of coffins. Child burial 155 displayed a clear interface between the fills of the grave and the collapsed coffin void (Fig. 49).

Finally, in a few instances interface lines were reinforced by fragments of charcoal derived from the sides and bases of the coffins. The survival of *in situ* charcoal demonstrates the use of charred planks in coffin and cist construction. Numerous graves were noted as having a high proportion of charcoal flecks in their fills, which may also have been derived from the decay of charred coffin timbers. Lines of charcoal indicative of coffin sides were particularly noted in B254, B257 (Figs. 46 and 60), B69 (Figs. 47 and 60), B132 (Figs. 48 and 60), B52, B115, B154 and B162 (Figs. 49 and 60). Extensive remains of the base board in B162 were also preserved in charcoal form; that lay upon a thin bed of lime mortar which had been placed on the floor of the grave (*cf.* burial 100, above). Other graves yielding evidence for coffin bases included B224, B243 and B252.

Burial 115 yielded some of the clearest evidence for a coffin made with charred planks: parts of the north and south sides, the base board and the west end all survived in charcoal form. The coffin, which was 52 cm wide (probably parallel sided) and 40 cm deep, was constructed without metal fittings. The skeleton was radiocarbon dated to Cal. A.D. 685–889 (HAR-3397), at one standard deviation.[4]

Not all charcoal and timber stains necessarily derived from the presence of coffins *per se*: some may represent wooden grave-linings, or simply loose boards placed around corpses. In the former category it has already been suggested that the carefully shaped grave containing burial 100 was timber lined (p. 67). In the case of burial 257 (Figs. 46 and 60) there had been a charred board against the northern edge of the grave, and a pile of loose stones at the east end. These were evidently not packing material between a coffin-end and the wall of the grave, and their purpose may well have been to keep side-planks wedged apart. There were no nails in this grave, which was radiocarbon dated to Cal. A.D. 619–690 (GU-5016), at one standard deviation. Burial 49 was in a narrow grave (with one rounded end) which contained vestigial lines of charcoal, again suggesting boards around the corpse. Burial 54, on the other hand, yielded wood traces immediately on top of the bones, but not along the edge of the grave.

The only grave which yielded more than two or three nails was B98, where there was a row of six along the north side and a row of nine along the south (Fig. 60). Charcoal fragments lay amongst the nails. Superficially, this may look like the remains of a wooden coffin, but the evidence will not bear such an interpretation. First, the irregular grave plan militates against the likelihood that it was ever intended to hold a coffin. Secondly, the nails on the south side were not in the bottom of the grave, but on the sloping edge, indicating that they could not have secured the coffin side to the base. Thirdly, the nails were unnecessarily close together and were restricted to less than half the length of the burial. Basically, they defined an area *c.* 60 cm by 45 cm and are likely to have been associated with a discrete wooden artefact with close-nailed edges — perhaps the lid or base of a box, or a tray — which was placed over the thorax of the corpse.

The last two examples raise the possibility that more of the narrow, irregular graves were in fact earth-cut cists, covered by wooden boards rather than stone slabs. Burial 160 is a likely case in point: the grave-cut was irregular and tightly rounded at the west end, almost to the extent of forming a head-recess. Two nails lay in the fill at the edge of the grave, perhaps indicating that there was a piece of (?reused) timber over the corpse; the disposition of the bones themselves strongly supports the notion of a protective cover. The matter is considered further below.

A solitary instance of an empty grave was found, F903 (Figs. 47 and 60). It was neatly rectangular and its outline was fully intact, but no trace of a burial was found. This was stratigraphically one of the latest graves in the cemetery, and exhumation is a likely explanation.

Burial posture

It was plainly evident upon excavation that the posture of a corpse and the degree to which its component parts remained correctly juxtaposed related to the matter of coffin provision.

Burial positions may be considered first. The fragmentary survival of the majority of skeletons in the cemetery reduced the compilation of complete grave plans to a statistically worthless number. Nevertheless, it is readily apparent that there was no great variation in posture. Thus, all burials were supine, with the legs fully extended and the feet more-or-less together. The sole example of an aberrant leg position occurred in burial 138 (Fig. 48), where the lower legs were crossed, just above the ankles. The grave was round-ended and the corpse uncoffined; the backfill over the skeleton contained a mass of disarticulated bone derived from earlier burials. This is a clear instance of a straightforward earth burial.

Arm positions were varied, but not greatly so. The common positions may be summarized thus:

1. Arms extended; hands beside hips.
2. One hand beside hip, the other resting on the pelvis.
3. Both hands resting on pelvis or stomach; elbows flexed.
4. Forearms together, crossing the diaphragm; hands touching opposite elbows (*i.e.* arms folded).
5. One forearm across the diaphragm; the other extended down the body, with the hand on the pelvis.
6. Hands together on chest, pointing towards head (*i.e.* in an attitude of prayer).

The positions of both arms and hands were certain in only 31 graves in the cemetery. The first was undoubtedly the commonest position, with fourteen examples. This was followed by position 3, with seven examples, as seen in burials 82 (Fig. 49), B103 and B128 (Fig. 46). Position 2 was similarly frequent with six occurrences: *e.g.* B55, B94, B151, B173 (Fig. 49) and B208 (Fig. 46). There were slightly more instances of the left hand resting on the pelvis than the right hand. Surprisingly, only one corpse was recorded in position 4 (B198, Fig. 48), and two in position 5. No example of position 6 was noted, although both 4 and 6 were present in medieval burials (pp. 181–90). The only truly aberrant deposition was B135, where the arms were crossed on the chest (in the form of a St Andrew's cross; Fig. 53).

Bone preservation and post-depositional movement

Post-depositional bone movement within graves was studied with care. This was found to vary considerably, and to be directly related to the question of coffin and cist burial. Coffins and cists in their turn were found to have influenced the physical decomposition of bone. The issues are discussed in chapter 15. In most cases where lines of charcoal, the form of the grave-cut, or other indications, suggested the presence of a coffin, there was at least some evidence of post-depositional

Fig. 61 Burial 169, showing rotation of the femora through 180°, and substantial displacement and partial rotation of the tibiae. Scale of 25 cm

movement of bones, most commonly seen in the form of disarrayed ribs and vertebrae. The other notable type of movement was seen in leg bones, particularly femora. Instances where one, or both, had rotated axially through 180° (so that the femoral head pointed away from the pelvis, instead of towards it) were not uncommon. Less frequently, tibiae were found to have rotated axially.

Bone movements of this type are only possible when a corpse decays in a void, and are hence good indicators of coffins, covered cists and other chambers. Thus all the graves previously mentioned for their tell-tale evidences of coffins exhibited characteristic bone disarray. Many other occurrences were noted. Femoral rotation and tibial displacement were nowhere better demonstrated than in burial 169 (Fig. 61).[5] This was also a fine example of differential preservation within one grave: bone survival in the limbs was excellent, while the torso had virtually dissolved. The pelvis, sacrum and lumbar vertebrae were represented only by crumbs of bone.[6]

Evidence for earth-cut cist graves lined with plaster or with timber has been discussed (p. 65). In only two instances was a stone cist-cover provided, which must lead to the supposition that others had timber coverings of which all trace has now gone. The discovery of burial 122 prompted further probing of the physical nature of the humblest cist graves. Here, a 12–14 year old child was placed in a narrow, round-ended grave, the form of which would not have admitted a conventional coffin (Figs. 46 and 62). It was therefore superficially a type 2 grave. It also appears that the body was not fully supine, but was turned somewhat onto the left side. Bone movement within the grave had occurred to a remarkable extent, demonstrating that the child had not simply been buried in soil, but that there must have been a rigid cover which subsequently perished. An earth-cut cist with a simple wooden cover (concealed below ground level) would accord with the evidence that remained.

Fig. 62 Child burial 122, showing displacement of the long-bones. Scale of 25 cm

Similar circumstances must have obtained in the case of burial 160, where two nails were all that survived of a probable cover board over an earth-cut cist. Disruption of the corporeal remains within the resultant void included significant movement of the knee joints, random displacement of vertebrae, and the complete inversion of the sacrum (so that its distal end pointed towards the head).

Bone movement in burial 122 largely affected the femora. The lower legs and feet were in a natural position, but both femora had moved longitudinally down the grave by a distance not far short of their own length. One of the humeri had also travelled eastwards (Fig. 62).

Bone condition varied considerably, even between adjacent graves. The micro-climate obtaining within the sealed confines of individual burials was responsible for the extent to which bone was preserved, or otherwise; the general ph level of the soil is neutral. Two factors emerged as significant to bone preservation. First, those skeletons that were deeply set into the natural pebbly clay, and which had been more-or-less waterlogged for centuries, were amongst the oldest and the best preserved: the bones were firm, they generally appeared shiny and were stained black. Conversely, some of the worst preserved bones were those that lay not far above the water-table, and were in graves which yielded evidence for coffin burial. In addition to bone displacement, the torso had virtually disappeared in some instances, leaving the skull, pelvis and limbs. It was also noted that the bone around limb joints in these circumstances tended to be poorly preserved. All these phenomena have been found precisely replicated in other cemeteries.[7]

Convincing evidence relating to the deliberate grouping or pairing of interments is minimal. The pairing of a male and female, B100 and B99, in a single grave is unambiguous. Several other cases were recorded of one adult directly overlying another, where the superimposition was perhaps not coincidental: B242 over B245 was such a case (Fig. 46). The same might be said of B166 and B167, where a baby lay on the stomach of an adult, although the latter was male. In another instance a baby aged 6–12 months lay alongside an adult male, seemingly in the same grave (B176 and B177); and a relationship between adult B210 and the baby, B156, which lay beside its legs might be meaningful. More convincing was a child aged between 7 and 8 months who had been placed on top of the legs of a 25–35 year old female (B217 and B219; Fig. 48).

Dating

Dating is imprecise. Many cases of partial superimposition and intercutting were noted, indicative of a minimum of three, and more likely four or five, grave-digging cycles, but these cannot be correlated across the site to produce true burial generations.

Burials were cut into either the bedrock or the overlying subsoil and grave-earth horizon. The latter was at least partially derived from the old buried soil, and was thus responsible for the various prehistoric and Romano-British finds that were commonly recovered from grave fills. There were no finds so closely related to skeletons that they could be unequivocally claimed as 'grave goods': all artefacts from the grave fills must, *sensu stricto*, be regarded as residual. There are however two finds of coins which are broadly contemporaneous with the life of the cemetery and which may have been deliberate inclusions, or fortuitous losses, in early graves, but which were later displaced. These are the early eighth-century Frisian *sceat* (p. 516, no. 1) found with burial 140, and a tenth-century silver coin (p. 518, no. 3) which, although recovered from the grave containing medieval burial 42, might have been derived from the disturbed earlier grave, B150.

A radiocarbon determination for burial 257 yielded a date of Cal. A.D. 619–690 (GU-5016), at one standard deviation. This grave was stratigraphically one of the earliest in the northern part of the cemetery. A *terminus post quem* for another early grave, B300, was provided by a charcoal-filled pit through which it was cut: that returned a date of Cal. A.D. 642–758 (GU-5017). Burial 115, one of the graves underlying the west wall of the mortuary chapel (Structure 3), was dated to Cal. A.D. 685–889 (HAR-3397), again at one standard deviation.

One of the later graves, burial 61, through which the Saxo-Norman chapel foundations were cut (Structure 6) returned a date of Cal. A.D. 1021–1221 (HAR-3375). Another late grave, burial 69, which was also cut by a Norman foundation (Structure 8), was radiocarbon dated to Cal. A.D. 1039–1245 (HAR-3398), both calibrated at one standard deviation.

The evidence thus broadly points to a mixed cemetery which was in use on a cyclical basis between the seventh and the eleventh centuries.

Buildings and structures associated with the cemetery

Boundary bank and Structure 2

The north–south boundary bank, F1142, which antedated the cemetery, is likely to be of Romano-British or earlier origin (Fig. 44; p. 38). There was no human bone under or within it. Cut into the east side of the bank, and undoubtedly secondary to it, was a foundation trench (F1103) for a modest wall F938 (Fig. 45). In the base of the trench lay a rubble mixture comprising blocks of lias and lumps of pink/cream mortar, all evidently derived from the demolition of a masonry structure. There were also fragments of plaster, Roman brick and human bone in the trench fill and in the earth matrix that bonded the wall. Radiocarbon testing of the bone returned a date of Cal. A.D. 990–1163 (HAR-3376), at one standard deviation.

Fig. 63 Cemetery wall F938, looking north. Scale of 75 cm

The foundation trench was *c.* 1.0 m wide, and four courses of masonry survived, the first two being offset on the west face. Most of the east face had been destroyed, so that it was difficult to ascertain the true thickness of the wall, but the footing seems to have been *c.* 70 cm at the lowest level, reducing to 50 cm before reaching ground level. The wall construction was mainly of white lias blocks, but also incorporated Doulting and Chilcote limestones, and Pennant sandstone pebbles (Fig. 63). A late Saxon date for the wall seems likely.

East of, and parallel to, this wall lay another foundation (F1421), three sections of which survived indicating an overall length in excess of 8.7 m (Fig. 44). The foundation was at least 90 cm wide, but its west face was entirely lost; at the southern end it was robbed to a low level, revealing a 15 cm offset. Below this the foundation comprised lias, Doulting and Pennant sandstone rubble, set in a matrix of clay. At the north end the foundation survived to a higher level, and the masonry was bonded with pink earthy lime-mortar; this is likely to have been the wall proper (F1456).

Assuming that foundations F1103 and F1421 once related to a single structure (Structure 2), its external width was *c.* 5.0 m; both ends were truncated, and there was no evidence of related features between the walls. Indeed, virtually the entire 'interior' of the structure had been removed by late medieval foundations.

Immediately alongside the east wall of Structure 2 lay a circular setting of stones in brown clay (F1436), which had evidently sunk into the underlying soft filling of a pit or shaft (F1469). The feature, which was not excavated, was probably the blocked mouth of a well, and the masonry plug is likely to have been inserted when a later building (Structure 4) was erected over its site.

Structure 4: chapel(?)

Stratigraphically, this succeeded Structure 2 and was built immediately alongside to the east. In fact the two were so closely juxtaposed that their foundations abutted.

Structure 4 was of rectangular plan, and defined by robber trenches, F1532, which reflected the original construction trenches. It had an east–west axis, and appears to have measured *c.* 5.2 m wide internally (Fig. 45). The positions of three of its walls are not in doubt, but the east end is unknown. There was possibly a cross-wall inside the building at 3.8 m from the west end, although this is by no means certain: none of the robber trench fill survived, but what was potentially part of its western edge was preserved as a deviant line in the foundation trench for one of the buttresses of Stillington's chapel. This deviation would be explained if the fifteenth-century builders had excavated the fill from the earlier robber trench when constructing their new foundation.

The foundations of Structure 4 were *c.* 1.3 m wide, on the south and west, but their full width could not be ascertained on the north. The remains were so badly robbed and cut away by later features that a more complete plan was unobtainable. The construction trenches were flat bottomed and had slightly battered sides (F1454). They were dug to a depth of at least 80 cm below contemporary ground level. All the masonry had been robbed, leaving only a trampled layer of pink mortar and small pieces of lias in the bottom; the fill above comprised layers of soil and mixed rubble, F1454 (Fig. 90, S.156).

There is nothing to identify the purpose of Structure 4 with certainty. Assuming that it was basically rectangular, its external width would have been *c.* 7.8 m (25½ ft), and its length in excess of 10 m (33 ft). There was an equivocal hint at the eastern extremity of the south wall of an obliquely angled turn towards the north. Given the thickness of the walls, and the depth of the foundations, there seems no reason to doubt that this was a substantial late Saxon building. It could well have been a chapel.

No contemporary burials were recorded inside the putative chapel, although the mixed soil through which its wall trenches were cut was replete with disarticulated bone; remains of earlier burials were recorded below the structure (burials 299–301: Fig. 44). A portion of a child's one-piece limestone coffin (F1531), found inside, could have been associated with the building, but is more likely to be later (p. 107).

Although the east wall of Structure 2 was razed when the Structure 4 was built, the west wall (F938) did not disappear, but survived as a boundary within the cemetery. It was breached towards its southern extremity by at least one grave (B138), but there was no encroachment from the west. In due course, the wall fragmented and became little more than a line of disjointed rubble within the cemetery (F834). The space between this wall and Structure 4 was taken over for burials (*i.e.* on the site of Structure 2). Two graves were cut into the east side of wall F938/834 (Fig. 48, B243 and F1106), and were potentially part of a row which stretched southwards to include burials 120, 142, 174 and 175. A second row may be discerned outside Structure 4, adjacent to its west end. Here, a line of graves cut through the foundations of the demolished east wall of Structure 2 (Fig. 45, burials 287–89, 291 and the robbed grave F1419).

Two potential cross-bases

Slightly to the west of the old boundary wall and bank, lay two monolithic stone bases, F832 and F833 (Fig. 48). Both consisted of rectangular blocks of conglomerate, measuring *c.* 50 by 90 cm. The southern one was broken into two pieces in antiquity, and two smaller stones were added against its west side, alongside the point of fracture (Fig. 96). There is nothing to suggest that these were part of a more comprehensive foundation, or even pad-stones for a building; nor were they on a parallel axis to Structure 2.

The two blocks are most plausibly seen as bases that supported free-standing objects of rectangular plan which were functionally related to the Anglo-Saxon cemetery. The feet of one of the very early graves (B254), and what may have been an infant grave alongside, underlay the northern base and were therefore earlier (Fig. 46). The only feature beneath the southern base was a shallow, silt-filled pit (F1063), which was cut into the margin of the earthen boundary bank of the cemetery. No graves cut into or overlay either stone base. Given the density of burials in the vicinity, this piece of horizontal stratigraphy is of no less significance than the associated vertical stratigraphy.

The likelihood must be that the bases supported stone crosses, which were erected alongside the eastern boundary of the cemetery in its earlier phases, and persisted thereafter. No tangible relationship could be detected between these bases and individual graves of significance. Is it therefore possible that the crosses represented 'stations' within the cemetery, rather than extravagant burial markers? The cross-bases were still respected in the twelfth century, when a new phase of burial was begun in this area (Fig. 96; p. 105).

Structure 3: mortuary chapel

Immediately south of the possible chapel (Structure 4) lay the Roman mausoleum, upon which no Anglo-Saxon interments of group 1 seem to have encroached (Fig. 44). The mausoleum was demolished in the late Saxon period, and its chamber reused as an ossuary, a transmutation which merits separate discussion (pp. 75–9). A new free-standing building, to which the term mortuary chapel has been applied, was then erected on the mausoleum site. This structure was of signal importance in the development of Wells Minster and is described below, pp. 79–82.

Structure 7: apsidal-ended church

The curving foundation of an early wall was glimpsed at the south-west corner of the cemetery, where it disappeared beneath the medieval east cloister (Fig. 45). Unfortunately, this happened also to be the point where the cloister was abutted by the south wall of Stillington's chapel, which meant that not only was the early foundation virtually inaccessible to investigation, but that its stratigraphic relationship to the Anglo-Saxon cemetery had also been destroyed.

The curved foundation was exceptionally deep and it most likely belonged to an apse, presumably the eastern termination of a major building. What little has been seen of this foundation (F1522) comprised *c.* 3.5 m of the rough outer 'face' of a trench-built construction, deeply set into the bedrock, but at the same time cutting through several pit-like features of yet earlier date (Fig. 64A). The fills of these features were partially excavated, exposing the rubble foundation: its outward sloping profile confirms that it was trench-built, from a point just below the surface of the natural bedrock (datum –2.2 m; Fig. 64C, D). Above this level the foundation began to step inwards and was therefore free-built.

The foundation was constructed mainly of local red sandstone rubble, set in clay-mortar. The base was not found, but was in excess of 1.8 m below the surface of the bedrock. This is considerably deeper than the foundations of any other investigated structure on the site, including the south transept of the present cathedral. The bedrock here is compact and extremely tenacious clay and gravel, and no structural advantage could be obtained by laboriously cutting into it for foundation works. The only likely reason for such deep excavation would be to accommodate a crypt or other subterranean space. The arcature of the foundation indicates an external diameter of *c.* 7.0 m (23 ft), or possibly a little more. Assuming that the masonry was not less than 1.0 m in thickness, a crypt in the order of

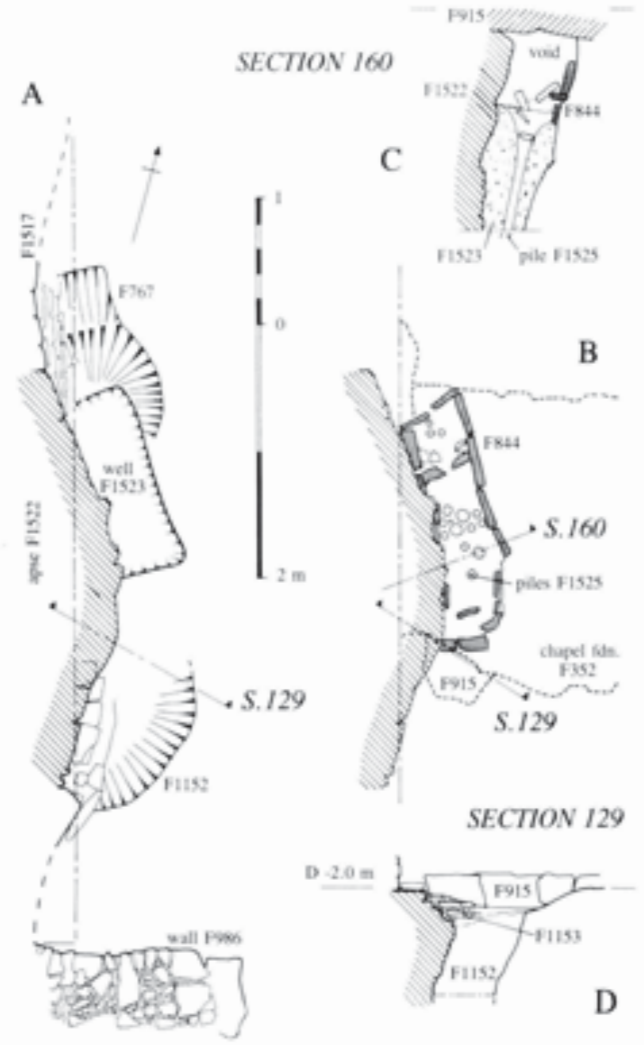


Fig. 64 Structure 7. Apse foundation and associated features beneath the east cloister wall, in Area 5/6. A Plan of the outer face of the apse, showing its relationship to earlier pits and the well-shaft (F1523); B Plan of the stone-lined 'box' (F844), built against the apse foundation. The dotted outline indicates the position of the south wall of Stillington's chapel, which directly overlay the box. Within it are shown the voids remaining from the decay of timber piles (F1525); C Section through the stone-lined 'box' and void left by a former timber pile; D Section showing relationship between the apse foundation (F1522), an earlier pit (F1152), and Stillington's nave wall (F915). Scale 1:60

5 m (16½ ft) wide internally is implied. These figures can be no more than approximations, but they indicate an order of magnitude.

The apse was cut through several interrelated features which pierced the bedrock to an unknown depth, but one was certainly in excess of 2.1 m. Complete excavation was impossible under the circumstances obtaining, and little can be said about them. The south-eastern curve of the apse sliced through a shallow pit (F1152) filled with purplish-brown clayey soil and gravel, which was derived from the local bedrock. The fill also contained flecks of white mortar and charcoal. Overlying this was the clay and gravel backfill around the upper (free-built) part of the apse foundation (F1153; Fig. 64D, S.129).

The north-eastern curve of the apse cut through a pit (F767) that contained grey silty loam, with charcoal flecks and a few small stones. As excavation proceeded, this feature turned into a vertical-sided shaft (F1523) with two right-angled corners; the grey loam fill became progressively more sticky, and was waterlogged at a depth of 3.5 m below site datum. It was not bottomed. There were hints of a dark stain around the perimeter of the fill, and there seems little doubt that F1523 was a timber-lined pit or well-shaft, and that the funnel-shaped F767 was part of its eroded mouth.

Although the apse and presumed crypt are undated — and they may well belong to a late Saxon rather than a middle Saxon phase — there can be little doubt that they were part of a major ecclesiastical building. It is entirely plausible to identify that building with the minster church of St Andrew. A piece of evidence which points strongly to a date later rather than earlier in the Saxon period is the fact that the apse conspicuously failed to exert a distorting influence on the adjacent pattern of graves. Burials made in the vicinity of an existing apse invariably display a tendency towards tangential orientation. There is no hint of that at Wells, which must imply that the apse is later than the cemetery.

From mausoleum to ossuary

The superstructure of the Roman mausoleum must have remained in reasonable repair until it was finally dismantled, thereby protecting the burial chamber from collapsing and filling with débris. When excavated, there was no significant amount of building débris present. Over the bedrock was a thin layer of sandy loam with mortar F1498, which was found to pass under the masonry lining of the chamber (section, Fig. 65G). It has already been shown that this layer belonged to the phase of reconstruction of the mausoleum, when the timber lining was superseded by a masonry one (p. 41); it was also the 'floor' of the chamber in the Anglo-Saxon period (Fig. 66). Above it, and found only around the edges of the chamber, was a discontinuous fillet of sandy loam and brownish mortar F1494. The latter was identical to the matrix used in the walls. However, the mixed and dirty nature of the deposit indicated that this was not mortar dropped by the masons as they constructed the lining, but was material that had either eroded from the joints, or trickled in from above. It was possibly a combination of both, and was typical of the kind of deposit that tends to accumulate at the base of a soft lime-mortar wall, as erosion takes place. Alternatively, it could be seen as the residue of internal rendering which had fallen off the masonry. However, no hint was found of rendering or limewashing adhering to the masonry of the chamber, and it seems that there was none.

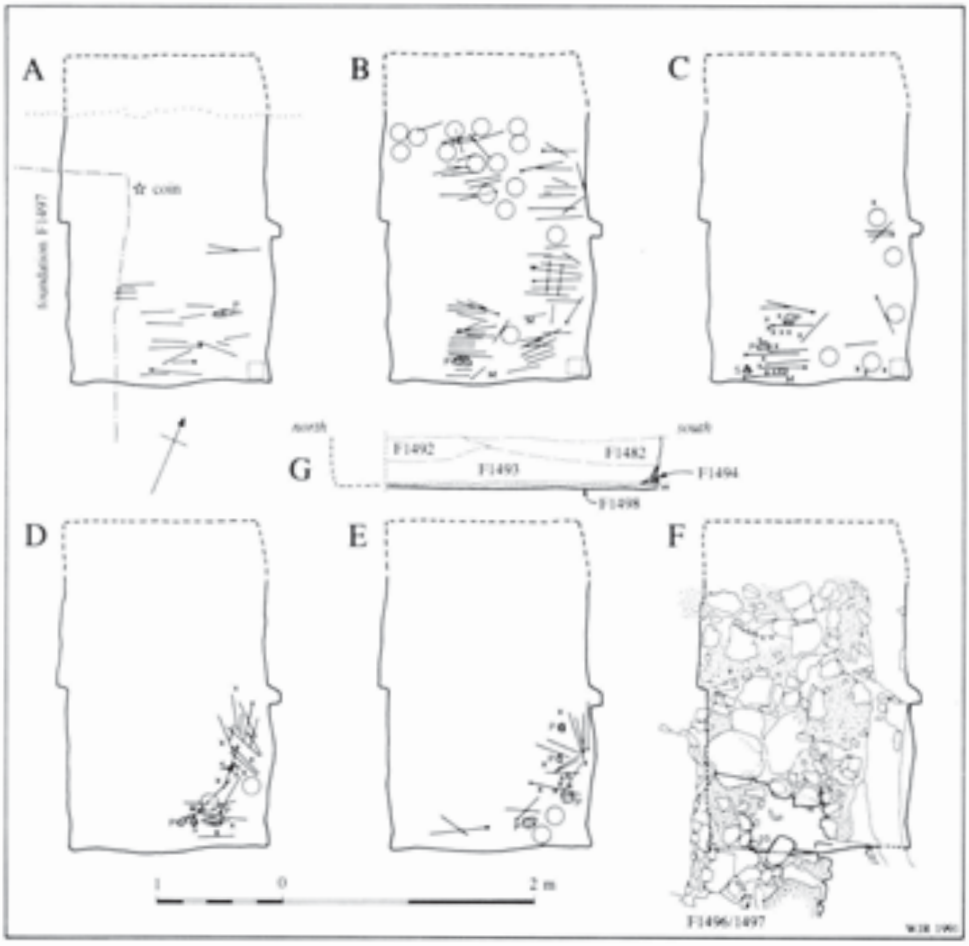


Fig. 65 Schematic plans and section of the burial chamber beneath the Roman mausoleum, illustrating its reuse as an Anglo-Saxon ossuary. A Layer F1493a (lowest level), indicating the findspot of the coin of Anlaf; B Layer F1493b (intermediate level); C Layer F1493c (upper level); D Layer F1482a (lower level); E Layer F1482b (upper level); F Foundation rubble F1496 (Structure 3), sealing the chamber fills; G Longitudinal section on the centre-line of the chamber. Long-bones are represented by thick lines, and a femoral head is indicated by a swollen tip. Skulls are represented by circles, and vertebrae by crosses. Other major bones are marked as follows: M, mandible; P, pelvis; S, sacrum. Scale 1:60

Infill layers

Directly overlying the fillet at the base of the wall and the general layer covering the floor (F1498), without any intervening silt or rubble, was the first of the deliberate fills of the mausoleum. This was a crumbly red clay layer, with darker brown clay patches in it (F1493). The material was plainly derived from the local subsoil and was uncompacted. It contained a large quantity of disarticulated human bone, distributed in an orderly fashion, in both the horizontal and the vertical planes. The distribution is illustrated diagrammatically in Figure 65.

At the lowest level, bones occurred in the southern half of the chamber only, and these were predominantly long-bones, laid with their axes east–west (Fig. 65A). Immediately above was a second layer which covered a greater area of the chamber. Long-bones had been ranged along the east side, and piled at the south end; again, they were mostly orientated east–west, but a few were placed at aberrant angles. Fifteen skulls lay at this level, all but two of which were towards the north end of the chamber (Fig. 65B). Other skulls have doubtless

Fig. 66 View south across the interior of the mausoleum, showing the 'floor' F1498, exposed after the charnel deposits had been removed. Scale of 75 cm

been lost as a result of the Lady Chapel wall (Structure 11) cutting off about one-fifth of the chamber. A third layer of charnel was found predominantly at the south end of the chamber, and included a further five skulls; on top of a group of long-bones lay a clutch of vertebrae (Fig. 65C).

All this material fell within the same stratigraphic unit, F1493, and was undoubtedly deposited as a single operation. Only the major bones have been plotted in Figure 65; amongst them, as well as scattered generally through the chamber, were many metapodials, phalanges, ribs and other small bones, both adult and immature.

A layer of bright red clay with pebbles, F1492, was then introduced into the northern end of the chamber. This layer contained very few bones, but had a noticeably high concentration of prehistoric flints. The material was clearly upcast derived from excavation into the buried soil and the natural clay below.

The final deposit still surviving in the chamber was a mixture of clay and brown loam, F1482; it was not substantially different from F1493. Like the latter, it too contained a large quantity of disarticulated human bone, arranged in a semi-orderly fashion. There was however a clear distinction to be made between the two deposits: the long-bones in the upper layer were not arranged east–west, but lay criss-crossed in piles (Fig. 67). The effect was that which would obtain if handfuls of bones had been casually grasped and placed in the chamber. Two layers of bone were identified within F1482, although in practice one merged into the other (Fig. 65D, E). The upper bone deposit was found only in the south-east corner of the chamber, and did not extend more than halfway along the east side. It is unknown whether the deposit spread across the western half of the chamber, because layer F1482 had been almost entirely removed by the foundation trench for the overlying late Saxon chapel, and other disturbances (Fig. 65F).

It is unlikely that the three separate soil deposits identified in the mausoleum chamber represent different periods of infilling: they are probably no more than stages in a single operation to backfill the redundant chamber. The origin of the charnel is of interest, particularly since it can be asserted with reasonable confidence that the material was not derived from the exhumation of earth-cut burials during building works. Numerous medieval charnel deposits were encountered on the site, but these exhibited markedly different characteristics: the bones tended to be thoroughly mixed, and were often badly broken.

There can no doubt that moderate care was taken in the collection and stacking of charnel in this chamber, at least in the lower deposits. The condition indicates that the bones were not derived from casual digging; no implement scars were present. The collection was, therefore, either 'stored' charnel (but that merely begs the question of origin), or it was the contents of coffins that were substantially intact.

Fig. 67 View east inside the mausoleum, showing the uppermost levels of the charnel deposits. The skull beneath a slab in the far section belongs to a medieval cist-grave. Scale of 75 cm

There was, however, no suggestion that any bones were still in articulation when moved and deposited here. Had these been the exhumed remains of semi-recent burials, some residual articulations (*e.g.* of vertebrae) might have been expected.

Charnel material

The charnel layers were carefully examined during excavation for any indication that the components of individual skeletons had been bundled together, but this was found not to be so. Nor was there any evidence that particular bone types had been consciously assembled, other than in the general sense that long-bones were mostly piled together, and many of the skulls lay towards the north end of the chamber. The long-bone piles were however mixed, and the heads of bones were not all, or predominantly, laid in one direction. Likewise the skulls were not orientated: they were found facing in all directions, some lay on their sides, and one or two were even inverted. Mandibles did not accompany the skulls.

The remains of men, women and children were intermixed, and the total numbers identified are given in the tables accompanying the detailed report on the assemblage by Dr Juliet Rogers, in chapter 15 (pp. 558–61). In summary, the skulls totalled 26, and the numbers indicated by counting the three long-bones of the arm (humerus, ulna and radius) varied from 20 to 29 individuals. The femur, which was selected to represent the long-bones of the leg, indicated a minimum of 34 individuals. There was no significant discrepancy between the numbers of bones belonging to the left and the right parts of the body: there were, for example 34 left femora and 32 right femora.

Analysis of the data relating to the age-ranges represented by the bones in the mausoleum assemblage, indicated that the total number of persons present was significantly higher than a simple 'head count' might suggest. The minimum number is in fact 41 persons, comprising 31 adults, three sub-adults (aged 14–19),

four juveniles (aged 5–14) and two infants. The child-count is noticeably low, which provides another indication that the contents of the mausoleum was not derived from a common cemetery.

The original contents of the charnel deposit was undoubtedly greater than 41 individuals, since one-fifth of the estimated area of the mausoleum chamber had been totally destroyed by a later wall trench. This was cut through the area containing the main concentration of skulls (Fig. 65B). It is therefore not unreasonable to postulate that the deposit originally included the remains of at least 50 individuals.

The determination of sex in the adults — based perforce on individual bones, and not on complete skeletons — is not statistically reliable. Positive identifications reveal twelve males and six females. Whatever the precise ratio between the sexes, and between adults and children, it can hardly be doubted that the assemblage derives from a secular community, and probably includes family groups.

It is unfortunate that there were few distinctive pathological conditions represented by the bones which might have enabled individual skeletons to be substantially reconstructed. Nevertheless, some long-bones could be paired on the basis of dimensions and robustness, and significant parts of four individual skeletons were re-assembled.[8]

Calculations of stature, based on mean femoral length, yielded interesting results when the contents of the mausoleum were compared to the site in general (p. 561). Mean female height was exactly the same, but males in the mausoleum assemblage were distinctly taller than the site average, 1.819 m (5 ft 11¾ ins) as against 1.706 m (5 ft 7¼ ins). The likely implication is that the 'mausoleum' males belonged to a well-nourished sector of the Anglo-Saxon community.

Teeth provide another potential indicator of the class of society to which the final 'occupants' of the mausoleum belonged: the frequency of *ante mortem* tooth loss (*i.e.* extraction) was half that of the skeletal population in general.

General conclusions and dating

It is suggested that the mausoleum burial chamber was fully intact and contained within a building until it was cleared in preparation to receive the soil layers and charnel described above. Whether the lowest charnel deposit (within F1493) was introduced at the same time, or was already present on the floor of the chamber, is debatable. The fact that this deposition directly overlay the contemporary 'floor' level in the chamber (*i.e.* was on F1498), and that the bones had been carefully stacked in piles, might suggest that there was a period of use as an open ossuary soon after the removal of the coffined burial(s), but before the bulk of the infilling took place.

During the final filling process additional collections of bones which must have been housed somewhere in the locality were introduced. The condition of these bones was generally very good, and the surface colour of most of them was in the range cream-to-buff. It was, however, noted that a few bones exhibited distinctive patches of black staining which were plainly unrelated to the situation in which they were found: discolouration must therefore have occurred under previous burial conditions.[9]

The conclusion must be that the charnel material was not derived from common earth burials, but was garnered from coffins or tombs that had lain inside a structure. The simplest explanation would be to assume that the mausoleum continued in use as a depository for important coffined burials during the middle Saxon period. The deceased are likely to have been of relatively high social status.

Dating evidence for the infilling of the chamber comes in the form of a silver coin, in very fine condition, that was found on the floor of the chamber, securely sealed by F1493. The coin is a penny of Anlaf Sihtricsson, a ruler of the Viking Kingdom of York: it was minted in the period A.D. 941–44 (p. 517, no. 2). This is a particularly unusual find for south-west England and it is unlikely to have been lost more than a few years after the coin was minted. There were no other intrinsically datable finds from within the chamber.

Four radiocarbon determinations were made on samples of long-bones from the primary charnel in F1493. Femora, humeri and tibiae, representing four separate individuals, were selected. At one sigma deviation, the calibrated dates received were as follows: Cal. A.D. 553–652, 680–953, 685–883 and 888–1021 (GU-5019, 5018, 5154 and 5155, respectively). Full laboratory details are given in chapter 16.

Essentially, these four dates span the seventh to tenth centuries, inclusive, and provide further evidence, together with the Anlaf coin, that we have here the contents of a temporally extended series of tombs, translated into an ossuary, and finally sealed around the middle of the tenth century. A few bird and animal bones were also recovered from amongst the material in the chamber, but these are likely to be no more than fortuitous inclusions, although it is interesting to note that non-human bones often turn up in relic collections.[10]

Very little is generally known about burial in crypts and mausolea in the middle Saxon period since the relevant structures have either been substantially destroyed or long since robbed of their primary contents. Small, semi-sunken burial chambers, not unlike the Wells mausoleum chamber, were constructed in some middle Saxon cemeteries, where they acted as foci for later burials, and were sometimes incorporated in the fabric of church buildings. Two of these chambers, or *hypogea*, were found in the early cemetery at Glastonbury Abbey (Clapham 1928; Radford 1981, 117, fig. 2). One became encapsulated in the eastern arm of the Anglo-Saxon church, where it must have been regarded as a liturgically important focus. This *hypogeum* is believed to be eighth century or earlier. A small chamber was incorporated in an analogous

position in the eastern arm of the Old Minster at Winchester in the eleventh century (Biddle 1970, fig. 13, no. 6).

It seems likely that important Anglo-Saxon churches were not infrequently augmented by mausolea, as places of repose for coffined burials. The crypt beneath the chancel of St Wystan's Church at Repton, Derbyshire, is the most celebrated example (Taylor 1987). The corner of a generally similar structure has been discovered at the New Minster (later St Oswald's Priory), Gloucester (Heighway and Bryant 1986, 191, fig. 130), and a convincing case has been argued for a lost royal mausoleum at the east end of the church at Winchcombe, Gloucestershire (Bassett 1985).

The reuse of the substructure of an existing building as an ossuary in the middle Saxon period finds a parallel — albeit on a grander scale — at Repton. There, a rectangular chamber, which was originally the eastern cell of a memorial chapel — separate from but close to the church mentioned above — provided the setting for a north–south Viking burial around which was systematically deposited a great quantity of charnel of uncertain origin (Biddle and Biddle 1992, 42–8).

The mortuary chapel (Structure 3)

A site overlying the south-west corner of the demolished mausoleum was colonized for the erection of a tiny chapel. The most notable feature of this structure was the series of intercutting burials that lay within its walls. The term 'mortuary chapel' has therefore been adopted as an appropriate shorthand description.

Construction

In its first phase, the chapel comprised a single-celled rectangular building, measuring *c.* 5.3 by 4.6 m (17½ ft by 15 ft) externally. A length of foundation (F806) belonging to the secondary phase of the mausoleum (Structure 1B) was reused for the west side, while a new trench-built foundation was laid for the other three sides (Figs. 67 and 68). This foundation was flat-bottomed, 1.1 m wide, and comprised large, irregular slabs of lias laid in the base of the trench, with lias and other rubble piled on top in an ample matrix of pink lime-mortar (F1497). The foundation was sectioned on the east side, close to the southern corner (Fig. 76, S.157).

On the north and south sides only, the inner edge of the foundation was precisely recorded, while the outer edge in both cases was encapsulated in the widened foundation of the succeeding (Saxo-Norman) chapel (p. 87; Figs. 69 and 70; Pl. VI). The abutment of the northern foundation to the earlier west wall was preserved, but the southern abutment was lost.

The north-east corner of the chapel partially overlapped the burial chamber of the mausoleum, establishing that the latter must by then have been infilled and levelled. The chapel's foundation trench cut through the masonry sides of the chamber, and through the soil layers filling it. An unfortunately sited Victorian excavation trench had, however, removed nearly all of the chapel's foundation at this corner, so that it was not possible to examine the finer points of stratigraphy, such as the relationship between the destruction of the chamber and the ground or floor

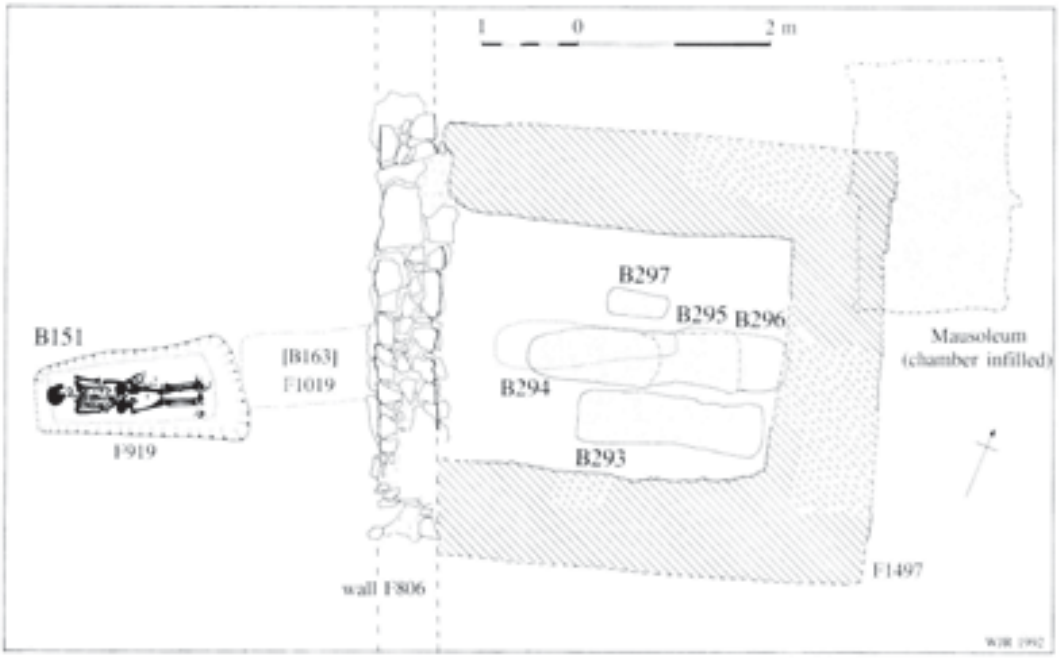


Fig. 68 Foundation plan of the mortuary chapel (Structure 3), incorporating an earlier wall (F806) in its west side. Reconstructed grave outlines are shown for the small group of burials enshrined within the building. For details of the individual burials, see Fig. 43. Scale 1:80

Fig. 69 General view looking south in Area 10, showing the crossing of Stillington's chapel (masonry at the four corners); the north wall of the thirteenth-century Lady Chapel and recycled Roman stone coffin (foreground); and the mortuary chapel (centre right)

Fig. 70 Structure 3, the mortuary chapel, viewed from the east; the west wall is beyond the section. The other walls all have external thickening of Saxo-Norman date, associated with Structure 6. Scale of 75 cm

level from which the chapel's foundation was cut. Although the new foundation was taken to a slightly greater depth where it overlay the burial chamber, no attempt was made entirely to remove the filling in order to establish a sound base. However, it is notable that none of the charnel filling of the chamber was permitted to remain beneath the chapel foundation; this material had been recognized as unsound, and was deliberately removed (Fig. 65A).

Within the chapel was a general layer of upcast material (red clayey loam F1444), evidently derived from the buried-soil horizon F1445, and was doubtless the product of foundation trenching. This material covered the meagre remains of the floor of the mausoleum, and the adjoining area of subsoil. The succession of floors and other deposits overlying the upcast belonged unequivocally to the later Saxon chapel on this site, and there is thus no evidence relating to primary floors inside the mortuary chapel. Either there was no laid surface, or it was skimmed off during the course of subsequent rebuilding works. Nothing certain can be said regarding the superstructure of the chapel, or the position of its entrance. The width of the foundation indicates that the walls were of masonry rather than timber, and the entrance is more likely to have been on the west than elsewhere.

Burials inside the chapel

A very fragmentary group of interments lay within the chapel (Figs. 43, 68 and 71). All were cut through the buried soil (F1445) and into the bedrock below, although in only one instance was the outline of the grave clear above the level at which it penetrated the bedrock.

Potentially the earliest burial in the chapel, B296, was the centrally placed adult, whose feet touched or just clipped the foundation of the east wall. The broad east end of the grave, F1447, and the feet were all that remained *in situ* and, although no coffin silhouette was found, it seems likely from the grave outline that this was a coffined burial.

A second adult grave had subsequently been cut nearly on the same spot, but slightly further to the west (F1526). Of this burial, B295, the lower legs and feet remained *in situ*, and alongside were some disarticulated bones, including the skull of a young adult female. It is likely that these *ex situ* remains derived from the disturbance of burial 296; if so, that indicates the sex of the primary burial in the group. The outline of the second grave was virtually indiscernible, although the presence of several nails indicated that there had been a timber element present.

Third in succession, and also on the chapel's axis was the grave of a child aged 4–5 years, burial 294. This grave (F1450) cut away the upper half of the previous interment, giving rise to the many displaced adult bones in its fill. Nails were found in the grave, but these are likely to be residual from the earlier burial; the rounded west end of the child's grave is more consistent with an uncoffined burial.

Almost directly on top of this interment, and last in the sequence, came burial 276, a young male adult aged 20–30 years. He was in a narrow, tapering grave (F1300) and was certainly uncoffined. Although the north side was sliced away by a medieval feature, it seems likely that the grave was an earth-cut cist; it is shown in detail in Figure 74. It could be argued that burials 276 and 294 were a related pair, on account of

Fig. 71 Fragmentary interments inside the mortuary chapel. In the foreground is burial 293, showing also numerous disarticulated bones packed between the coffin and the side of the grave. Scale of 75 cm

their superimposition and the fact that the upper one did not disturb the lower. On the other hand their relationship could be purely fortuitous and result from the later reuse of this axial position in a confined space. Thus burial 276 could belong to the succeeding St Mary's chapel (Structure 6; p. 96).

The burials so far listed all lay on the east–west axis of the mortuary chapel, but there were also others to either side that clearly formed part of the same ensemble. In the south-east corner lay the best preserved of all, burial 293, an adult male 25–30 years old, in a wooden coffin. Several nails occurred in the fill. The grave (F1449) was cut well into the bedrock and had evidently destroyed earlier burials, the bones from which were packed between the coffin and the north side of the grave-cut. Immediately west of B293 were three skulls lying in the buried soil, but without a discernible cut to contain them. The extant grave must have come late in the history of the mortuary chapel since the sinkage of its fill was readily detectable in the floors of St Mary's chapel above.

Finally, towards the north wall of the chapel lay an infant burial (aged 18–24 months), B297, in a small but well-defined grave (F1514). This burial too was possibly coffined, although the nails in the grave fill may have been residual. Just to the north lay the right-angled corner of another grave-like cut, F1527 (shown in Fig. 43). Almost certainly this was once a grave, but was largely cut away by later features, including burial 297. It may be significant that this putative grave was aligned more closely on the mausoleum chamber than on the mortuary chapel, and may therefore have been somewhat earlier than other features in the group (but this is a subjective judgement).

It has been posited that the entrance to the chapel was on the west, and it may be no coincidence that an exceptionally large and deep grave lay axially just outside the building. The coffined burial, B151, was of a man aged 45–60 years; he had suffered fractures to both arms. For details of this burial, see Figure 60 and p. 69.

Dating and discussion

This small rectangular chapel continued the tradition of the earlier mausoleum as an enclosed burial place of special distinction. Indeed, it might be seen as a reduction of the mausoleum to a more convenient sized structure in order to maintain a physical presence at an ancient *locus sanctus*. At least four of the burials beneath its floor appear to have been coffined, while two were almost certainly uncoffined. Disarticulated bones, including three skulls, and the corner of an emptied grave, point to the destruction of several earlier burials in this small but intense group.

No traces of coffin timber survived in any of the graves, and nor were any iron fittings present, beyond a small number of severely corroded nails. These occurred sporadically in the grave fills, providing additional evidence for the presence of timbers. Interpretation is equivocal: recycled pieces of timber could have been used as grave-liners, or there may have been carpentered coffins involving the occasional use of nails to reinforce timber joints. Two of the burials, B293 and B297, were almost certainly coffined, although not constructed with full sets of nails (*cf.* Barton-upon-Humber: Rodwell and Rodwell 1982, 301, 310–12).

The coffined and potentially coffined burials — three adults and an infant — clearly constituted the focus of the mortuary chapel, and there is no reason to doubt that the stratigraphically later earth-cut grave B294 was associated. It yielded a radiocarbon date of Cal. A.D. 677–790 (GU-5014), which must place it firmly in the context of the mortuary chapel, and not the later St Mary's chapel.[11] More equivocal in its relationship to this series was burial 276. It may have been the last in the sequence just described, or it could be seen as a contemporary sepulchral focus introduced into the chancel of St Mary's chapel, the Saxo-Norman successor to the mortuary chapel. However, it would have lain slightly off the axis of the chancel, whereas in the mortuary chapel its position was perfectly axial.

The mortuary chapel was not a primary feature of the Anglo-Saxon cemetery: it has been argued that the original focus must have been the Roman mausoleum (Structure 1; p. 55). The post-Roman reconstruction of that building (1B) did not occur until a row of burials had taken place immediately outside its west wall. Moreover, there had been a second generation of interment, which included children, on the same line; all the graves were sealed by the wall F806. Since one of the burials in the row (B115) was dated to Cal. A.D. 685–889 (HAR-3397), the mortuary chapel must be regarded as eighth century or later. The date is compatible with that received for the internal burial 294, which together seem to provide supporting evidence for assigning the chapel to the middle Saxon period.

A potentially serious conflict arises, however, when it is attempted to reconcile the dating evidence for the graves with that from the infill of the mausoleum burial chamber. The charnel material there must also be regarded as providing a *terminus post quem* for the mortuary chapel and any burials associated with it. The Viking coin, which was so unambiguously sealed on the floor of the chamber, indicated that the mortuary chapel could not have been erected before the middle of the tenth century, a date reinforced by the latest of the radiocarbon determinations from the chamber's contents (p. 78).

The most straightforward solution to the dilemma is to accept the tenth-century date for the mortuary chapel, and to divorce it as a structure from the series of burials lying within its walls, accepting these as pre-existing. The possibility that these interments were merely part of the seventh- or eighth-century open cemetery — and that their appearance within the walls of the chapel was purely fortuitous — has been examined carefully, but has to be firmly rejected as an untenable hypothesis. Unlike the cemetery outside the chapel to the west, the internal group of burials was distinctly separate and cohesive, as

well as being intense. Moreover, the disposition of these 'internal' graves is incompatible with their interpretation as part of a north–south row, or as an element in the general matrix of the Anglo-Saxon cemetery (p. 81). Finally, the group was centred within, and on the same alignment as, the chapel, for which coincidence is a less than satisfactory explanation. But most significant of all was the fact that there were no other graves sealed or cut by the chapel's walls, demonstrating the singular nature of the little group.

The explanation must logically be that burials 293–97 did not take place inside the chapel, but that the chapel was built purposefully to enshrine a group of ancient and important interments that was already marked by a monument, or contained within a mortuary structure. This burial group may be seen as having originally occupied a discrete *locus* within the south-west corner of the Roman mausoleum. When that building was demolished in the tenth century a purpose-built chapel — a *memoria* — was erected to enshrine this ancient sepulchre and to house whatever monument may have stood there. Clearly, the group of burials must have been of exceptional importance to the local community, so much so that there was a perceived need to create a facility for their continued protection and, arguably, veneration.

Finally, it remains to mention the occurrence of artefacts in association with the chapel and cemetery, and they are extraordinarily few. No pre-tenth-century sculpture or decorative metalwork was found; the two relevant coins have been mentioned. Likewise, there was no pottery present, except the occasional residual Roman sherd. It is clear that Wells was essentially aceramic in the Anglo-Saxon period, there being very little identifiable pottery from the cathedral (or from the town) that could be earlier than the eleventh century. The same obtains at Glastonbury. The occasional small sherd of a cooking pot, with no diagnostic features, recovered from a pre-Norman grave-fill or general layer, contributes little to the understanding of the site.

The only remarkable category of finds was glass, undoubtedly imported and of late Roman or Merovingian date. Eight small pieces were found in the vicinity of the mortuary chapel, but not all were from pre-Conquest levels. Both window and vessel glass were present. The former was represented by only one piece of mid-blue crown glass, with grozed edges. However, the latter comprised a small collection of fragments from olive green, pale blue, and black vessels. All were very thin (p. 532; Pl. XIII).

Topography and the minster church

Having presented the archaeological evidence for the Anglo-Saxon cemetery and all structures that are likely to be of tenth-century or earlier date, an attempt must now be made to shed light on the general morphology of the minster at Wells.

Previous discussions of the problem

The sole surviving documentary reference to Wells Minster is contained in the charter of A.D. 766, which tells us three things: that there was a *monasterium*, that it was dedicated in honour of St Andrew, and that it was near the 'great spring' (p. 2). Past generations of antiquaries could say little of the Anglo-Saxon buildings. Writing in 1870, Freeman observed, 'Of the fabric as it stood in the tenth century, I can tell you nothing ... at Wells we have little or nothing earlier than the thirteenth' (Freeman 1870, 23). However, he went on tentatively to suggest that the pre-Norman cathedral may have stood 'where the cloister, library, &c. stand now', noting that it was not unusual, when rebuilding took place, 'to build the new church a little way off from the old one' (*ibid.*, 38).

There the matter rested until 1894, when excavation revealed the foundations of the Lady Chapel-by-the-Cloister (Structure 11), and Canon Church argued that this was likely to be the site of the chapel of St Mary which Giso, the last Anglo-Saxon bishop of Wells, had endowed (Church 1894a, 21). He did not comment on topographical dispositions, or pursue Freeman's suggestion. Buckle, however, observed that the obliquity of the chapel (in relation to the present cathedral) was matched by that of the medieval conduit which carries the outflow from St Andrew's Well, and he argued that the conduit represented the canalization of a natural stream. He thereupon deduced that the alignment of the old Lady Chapel was based on topographical considerations, and thus perhaps its site was more ancient than that of the present cathedral: 'it is quite intelligible that an isolated chapel should have been built upon the bank of the stream, following the direction indicated by the stream' (Buckle 1894, 35–6). While that was theoretically true, it can now be seen as an oversimplification: the real significance of the 1894 discoveries in relation to the topography of the Anglo-Saxon minster was still unappreciated.

It fell to Hope in 1909 to analyze the evidence and to begin to reconstruct the historic topography of Wells. He prefaced his observations: 'So many attempts have been made to unravel the architectural history of the cathedral church of Wells, and such conflicting views have been put forth to explain it, that it may seem hopeless now for anyone to get a hearing for an entirely new theory as to its beginnings.' Hope then went on to explain that 'while looking at the plan of the city', he became aware that 'certain topographical features which had not hitherto been noticed were the key' to the origins of the cathedral site (Hope 1909, 85; 1910, 223).

Hope argued a case, based on the topography and morphology of the town and cathedral precinct, for the original minster church having lain obliquely across the site now occupied by the cloister. He believed that the building stood adjacent to the east end of the market place, between it and the springs. He further

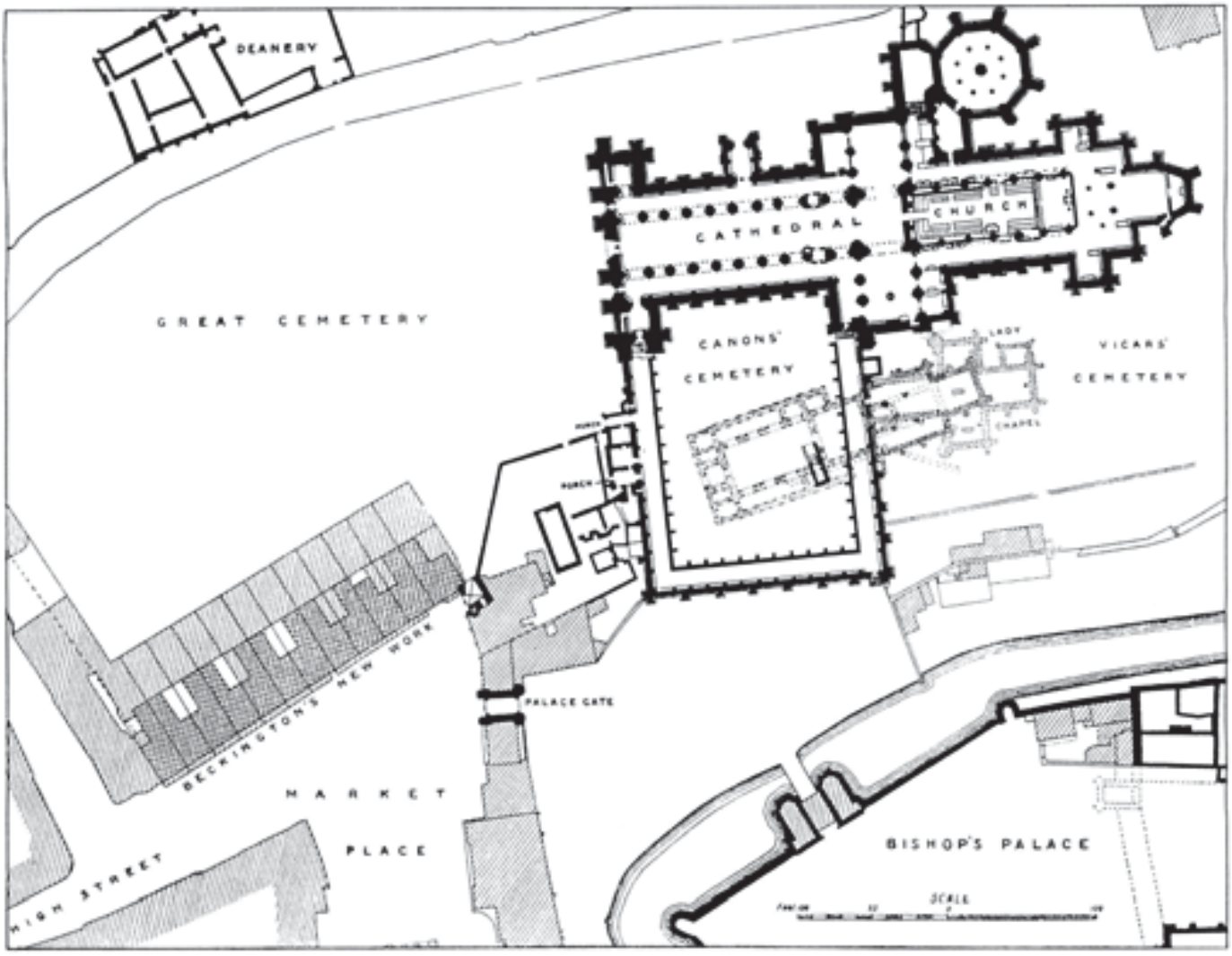


Fig. 72A William St John Hope's plan demonstrating the different building alignments in the area around the cathedral. This illustrates his contention that the Anglo-Saxon minster church lay beneath the present cloister, and that the excavated Lady Chapel-by-the-Cloister was an eastward extension of it. His reconstruction of the minster outline is wholly conjectural, and is based on the plan of Brixworth church. After Hope 1909

argued that the recently excavated Lady Chapel was essentially an eastward extension of the original edifice, and not an independent structure. This concept broke new ground.

Hope illustrated his contention by superimposing the plan of Brixworth Church, Northamptonshire, on the Wells cloister, in such a position that it not only took up the skewed alignment but also adjoined the west end of the old Lady Chapel in a moderately convincing manner (Fig. 72; Hope 1909, pl. II).[12] The present cathedral church, according to Hope, was a wholly new building of the 1180s, established on a fresh site to the north of the Anglo-Saxon minster complex.

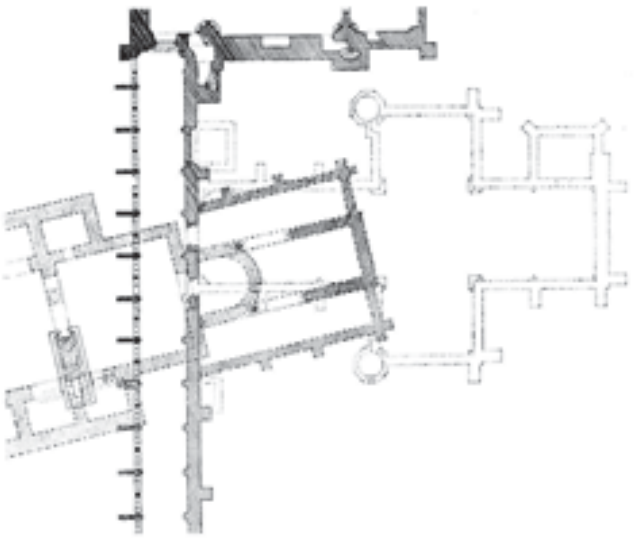


Fig. 72B Hope's revision of his conjectural plan of the Anglo-Saxon cathedral, with the eastern arm reduced in length. Also shown is Bishop Stillington's cruciform chapel. After Hope 1910

Synthesis of the archaeological evidence

An attempt must now be made to interpret the complex evidence recovered through excavation, and to relate this to the wider picture. Any interpretation can only be provisional, given that such a small percentage

of the Anglo-Saxon cathedral site has yet been investigated. There are three classes of evidence to consider: structures, burials, and other liturgical and topographical features. The early structural remains are extremely fragmentary and are difficult to date, but they enjoy certain stratigraphic relationships to burials, some of which have been dated by radiocarbon testing.

The Roman mausoleum

This is seen as the most critical feature of the discussion; in origin it is likely to be fourth or fifth century. The overall building was probably squarish in plan, with a central burial chamber which was orientated approximately north–south. In its second structural phase (stone-lined), if not the first, the mausoleum chamber is likely to have contained a burial of profound Christian significance, at least in a local context. Although it underwent major physical changes, the building was a sepulchre, which was preserved and venerated until the mid-tenth century.

During the middle Saxon centuries the mausoleum attracted further burials, both within its walls and in orderly rows outside to the west. The building was reconstructed at an early date, its west wall sealing the first of those rows (Structure 1B). The internal burials were probably of two types. First, there was a close-knit group of interments placed beneath the floor in the south-west corner. Secondly, there were some fifty, or more, coffined *deposita* placed within the mausoleum (or in an adjunct of which there is currently no knowledge).

The cemetery

An Anglo-Saxon cemetery was developed to the west and north-west of the mausoleum, and was initially contained within an earthwork enclosure that may already have been in existence. A variety of burial types was represented, ranging from the simple earth-cut grave to wooden coffins and timber-lined cists. Some of the burials, particularly those immediately to the west of the mausoleum, may have been of high status, if elaboration in grave construction is accepted as a reflection of social standing. Burial is likely to have begun in the seventh century.

The Church of St Andrew

A major structure, with a deep and curving foundation has been glimpsed. It was erected a few metres to the west of the mausoleum, and is currently interpreted as an eastern apse and crypt associated with the minster church of St Andrew. There is no directly associated dating evidence, although the failure of the apse to exert a deflecting influence on nearby burials suggests that the building (or this part of it) came late in the history of the cemetery.

The apse was centred on, and cut through, a yet earlier well-shaft, and there may have been other features or structures in the area that are as yet undiscovered. In A.D. 909 the minster was raised to diocesan status, indicating that it was by this time a significant church. The apsidal crypt is likely to be tenth or even eleventh century in date, rather than earlier, but very little comparative architectural evidence is available in Somerset. Apsidal terminations did not apparently feature in contemporary Glastonbury (Rahtz 1993, figs. 51 and 53).[13]

The mortuary chapel

In the mid-tenth century, the mausoleum was finally demolished and its burial chamber infilled with the remains of the fifty, or so, coffined burials which had probably been housed within it. The group of burials beneath the floor in the south-west corner of the mausoleum, already perhaps more than two centuries old, was deemed to be of sufficient importance to merit the construction of a tiny chapel over them: this must have been a *memoria*. It may have been at this stage that the chapel first acquired its dedication in honour of St Mary the Virgin, although this is not historically attested until the middle of the eleventh century.

Meanwhile, another building of rectangular plan, and possibly also a chapel, was erected immediately to the north of the former mausoleum (Structure 4).

Topographical considerations

The beginnings of a 'family' of liturgical structures, in linear formation, can be seen to have developed during the middle Saxon period at Wells: the church of St Andrew, being the principal structure, lay towards the west; the 'holy' well, also dedicated to St Andrew, provided the eastern terminus; and the rebuilt mausoleum formed a venerable focus between the two (Fig. 73). The latter subsequently underwent a transmutation into the documented chapel of St Mary. Ultimately, as will be shown in chapter 4, St Andrew and St Mary were physically conjoined.

Other, lesser features doubtless formed part of the 'family', and these included at least one early well-shaft on the axial line. Man-made wells in close proximity to churches are a constant feature of early ecclesiastical complexes, but little is known about them archaeologically. Most of those that have survived as visible features have undergone reconstruction in the Middle Ages. Similarly, little is yet known concerning the significance of Anglo-Saxon ecclesiastical planning in relation to springs and pools of natural origin. Wells provides the archetypical example, but there are numerous instances of a more-or-less axial water source either to the east, or to the west, of a church. At Abingdon, Oxfordshire, for example, a pool formed an eastern focus to the abbey church (Biddle *et al.* 1968, fig. 11).

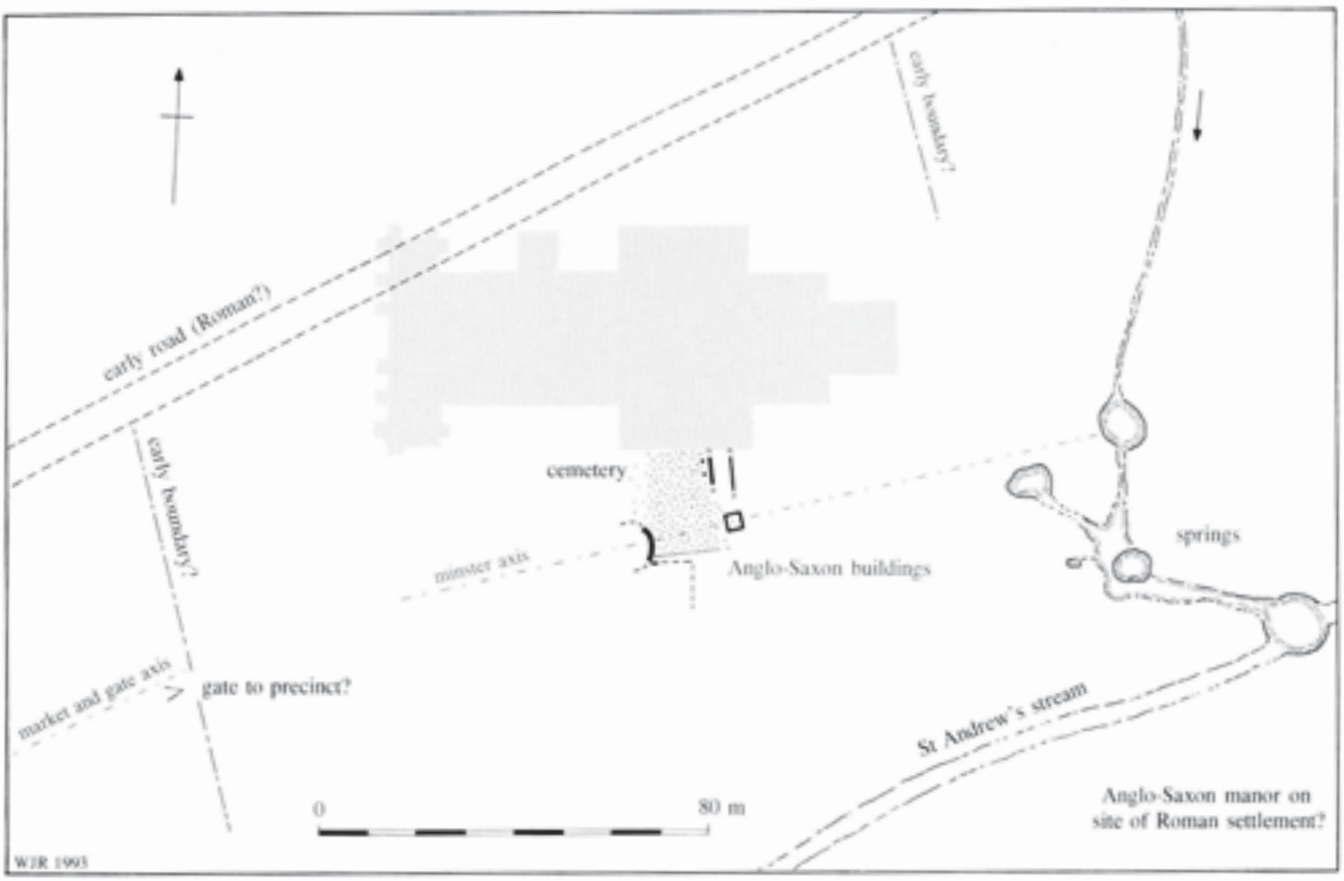


Fig. 73 Schematic plan illustrating the topography of the Anglo-Saxon minster at Wells, as it might have been at the beginning of the tenth century. The extent of Bishop Reginald's new church of the 1170s is indicated by grey tone

Although the principal component of Wells Minster — St Andrew's church — remains unexcavated and has only been identified circumstantially, its suggested location receives support on topographical grounds. Basically, the options for its siting are few: the church must have lain either to the north or to the west of the mortuary chapel (later St Mary's). It could not have been to the east, on account of the springs, or to the south, where the land fell towards St Andrew's stream. There are recorded precedents for Anglo-Saxon churches lying alongside and parallel to one another (*e.g.* Worcester), although little is known of them archaeologically, except in the case of the Old and New Minsters at Winchester. But that was a late Saxon arrangement. In the middle Saxon period, linear dispositions were much more common, whereby two or more churches shared the same east–west axis, but stood as separate entities within the same ecclesiastical precinct, as at Glastonbury, Winchester Old Minster, Canterbury, and numerous other places.

The possibility that St Andrew's church lay to the north of the mortuary chapel — where it would be wholly beneath the existing cathedral — cannot be ruled out, but no positive evidence can be adduced in support of such a hypothesis, and in general terms it seems unlikely. The greater probability is that the middle Saxon church lay to the west of the chapel, namely on the site now occupied by the medieval cloister. Developments in the late Saxon and early medieval periods are seen to follow a logical progression if this hypothesis is followed; the matter is fully discussed in chapter 4 (pp. 115–17).

To sum up: Freeman guessed what might have been the building sequence, Buckle found some of the physical evidence, and Hope read the local topography and interpreted its significance. It can now be appreciated that between them they almost certainly established the true site and orientation of the Anglo-Saxon minster church, without actually setting eyes on its remains. Those remains are extremely fragmentary, deeply buried and, for the most part, lie outside the area investigated archaeologically in the nineteenth and twentieth centuries. A tantalizing glimpse is all that has so far been seen, and further speculation as to the plan and layout of the first Wells Cathedral must be deferred until such time as fresh knowledge is gained.

4 The Late Saxon Cathedral and Norman Collegiate Church, *c.* 909–1200

St Mary's Chapel (Structure 6)

Between the late tenth and the twelfth centuries the single-celled Anglo-Saxon mortuary chapel (Structure 3) was transformed into a building which in plan resembled a small parish church, with nave and chancel (Structure 6). It was subsequently linked to the apsidal east end of St Andrew's Minster church (Structure 7), and later still to the Gothic east cloister (Structure 10). Several constructional phases were identified during excavation, but the surviving evidence did not always permit clearcut differentiation of detail. It is particularly unfortunate that virtually nothing survived of contemporary floor and ground levels, except in the chancel. The chapel was built upon the earlier cemetery, and its foundations cut through numerous graves.

Reference to the history of the building that occupied this site in the early Middle Ages — the Lady Chapel-by-the-Cloister — leaves little room for doubt that the identification of Structure 6 as the Saxo-Norman St Mary's chapel is correct (chapter 6). The earliest notice of the chapel is found in a charter of Bishop Robert of 1136, where he confirmed certain grants, one of which was a virgate of land in Wootton that Bishop Giso had given to the chapel of St Mary: *Dimidiam etiam hydam in Wotton cum virgata terre quam jocunde recordationis Gyso episcopus dedit capelle Sancte Marie* (HMC 1907, 33; Church 1894b, 354). The gift itself is undated, but the wording implies that St Mary's was already in existence, and was not a new foundation. The possibility that the gift was linked to a restoration of the chapel by Giso is to be borne in mind.

The evolution of the plan

The remains of the chapel were severely fragmented in the fifteenth century, when the foundations were laid for Bishop Stillington's replacement Lady Chapel (Structure 15). The whole of the south side of the nave of the earlier building, together with the two southern corners, was removed; the west end was also effectively missing (Figs. 74 and 75). Medieval grave digging had destroyed most of the stratification within the nave, and reduced the foundations of the chancel to a very low level.

Basically, there were three stages of development. The first involved the construction of an additional cell, of rectangular plan, on the west side of the mortuary chapel, thus forming a two-celled building (nave and chancel). In the second stage the old mortuary chapel was rebuilt, to form a new and slightly enlarged chancel. An unfortunately sited Victorian excavation trench had removed much of the wall core at the point of junction on the north side, but sufficient remained to ascertain that the nave and chancel were of separate builds. Nothing, of course, survived on the south side. Differences were also noted within the construction of the nave itself, which suggested that it too was of more than one phase.

The third stage of development involved linking the two-celled chapel to existing structures that lay to the west. The intervening space, newly enclosed, may have formed a vestibule to the chapel. Alternatively, it could be viewed simply as an extension of the nave. The link itself seems to have been of two constructional phases, one relating to the Anglo-Norman church, the other to the early Gothic cloister. It is convenient to describe all the pre-1200 structural remains here, although full discussion will be reserved for the chronologically appropriate places in the text.

The chancel

The mortuary chapel was enlarged on three sides, to create the chancel of the new chapel. The west wall — which also formed the east end of the nave — remained more-or-less on its original site; even so, the old wall (F806) was demolished and replaced by a new and thicker one, the orientation of which was very slightly changed. In order to widen the old foundation, a trench was dug along its west side and filled with Pennant sandstone boulders set in pink mortar (Fig. 76, S.91, F778).

The old east wall was razed and a replacement built immediately outside it. The new foundation (F1496) was of the same width as its predecessor, 1.20 m, but of markedly different construction. On the south, the existing foundation was externally widened by 40 cm, and the wall repositioned correspondingly. The north wall may not, however, have been moved by very much, if at all, because to do so would have lost axial symmetry between the nave and the chancel. The old mortuary chapel and the added nave did not share the same longitudinal axis: this was apparently compensated for by the asymmetrical rebuilding of the chancel.

Only the east and west foundations were sectioned archaeologically; the point of enlargement was readily visible in plan on the south side (Fig. 68), but less certainly on the north. The internal dimensions of the new chancel, at foundation level, were 4.4 m (14½ ft) east–west, by 3.0 m (10 ft) north–south.

Whereas the foundations of the mortuary chapel comprised well-laid stone in a flat-bottomed trench (F1497), the later chancel was founded on mortared rubble (F1496) in an irregular, U-shaped trench (Fig. 76, S.157). In the base of this lay rounded pebbles and small boulders of red Pennant sandstone,

Fig. 74 Foundation plan of St Mary's chapel (Structure 6), showing eleventh- and twelfth-century phases. Inset A shows secondary features in the chancel. For sections see Fig. 76. Scale 1:80

Fig. 75 The north and east walls of the nave of St Mary's chapel, looking east, after full excavation. The stump of the west wall (north-west corner) can be seen alongside the scaffold bridge. The two massive walls framing the picture are the nave of Stillington's Lady Chapel, and the stone coffin is fifteenth century. Scale of 2 m

without any matrix: the interstices were still voided. The remainder of the trench was filled with mixed rubble, laid with a prodigious quantity of friable, pink lime mortar; the rubble was not coursed. Running along the outer lip of the foundation trench was a flat ledge, cut into the top of the clay subsoil. On this ledge, on a bed of pink mortar, lay flat slabs of white lias and conglomerate; these were bonded with the rubble core of the foundation. Evidently this was an unconventional offset which, instead of reducing the thickness of the wall, increased it. A negative offset (or 'oversail') was also present in the nave.

The oversailing slabs were *in situ* on the south side, but had been robbed out on the east, leaving the ledge intact. No slabs remained on the north side, but here the face of the foundation had been cut back by a thirteenth-century wall trench (F1283). There seems no reason to doubt that the chancel was built with a shallowly-founded, external negative offset, which probably consisted of two masonry courses below ground level. Only one course remained on the south side. Careful scrutiny failed to yield any evidence to support the suggestion that the oversail was later than the rubble immediately beneath it.

The nave

Most of the north wall foundation (F704) survived, together with returns at both the east and west ends; it was sectioned in three places and shown to be of two constructional phases (Fig. 76, S.101, S.106 and S.107). The width of the primary foundation was 1.20–1.35 m, and the profile was markedly irregular. It was trench-built, with a sagging base and splayed sides. The materials used were similar to those in the chancel. About fifty percent of the rubble comprised water-worn boulders and pebbles of Pennant sandstone; there were also nodules of lias, lumps of conglomerate, and a few masons' offcuts of Doulting stone (Fig. 77). There were obvious idiosyncrasies in the work.

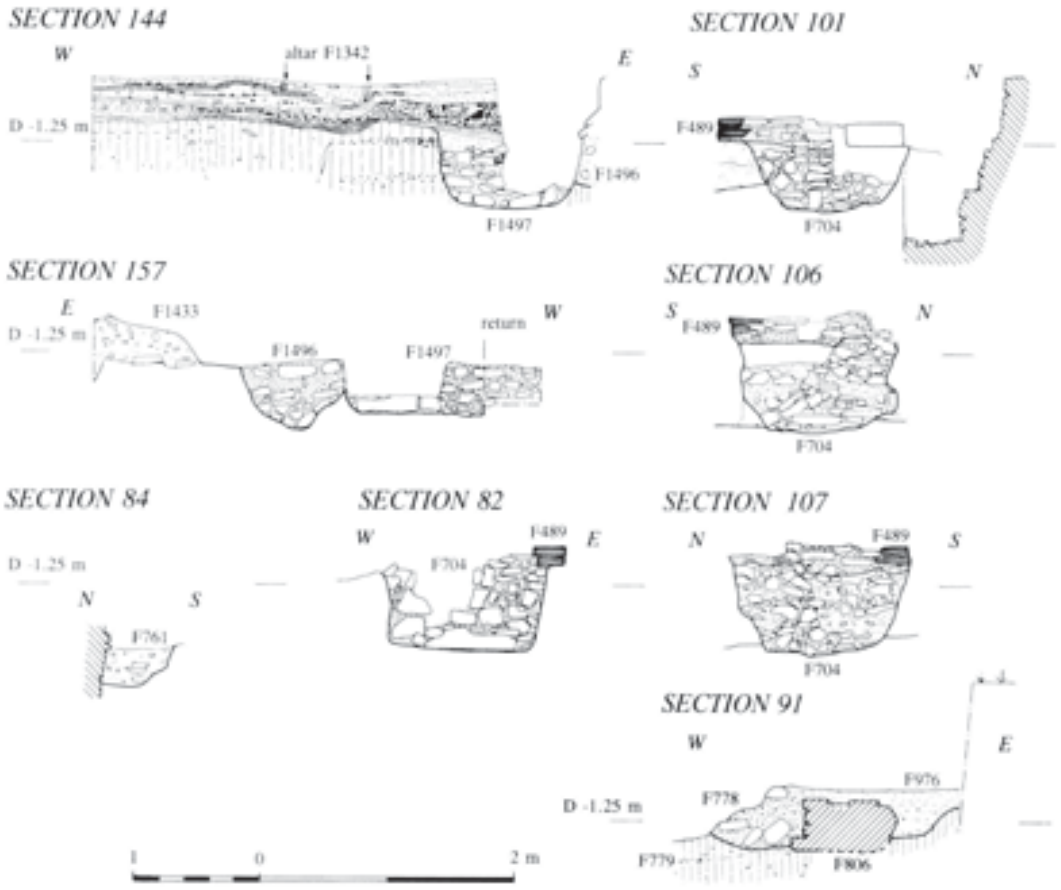


Fig. 76 Sections through the foundations of the nave and chancel of St Mary's chapel. For positions, see Fig. 74. Scale 1:60

Fig. 77 Part of the north wall of St Mary's chapel, showing the pebble-rubble core exposed by a later grave-cut. On top of the foundation is the lias walling of the second phase of the chapel. Scale of 2 m

In sections S.106 and S.107 clear evidence of banding could be seen, resulting from the laying technique: stones were thrown into the trench, followed by a quantity of mortar, and then another layer of stones. Small voids also appeared in the construction.

In section S.101 there was, moreover, a semblance of coursing in the masonry, and a vertical 'joint' could be seen, which can hardly have been fortuitous. Superficially, this section might suggest that the foundation was originally narrower and was fair-faced on its south side, but was later widened. This is reminiscent of the nave/chancel wall, F806. If the anomaly is significant, it must relate to an early phase of activity at the east end of the nave, since it does not appear in sections further west.

The west side of the nave was represented by the surviving return at the north-west corner, where the foundation profile was more regular than elsewhere

Fig. 78 Section across the west wall of the nave of St Mary's chapel, at the north-west corner. Note the overhanging courses of lias limestone on the interior of the nave (right). Scale of 75 cm

(Fig. 76, S.82), and by a residual fragment of the trench-bottom, F739. A unique feature of the west foundation, and north-west corner generally, was a layer of flattish slabs of Chilcote stone (up to 1.0 m long) in the base of the trench. Above this, there was no semblance of banding or coursing: rubble and mortar had been tipped in randomly, resulting in large interstitial voids (Fig. 78).

The south wall of the nave was entirely destroyed, but the south-west corner was ghosted by the later western extension. The foundation plan is therefore reconstructible at *c.* 9.0 m (30 ft) by 4.6–4.7 m (15¼–15½ ft) internally.

Overlying the primary foundation of the north side, whose depth below contemporary ground level averaged 60 cm, lay masonry of a second phase (F489). This was roughly coursed and the facing mainly comprised flat pieces of white lias set in friable pink mortar with inclusions of unburnt lime. The core was filled with small fragments of lias and masons' offcuts of Doulting stone (Fig. 77). The mortars used were visually similar, and markedly lacking in cohesion. It is not unlikely that mortar derived from the demolition of the first phase was recycled as foundation fill in the second.

The junction between the two constructions was irregular but clearly defined. Two internal facing courses of lias survived along much of the north side, and on both returns. Little of the external face survived, having mainly been cut away by later features. It was not as regular, and incorporated squared blocks of Doulting stone. Moreover, close to the north-west angle a pair of Doulting blocks marked the junction with a shallowly founded wall which ran northwards from the chapel (F1521; Structure 8). This wall was associated with the secondary phase of the nave, and did not connect with the primary foundation, F704.

Another characteristic of the secondary foundation was its deviant alignment from the earlier work below. The three cross-sections through the north wall demonstrated this plainly: at the west end, the inner faces of the two foundations coincided (S.107); near the mid-point the upper foundation, F489, overhung by a few centimetres (S.106); and at the east end there was an emphatic overhang of 20 cm (S.101). On the east foundation the two masonry faces were roughly coincident but there was an internal overhang of 12 cm on the west (S.82).

It may be noted, *en passant*, that the overhang on the nave foundations did not correspond to the external oversailing already described in relation to the east and south walls of the chancel: apart from being stratigraphically earlier, and 20 cm lower, the masonry type in the chancel differed markedly. The secondary masonry of the nave was coeval with the western extension (see below), the coursed lias facing on the north running through both (Fig. 80B, S.102).

Fig. 79 The lowest foundation course of the south link-wall (F332) of the vestibule (or west nave) of St Mary's chapel, looking west towards the cloister. Scale of 75 cm

The vestibule, or west nave

The westward extension of the nave also encompassed two structural phases, the second almost certainly contemporary with the upper, lias-edged foundation just described. The earlier phase represented an addition to the original nave of the chapel. The chapel was linked first to a pre-cloister structure on the west, evidently the squared-off apse of the Anglo-Saxon minster church (p. 74), and later to the Early English cloister itself.

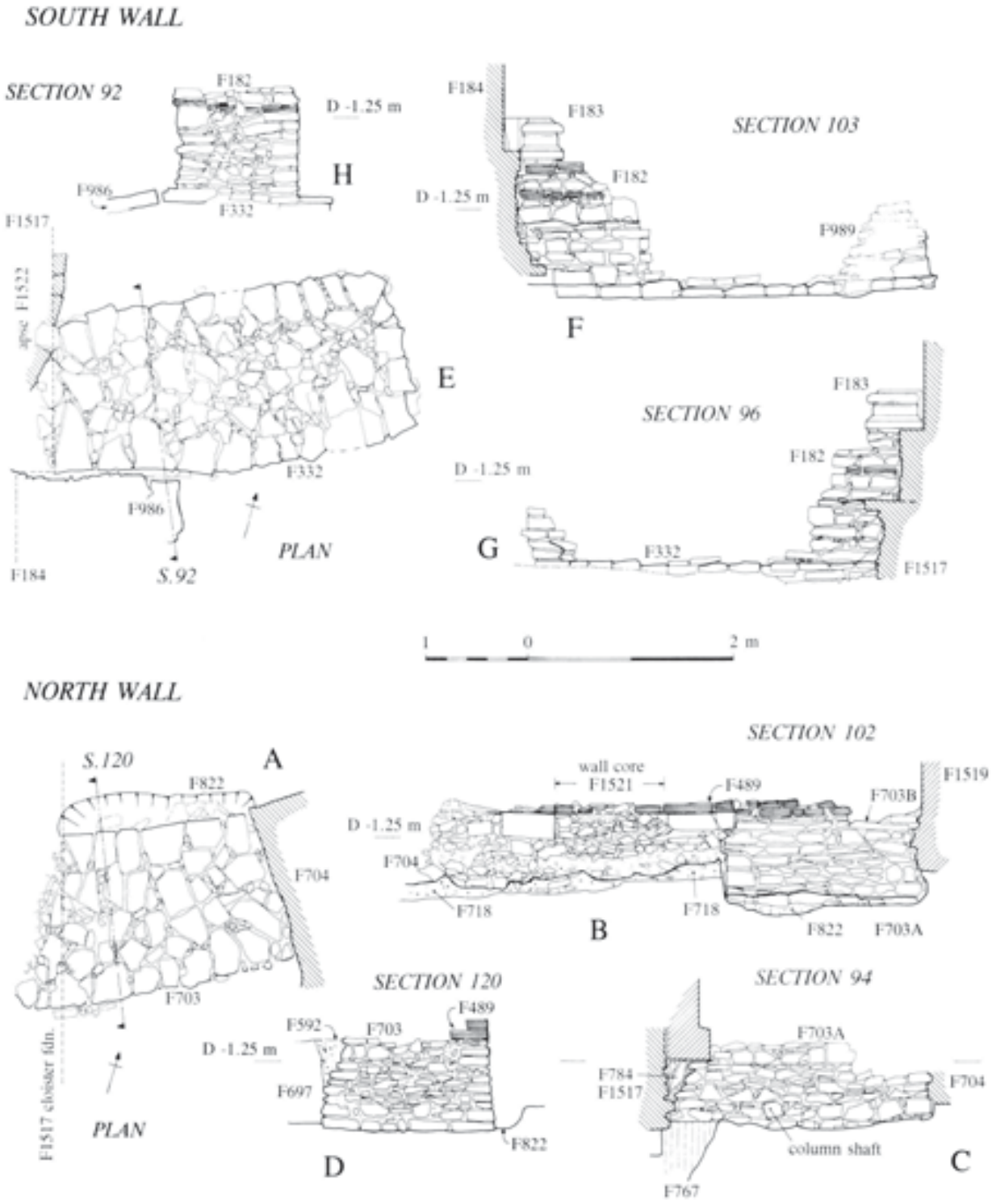


Fig. 80 Plans, elevations and sections of the foundations of the western extension of the nave of St Mary's chapel (vestibule or link-structure). Lias courses are emphasized by horizontal shading. A Plan of the lowest foundation course of the north link-wall (F703); B North elevation of the foundation, and adjoining nave wall (F704). Also shown are the rebuilt upper courses (F489), and the abutment scar of wall F1521; C South elevation of foundation F703, showing relationship to the cloister (F1517); D Cross-section of foundation F703 at the point of maximum survival; E Plan of the lowest foundation course of the south link-wall (F332), showing its relationship to apse F1522, and wall F986; F South elevation of the foundation, showing layered construction (F332, F989 and F182). Above the last is the respond-base, F183, associated with the thirteenth-century chapel; G North elevation of the foundation, showing its relationship to the cloister wall (F184), and the underlying earlier foundation (F1517); H Cross-section of the southern foundation at the point of maximum survival. Scale 1:60

Both link-walls survived. On the north, the abutment to the corner of the Lady Chapel nave was well preserved. On the south, the east end of the link-wall was intact, although the corner of the nave against which it formerly abutted was destroyed. The precise point of junction was therefore determinable (Fig. 74). The construction of the link-wall foundations differed markedly from that of the nave and chancel.

Southern link-wall

The south wall (F332) was free-built from the lowest level, and comprised large, flattish pieces of lias, conglomerate, red sandstone and a single dressed block of Doulting stone, set in pink-brown earthy mortar in a broad, flat-bottomed foundation trench (Fig. 79). The foundation was exceptionally wide at 1.8 m, and was made to fit around an earlier wall, F986 (Figs. 80E and 81). Five courses of this foundation survived, with offsets on both faces above the first course. Here, the thickness of masonry reduced to 1.2 m.

This foundation pre-dated the construction of the Gothic cloister, under which it passed in a westward direction, to clasp the apse. Over-riding the foundation, but partly bonded to it, was a roughly constructed north–south wall (F1517), the purpose of which seems to have been to square-off the apse. The masonry of the link-wall had however been demolished to a low level (*i.e.* to the remaining five courses), in order that the early Gothic cloister foundation (F184) could pass over it (Figs. 82 and 83).

The second phase of the southern link-wall represented a reinstatement directly upon the old foundation, after the cloister had been begun. The new wall, F182, was built of smaller stone than its predecessor, but with its own rough footing-course. It was 1.15 m wide and post-dated the cloister foundation (F184),

Fig. 81 South link-wall (F332) projecting from the cloister. Note how the masonry was shaped to fit around the earlier foundation (F986) immediately to the right. To the right again is the medieval conduit. Scale of 75 cm

against which it was built with a vertical joint (Figs. 80F and 84). The mortar was similar to that used in the cloister, and courses of white lias were a feature of its construction. Only a short length of this secondary link-foundation survived, and the nature of its union with the south-west corner of the chapel nave is unknown. There was a slight shift of alignment between the two phases of walling.

Northern link-wall

The northern link, F703, was also a two-phase construction, but the point of union was difficult to define. The two faces of the link-wall did not match one

Fig. 82 The east cloister foundation (left), clasping and over-riding the lowest five courses of the south link-wall (F332) of St Mary's chapel, upon which the scale (75 cm) stands

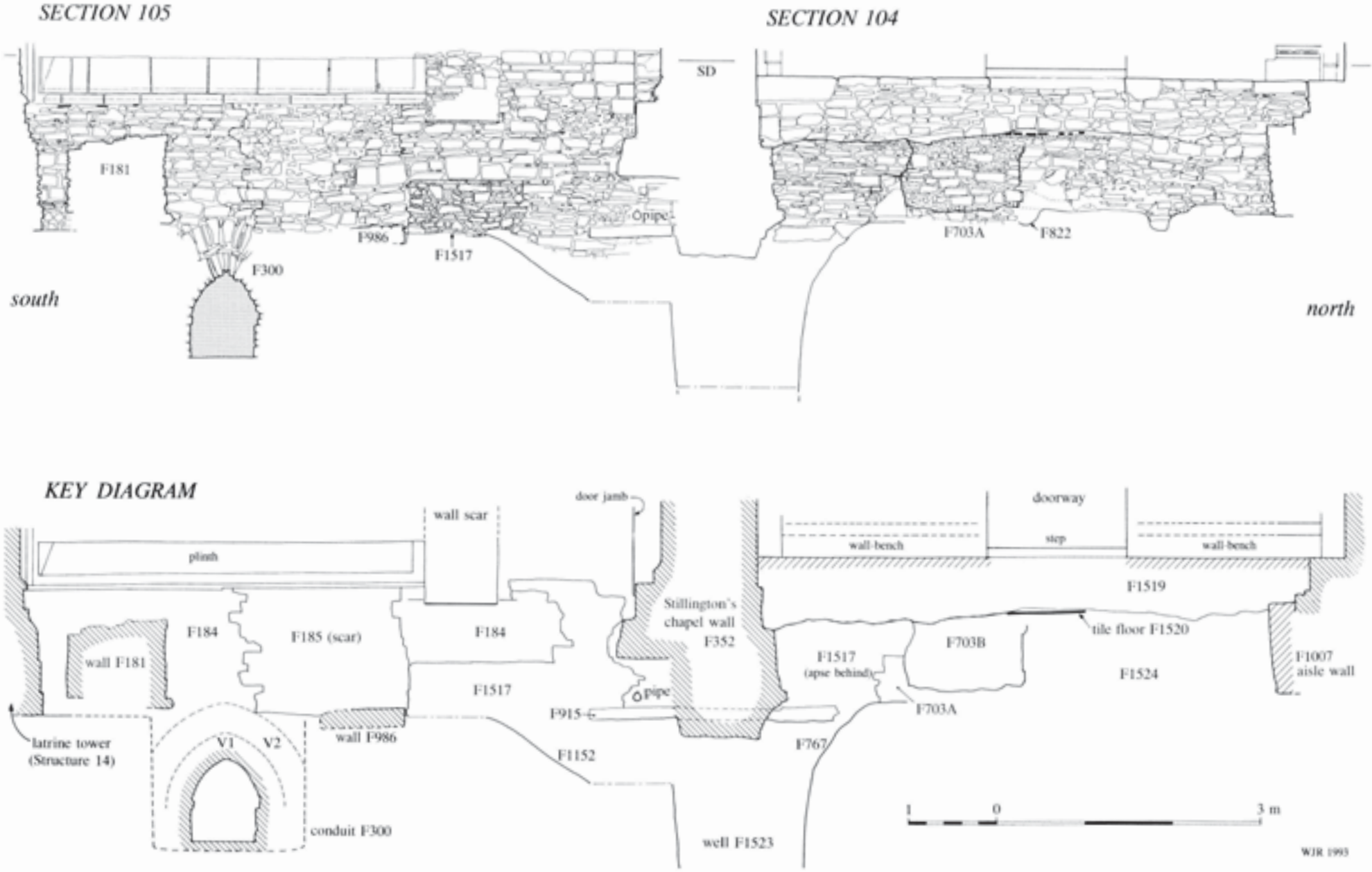


Fig. 83 Elevation drawing and key diagram to the foundations of the east cloister wall and features directly beneath it. The Anglo-Saxon apse (F1522) is concealed by Stillington's wall (F352) and the masonry facing (F1517) which squared-off the apse. Scale 1:60

another in several respects: they were not parallel, and were of notably different construction. The north face (F703B) was free-built, vertical, well coursed and contained various stone types, including red sandstone, lias, Chilcote and reused Doulting ashlar. The matrix was pale pink, friable mortar. There was a clear construction trench (F822), which ran up to, and stopped at, the Gothic cloister on the west and the corner of the chapel nave on the east (Fig. 80A–C). There was no doubting that the link-wall was — on the evidence of the north face — later than both the adjacent structures; *i.e.* it has to be medieval.

The south face (F703A), however, presented a different picture. It was much less regular in construction: the lower part was trench-built, above which was an irregular and stepped offset, and then free-built masonry. The joints between stones were wider, and the mortaring technique noticeably rougher than on the north face. The mortar itself was visually similar throughout. Moreover, the lower masonry courses demonstrably passed under the cloister wall, and had therefore to be earlier than it. This plainly conflicts with the sequence just described on the north face.

The link-foundation was dismantled archaeologically, and the true sequence of construction then became apparent. The foundation masked the junction between the squaring-off wall of the apse (F1517) and the cloister foundation proper, F1524 (Fig. 85). The lower courses of the link-foundation seem, like their southern counterpart, to have clasped the apse, and the squaring-off wall came later. That had a construction trench (F784) which cut into the south face of the link-wall (Fig. 80C). The link had thereafter been reconstructed. Its lowest foundation course and most or all of the south face were primary, but the north face and its separate construction trench were secondary. It was noted that the primary work followed the general alignment of the chapel, whereas the later northern face lay at right-angles to the cloister. Unfortunately, much of the wall core had been removed by a grave, and thus the conjunction of the two builds could not be determined with certainty. A Romanesque base for an engaged shaft, dating from *c.* 1100, was incorporated into the south face (Figs. 432–3), demonstrating that the rebuild was no earlier than the late eleventh century.

The reason for the partial reconstruction of the northern link-wall is not difficult to ascertain. This was the point at which a buttress was planned for the east side of the Gothic cloister, and it was evidently intended to make use of the conveniently placed foundation of the earlier link-wall. However, that was both askew and not quite wide enough for the intended purpose: consequently its north face was rebuilt and realigned on the new cloister. In the event, the buttress was never built above ground level, and instead a link between the old St Mary's chapel and the new cloister was established. The buttressing of the east cloister is discussed on p. 261.

The foundations of both link-walls were dissected archaeologically and it was established that their primary construction was similar; comparative plans of the lowest foundation course of each are given in Figure 80. The evidence is also consistent in showing that the link-walls were built between St Mary's chapel and the minster apse before the latter was squared off. The squaring-off wall (F1517) was trench-built and of roughly coursed red sandstone, set in an earthy matrix of pink lime mortar; it is shown in elevation in Figure 83 (see also Fig. 85).

Fig. 84 South link-wall of St Mary's chapel, showing the superimposition of the two phases of masonry (F182 and F332), with a slight overhang between them. Scale of 75 cm

Fig. 85 North link-wall of St Mary's chapel (first phase, F703A), passing under the foundation of the east cloister. The attachment scar of the second phase (F703B) can be seen, together with the contemporary cloister foundation to the right. Left of the scar is the masonry of the squared-off apse (F1517) of St Andrew's church. Scale of 75 cm

Interior

Islands of flooring material and make-up (pink mortar and stone-dust) survived within the chancel. The lowest of these was a levelling layer of limestone dust (F1323) which directly overlay the grave earth in the former mortuary chapel, but was at the same time stratigraphically related to the secondary phase of St Mary's chapel. In other words, a comprehensive

clearing out of the interior of the chapel had taken place during reconstruction, resulting in the complete removal of earlier floors. Above the stone-dust was a spread of clay, probably builders' trample, and over that lay a thin floor of soft, pink lime mortar (F1422). The latter was mainly preserved at the west end of the chancel, where a second layer of similar material was noted above it, on the threshold of the chancel arch.

All these layers had sunk to a slight extent into the tops of the foundations of the demolished mortuary chapel, and into the large grave at its south-east corner, where the fill of a coffined burial had compressed (B293, p. 82). Only three features appeared to relate to the chapel floor: a hollow containing small rubble near the centre of the north side (Fig. 74, F1424), and a pair of postholes south of, and parallel to, the axis of the chancel (F1426 and 1438). The profile of the latter posthole was well preserved, demonstrating that the timber had been *c.* 15 cm square, was pointed at the lower end, and was set into the floor to a depth of 63 cm.

Burial 276, the last in the series of interments in the mortuary chapel, has already been discussed (p. 81), and the possibility remains that it might have belonged either to St Mary's chapel, or to its predecessor (Structure 3). The burial is shown here on Figure 74, so that its relationship to the layout of the chancel can be seen. Clearly, the grave lies uncomfortably to the north of the chancel's axis, which would be incongruous if the tomb was intended to be the focus of the building. However, there is a striking coincidence of the two postholes, just mentioned, with the ends of the grave, and the postholes unequivocally relate to the later chapel. It is further noticeable that a subsequent disturbance could well have eradicated a matching pair of postholes to the north of the grave. If such an arrangement obtained it can hardly have represented anything other than a canopy above an altar, a shrine, or a tomb. The last is perhaps most likely, there being ample space to the east of it for an altar to stand. While the burial itself was centred on the mortuary chapel, in which it might originally have been placed, the possible canopied structure could have been secondary, having been positioned axially in the chancel of the later chapel. It is entirely plausible that the interment belonged to the mortuary chapel, and that its aggrandizement came only with the building of St Mary's chapel. This suggestion parallels the hypothesis, previously advanced, that the mortuary chapel was built around a group of existing graves, to which of course B276 is related.

The overall width of the canopied structure appeared to match quite closely that of the opening between the chancel and the nave, namely *c.* 1.5 m. A single dressed block of Doulting stone — part of the southern respond — remained in place, and some core rubble was also *in situ*. The threshold of the opening was floored with pink mortar, and at its eastern edge were the impressions where two large slabs had once lain. Evidently, there had been a step down into the chancel.

A possible second phase to the structure standing over the burial was discerned in the floor. The canopied arrangement involving earthfast wooden posts may have been superseded by something that rested on the surface. The mouth of the south-east posthole was capped by a large slab of lias (F1425), and other areas of rubble and mortar were laid down. In particular, there appeared to have been a feature running across the chancel in a north–south direction, which comprised small chips of lias and mortar set in a shallow hollow (F1396/1397, Fig. 74A). The occurrence of the lias chips (masons' waste) may link these features to the second constructional phase of St Mary's chapel, when white lias was used extensively.

No contemporary graves have been found in the nave of the chapel, and nor were there any surviving floor surfaces. A small area of sub-floor make-up was, however, preserved in the north-west corner. Although most of the nave's interior was taken up with later medieval burials, some earlier features nevertheless survived. These were under and immediately to the west of the chancel arch. Here were several scoops and postholes, representing a succession of activities in the same area. The features survived in fragmentary form, and some were earlier than the second phase of the chapel, while others were contemporary with it. A pair of postholes (F686 and 728) is worthy of mention, since these flanked the opening and were set hard against the west face of its responds. They were both packed with stone, and may represent the anchoring points of a screen or doorframe.[1] Earthfast, timber embellishments associated with ground-level openings have been noted in a number of Anglo-Saxon churches (Rodwell 1986, 165–8).

Superstructure

Nothing can be said with certainty about the superstructure of St Mary's chapel, and even the positions of its doorways cannot be established from contemporary evidence. Medieval grave arrangements seem to indicate doorways in the north and south walls of the chapel at a later date, and these may in turn point to the locations of the original openings. It is commonly found in parish churches that the primary portal axis of the nave has been maintained, even after centuries of enlargement and alteration. Moreover, at Wells the abutment of Saxo-Norman structures to the north of the chapel only makes sense if there was a doorway on that side of the nave, towards its west end (pp. 99–100). Although unprovable, it is highly likely that the chapel was provided with a pair of opposed doorways about one-third of the way along the nave from the west.

An approximate reconstruction of the ground plan of the chapel may be attempted (Fig. 86). Although the foundation trenches were 1.2 m or more in width, the

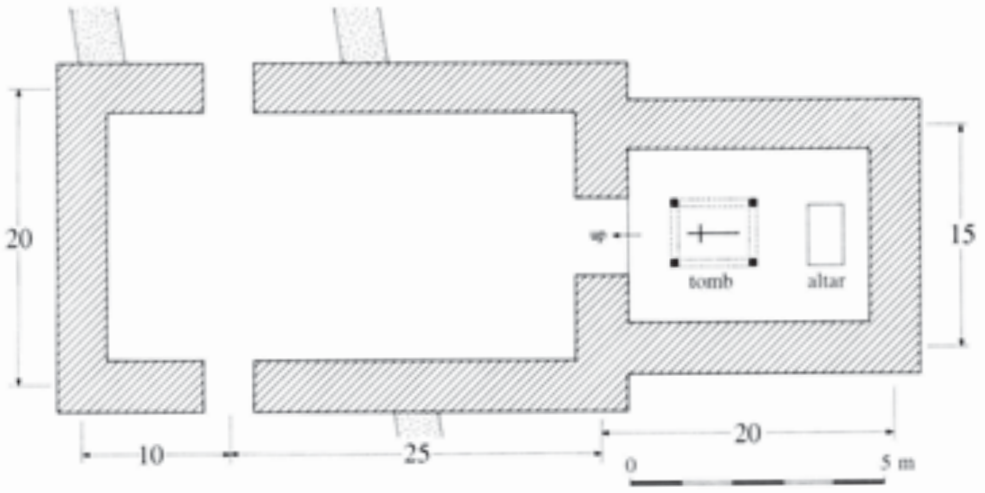


Fig. 86 Reconstructed ground plan of St Mary's chapel showing the suggested original layout of the chancel with a centrally placed canopied tomb or shrine and an altar to the east. The design dimensions of the building, to wall-centres, are given in Roman feet. Later walls abutting to north and south are shown in outline. Scale 1:150

walls themselves, above offset level, were no more than 1.0 m thick, and probably less; that is clear from the abutment evidence at the north-west corner. This would imply overall dimensions (external) for the nave in the region of 11.3 m by 6.9 m (37 ft 1 in by 22 ft 8 in), and for the chancel 5.5 m by 5.4 m (18 ft 1 in by 17 ft 9 in).

Such awkward dimensions do not point to the use of any readily recognizable system of mensuration, either statute or Roman, in the design of the chapel. However, the planning of Anglo-Saxon and early medieval buildings was more commonly related to centre-line dimensions of walls, than to external dimensions. Measurements taken to the centre-lines of the chapel's walls are 10.3 m by 5.9 m (33 ft 10 in by 19 ft 5 in) for the nave, and 5.8 m by 4.4 m (19 ft 1 in by 14 ft 6 in) for the chancel. Again, these measurements do not approximate closely to whole numbers of statute feet, but if converted into standard Roman feet (R ft),[2] the nave works out at 34.92 by 20.00 R ft, and the chancel at 19.66 by 14.92 R ft. When allowance is made for the fact that precise measurement of incompletely preserved foundations is impossible — and the chapel had been rebuilt, involving a slight shift on its footings — errors amounting to one or two inches, in ten feet, are inconsequential.

These dimensions present plausible evidence for the Saxo-Norman chapel having been designed with a nave of 35 by 20 R ft and a chancel of 20 by 15 R ft. It is suggested that the portal axis was 10 R ft from the west end, and the chancel arch was apparently 5 R ft wide. While the Northern or 'long' Roman foot was in widespread use in eastern Britain in the Anglo-Saxon and early medieval periods (Huggins *et al.* 1982), and is evident in the plan of the seventh-century minster at Winchester (Kjølbye-Biddle 1986), it is demonstrably not applicable to St Mary's chapel, Wells.

The dimensions and proportions of the chapel compare favourably with numerous other late Anglo-Saxon churches of simple form. Internally, the ratio of length-to-width of the nave was 1:1.75. Ratios of 1.7 to 1.8 are amongst the commonest (Taylor 1978, fig. 745). The chancel was square externally, rectangular internally, and narrower than the nave by half a wall's thickness on either side. Locally, the plan is paralleled at Cheddar palace, where the period 2 chapel not only conformed to the proportions seen at Wells, but was also closely similar in dimensions (Rahtz 1979, fig. 73).

The separate integrity of St Mary's chapel was lost when the connection was erected between it and St Andrew's church to the west. Although the link-walls were basically continuations of the north and south nave walls, there is a hint (on the north) that the internal faces were not on the same plane. This would imply that the west end of the chapel was not removed *in toto*, but was only breached to provide an opening between two architecturally distinct cells. In other words, it is more likely that a distinct vestibule was created, rather than the nave being simply elongated by another bay.

In the late twelfth century, when the chapel was reconstructed and the Gothic cloister erected, having a vestibule as a discrete entity would have helped to disguise the marked change of angle between the two components. A lavishly decorated doorway, or arch, between the vestibule and nave would have led the eye on into the chapel.

A few late Anglo-Saxon churches with western vestibules, occupying the full width of the nave, are known, and others have doubtless been lost. St Mary, Breamore, Hampshire, provides an example where there was a wide arch between the vestibule and the nave, showing that the former was not merely a porch (Rodwell and Rouse 1984, 315). At South Elmham, Suffolk, there was a pair of doorways between the western chamber and the nave (Taylor and Taylor 1965, **1**, 232).

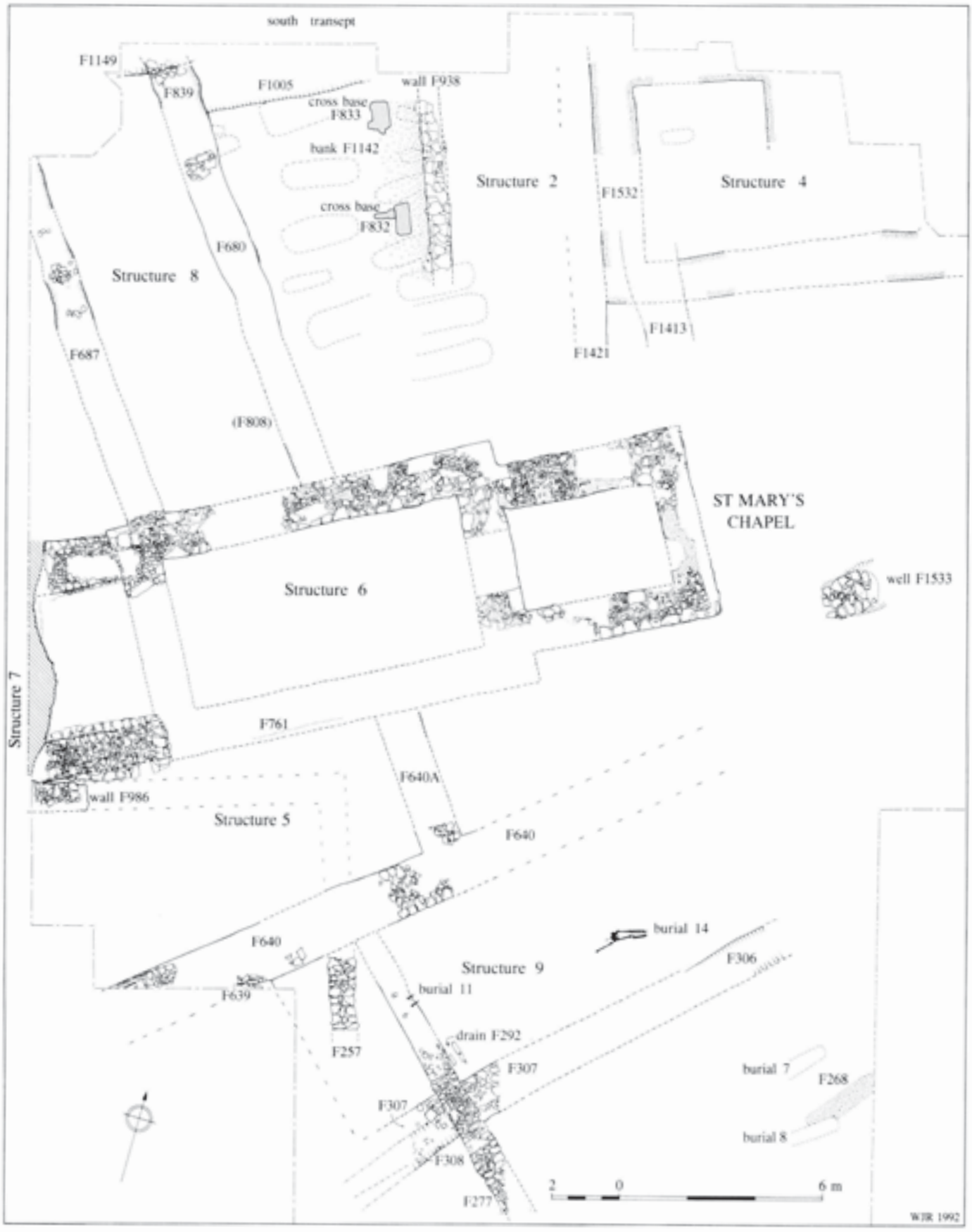


Fig. 87 General plan of Anglo-Saxon and Norman foundations and robber trenches, illustrating overall structural relationships in Areas 1–10 (excluding 8). Scale 1:160

Claustral and domestic structures

The late Saxon chapel of St Mary was freestanding. In the course of one or more early post-Conquest rebuilding phases it was integrated with other structures at the east end of the cathedral complex. Not only was the chapel's west end linked to the minster apse, but the side walls of its nave were also abutted by structures to north and south.

Additionally, various isolated fragments of foundations were encountered during excavation: these are all demonstrably no later than the mid-twelfth century, and some are likely to be very much older. Their extremely fragmentary nature, the considerable depth at which they lay buried, and the fact that circumstances permitted only limited exploration, has resulted in a very imperfect record of what is undoubtedly important structural evidence. It is, however, clear that a great deal more knowledge could be recovered by future excavation on a suitably large scale beneath recent buildings and the modern cemetery. There is an added difficulty in that the Anglo-Saxon and earlier deposits on the southern and eastern parts of the Camery are permanently below water. The local water-table was raised in the Middle Ages by damming the mouths of the springs to the east of the Camery, primarily to provide power for mills (see chapter 11).

A composite plan of the Anglo-Saxon and Norman structures is given in Figure 87, from which it is readily apparent that different alignments have variously prevailed. Leaving aside the Roman mausoleum (p. 40), the earliest alignment is that which most nearly approximates to north–south, and of which Structure 2 is the principal exemplar. Its alignment was directly influenced by a yet earlier earthen bank (F1142), which formed an early cemetery boundary. Structure 2, whose purpose and date both remain enigmatic, was in turn superseded by the potential chapel, Structure 3, which perpetuated the same alignment. These have all been discussed in chapter 3, in connection with the Anglo-Saxon cemetery and its adjacent structures (pp. 72–4).

Next in the sequence came the two-celled chapel of St Mary (Structure 6), just described, which took its skewed alignment from its immediate predecessor, the mortuary chapel (Structure 3). This alignment henceforth came to dominate the site, although there were slight deviations. On the north side of the chapel lay Structure 8.

Structure 8: the first cloister(?)

Running north-north-west from the chapel, and slicing through the Anglo-Saxon cemetery, were two deep wall trenches. They ran in parallel and were *c.* 4.0 m apart (Fig. 87). Two other trenches engaged at right-angles. Nearly all the masonry was robbed out of these foundations, leaving irregular-edged trenches that had been backfilled with soil and small rubble. The walls had been founded on bedrock, at a depth of *c.* 80 cm below the contemporary ground level of the cemetery.[3]

The westernmost wall (F687) had an irregularly profiled foundation trench, up to 80 cm wide. A small area of flat rubble masonry (F840) remained in the

Fig. 88 View east across Area 7, from the cloister roof. The twelfth-century wall trench (F680) runs askew in the foreground. Norman cist-graves and earlier cross-bases are seen in the background, framed by the cathedral foundation on the left and Stillington's chapel to the top and on the right. Scales of 2 m

Fig. 89 Foundation trench F680 for the east wall of Structure 8, looking north. Scale of 2 m

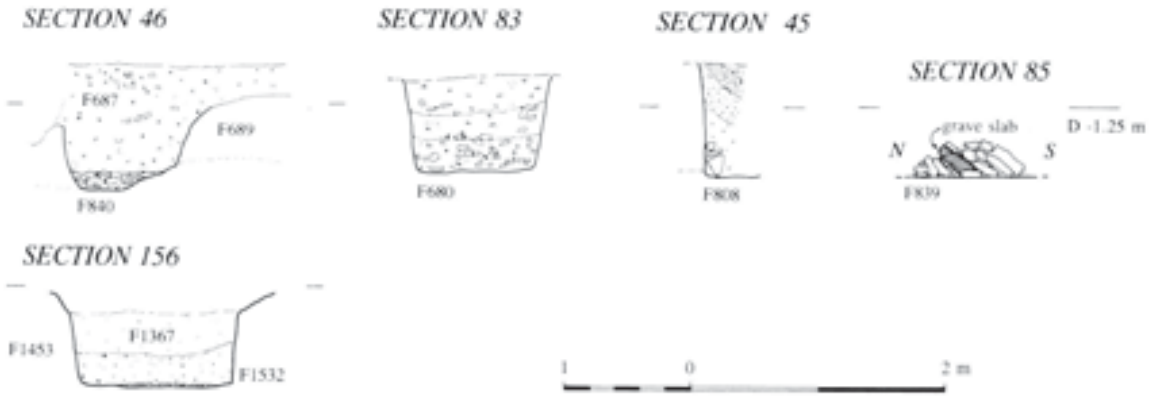


Fig. 90 Structures 4 and 8: sections of foundations and robber trenches. Scale 1:60

bottom (Fig. 90, S.46). The surviving length of trench was only 2.6 m but, by projecting its line southwards, it can be shown to correspond closely to the foundation scar recorded on the north face of St Mary's chapel. That scar (F1521), resulting from the removal of a former wall at the north-west corner of the nave, related to the second foundation phase in the chapel's history (p. 91). A wall width, at ground level, of *c.* 1.0 m is indicated.

The easternmost wall (F680) had a foundation 90 cm wide, constructed in a flat-bottomed trench, 90 cm deep (Figs. 87–9 and 90, S.45 and S.83). Two small patches of masonry survived *in situ* towards the northern end of the trench (F839), one of which had been encapsulated by the foundations of the medieval cathedral (Fig. 91). The construction was of rough slabs of pitched stone in an earth matrix (Fig. 90, S.85). The majority of the stone was white lias, but a single fragment of a tenth-century grave-cover of Bath stone had also been incorporated (Figs. 486–7).

Altogether, an 8.6 m length of the foundation trench survived in Area 7, and a separate 1.0 m length of the western edge only (F808) was recorded further south, running virtually up to the nave of St Mary's chapel (Fig. 90, S.45).

There can be no serious doubt that the more easterly wall — like its western counterpart — engaged with the north side of the nave, but the point of junction was destroyed by a medieval cist-grave. The point where an attachment scar would have been expected on the foundation had been refaced, to form the side of the cist. The very fact that it was found necessary to reface the foundation here supports the suggestion that there had been a physical bond at this point: the scar needed tidying up.

The two north–south walls were presumably a related pair, but whether of contemporary origin is less demonstrable. The profiles and masonry content of their foundation trenches were not convincingly similar, but that does not disprove their contemporaneity (within the eastern foundation trench the masonry technique differed markedly). There is, however, no doubting that both walls terminated against the north side of the chapel.

Fig. 91 Structure 8: foundation trench of the east wall, showing pitched stone F839. This is embedded in the masonry of the south transept of the cathedral, under which it continues. View looking north. Scale of 75 cm

Just before it ran under the cathedral transept, the northern end of the east wall (F839) intersected approximately at right-angles with two other, distinctly separate, foundations: one ran east, the other west. The eastward-pointing wall (F1005) had been wholly robbed in the late twelfth century when the transept foundation was constructed. Indeed, the robber trench doubled as a construction trench at this point. The width of F1005 is unknown; it was flat-bottomed and slightly shallower than F839. A 4.8 m length of the trench was preserved; it did not cross wall F839, but seemed to abut it.

No more than a glimpse was seen of the westward-pointing wall, F1149, since it was totally buried in the cathedral's transept foundation. It is however clear that F1149 was later than wall F839, and that the latter had been partly robbed to accommodate the new work. Foundation F1149 was of mixed rubble, comprising lias, red sandstone and fragments of dressed Doulting stone, all bedded in pink mortar. The masonry had a good southern face, which appeared to cross over foundation F839, and may therefore have continued to the east as well as to the west.

This group of foundations clearly represents at least two periods of work in Structure 8. All must have been demolished by *c.* 1180–85, which provides a firm *terminus ante quem*. The late tenth-century grave-cover recycled in foundation F839 supplies a *terminus post quem* for the sequence. Additionally, various pieces of Romanesque moulded masonry were recovered from the rubble backfill of trench F680, and if these were derived from Structure 8 itself a mid-twelfth-century date is indicated for one phase of the work (for the moulded masonry see Figs. 435–6).

The two parallel walls of Structure 8 indicate a building with an overall width of 6.0 m, and a length in excess of 13.2 m. It ran north from the nave of St Mary's chapel, which it adjoined at an angle of 82°. If the chapel was provided with opposing north and south doors, as discussed on p. 96, the former would have been centred at the end of Structure 8. The quality of this building, as well as its likely date, may be deduced from the carved Romanesque fragments, which include capitals appropriate to small-scale arcading. The possibility that Structure 8 was a cloister walk is worthy of consideration. Clearly, the structure extends under the floor of the cathedral, where it may be better preserved. Nothing is known of contemporary floor levels.

Structure 9

South of St Mary's chapel lay another complex of foundations (Figs. 87 and 92). They were on a different alignment from, and later than, Structure 5 (p. 39). The foundation trenches were shallow, since they were cut only through the buried soil (to reach bedrock), and not through cemetery build-up as was the case to the north of the chapel. Better preservation of the masonry also obtained, but the remains were deeply buried beneath medieval accumulations and were only glimpsed during the construction of the masons' yard extension in 1978.

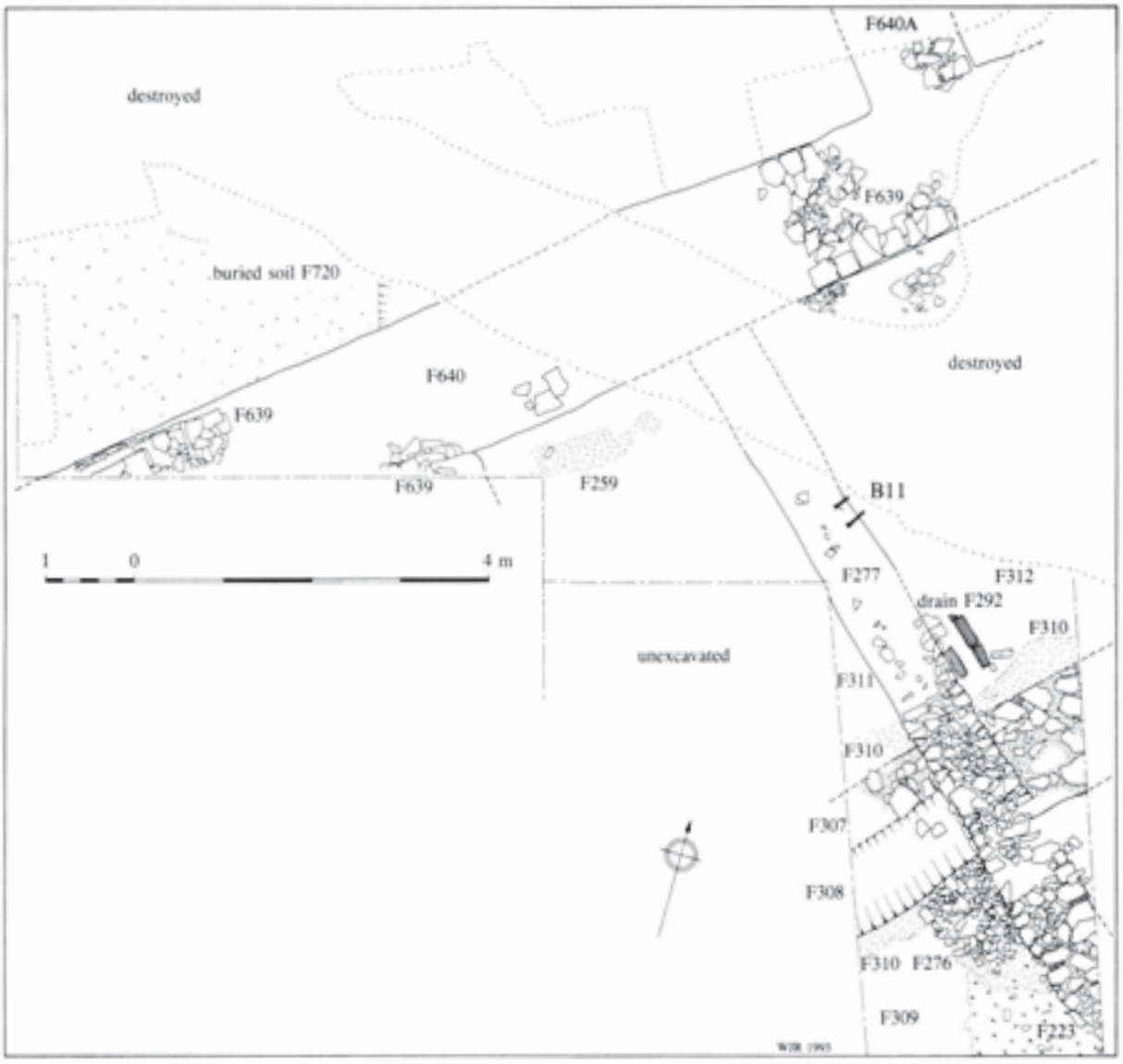


Fig. 92 Plan of late Saxon and Norman walls and adjacent layers relating to Structure 9 (western part). The earlier burial B11 is also shown. For the wider setting, see Fig. 87. Scale 1:80

Fig. 93 Saxo-Norman ground surface (centre, with 2 m scale), and foundation trench (F640) for the north wall of Structure 9 (left, with scale of 75 cm). A portion of standing masonry (F639) projects from the section. The medieval conduit crosses the foreground, and east cloister structures are seen in the background, including the latrine tower (Structure 14)

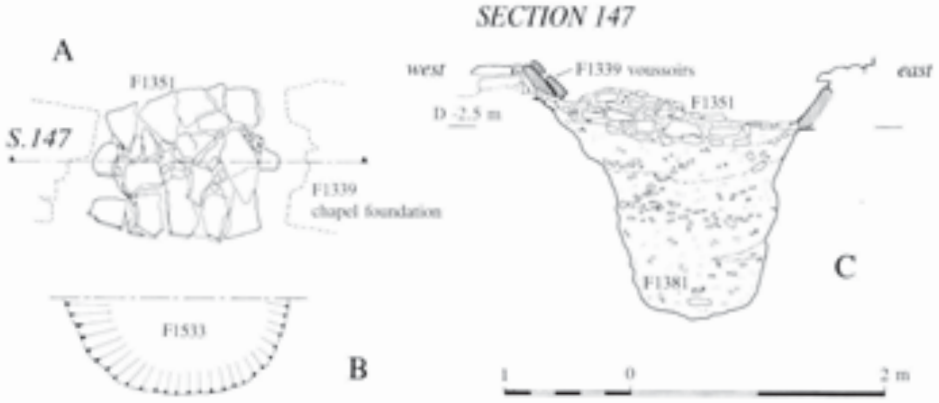


Fig. 94 Anglo-Saxon well, F1533. A Plan of the well mouth, showing masonry blocking; B Plan of the excavated southern half of the well-shaft; C Section, S.147. Scale 1:60

Structure 9 comprised two parallel walls, aligned north-east to south-west (Fig. 92). They were of markedly dissimilar construction, and probably not contemporary in origin. The more northerly, represented mostly by the robbed foundation trench F640, had a width of 1.55 m, clearly indicating that it supported a substantial wall. A section of the masonry, F639, remained standing to a maximum height of eight courses (85 cm), with an offset at the sixth course (Fig. 93). The facing construction was of roughly dressed limestone blocks, incorporating some red sandstone and lias. The core was of small rubble, and the matrix was essentially clay, tinged with slight traces of pinkish-yellow mortar.

The exceptional survival of a short stretch of foundation F639 was doubtless consequent upon its close proximity to the Gothic cloister, and in particular to one of its buttresses. The early wall was probably used as a base upon which to found the buttress, with robbing only taking place to within a structurally safe distance.

Wall trench F640 had a lateral spur (F640A), 1.2 m wide, which ran northwards, apparently to meet the south side of St Mary's chapel, but the junction itself was destroyed. There is no reason to doubt that the main wall and the spur were of contemporary construction. It is significant to note that the latter was

almost in perfect alignment with the east side of Structure 8 to the north of the chapel, which strongly suggests that there was a deliberate connection between the two (*i.e.* between F640A and F680). The possibility of there having been a continuous wall running right across the site of the chapel at some stage in its history was carefully examined but had to be rejected. Although there were many medieval cist-graves within the nave of the chapel, several narrow spines of intact stratigraphy — including the buried-soil horizon — were found to be standing between the medieval features. These demonstrated conclusively that no trench had crossed the nave on the line of the wall in question.

The corollary must be that the chapel was clasped between two lengths of wall, carefully positioned to abut its nave on either side. It is virtually inconceivable that two wholly separate buildings could have abutted the chapel fortuitously, at the same angle and with their eastern walls sharing the same alignment. There must have been a sound reason for what on plan appears to be a somewhat curious relationship. The enigma vanishes if it is supposed that Structures 8 and 9 were united at a level higher than the eaves of the chapel. In other words, if the buildings were of two storeys, with the upper one oversailing the chapel, the requirement for a continuous wall alignment at ground level becomes obvious. It was demonstrated that the west wall of Structure 8 did not continue south of the chapel in a similar manner.

It is not known how far east of the junction with the spur F640A that wall trench F640 ran. Towards its west end, at the very edge of the excavation, there appeared to be a southward return to the surviving masonry of F639. This may mark the position of a cross-wall linking with the south side of Structure 9. In the angle lay a patch of construction mortar (F259).

The south wall of Structure 9 was seen only in two restricted areas, where it was largely robbed F306/307). The full width of the foundation trench was 1.3 m and in the bottom were remnants of the foundation itself, comprising a mixture of red sandstone, lias and Pennant boulders, all in a matrix of pink lime mortar, with a little intermixed loam. A thin spread of construction mortar (F310) extended on both sides of the wall. Overlying the mortar was an accumulation of dark loam, containing charcoal, slag and early medieval pottery (F223).[4]

Later than both these phases, and oversailing the robbed foundation, F306/307, was a wall which ran from north-west to south-east (F277). It was 80 cm wide and composed of small pieces of red sandstone, lias and Pennant pebbles, laid in a matrix of clay. The junction between this wall and F640 was not preserved. Alongside the eastern face of F277 were the remains of a small stone drain, mostly robbed, made from roughly squared Doulting blocks (F292). Abutting the west side at right-angles was a trench 80 cm wide (F308), cut in the remains of the robbed earlier wall (Fig. 92). The trench presumably marked the site of an internal division within the rebuilt structure; there was a slight divergence between its alignment and that of the earlier wall (F307).

Another possible internal division of Structure 9 was seen in a deep cutting against the eastern edge of the excavation (Fig. 87). Here, a smooth-topped and parallel-sided mortar bed, with a butt-end towards the south-west, appeared to be the seating for a ground-sill (F268). The feature was parallel to the general axis of Structure 9, and there was a thin spread of mortar to the north of it.

Nothing resembling a substantial floor or metalled area was seen amongst these wall foundations, although there were sporadic and thin patches of pebbles over the surface of the buried soil, and equally insubstantial spreads of mortar.

Other features

South of St Mary's chapel, where early stratigraphy was better preserved, albeit fragmented, postholes, cobbled surfaces and mortar spreads were seen in the hand-dug trenches associated with the masons' yard extension, confirming that there had been a modest succession of Norman and earlier building phases in this area (Fig. 87). There were also two graves of early but uncertain date, but nothing approaching a general cemetery horizon. The two burials, B11 and B14, previously mentioned as possible outliers of the main cemetery to the north (p. 60), lay on a similar alignment to Structure 9. Only the lower legs of burial 11 survived, the remainder having been removed by wall trench F277 and other features (Fig. 92). Although proof is lacking, it seems likely that the graves were altogether earlier than Structure 9, and possibly even late Roman.

The residual influence exerted by the alignment of Structure 9 on the local topography, south-east of St Mary's chapel, was abiding, since two burials of vicars choral which took place here in the fourteenth century also followed its alignment (burials 7 and 8; see p. 361).

Less than 4 m east of the chancel of St Mary's chapel lay a small circular well, F1533 (Figs. 87 and 94). At the surface of the bedrock, the eroded mouth was 1.7 m in diameter, reducing to 1.0 m as it descended. The bottom of the well was at 42.8 m O.D. The original depth below the old ground surface would have been a little over 2 m, perhaps as much as 2.3 m. Nothing of that surface survived, owing to the reduction of the ground to the level of the bedrock in the thirteenth century, when the Lady Chapel-by-the-Cloister was enlarged. The former well was sealed beneath its foundations (p. 167; Fig. 144).

The well was half-sectioned, in an attempt to discover evidence for its presumed lining, but none was found. Nor was there any deposit of silt at the bottom.

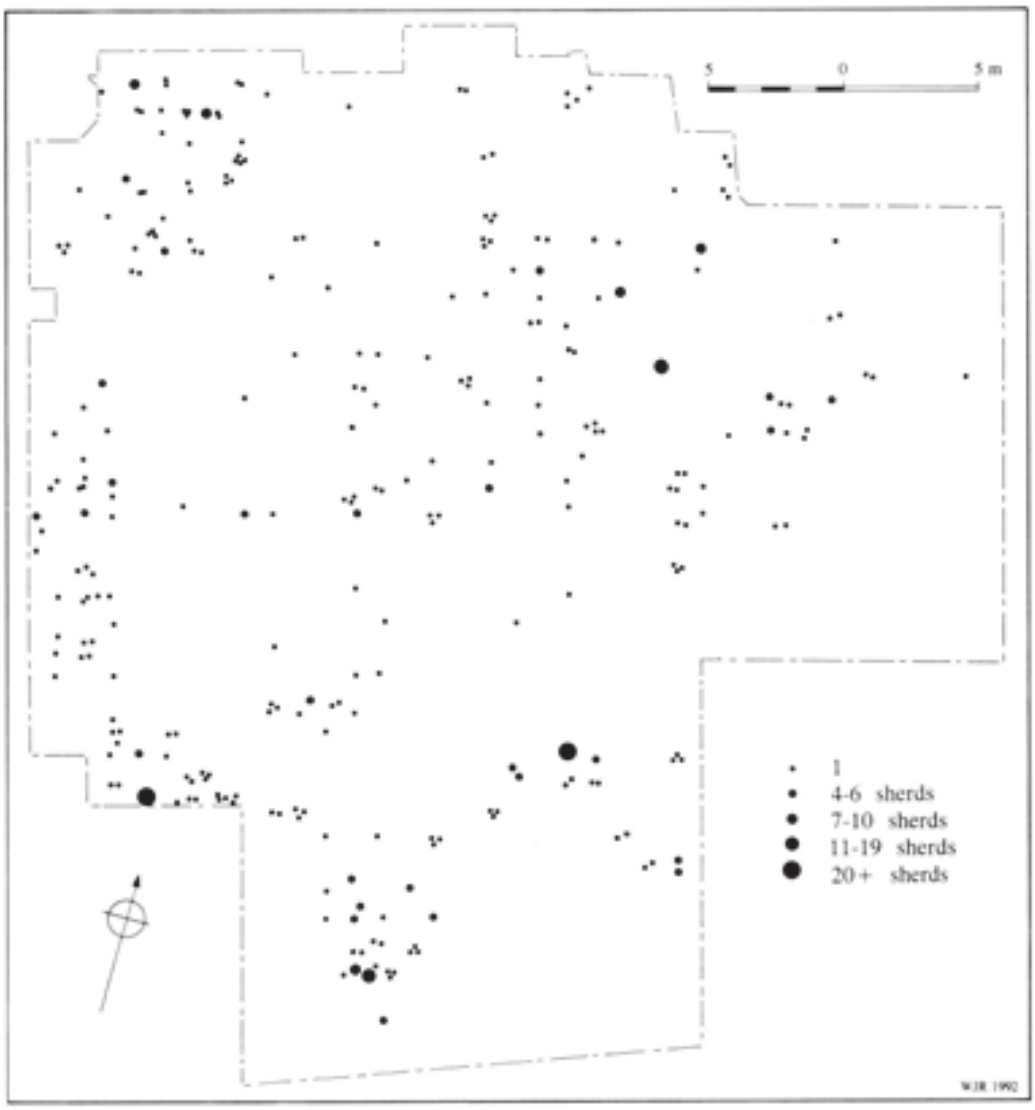


Fig. 95 Distribution of eleventh- and twelfth-century pottery recovered throughout the site

Although demarcations were visible within the fill, the contents of the well were essentially homogeneous and comprised reddish sandy-clay mixture with pebbles, occasional large stones, mortar lumps and charcoal flecks (F1381). Finds included a few bones, both human and animal, and a small quantity of pottery with a manufacturing date-range between the eleventh and the thirteenth centuries.

It is unlikely that the well was open after the mid-twelfth century, and the filling was probably deliberate. Later, the well-mouth was cleared and packed with flat pieces of red sandstone (F1351), prior to the construction over it of the Lady Chapel foundations.

Discussion

Perhaps the clearest point to emerge from the foregoing description of the diverse structural remains of the Anglo-Saxon and Norman periods encountered in the excavation, is that St Mary's chapel stood at the interface between two zones of activity. Moreover, that interface was not created when the chapel was built in its Saxo-Norman form, but had already long existed. Structures 2 and 5, with their axes close to the cardinal points, seemed to define the southern and eastern limits of an early cemetery. The mortuary chapel (Structure 3) and its successor, St Mary's chapel, lay in the south-east corner of that cemetery.

Subsequent developments to the north of the chapel indicate that the long-established cemetery continued in use into the early Norman era, as witnessed by the laying out of at least two rows of cist-graves (see below, p. 105). These were probably contemporary with the earlier phases of Structure 8, the interpretation of which is problematic. A cloister has been suggested as a possibility. However, it would have been odd for St Mary's chapel to have been integral with the east walk of a cloister, rather than appended to it, but it must be remembered that very little is known about Saxo-Norman cloisters in general. Another explanation might be that the western wall (F687) was the east side of a building, and that Structure 8 was a pentice or covered walk, although the scale of the foundations would seem excessive.

South of the chapel, the ground fell away gently and the surface was at least a metre lower than on the north, there having been no build-up of grave-earth in this area. The foundations of the southern buildings were therefore less deep (all basically rested on the bedrock) and floor levels, such as they were, were relatively lower. The overall form of Structure 9 has not been recovered, but it embraced the putative southern entrance to the chapel, and included a long, but relatively narrow space with a north-east to south-west axis. This was at least 14 m long, by *c.* 7.5 m wide externally. The side walls were of dissimilar construction, and not quite parallel; they almost certainly relate to two phases of development. Whether this was a building — or an open area between buildings — is impossible to determine on the limited evidence available. The narrow cross-wall and drain represent a tertiary phase in the history of Structure 9.

These remains, south of St Mary's chapel, are not readily recognizable as part of a church, and it is likely that they represent non-liturgical buildings. But there is insufficient evidence to identify them more specifically. It can, however, be said that the local topography would have militated against the siting of a formal cloister to the south of the Anglo-Saxon cathedral. A process of elimination points therefore to the likelihood that Structure 9 represents several phases of domestic, or other non-liturgical, building within the ecclesiastical precinct.

No fragments of decorative masonry, significant sepulchral remains, or other evidence suggestive of late Saxon or Norman liturgical activity, have been encountered south of St Mary's chapel. The most that can be claimed is that a somewhat higher density of finds of animal bones and domestic pottery of eleventh- and twelfth-century date has come from this area than from most other parts of the site. Animal bone was relatively prolific in F720, a general make-up layer of clayey loam, which lay between wall F639/640 and the south side of the chapel, and a few associated sherds of pottery were of eleventh- or twelfth-century date (Fig. 95). A sample of the animal bone was subjected to radiocarbon assaying, and returned a date of Cal. A.D. 985–1160 (HAR-3374), at one standard deviation.

In an attempt to discover whether 'domestic' areas of the site could be pinpointed on the basis of pottery distribution, all occurrences of the earliest medieval wares (eleventh and twelfth century) have been mapped. The results, shown in Figure 95, are inconclusive: they reveal a thin scatter of the material over the entire site. The distribution can be considered reliable in the central, western and northern parts, where near-total excavation took place. Hence, the paucity of pottery in the western central area — that is on the site of St Mary's chapel — is real. There are hints of pottery concentrations further south, in the vicinity of Structure 9. These concentrations occurred particularly where deep trenches were cut, and there seems little doubt that the Saxo-Norman pottery distribution would have been emphatically weighted towards the southern end of the site if excavation there had been more comprehensive.

The Saxo-Norman cemetery (Period 3)

The multi-phase Anglo-Saxon cemetery has been discussed on pp. 60–72, where it was demonstrated that several generations of burial took place between the seventh and the eleventh centuries. There was one further significant development in the history of the cemetery in which the graves were so distinctly different from those of the earlier phases that it has been reserved for treatment here. These late graves were found only in Area 7 (Fig. 96).

The graves

The essential characteristics of this phase may be listed. First, the burials were stratigraphically the latest in the cemetery, and were the shallowest.[5] Secondly, all were provided with undecorated cover-slabs, and in several cases there were stone cists or coffins beneath. Thirdly, the adult graves were well spaced out, evidently in two or more north–south rows, and they respected the two stone bases which it has been suggested were the supports for free-standing cemetery crosses (p. 74).

With the exception of some infant burials, the orientation of the graves was consistent, and lay between the means observed for the earlier burials of groups 1 and 2 (p. 60). Four out of the five infants, however, were unequivocally on the group 2 alignment, and were perhaps deposited earlier than the adults. Two children might be considered similarly. It is appropriate to examine them first.

This final grave series began with burial 48, which was demonstrably earlier than the formal rows of adults: it partly underlay B60, and straddled the rows. Burial 48 was stratigraphically later than several graves in both groups 1 and 2, but was distinguished from them by being in a stone cist. Unlike the two earlier burials with monolithic stone covers (B100 and B152), B48 was capped by a number of small slabs, in the medieval fashion. These rested on a series of rough pieces of stone placed along the sides of the grave (Fig. 96, F695; Fig. 97). Similarly crude arrangements of edging stones were noted in several of the Anglo-Saxon graves, but were not present in those with monolithic cover-slabs. It has been suggested that such edgings may have supported wooden covers (p. 68).

Only two of the cover-stones survived in place over the eastern end of burial 48, and were of red sandstone (F694). The interment was that of a 14–16 year old. Two nails and a fragment of iron suggest that there was a piece of timber in the grave, but there was certainly no room for a complete coffin. Axially west of burial 48

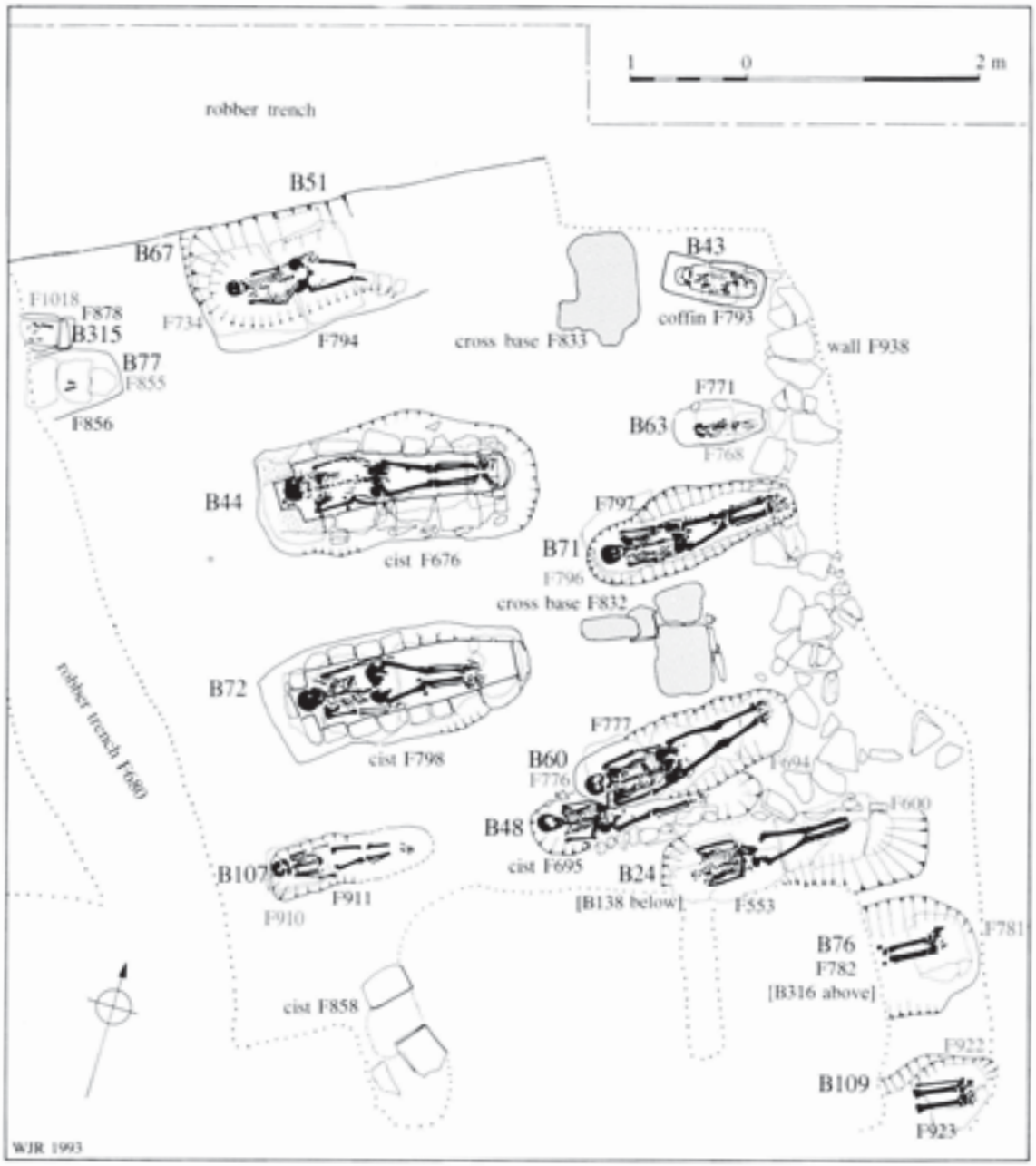


Fig. 96 Plan of Saxo-Norman cist-graves in Area 7. The outlines of the cover-stones are shown in red. Scale 1:60

and also out of step with the rows, lay burial 107, a child aged 6–7 years. One sandstone cover-slab survived *in situ*, and again there was no coffin.

The infant burials lay at the north end of the site. Burial 51 was a neonate that partly underlay the cover-slab of an adult (B67). Whether the infant was deliberately tucked under the slab, or was simply a fortuitously placed earlier grave, is uncertain. The interest of burial 51 is that it was contained in a tiny wooden coffin, or box, represented by one nail at each corner.

Two infant burials lay side by side, a little to the west of the last, and their relationship to robber trench F680 provided a *terminus ante quem* for the final cemetery phase. The early-to-mid twelfth-century wall trench cut both graves, which must therefore have been earlier. Burial 77, a young child severed at the waist, was covered by slabs of red sandstone (F855). Alongside was a poorly preserved infant, possibly a neonate, burial 315. This was unique in the cemetery in that it was covered by a grave-marker of dressed limestone blocks (F1018). The original arrangement probably consisted of a setting of three stones (Figs. 98 and 99). A recumbent stone overlay the body, with a short upright one at the 'foot' end, and there had presumably been a similar upright at the 'head' end, which might perhaps have been ornamented. Unfortunately, that piece had been removed by the robber trench. Weathering on the upper surfaces and edges of the two surviving stones demonstrated that they were flush with the original ground level, and consequently that the burial was very shallow. No evidence for coffins was seen in these graves.

Buried against the east side of cross-base F833 was B43, a six-month old baby. The infant was contained in a one-piece limestone coffin, hollowed out of a

Fig. 97 Burial 48 with the cover-slabs removed, showing the crude stone lining to the grave. Scale of 25 cm

Fig. 98 Worn stone grave-marker (F1018), over burial 315, viewed from above. Scale of 25 cm

Fig. 99 Stone grave-marker over burial 315, seen in section, from the south. Note the axed finish. Scale of 25 cm

Fig. 100 Infant burial 43, in a stone coffin (F793). Scale of 25 cm

rectangular block measuring 88 cm by 38 cm (F793); a head-recess was provided (Figs. 100 and 497). The coffin had been covered with flat pieces of stone, some of which were missing. One metre to the south lay another infant, burial 63, in an earth-cut grave (F771) covered by three pieces of stone (F768). The latter included a well-cut Doulting ashlar.

Finally, on the matter of infant graves, it may be noted that half of another one-piece limestone coffin (F1531) was found 7 m further east, in Area 9 (Fig. 45). Although incomplete and robbed of its contents, the coffin appeared to be *in situ*; its eastern end was of rounded form both internally and externally. This coffin, and potentially others now lost, may well

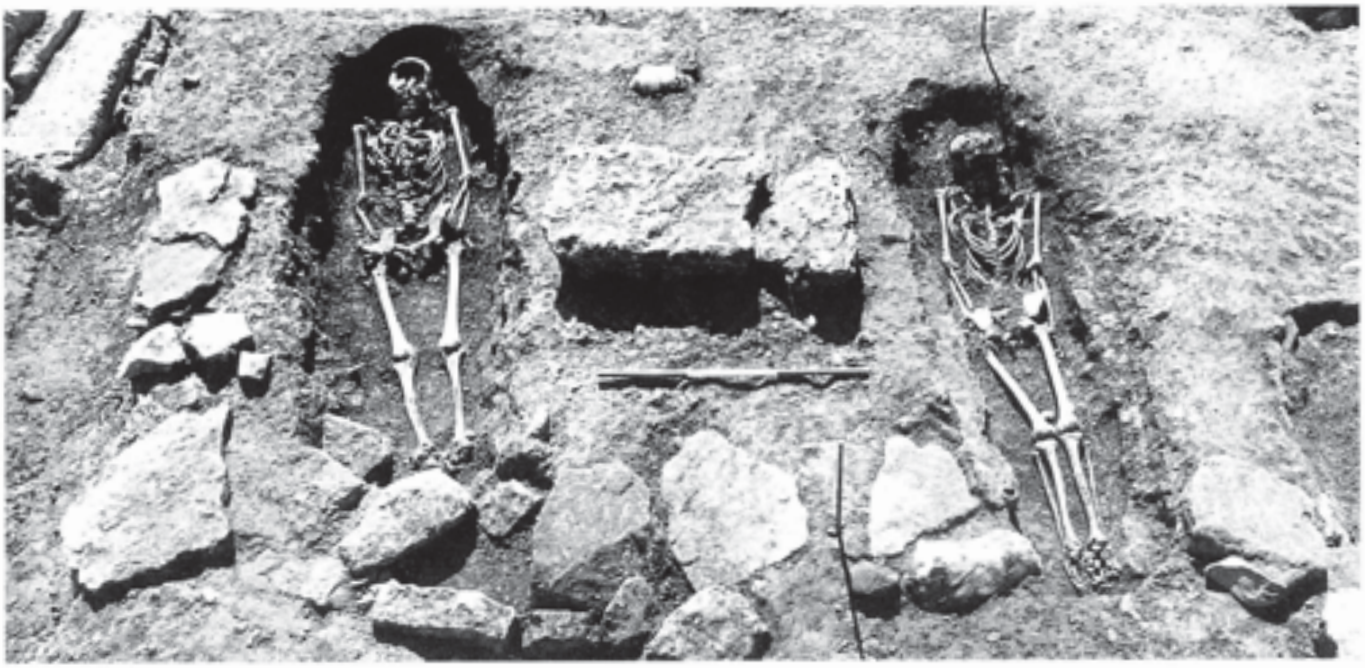


Fig. 101 Burials 60 (left) and 71, flanking a probable stone cross-base (F832). The uppermost stones of wall F938 traverse the picture in the foreground. Scale of 75 cm

have been further components of the series of child burials under discussion; unfortunately, the intervening ground had been entirely removed by medieval foundations.

Attention may now be turned to the main series of adult burials in Area 7. These were ten in number and occupied two north–south rows. The six burials in the eastern row were all contained in earth-cut graves of fairly irregular form, but mostly with rounded ends. No evidence was seen for coffins or for the inclusion of timbers within the graves.

Burials 60 and 71 flanked the southern stone cross base, F832 (Fig. 101). Both were supine, with the hands beside the hips. By contrast, B24 had the arms folded across the stomach. The disposition of the bones in these three graves was orderly, and no significant displacement had occurred after deposition. This might be taken to indicate that the corpses were enveloped with soil before the cover-stones were positioned. However, that can be shown not to have occurred in the case of burial 71. This interment was covered by two thick slabs of Doulting limestone (F796), under which a void still remained. One slab was very large and preserved tool-marks on its underside; the upper face was weathered, suggesting that it was set at ground level. There were no traces of decoration.

Burial 71 was an adult female whose skull displayed two features of exceptional interest. First, the entire facial area was stained greyish-brown and the bone was crumbling and efflorescent. This contrasted dramatically with better preserved, natural-coloured bone of the sides and the back of the skull, and of the post-cranial skeleton generally. The extent of the decay correlated with the likely area of exposed flesh of the face, the transition to unaffected bone occurring at about the hairline (Fig. 102; Pl. V). Secondly, the vault of the skull was pierced with two jagged holes, *c.* 9 cm apart. The damage had clearly been inflicted with a sharp, two-pronged implement, such as a hay-fork (Fig. 103). No healing of the bone had occurred, and the wound must either have been the cause of death, or taken place *post mortem*. Since the burial was so securely sealed with cover-stones — and the skull was fully protected from casual intrusion — it must be concluded that the injury was related to the cause of death.

A rare case of two-tier burial was provided by burials 76 and 316. At the bottom lay B76, covered by

Fig. 102 Detail of the skull of burial 71, showing the efflorescent, crystalline bone of the facial region

Fig. 103 Skull of burial 71 showing injury caused to the vault by a two-pronged instrument. The junction between the well preserved bone and the decayed, crystalline bone can be seen approximately to follow the frontal suture

Fig. 104 Cist burial 72. Scale of 25 cm

Fig. 105 Cist burial 44. Scale of 25 cm

stone slabs (F781), and directly on top of these was B316, with its own grave-cover (F754). The precision with which superimposition had taken place minimizes the likelihood of coincidence. The upper burial was badly disturbed, and both were truncated by later foundations.

The northernmost burial, B67, in the second row was orderly and covered by sandstone slabs (F734). The remaining three graves in the second row differed in their construction: all were stone-lined cists with head-recesses. In one case, the recess was all that remained of the grave (F858). It was constructed from Chilcote blocks with diagonally dressed faces. The other two graves were fully intact: B72 was female, and B44 probably male. Each was covered by four slabs of conglomerate, mortared onto the masonry wall of the cist; the floor was earth. The cists tapered along their length, they were voided internally, there was no evidence of packing materials, and no timber inclusions. The burials were supine and, despite being apparently unrestrained, there was no hint of disarray amongst the bones.

In the case of B44, crystalline efflorescence was noted on the long- bones and more particularly on the skull; the latter had collapsed.

Burial 72 was in a well-built cist (F798), the sides of which were constructed from a single course of blocks of Chilcote ashlar with diagonal dressing marks (Fig. 104). The joints were mortared. The cist containing burial 44 was slightly less well executed and in the main consisted of two courses of roughly dressed slabs of sandstone conglomerate set in yellow mortar (F676). The head-recess was, however, formed of dressed Chilcote stone (Fig. 105).

Summary and dating

This group of graves stands apart from all those belonging to the earlier phases of the cemetery. The use of stone for cist linings and covers appears to have replaced timber coffins and boards within graves. All were very shallow in relation to contemporary ground level, thus allowing at least some of the stone covers to serve also as grave-markers.

No intrinsically datable material was found in association with any of these graves, but the appearance of dressed limestone in their construction, particularly the Chilcote ashlars, points firmly to a very late Saxon or Norman date. The graves were not only earlier than the construction of the present cathedral, but also antedated the Norman walls of its predecessor, which probably belonged to the first half of the twelfth century. The final cemetery phase is most likely to date from the late eleventh century.

There is a striking contrast between the disarray seen in the skeletal dispositions of many of the early cist-graves and the immaculate layout of those in the late cists. The cists with head-recesses may be compared with the earliest burials at the east end of the nave of the medieval St Mary's chapel (p. 193). The lack of post-depositional movement of bone within the graves is unlikely to be fortuitous and, although no specific evidence was found here, it is suggested that an organic material was used for packing around the corpses, thus providing restraint during the critical period of decomposition. Possible evidence for such packing has been found in later cists (p. 188).

Synthesis: the Anglo-Saxon cathedral and its setting

Historical evidence

The *Historiola*

The nearest we have to a contemporary description of the Anglo-Saxon cathedral is an incidental statement contained in the *Historiola* which, although penned in *c.* 1175, drew upon locally available sources, including an autobiographical memoir written by Bishop Giso (Hunter 1840, 4–5). The anonymous canon cites Giso thus:

> To this said Duduco the bishop, I succeeded; Gyso an Hasbanian from the town of Saint Trudo [Lotharingia: Limburg, Belgium], in the year of our Lord's Incarnation one thousand and sixty, sent to Rome by King Edward, though by any merit of my own unworthy of the honour, and there I was consecrated by Pope Nicholas on Easter Day, the seventeenth of the kalends of May, and the King received me in an honourable manner on my return, bringing with me the mark of apostolic authority ...
> Then taking a survey of my cathedral church, and perceiving it to be small, and the four or five clerks (*clerici*) being without a cloister and refectory (*claustro et refectorio*), I set myself voluntarily to the preparation of these. I mentioned this our poverty to him, who was inferior to no one in piety [*i.e.* Edward the Confessor], and obtained from him the possession which is called Wedmore, for the remuneration of an eternal recompense, for the increase and sustentation of the brethren there serving God.

Giso then goes on to explain how he secured various other estates and gifts, both before and after the conquest by William Duke of Normandy, detailing also some of the vicissitudes incurred. Giso summed up his achievements:

> These estates thus being given for the sustentation of the brethren, through the bounty of kings, together with the most perfect liberty of the church, I enlarged the number of them; and those whom the want of the necessaries of life had before compelled to live among the people and to beg in a mean manner, being thus enriched, I brought to live in regular order in canonical obedience. I prepared for them also a cloister (*claustrum*), refectory (*refectorium*) and dormitory (*dormitorium*), and I added, in a satisfactory manner, all other things which they required, according to the manner of my own country. They unanimously chose one of themselves, Isaac by name, as fitter for the office than the rest by age and understanding, who was to take care of their temporal concerns without, and of the brethren within. I pronounced the sentence of anathema against all who should in any thing violate the arrangement thus canonically made, or should take away any part of the possessions thus appropriated by me or my predecessors. (Hunter 1840, 16–19)[6]

There is no reason to doubt the authenticity of this description. It clearly bespeaks a poorly endowed minster which, in 1060, lacked any form of claustral or other domestic buildings. Giso introduced a full suite of such structures and established a communal life according to the principles laid down by St

Chrodegang, the eighth-century Bishop of Metz whose name has become synonymous with this form of non-monastic, canonical 'rule'. There is no suggestion that regular monastic observance was embraced, or contemplated, at Wells. Equally, it can probably be asserted that there had never been any monastic or communal buildings at Wells hitherto, or their dilapidation would have been mentioned. One of the canons, named Isaac, was the elected 'head' of the community, thus becoming the first provost of Wells.

Although the establishment of a disciplined communal life was of central concern to Giso, his memoir unfortunately contained no mention of the liturgical buildings, or at least that aspect has not been preserved through incorporation in the *Historiola*. The latter is the more likely, since it is known from another source, a charter of Bishop Robert (1136), that Giso endowed the chapel of St Mary at Wells. Reference to this has already been made (p. 87). Giso is unlikely to have neglected the liturgically important structures, but equally it seems highly improbable that he rebuilt or extended them on a significant scale. Had he done so, a record of his munificence would almost certainly have survived, if only in a later source.

The final mention of the Anglo-Saxon cathedral comes in the *Historiola*, where the author, writing of Giso's death in 1088, records that:

> ... the circle of his days being completed, [he] slept in the Lord, and was buried in the church which he had governed, in a 'hemicycle' made in the wall in the north side near the altar, as Duduco his predecessor was buried on the south side of the altar. (Hunter 1840, 21)

Architectural interpretation of this passage is not easy. The text describes Giso's place of sepulture as *in emiciclo facto in pariete in aquilonali prope altare*. Although neither the dedication of the church, nor of the altar, is given it may almost be taken for granted that the two burials took place in St Andrew's church, where they flanked the high altar, although not within the sanctuary itself. Interment in the nave or sanctuary of a church was not the norm in the late Anglo-Saxon period: it was reserved to crypts, *porticus* and other special adjuncts. Dudoc and Giso were obviously not buried in a crypt, nor, it seems, were they in conventional *porticus*. Hunter (1840, 21) translated the phrase *in emiciclo facto in pariete* as 'in a little niche made in the wall', but this is unsatisfactory. In the first place it conveys overtones of a medieval wall-tomb but, more importantly, it gives no indication that a semicircular structure was being described. *Hemicyclium* was not a word in common use in the early Middle Ages, and an unusual construction at Wells is most surely implied.[7]

Had the two episcopal tombs simply stood under semicircular arches in the side walls of the sanctuary, in a quasi-medieval fashion, a more conventional form of wording would have been expected: *sub arco facto in pariete*. All Romanesque arches were basically semicircular, and therefore the need to emphasize the form was superfluous. Consequently, it seems very much more likely that the 'hemicycles' lay in the horizontal plane rather than the vertical, and that suggests lateral apses. Classical usage of *hemicyclium* invariably related to apse-like structures, sometimes with an encircling seat, and Cicero expressly used the word to describe a semicircular settee for conversation.

The implication at Wells must surely be that the late Saxon cathedral church was provided with a pair of lateral apses, flanking the high altar. Whether these were small-scale projections designed specifically to accommodate one tomb apiece, or whether they were substantial *porticus*, as at Winchester Old Minster in the late tenth century (Kjølbye-Biddle 1986, fig. 135), is impossible to tell without excavation of the area in question. The latter seems more likely.

In addition to Dudoc and Giso, at least another five bishops of Wells were buried here during the tenth and early eleventh centuries, and a series of *porticus* containing their tombs must have existed in the cathedral (Robinson 1914; 1919). It is likely that these comprised a series of small square chambers flanking the nave, as at Winchester or Deerhurst.

The Lanalet Pontifical

In considering the fabric of Wells Cathedral in the eleventh century, there is one further piece of historic evidence to take into account, and that is the tantalizing document known as the Lanalet Pontifical, now in the Bibliothèque municipale de Rouen (Gage 1834; Doble 1937). Of particular interest is a drawing depicting the consecration of a major church, bound with the manuscript.[8] Although both the pontifical and the illustration are well known, the possible historical relevance of the former, and architectural significance of the latter, for Wells, have never received adequate consideration. The connections were noticed by, *inter alia*, Doble and Colchester. Doble made a very cautious observation: '... we may even go so far as to say that it [the pontifical] may have been in use at Wells' (Doble 1937, xi); but it was Colchester who first appreciated the manuscript's real importance for Wells.[9]

The pontifical is English in origin and was undoubtedly in use at Wells at one time. The latter can be asserted on the basis of textual additions made to the original which declare that it was associated with a cathedral dedicated to St Andrew. That narrows the field to two: Rochester and Wells. The former can be eliminated because the importance of St Cuthbert is also made manifest in the pontifical, and he featured prominently at Wells but not at Rochester. Moreover, the manuscript has other demonstrable south-western connections.

The Lanalet Pontifical contains special benedictions for St Andrew's Day and for the Eve (Vigil) of St Andrew, but they do not appear amongst those for saints' days: instead, they occupy a position of special prominence before those for Sundays and holy days. Moreover, the phrase 'You have received St Andrew as special patron' is used, and the benediction for his Vigil is repeated at the end of the book. Finally, there is a special benediction for St Cuthbert's Day, which has been superimposed on one for the Annunciation. St Cuthbert was not only honoured in the cathedral at Wells, but is also the patron saint of the parish church of the city. It may be noted that all the other saints' days for which benedictions are provided in the pontifical, with the exception of Erkenwald and Justinus, are also named in the Wells Calendar which was in use in the later eleventh century[10] (Wormald 1934).

The Wells connection thus seems irrefutable. The dates of the component parts of the pontifical, and of the emendations to it, are more open to question. A fresh appraisal of the document, especially of its palaeography, is urgently needed. On the one hand, it has been claimed that the manuscript was written 'somewhere in the south-west in the early years of the eleventh century' (Lapidge 1991, 82), while on the other it has been argued that the original manuscript (or at least one part of it) cannot be earlier than 1031 because St Martial of Limoges is named among the apostles in the third litany, instead of among the confessors where he would previously have been (Wormald 1946, 85).[11]

After the repeated benediction for the Vigil of St Andrew at the end of the book, are the words in Anglo-Saxon, 'This book belongs to Bishop Lyving'. The two additions are not in the same handwriting and need not be connected. The *ex-libris* inscription ought to assist the question of dating, but in fact it only adds another enigma. Lyving was Bishop of Wells from 999 to 1013, when he was translated to Canterbury and died there in 1020. Unless the reference to St Martial can be shown to be a later insertion, it must be accepted that the book never belonged to Bishop Lyving of Wells. The only other potential owner would be the later Lyving, who became Bishop of Crediton in 1027, and of Cornwall in 1043, dying in 1046. The Cornish connection is further strengthened by a textual reference to the bishop *lanaletensis monasterii*. This provides an unambiguous link with the monastery of Lanalet, otherwise known as the abbey of St German's. That is, of course, how the Lanalet Pontifical acquired its popular name.

The Cornish connection is, however, demonstrably secondary, if not tertiary, and Lapidge has drawn attention to the fact that there is not a single invocation amongst the three litanies contained in the book to a Cornish saint. Indeed, the first two litanies are devoid of reference to specifically English saints, and could have been written almost anywhere, but the third litany mentions four: Birinus, Cuthbert, Iudoc (Judocus) and Earconwald (Lapidge 1991, 83). Again, the interest in Cuthbert — unusual in a manuscript originating in south-west England — points more towards Wells than anywhere else in the region. The commemoration of Birinus in the ancestry of Wells is to be expected. It is uncertain what particular significance attaches to the inclusion of Iudoc and Earconwald.

In summary, internal evidence demonstrates that the Lanalet Pontifical was used at a place where St Andrew and St Cuthbert were specially honoured, which can only have been Wells; but it later became the property of Bishop Lyving of St German's. Whether the manuscript was partly or wholly written at Wells is much less certain. The first two litanies form part of the service for the dedication of a church, and contain no invocations that could link them to any particular place; the third, with its mentions of Cuthbert and Birinus, could easily have been written at Wells.

Bound in with the pontifical are two line drawings. One is in black and red, and shows a bishop and acolyte. The other is in black-line only, and illustrates the consecration of an Anglo-Saxon church[12] (Fig. 106). The latter is therefore particularly apposite in relation to the first two litanies. This drawing has been published on several occasions, and has been claimed as a product of the Winchester school (Gage 1834, opp. 250; Doble 1937, pl. I), although this is still a matter for debate. The manuscript has been dated to the first half of the eleventh century and assigned to Wessex, 'perhaps even to Wells' (Talbot Rice 1952, 205, pl. 70a).

The edifice illustrated is clearly a 'great church', a minster or a cathedral, accompanied by, it seems, two towers. The officiating bishop, who heads a procession of ecclesiastics, is seen knocking at the door of the church with his pastoral staff. A group of lay onlookers is shown separately. The ground in front of the building is treated in the usual 'heaving' manner. Of particular interest are the two wooden barrels prominently depicted on (or in?) this ground. The beholder is left in no doubt that these liquid-filled barrels were seen by the artist as features of signal importance. Gage (1834, 245) suggested that they were filled with water which would be blessed by the officiating bishop and used in the consecration service.

Unfortunately, such an explanation lacks credibility. While one barrel — perhaps that at the centre of the picture — could be interpreted as a vat of holy water, the second barrel seems superfluous. Moreover, it stands entirely on its own in the right-hand corner of the drawing. If the arrangement is interpreted topographically, the latter barrel could represent an individual water source somewhere to the east of the church.

Barrels of water and broken ground have long been symbolic of the springs of Wells, and remain so today in the city's arms (see further pp. 131–2). Short of adding a caption, the artist could not have revealed more clearly the identity of the place depicted.

Fig. 106 An eleventh-century drawing depicting the consecration of a great Anglo-Saxon church, potentially Wells Cathedral; the two barrels and heaving ground symbolize the springs. The drawing is bound into the Lanalet Pontifical, now at Rouen (Bibliothèque municipale de Rouen)

It therefore seems reasonable to accept that, whatever the ultimate origin of the pontifical, its use in Wells was accompanied not only by additions to the manuscript, but also by associating the drawing with it at the same time.

The corollary must surely be inevitable: this is a drawing of the dedication of the Anglo-Saxon cathedral of Wells, made some time in the first half of the eleventh century, perhaps to accompany the consecration of new building work. As potentially the earliest illustration of an identifiable English cathedral, the importance of this drawing cannot be overstated.

The highly stylized drawing appears to show a complex of buildings, from which little can be deduced that is architecturally informative. The body of the church is depicted as a simple rectangular box, with a bold plinth and a gabled east(?) end overlooking the water source. A partly open door of exaggerated proportions, with a fine display of eleventh-century ferramenta, is shown on the south side. There appears to be another roofed structure abutting the church on the north, and two towers, each of several distinct stages.

The walls show firm outlines of ashlar, which was probably only painted onto rendering; and the roofs are tiled. The vertical tile-hanging on the uppermost stage of the larger tower is of interest and is suggestive of wooden shingles rather than stone tiles. Moreover, the multiple lines of its roof could possibly be an attempt to depict a helm-like structure, rising from a timber belfry which is supported on a masonry base. The gable crosses and weathercock have been seen as later additions to the drawing, the artist of which was responsible for the smudges. However, they are more likely original, and *en suite* with the door ferramenta.

Another possible depiction of the late Saxon church at Wells is to be found on the early medieval borough seal (pp. 132–3).

Archaeological evidence

The archaeological evidence described in the earlier parts of this chapter is assignable to the later tenth, eleventh and twelfth centuries, although it is accepted that close dating within the overall span is not possible, given the paucity of intrinsically datable finds and the lack of distinctive architectural mouldings and sculpture. There can, however, be no doubt that the building which has been identified as St Mary's chapel, together with the various structures surrounding it, were components of the late Saxon cathedral of Wells. So too was the cemetery, over part of which the latest phase of building spread.

St Mary's chapel, prior to *c.* 1190, exhibited a two-stage development. The first was a freestanding, two-celled building, the eastern part of which was a sanctuary or *memoria* associated with the preservation and veneration of an *in situ* group of burials of ancient significance. This was undoubtedly one of the *loci sancti* within the cathedral precinct. Arguably, it was the most important, and owed its existence ultimately to an exceptional Roman-Christian burial that had lain in the chamber beneath the original mausoleum.

The second stage in the development of St Mary's chapel was the creation of a physical link between its nave and the eastern extremity of a masonry structure of immense solidity. That structure was curved, *c.* 7 m in diameter, and was so deeply cut into the bedrock that a subterranean, or semi-subterranean, chamber is certainly implied. It has been posited that this was an apsidal crypt beneath the eastern sanctuary of a substantial church, which may be identified as St Andrew's, the major building component of Wells minster.

Without excavation beneath the Gothic east cloister it is impossible to be certain of the apse-crypt identification proposed here. It would, for example, be possible to interpret the curving foundation — which could have supported either a circular or a polygonal building — as part of a freestanding tower with a sunken basement, perhaps containing a baptistery. Another alternative would be an Anglo-Saxon mausoleum with a rotunda-crypt: here one recalls structures such as Wulfric's rotunda at St Augustine's, Canterbury, itself constructed as a link between pre-existing buildings. The options are few, but none can be wholly dismissed at present. If the 'hemicycles' were lateral apses, then an eastern arm of triconche form is implied, as the Winchester Old Minster.

Turning to the lateral additions to St Mary's chapel, there are again several structural phases to take into account, and chronological links between buildings to the north and to the south of the chapel cannot be firmly established. In both areas, excavation established a minimum of two phases, and almost certainly three; robbing had, however, left but a very imperfect record. The lack of physical uniformity between surviving fragments of foundation, the differences between trench widths, and the diverse nature of the post-robbing débris, all proclaim different dates for the structures flanking the two sides of the chapel.

Unfortunately, history is virtually silent on building developments at Wells in the twelfth century, but it is reported in the *Historiola* that Giso's work was undone by his successor, John de Villula, and that structures were demolished:

> Also the houses of the canons (*domicilliis canonicorum*) which the venerable Gyso had built, as the refectory, the dormitory and the pantry (*cellario*), and other buildings (*aliis officinis necessariis*) having been destroyed by him [John], together with the cloister itself, the canons whom Gyso had taught to live regularly and religiously, were turned out of doors to live in common among the people. (Hunter 1840, 22)

This accounts for one short-lived building phase. It is improbable that John simply razed the claustral and domestic buildings: more likely he adapted at least some of them to other uses. Indeed, it is recorded in the *Historia Major* that John took over part of Giso's constructions for his own house (SRS 1924, 61). That potentially provides another building context in the archaeological record.

During the first half of the twelfth century John de Villula's depredations at Wells were reversed, particularly by Bishop Robert (1136–66), who appears to have contributed significantly to the fabric. He is best known for his reorganization of the cathedral constitution, for the appointment of the first dean, and for the formal creation of the chapter in 1135–40 (see further p. 125). The sole record of new work during his episcopate is contained in the *Historiola*, where, after an account of Robert's munificence at Bath, it is asserted:

> Nor ought it to be forgotten that the church of Wells was built by his counsel and assistance. And so it was when the church of Wells was finished, the Bishop associated with him three other bishops [Salisbury, Worcester and Hereford], who consecrated and dedicated the said church; and who as soon as the work was accomplished, all joined in conferring a great, wonderful and memorable favour; namely, that in every year on the anniversary of the dedication, to those trusting in the mercy of God, being penitent, and coming on the said day to that church to the honour of God, one hundred days of their penance should be released. (Hunter 1840, 25)

That was clearly an event of signal importance in the history of Wells in the twelfth century, and it can be dated to 1148 on account of the named bishops. It is not credible that Robert carried out a total reconstruction of the church and its claustral buildings, but he clearly made a considerable impact (p. 125). The problem is to identify his work on the ground.

Structure 9, on the south, it is suggested, may have been of a domestic or non-liturgical nature, while the two parallel walls forming the basis of Structure 8, on the north, could be interpreted as the east range of a late Saxon or early Norman cloister. The origin of Structure 8 cannot be earlier than the mid-eleventh century, and it is tempting to associate it with Giso's generous provision. However, it could be later, especially in view of the presence of twelfth-century sculptured fragments in its robber trench; no such material was found south of the chapel. One solution would be to posit that Structure 9 was essentially Giso's work, begun in the 1060s, while Structure 8 was a wholly Norman cloister built in the first half of the twelfth century and dedicated in 1148 by Bishop Robert. In sum, the claustral provision may have been shifted from the south side of the church to the north.[13]

Analogues for cloisters of this date are few, and they are mostly related to monastic foundations. Dunstan is credited with the provision of a southern cloister at Glastonbury, and there was one similarly placed at Monkwearmouth. The New Minster at Winchester was also provided with a cloister.

Topographical relationships

Groups or 'families' of churches

Brief mention of this topic was made in chapter 3, but it is more appropriate here to explore the Anglo-Saxon liturgical planning of Wells in the wider context. During the last three decades, research into the archaeology and topography of the greater churches of late Anglo-Saxon England has revealed a clear predilection for 'families' of separate but inter-related structures, and for axial planning, in both monastic and non-monastic contexts (Rodwell 1984; Blair 1992). Of the former, Glastonbury Abbey provides an archetypical demonstration, and is also a local example suitable for comparison with Wells. The Glastonbury 'family' appears to have begun with a hypogeum and, a short distance to the west, the 'old church' of St Mary (the *Vetusta Ecclesia*). Between the two was built the church of St Peter which later developed into the principal component of the abbey complex (Fig. 108). West of these lay a small squarish building which may have been a gate or a tower, and considerably further to the west again, was the church of St Benedict (Rodwell 1984, 18–21; Rahtz 1993). Although the latter lay on an extension of the abbey's axis, it (or at least its medieval successor) was rotated by a few degrees, so that its particular orientation did not conform. It would appear that the general alignment at Glastonbury was determined by a Roman road, the eastward and westward continuations of which have survived as landscape features into modern times.

A comparable example is St Augustine's Abbey, Canterbury, where again a line of churches and other structures, including St Pancras, St Mary, and SS Peter and Paul, was constructed alongside a Roman road leading eastwards out of the city. St Pancras's Church was slightly offset from the main axis of the complex, although visually part of it. Hexham and Jarrow both had two churches, closely juxtaposed and sharing the same axis (Bailey 1991), and there was a similar arrangement at Lindisfarne (Blair 1991).

Turning to secular minsters, the same linear grouping of churches, chapels and other liturgically significant structures is apparent. The most impressive alignment of all is seen in London, where the churches of SS Pancras, Augustine, Paul, Gregory and Martin formed a single, linear complex (Rodwell 1993b). More common was the pairing of two churches,

together with perhaps one or two lesser features. Thus at Canterbury (Cathedral) there was St John the Baptist and Christ Church (Blockley 1997); at Worcester, SS Mary and Peter (later monasticized); and at Winchester Old Minster, SS Peter and Paul, St Martin's tower and the tomb of St Swithun (Biddle 1970). St Oswald's (Old Minster) at Gloucester had a separate mausoleum at its east end (Heighway and Bryant 1986); and comparable structures at Winchcombe and Repton have previously been noted (p. 79). An attenuated linear arrangement, perhaps involving two buildings that coalesced, is also evidenced at Cirencester.

Many more examples of such groupings can be cited or inferred from literary references. In the majority of cases, the principal church was dedicated to Christ or one/two of his apostles (usually Peter and/or Paul, less often, Andrew), while the subordinate church generally honoured the Virgin Mary. Examples where these paired dedications are specifically recorded include Glastonbury, Exeter, Worcester, Canterbury, Lichfield, Lindisfarne and Jarrow. More often St Mary's church lay to the east of its partner, but this was by no means invariable, as Glastonbury and Lindisfarne demonstrate. Bath may provide another example (Rodwell 1984). The topography of Anglo-Saxon minsters has been thoroughly reviewed by Dr John Blair (1992), and needs no further explanation here.

The evidence at Wells, albeit fragmentary, fits happily into the generally perceived pattern of church groups on major ecclesiastical sites of the middle and late Saxon periods. That there were three components — St Andrew's Well, St Mary's chapel (earlier, the mausoleum) and St Andrew's Church — is not in doubt; and it has been argued that that was their linear order from east to west. There may well have been additional, separate features, such as a tower or gateway; if so they are likely to have been sited further west. The curious siting of the medieval Penniless Porch in relation to its contemporary surroundings could be explained if it were the successor to an early gate tower (see further p. 341). The layout at Abingdon may not have been dissimilar (Biddle *et al.* 1968).

Subsidiary features

Lesser features also formed important components of linear plans, although little is known about them because they are seldom documented: they are, however, gradually being revealed through excavation. Freestanding towers and mausolea, already mentioned, are likely to turn out to be more numerous and of greater significance than is currently credited. Similarly, there is no doubt that standing crosses played a major role in Anglo-Saxon ceremonial: the great number of *ex situ* fragments from the sites of some major churches bears impressive testimony. The New Minster at Gloucester has one of the richest yields from southern England.[14] The stone bases of two have survived, apparently *in situ* at Lindisfarne, both on the axis of the churches, one just east of St Peter's and the other midway between it and St Mary's (Blair 1991, fig. 2).

Two crosses at Glastonbury stood in the cemetery, immediately to the south of St Mary's chapel, and such was their significance that they attracted early antiquarian comment, and were dubbed 'pyramids' (Fig. 108.4). A socketed base, intended to hold a cross, was also found during excavation.[15] Two rough stone foundations discovered in the cemetery at Wells, north of St Mary's chapel — and respected by Anglo-Saxon graves — have been interpreted as the settings for crosses. Glastonbury has yielded a number of fragments of decorated stone cross-shafts, while from Wells there is, so far, only one potential piece (Fig. 488.3; Foster 1987).

It has already been mentioned that water-holding features — in the form of wells and cisterns — played a significant rôle in liturgical planning. The position at Wells itself was exceptional, in that the sanctified spring was a major natural feature that could conveniently be incorporated in the linear layout. In reality, the holy well lay fractionally off-line, but that would not have been perceptible on the ground. Other instances of eastwardly-placed and more-or-less axially-aligned springs and wells have been noted, as at St Paul-in-the-Bail, Lincoln, and St Peter's Barton-upon-Humber (Rodwell 1984, figs. 2 and 8). They may have been places of outdoor baptism, although the nature of the sacrament denies the opportunity of proof (Morris 1991). In certain urban contexts, for example Bath and Leicester, Roman reservoirs and bath structures lying immediately west of Anglo-Saxon churches, may be seen as potential baptisteries (Rodwell 1984, figs. 3 and 4).

Axially aligned wells and cisterns are gradually being discovered inside churches, in positions that imply signal importance. Thus at Winchester Old Minster a well lay at the centre of the eastern apse, and another in the middle of the north porticus (Biddle 1970, fig. 13). Non-axial, but structurally related, wells seem to have been commonplace in great churches. One at Glastonbury, literally under the south wall of St Mary's chapel, may be of Romano-British origin, although encased in a chamber in the twelfth century (Fig. 108.2; Rahtz 1993, 84–7). At Exeter Cathedral, the holy well is somewhat similarly placed (Fox 1956, 208); at Glasgow, St Kentigern's Well is in the floor of the crypt, against the south wall; and at Lichfield a well was incorporated in the substructure of St Peter's chapel, adjoining the south side of the cathedral (Rodwell 1996a, 87). The Galilee chapel at Durham has a well incorporated in its west side. Two modest shafts, presumably intended to hold water, have been found at Wells: one lay to the north and the other to the south of the mortuary chapel. The axial well-shaft, described in chapter 3, was of course lost when the apse of St Andrew's church was built.

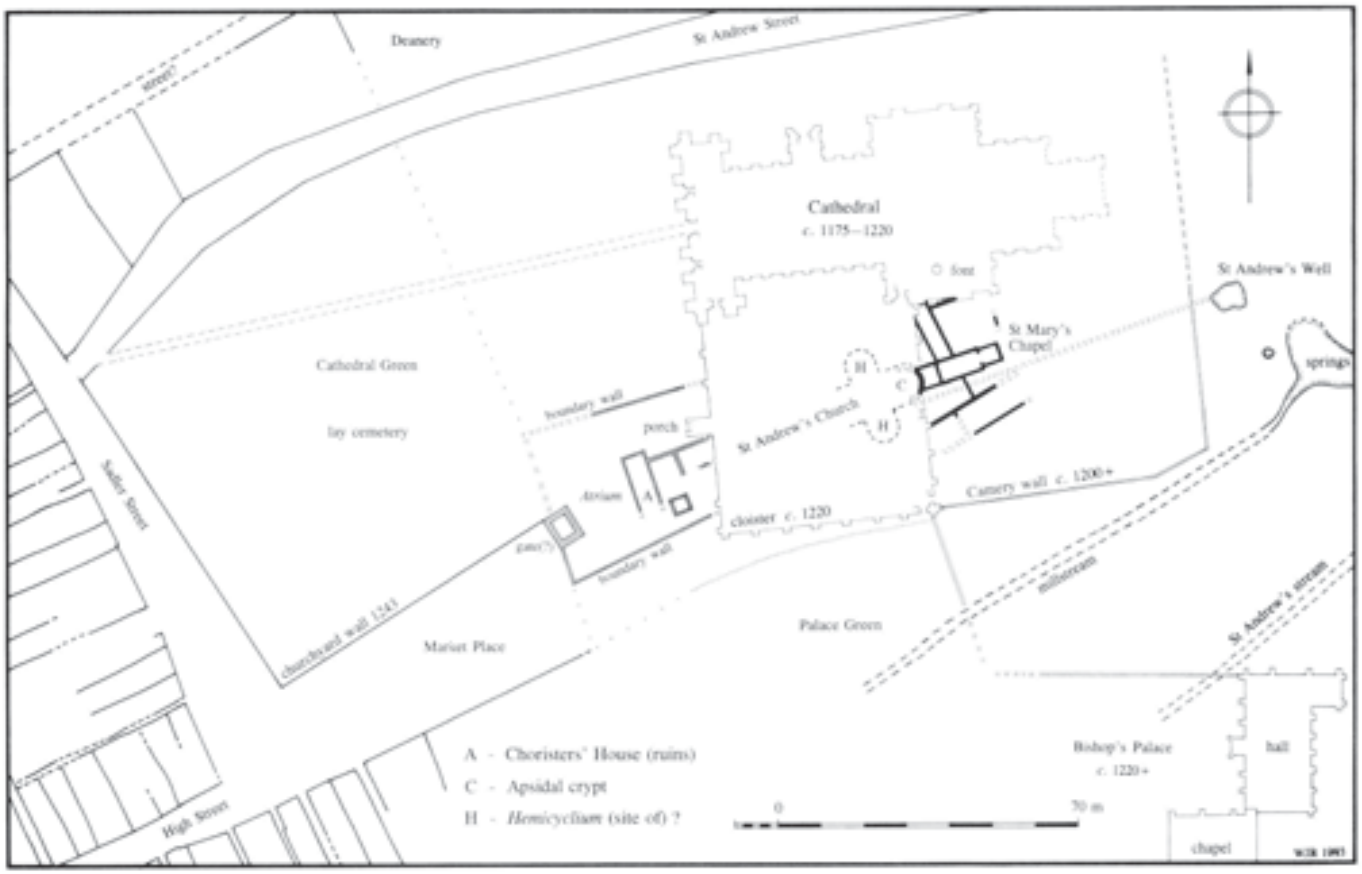


Fig. 107 Topography of the Anglo-Norman cathedral, showing excavated foundations (black) and medieval features following early alignments (shaded) in the precinct

The extent of the church at Wells: a reconstruction essay (Fig. 107)

If the foregoing analogues are applicable to Wells, it follows that the church of St Andrew must lie wholly under the present cloister, and any additional structures to the west may be found in the Mary Mitchell Garden and under properties bordering on the market place (Figs. 2 and 4). If Giso's domestic buildings extended along the south side of the cathedral, between it and St Andrew's stream, they will now lie beneath the masons' yard, the south cloister and Palace Green. The structure adjoining the Saxo-Norman cathedral on the north — potentially a cloister — certainly extends beneath the present cathedral transept, and perhaps as far as the nave.

None of these areas has been subjected to deep archaeological investigation, and any late Saxon and Anglo-Norman remains are likely to be well blanketed by more recent structures and, within the cloister garth, by the innumerable burials that have taken place over the course of seven-and-a-half centuries. Nevertheless, it may be possible to detect the outlines of some of the long-lost structures, ghosted by later topographical features. This is facilitated by the fundamental change of alignment which was introduced into the precinct in the later 1170s. The erection of the new, early Gothic cathedral will be considered in the following chapter, but attention may be directed here to certain structures and boundaries which have survived into modern times, and which conform to the old rather than the new alignment. These are potentially relict features of the earlier precinct.

Of pivotal interest in this enquiry is the group of medieval structures which formerly adjoined the west cloister range, but which was severely reduced by demolition in the 1870s (see chapter 9). The principal building was the choristers' house of 1354, the ruined gable of which still stands in the Mary Mitchell Garden (Figs. 348–9). There was a link structure between this house and the short lean-to range which still exists against the west side of the cloister. The whole complex was planned and illustrated by Parker (1866a, pls. 21–22), and its topographical importance was noted by Hope (Fig. 72; p. 83). All the currently extant masonry appears to be fourteenth century or later, and there is nothing in Parker's record to indicate that the demolished parts were likely to be older.

It is therefore remarkable that the choristers' house complex did not display a structurally logical relationship to the west cloister, the outer wall of which cannot be later than *c.* 1220. Had the house been erected *de novo* in 1354 there is no overt reason why it should not have been built with its walls at right-angles to the cloister, or why it should have joined so awkwardly

with the early thirteenth-century west porch, which was a major point of entry to the cathedral. Instead, the walls of the house followed precisely the alignment of the pre-Gothic cathedral.

Moreover, the physical connection between the house and the cloister exhibited curious features, and the buttressing of the latter is irregular. The laying out of a new cloister, it might be assumed, would involve a regular series of external buttresses on all sides, except where adjuncts were intended. It has been demonstrated by excavation that two of the buttresses on the east cloister were never built above ground level, although the design certainly provided for them, and foundations were laid. The same may be true in respect of one, or perhaps two, buttresses on the west cloister.

The only explanation for the buttress irregularities, for the anomalous alignment of the choristers' house, and for the apparent inversion of the structural sequence between it and the west cloister, must be similar to that discovered on the east side. Just as the mainly thirteenth-century Lady Chapel-by-the-Cloister was a rebuild on foundations that were considerably older than the cloister itself, so too with the choristers' house and its adjuncts.

It would be excessively speculative to attempt to identify any of the medieval walls, or their foundations, with particular parts of the early cathedral church. The most that can be claimed is that the choristers' house ghosted some part of the west end of St Andrew's church, or another structure that lay immediately beyond it. As a generalization, it seems unlikely that the body of the Anglo-Saxon church extended this far west, but a separate structure on the main axis would be entirely reasonable. Alternatively, the Norman 'rebuild' could well have involved lengthening the old church, so that its west front lay in the area of the Mary Mitchell Garden. Bishop Robert may have looked to his neighbour at Old Sarum, where Bishop Roger (1107–39) had recently extended the eleventh-century cathedral, literally in all directions. At the west end, Roger added a modest pair of towers and a vestibule (Montgomerie and Clapham 1947, fig. 8). If additions of a substantial nature were made at Wells, their foundations will certainly have survived beneath the later cloister.

To the north and south of the choristers' house lie, respectively, two boundary walls which follow the same general alignment as the Anglo-Saxon work. They abut the west cloister no less awkwardly than the house did. The northern wall stands as the boundary of the Mary Mitchell Garden. Although crowned by a fifteenth-century Doulting stone parapet, the mixed rubble wall below is plainly older (Fig. 348). Moreover, when the footings were exposed in a contractor's trench at its eastern end in 1989, it was found that the wall face continued to a depth of nearly a metre below present ground level (which has altered little since the late Middle Ages). The wall was built from a much earlier ground level, possibly one which antedated the construction of the cloister.

The second boundary wall, which is *c.* 32 m south of, and not quite parallel to, the northern wall, is now almost entirely encased by the fifteenth-century and later buildings immediately to the south of the medieval precinct gate known as Penniless Porch. There is a western return to the wall which meets the south-west corner of the gate. It is unlikely that the southern wall and its western return are later than the thirteenth century in origin, and they also mark the historic boundary of the property owned by the dean and chapter. Moreover, the west wall is the boundary of the Liberty of St Andrew.

In summary, there is ample evidence for a walled enclosure of quadrangular plan, adjacent to the west cloister, entered through a gate in what is now the north-east corner of the market place. Within the enclosure, but bearing no symmetrical relationship to its layout, was the west cloister porch, the main medieval entrance to the cathedral from the town.[16] Also within that enclosure were various minor medieval buildings, partially obstructing the entrance. None of this makes any topographical or architectural sense as an addition to the early Gothic cathedral; on the contrary, it partially defeats the object of the early thirteenth-century scheme for the new west front and cloister.

An overwhelming case exists for assigning the walled enclosure, its market place gateway, and whatever structure that preceded the choristers' house, to the twelfth century or earlier. They must surely be relict from the western entry arrangements to the Anglo-Norman cathedral. The walled enclosure may be identified as an entrance court, or *atrium*.

By good fortune an incidental reference has been preserved, dating from the middle of the twelfth century, to the *atrium* at Wells Cathedral. An undated (but pre-1160) charter of Bishop Robert laid down the conditions for markets and fairs being held in the town (HMC 1914, 547; Church 1894b, 29–30, 360). The preamble refers to the noise and disorder caused by markets being held inside the church, and within its entrance court (*atrium*), asserting that these brought dishonour to God, disturbance to the ministering priests, and hindrance to the worshippers:

> *Nonnullorum autem constat experientie quod tumultus nundinarum que in eadem ecclesia et in atrio eius hactenus esse consueverunt ad dedecus et incommodum eiusdem ecclesie accidit, cum in ea ministrantibus quam maxime sit importunus, quia et eorum devotionem impedit et orationum quietem perturbat.*

Henceforth, it was decreed, markets and fairs were to be held in the 'broad places' of the town. That the *atrium* was a definable space outside, yet attached to, the church is plainly inferred by this document. It is also clear that the *atrium* was a feature specific to the

Romanesque church, and not shared by its successor, since there are no subsequent historical references to the term. Furthermore, the words *in atrio* have been struck through on the original charter, and replaced by *in cimiterio*, in a later medieval hand. This emendation will have occurred after 1243, when the great cemetery was laid out in front of the west doors of the new cathedral (HMC 1907, 74).

It will be noticed that the *atrium*, as here delineated, is asymmetrical in plan, being cramped on the south side, and a case may be argued for an early encroachment: the south wall may be twelfth century or even later in origin, replacing an older wall on a more southerly site. Attention may be drawn to an ancient boundary which begins at the south-east corner of the medieval cloister, and runs westwards for 60 m, towards the market place, but has been truncated by the fifteenth-century house and gateway at the entrance to Palace Green (Fig. 107). The boundary curves slightly and is not parallel to the cloister, but reflects the general alignment of the Romanesque and earlier structures. If it were projected to the west, it would meet the medieval market place at its south-east corner.

The boundary just described is no longer a significant topographical feature, merely being the edge of a path, but it is still of legal and tenurial significance. This was the medieval interface between the jurisdiction of the bishop (to the south) and the dean and chapter (to the north), and in part it continues that function today. Where the ancient line has been disrupted (at the west end), the jurisdictional boundary dog-legs northwards to meet the south wall of the *atrium*, behind Penniless Porch.

Thus, there seems little doubt that the former *atrium* was reduced in size, sometime between the thirteenth and the fifteenth century. If so, its gate (Penniless Porch) would originally have been close to the centre-point of the west side. It is also worth observing that the gate, which makes little topographical sense in relation to the early Gothic cathedral, lay on the axis of the Anglo-Saxon and Norman churches. Although the superstructure of Penniless Porch was rebuilt in the fifteenth century, older masonry is incorporated in the lower stage, and the site is probably that of the earliest gate into the ecclesiastical precinct at Wells. Glastonbury provides a striking analogue for the arrangement: it had an axial gate-chapel on the western approach to the church (Fig. 108; Rodwell 1984, fig. 10).

If the foregoing argument is accepted, it may provide a pointer to the location of the western boundary not only of the *atrium*, but perhaps also of the minster precinct (Fig. 73). This is a subject that has never been explored, yet there can be little doubt that a *vallum monasterii* would have been established in or by the eighth century.

The original course of St Andrew's stream is likely to have formed the southern boundary, and the

Fig. 108 Reconstructed plans to illustrate the development of Glastonbury Abbey church before the twelfth century. After Rodwell 1984

boggy ground around the springs may have determined the eastern limit. It has been argued that an early road (Roman?) crossed the site close to the present St Andrew Street, and that could well have delimited the precinct on the north. Speculative though this must be, topographical considerations would support the notion of a rectilinear *vallum monasterii* with minimum dimensions in the order of 170 m east–west, by 150 m north–south. This is only half the size suggested for the primary precinct at Glastonbury (300 m by 190 m) and St Augustine's, Canterbury (Rodwell 1984, 21). If, however, the road did not delimit the northern boundary, but passed through the enclosure (as may similarly have been the case at Glastonbury), then a larger precinct is implied. There are topographical indications that a significant boundary, potentially an early street, ran behind the medieval deanery (continuing the line of Chamberlain Street, eastwards; Figs. 2 and 107). If that marked the northern extent of the Anglo-Saxon precinct, dimensions in the region of 220 m by 170 m would be indicated.

It is only by raising these questions and hypotheses, and by searching for field evidence when opportunities avail themselves, that the topography and wider setting of the minster and early cathedral of Wells will eventually be understood.

Fig. 109 Plans illustrating the suggested development of settlement at Wells. A Romano-British; B Middle to late Saxon (minster schematically represented); C Late Saxon (cathedral schematically represented); D Twelfth and early thirteenth century

The wider setting: church and town

The origins of Wells as a town are difficult to establish. *Prima facie*, there was no urban centre here in the Anglo-Saxon period. There is no express evidence for burghal status, for a mint, or for defences. It has to be accepted that these well-known urban attributes were not present, and therefore Wells did not rank alongside Taunton, Ilchester or Bath as a regionally important town. The presence or absence of other urban features in the late Saxon period are, however, less easy to determine. Two are of particular interest: the market and the street grid.

Both demonstrably existed in the Anglo-Norman period, and thereafter, but the date of their inception is unrecorded. If they were present before the Conquest, then Wells may reasonably be claimed as a small town of Anglo-Saxon origin. If, on the other hand, there was nothing resembling a town here at the beginning of the tenth century, why was Wells minster selected as the *sedes praesula* when the see of Somerset was created? There were many minster churches in the county — some urban, some rural — and to have adopted a *locus* that did not have an acknowledged regional significance would seem implausible. In practical terms, the choice of location must have been influenced to some extent by the place being one to which people commonly resorted for religious, social or commercial purposes.

Wells was conveniently situated to serve as a local, and perhaps regional, centre in relation to the southern Mendips and their hinterland, and therefore the probability exists — and it cannot be put any stronger than that — that a market and fairs were already being held here by the beginning of the tenth century. Commonly, such events took place in an open space outside the gates of the minster, usually at the west end. That is where the market place lay in relation to St Andrew's church in the early twelfth century, as discussed above (p. 118). The planned street grid of the town is plainly dependant upon, and probably a development from, the market place. The regularity and axis of the street pattern have been commented upon by various writers (*e.g.* Hope 1909; Aston and Leech 1977, 149), but a detailed analysis has yet to be attempted.

A model for the emergence of the town has been advanced (Rodwell 1980b; 1982b, plan 1), and has generated serious discussion (Aston 1984; Scrase 1989a).

It is argued that the town developed outside the west gate of the minster precinct, on a strip of level ground which lay between a prehistoric track or Roman road, and the stream that flowed from the springs (Fig. 109A, B). The road lay parallel to, and north of, the stream: natural topography dictated a north-east to south-west axis. The continuity of the Roman line was lost when Wells was no longer a through-route, but a central point. Traffic arriving from the west headed directly towards the minster, and traffic from the east deflected around the north-west angle of the precinct, all to arrive at the west gate. Not surprisingly, it was here that the market place grew up.

Had the town developed organically around the market place, a radial street pattern is likely to have emerged, and High Street would not have taken a parallel course to the Roman road, but would probably have diverged more casually from it. This can only imply that High Street, which is at the core of the grid, was deliberately laid out parallel to the earlier road, and on an axis which conformed as closely as possible to that of the minster buildings. Thereafter, it was a simple matter to define lateral streets and individual plots to the north and south of High Street. These were not laid out on a lavish scale, and there were no regular back-lanes, or parallel intermediate streets, as commonly found in the larger towns. Basically, the nascent town was only one plot deep on either side, St Andrew's stream forming the back boundary on the south, and the now-redundant Roman road forming the boundary on the north (Fig. 109C).

It is instructive to compare the core-plan of Wells with that of Bruton, which was a borough in the tenth century, and possessed a mint. There are striking similarities (Aston and Leech 1977, 20–4). Bruton has a single main street which runs north-east to south-west, following the local topographical orientation along the north bank of the river Brue. The rectangular market place was formerly at the east end of High Street, and St Mary's Church lies just off to the south, on the edge of the precinct of Bruton Abbey. As at Wells, the burgage plots were relatively shallow, averaging *c.* 70 m in depth. This contrasts with the deeper plots which are found in much twelfth-century and later town planning in Somerset.

Axbridge is another late Saxon town — one that is recorded in the Burghal Hidage — which displays some similarities to Wells, although on a smaller scale (Aston and Leech 1977, 7–8). Again, there is a rectangular market place, with the parish church offset slightly from the north-east corner. The Saxon *burh* was based on a single street, in this instance running south from the market place.

Four hundred metres west of the minster gate at Wells lay St Cuthbert's Church which, from the road pattern around it, appears to have been the nucleus of a small and originally separate settlement. The church was built immediately alongside, or perhaps physically on, the Roman road which ran along the valley bench. This intimate relationship between an Anglo- Saxon church and a Roman road is a commonly observed phenomenon. Equally often it may be seen that when the church acquired burial rites, or became a focus of serious sepulchral activity, the road was pushed away from the church in order to accommodate an adjacent graveyard. That is exactly what the boundary patterns around St Cuthbert's appear to indicate. Although not quite on the same alignment as the minster complex, St Cuthbert's could be regarded as part of the linear 'family' of ecclesiastical structures at Wells. The topographical development of the area calls for further research. There is also reason to believe that at Glastonbury the abbey and St Benedict's Church, 200 m to the west, were both built on or alongside a Roman road, the continuity of which was later lost through the expansion of the monastic precinct (Rodwell 1984, fig. 9).

Two subsequent phases of planned urban development are discernible at Wells. One involved laying out a block of large and regular plots to the north of the cathedral precinct. The other was the provision of a new northern street (Chamberlain Street), parallel to High Street, replacing what would have been the rear boundary or perhaps 'back lane' of the town. A series of long, narrow house plots was laid out on the north side of Chamberlain Street.

Both of these developments bear the hallmarks of a post-Conquest date, and the sequence of their appearance is not entirely certain. The block on the north side of the precinct is likely to be the earlier, and is probably twelfth century, although the second unit is no later than the early thirteenth century.

The small number of plots north of the cathedral, and the relative wideness of each, is not commensurate with normal urban development for secular purposes in the twelfth century. There appear to have been only four plots in the main block, and since three of them are still dominated by large, late medieval houses that were formerly occupied by the dean and other cathedral dignitaries, it seems highly likely that this was their original purpose. Since the foundation of the dean and chapter as a corporate body was the work of Bishop Robert in the mid-twelfth century, and since the number of dignitaries at that time was normally four (Gransden 1982, 25), it seems logical to accept these large plots as the sites of the first cathedral staff houses (Fig. 110).

It is suggested that the planned additions to the main part of the town followed soon after. Further study is needed, but it is inappropriate to pursue that here.

Finally, it should be mentioned that archaeological excavations carried out in the mid-1990s on two of the wide plots (Wells Museum, and the Old

Archdeaconry) have yielded no evidence of occupation before the twelfth century. However, one artefact recovered from the latter site is clearly older, and of exceptional interest. It is a small stirrup-mount made of copper-alloy, and is decorated with an engraved interlace pattern. The design is an eleventh-century English version of the Scandinavian Ringerike Style (Webster and Croft 1995, 170–1, fig. 5). This is the only recognizable piece of Anglo-Saxon metalwork from Wells.

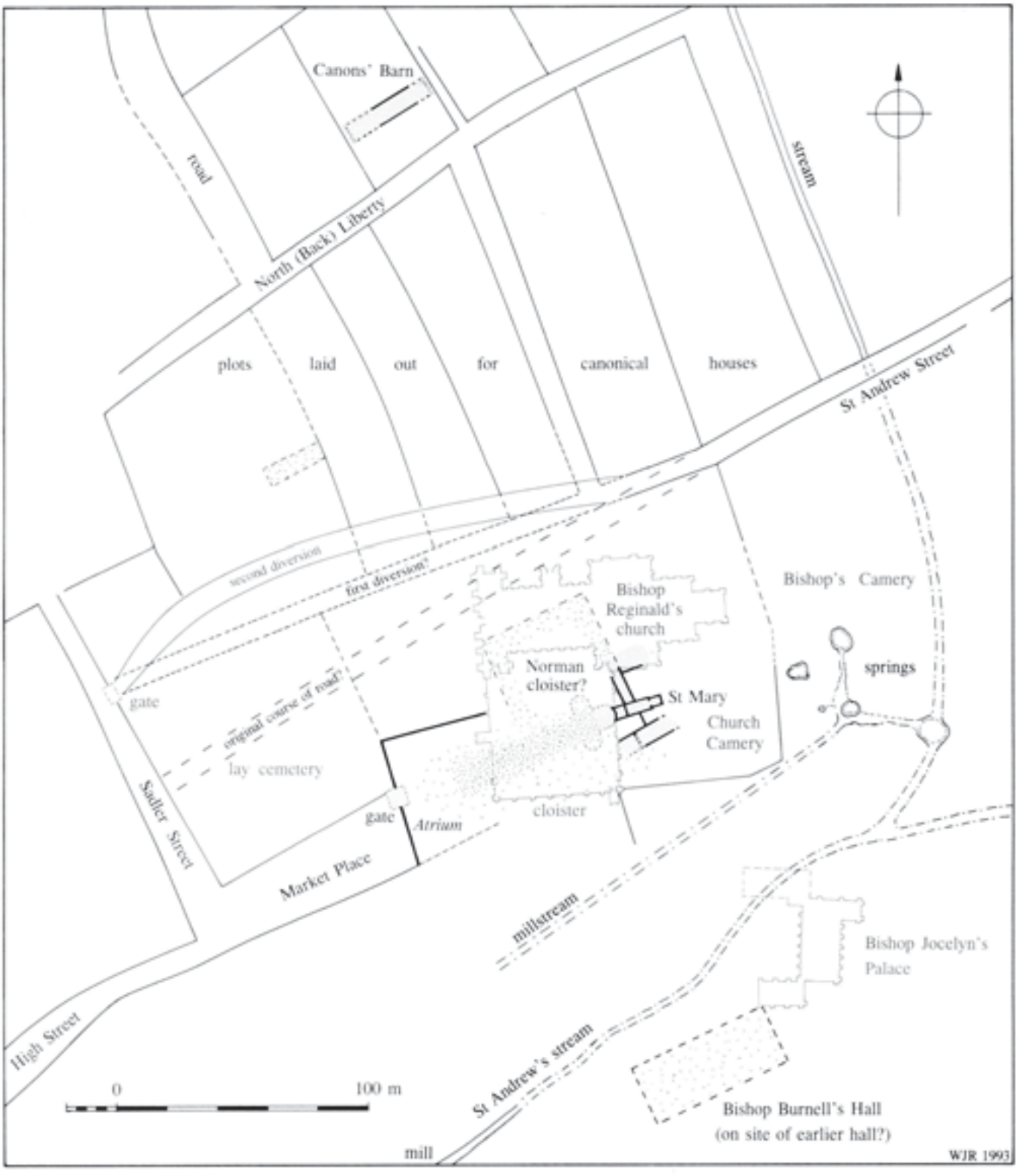


Fig. 110 Reconstruction of the Anglo-Norman topography of Wells, with Bishop Reginald's church and its associated topography superimposed in red

The end of the See of Wells

Before turning to the architectural and archaeological evidence relating to the construction of the new church at Wells at the end of the Anglo-Norman era, it will be well to examine the ecclesiastical politics in the diocese of Somerset in the late eleventh and twelfth centuries. St Andrew's minster had been elevated to cathedral status in 909, but it was by definition a rural, or at least semi-rural, cathedral: Wells was not an Anglo-Saxon *burh*, but it may have been a market town of modest pretension. Nevertheless, when Giso became bishop (1061) he set about improving the image and augmenting the endowments of Wells in no small way (Gransden 1974, 91). He not only constructed claustral buildings, but also increased the number of canons. He was at pains to assign property to the bishopric and to the canons, separately, so that there should be no future dispute over assets and income. Giso wished it to be:

> ... known what belongs peculiarly to the use of the canons and what to the demesne and disposal of the bishop; and so, posterity being freed from all uncertainty on this subject, one party may not encroach upon the rights of another. (Hunter 1840, 20)

At the Council of Windsor, in 1072, Archbishop Lanfranc proposed that all episcopal sees which were currently in rural localities should be transferred to more populous places. In 1075 he secured an order at the Council of London for this to be implemented as soon as practicable.[17] Lanfranc's reform proposals evidently met with an immediate response in some quarters, and the see of Dorchester-on-Thames was relocated to Lincoln as early as 1072. Over the course of the next few years, the London order was put into effect in several other places. Amongst the early casualties were the ancient see of Lichfield, which was transferred in 1075 to Chester, and the less ancient see of Sherborne, which was supplanted by Sarum. Elmham fell by the wayside and was superseded by Thetford, and Selsey went likewise to Chichester. Some of these changes were very short-lived, and further relocations were effected before the end of the century (Morris 1979, 16).

Lanfranc's reforms were not embraced enthusiastically at Wells, or perhaps they were not considered relevant. While Giso remained bishop, changes were unlikely. Indeed, he was emphatic in his desire to avoid discord, and to see continuity live on after him. Accordingly, he wrote:

> But now I warn my successors in the spirit of fraternal affection, and I entreat them out of regard to the benefits conferred on this church, by me and my predecessors, that each of them would endeavour to add to its property, that they may possess in glory the fruit of a recompense from Christ when they have passed out of this present life. If any one, of whatever rank, shall violate this decree, either as overturning this my ordinance, or presuming to transfer to some other purpose any part, however small, of the possessions set apart to the use of the canons, him let the bishop, by paternal admonition and counsel, rule and advise, or, if he is hardened, restrain by the severity of divine vengeance, lest while he negligently suffer the evil-doer to proceed, he may, after the manner of Eli, incur a sentence of condemnation not from himself but from another quarter. (Hunter 1840, 20)

One cannot but wonder whether Giso had an inkling of moves that were afoot. Upon his death in 1088, Giso's successor, John de Villula, seized the opportunity to reduce the community at Wells drastically, and to transfer the Somerset bishopric to a truly urban centre. John was a priest and physician from Tours, who was appointed by William Rufus and consecrated Bishop of Wells, by Lanfranc, at Canterbury in July 1088.[18] Whether he made an immediate decision to move the bishopstool from Wells, or whether the idea occurred to him when opportunities for personal gain presented themselves, will never be known, but the circumstances point suspiciously to the latter.

Wells lies near to the centre of the diocese and has thus always been convenient for administrative purposes (Fig. 1). On geographical grounds, there was no justification for moving the bishopstool. In the late eleventh century there were several towns of substance in Somerset, but possibly no obvious candidate as successor to Wells.

Bath was the richest town but, lying as it does at the extreme north-east corner of the see, it was in the worst possible place to become an episcopal centre serving Somerset. Taunton was an established *burh* with a good urban pedigree, but its great disadvantage was its location well towards the west of the see, although by no means at the extremity. Glastonbury was centrally placed, but was difficult of access and was even less urban in character than Wells, and therefore not seriously in the running. The favourite candidate must surely have been Ilchester, which lay in the south-east part of the see, but was convenient of access from both sides of the Somerset Levels. Although Ilchester is an inconsequential place today, in the eleventh century it was undoubtedly the second town of Somerset, after Bath. It was a former Roman urban centre, protected by walls and gates, it had a mint, a valuable market and a large number of burgesses (Aston 1984, 168–72, 179–81). Moreover, it lay at a nodal point on the Fosse Way, from which Roman roads radiated in all directions. If a move were to be contemplated, Ilchester should have been the

favourite, yet John de Villula chose Bath. This cannot have been in the best interests of the diocese, and other reasons for the move must be sought.

Coincidentally, the abbacy of Bath fell vacant in 1087, shortly before John was consecrated bishop (VCH 1911, 70). History does not record why the abbacy was not filled immediately, but here was a prize worth taking, and John lost no time in securing it. He sought and obtained a grant from Archbishop Lanfranc, conveying to him the abbey of St Peter, together with all its possessions, avowedly in augmentation of the see of Wells (HMC 1907, 13). The bishop thereby not only increased his income, but also his clerical standing by becoming the titular abbot of Bath. We may suspect that there was strong opposition to the annexation of Bath Abbey to the possessions of Wells, and this may explain the time-lapse between Lanfranc's grant in 1088 and its confirmation by William II two years later. The latter expressly stated that St Peter's was granted in augmentation of the bishopric of Somerset, in order that John might establish his see there (HMC 1907, 12). In other words, the granting of Bath was conditional upon its being made the bishopstool. This was, of course, a *coup* for John, but was not necessarily welcomed by the monks of St Peter. The move, which is not expressly documented, must have taken place in *c.* 1090.

John went further. In the summer of 1088, the town of Bath had been ravaged and burnt by Robert de Mowbray, one of the leaders of the short-lived rebellion against William Rufus. Afterwards, the town (and the abbey?) was in a poor state and vulnerable to exploitation. Somehow, John managed to extract from the king in 1091 a grant of the entire city and its mint, which became his property as bishop. A decade later, in 1101, John obtained confirmation of the grant from Henry I. While there was nothing unusual in such a course of action, there is a strong suggestion that the original transaction was not altogether honourable in view of the fact that John found it necessary to pay five hundred pounds of silver to the king for that confirmation (VCH 1911, 71).

Thus, through a combination of chance and stealth and, above all, taking advantage of misfortune, John de Villula secured much greater power and wealth than any previous prelate in Somerset. Dr Antonia Gransden has also questioned John's motives for moving the see, pointing out that Giso had been present at the Council of London in 1075, and had considered it unnecessary to take action (Gransden 1982, 24). She is not the first to make the observation that, being a physician by profession, John was probably also attracted by the curative powers of the hot mineral springs at Bath, and saw the opportunity to exploit these too for personal gain. Certainly, the old Roman bath complex became an integral component within the monastic and cathedral precinct, and it has been argued that John was responsible for the construction of the medieval King's Bath (Davenport 1988, 11). None of this activity was, of course, advantageous to the administration and wellbeing of the Somerset diocese. Historically, Bath looked to Mercia and its monastic centres of learning, and not to Wessex or the west at all: no city could be less well placed to serve as a diocesan centre for Somerset as a whole.

Viewed topographically and administratively, it is not difficult to justify most of the other relocations of bishoprics in the late eleventh century: Dorchester was hopelessly situated for administering the huge see that it served; Sherborne was on the very edge of its see, while Sarum was more conveniently placed; Thetford was a thriving town and central to East Anglia, whereas Elmham was small and well to the north; Selsey was being destroyed by coastal erosion, and a move inland to Chichester was entirely logical. On the other hand, the relocation from Lichfield to Chester was perverse, and lasted only until 1102 when the bishopric was resited in Coventry. To move the Somerset bishopric from Wells to Bath was to run counter to the logical trend. Relocation at Ilchester — or failing that at Taunton — would have been the logical course of action, if any action were necessary.

Nevertheless, by or in 1090, Bishop John transferred his seat to Bath, and assumed the title *Episcopus Bathoniensis*. Wells Cathedral had lost its ancient status. St Peter's church, set amid the ruins of the Roman baths and temple complex, became the cathedral priory of St Peter in Bath. Wells must have been demoted to a college of secular canons, and its demise was chronicled by the anonymous canon of Wells in the *Historiola* (Hunter 1840, 21–2). When Isaac, provost of Wells, died or was removed (his fate is not specifically recorded) he was succeeded, not by an appointee of the canons, but by John's own brother, Hildebert. His duties were those of steward (*dapifer*), and he entirely took over the management of the canons and their assets. Control of the church services seems to have been assumed by Hildebert's son, John, who was conveniently appointed archdeacon of Wells.

John de Villula did little if anything to endear himself to the canons of Wells, and a further demonstration of the opposition he engendered is reflected in the fact that he deemed it necessary physically to break up the community established by Giso. He ejected the canons from their quarters and forced them to live in the town, as we learn from the author of the *Historiola*:

> ... also the houses of the canons which the venerable Gyso had built, as the refectory, the dormitory and the pantry, and other buildings having been destroyed by him, together with the cloister itself, the canons whom Gyso had taught to live together regularly and religiously, were turned out of doors to live in common among the people. (Hunter 1840, 22)

All this has the ring of a programme of severe punitive measures, designed to break Wells. Seen in the national context, none of John's activities aided the administration, or enhanced the wellbeing, of the diocese, even though that had been the intention behind the order made by the Council of London in 1075. According to the *Historia Major*, John de Villula not only demolished the canons' communal buildings, but he also erected a house (*palatium*) for himself in their stead (SRS 1924, 61). It seems unlikely that John would have made great use of this personally, and his steward-brother, Hildebrand, is likely to have been charged with its upkeep, and to have kept it as his base. Plausibly, this was the origin of the present bishop's palace at Wells.

By the time Bishop John died in 1122, he had greatly strengthened the church at Bath, and had so severely repressed that at Wells, that there was no immediate prospect of a reversal of rôles. Although some thirty-two years had by then elapsed, the spirit of the canons of St Andrew had not been broken, and they commenced a protracted battle to regain their ancient status. It is interesting to observe that most of the relocations of sees in the late eleventh century, noted above, and others which took place in the following century, were accepted locally, albeit sometimes grudgingly. In only one other case was an acrimonious battle fought — and won — to regain a lost bishopric, and that was Lichfield (VCH 1990, 9–10). Wells and Lichfield stand apart from other dioceses as the two cases where conspicuous wrong had been done, and had to be righted, however long it took.

The *Historiola* records that, before he died, John de Villula repented for 'the sacrilege of which he had been guilty, he wished undone what he had done, and left a written evidence of his penitence' (Hunter 1840, 22). His nephew, John the archdeacon, was unmoved by this and 'asserted for himself a right to the lands of his father by inheritance, and to the provostship of the canons.'

The next bishop, a German named Godfrey (1123–35), is a largely unknown entity and history does not credit him with anything at Wells. The *Historiola* records only that he failed to release the grip that de Villula's nephew held over the canons and their expropriated property. Godfrey's successor, Robert, was a monk, originally from Lewes Priory, but had lately been serving at Glastonbury Abbey, where he had been sent 'that he might put the affairs of the abbey in order' (Hunter 1840, 23).

Robert held the see of Somerset, under the title *Episcopus Bathoniensis*, for three decades, from 1136 to 1166, during which he bestowed much on both Bath cathedral priory and Wells collegiate church. At Wells, he recovered the canons' misappropriated lands and revenues; he increased the canonical stipend from £3 to £5 per annum; and was responsible for a small but highly significant step towards the recovery of their status by giving Wells a constitution based on the Sarum model. The constitution, which was drawn up by Bishop Robert and endorsed by Pope Alexander III, refounded the chapter, instituted the deanery and provided for twenty-two prebends (VCH 1911, 12–13). The date of all this is uncertain, and has been disputed: sometime in the late 1140s or 1150s seems likely (Gransden 1982, 25–7).

Gransden has also pointed to the crux of the matter: 'The question arises as to why Bishop Robert gave a cathedral constitution to the church of Wells which did not enjoy that status. Perhaps he intended to move his see from Bath to Wells, or foresaw that one of his successors might want to do so.' She was, however, dismissive of these possibilities. But the question is so fundamental that an answer must be sought. Again, Lichfield provides an analogue: although no longer a cathedral, it too was provided with a chapter in the 1130s, the bishop held synods at Lichfield in 1139 and the late 1140s, and by 1161 the canons were participating in the episcopal election at Coventry (VCH 1990, 9). Lichfield and Wells were effectively moving forward in tandem, although there is no evidence that the canons of Wells yet had a hand in the Bath elections (Gransden 1982, 28).

Bishop Robert was responsible for unspecified building works at Wells, which are recorded in the *Historiola*, and were dedicated in 1148 (p. 115). Thus in a period of twelve years, Robert had carried out a sufficiently comprehensive refurbishment of the former Anglo-Saxon cathedral to go down on record as having 'built' the church at Wells. At the same time as he was restoring Wells, Robert was improving the cathedral priory at Bath to such an extent that the *Historiola* credited him with having 'built' it too.

> It is also to be added that the same bishop built, at a great expense, the church of the blessed Peter the Apostle at Bath. He built also a chapter house and cloister, dormitory, refectory and infirmary. (Hunter 1840, 24)

Presumably Robert continued, and perhaps completed, the huge building project begun by John de Villula. His episcopal lodgings were at Bath, and when he died in 1166 he was buried before the steps of the high altar of that church. Despite Robert's munificence towards Wells, his heart was in Bath as the seat of the bishopric. That he cannot have intended to return the bishop-stool to Wells is made clear by another record of his actions in the *Historiola*:

> Nor is it to be passed over in silence, that, whereas from early times the bishops of the church of Wells in the court of Rome, and in the registers, and in writings sent from the court, were called 'Pontifices Fontanenses', and so continued to be named after the episcopal seat was transferred to Bath, the bishop of whom we speak obtained from the Pope and the court of Rome, that they should henceforth be called 'Bathonienses'. (Hunter 1840, 26)

There can have been no doubt in the minds of the canons of Wells that they had been permanently deprived of their ancient status, that their church was a college and not a cathedral, and they would never again be participants in episcopal elections. Eventually, in 1244, history dictated otherwise.

5 Reginald De Bohun's Collegiate Church, *c.* 1175–1239

The context of the great rebuilding

Diocesan developments

It has been argued that 'there is no good evidence that the canons of Wells in the twelfth century felt aggrieved at their church's loss of its cathedral status' (Gransden 1982, 28). The claim that there was bitter resentment, recorded in the later medieval *Historia Major*, cannot be treated as primary evidence, and was consequently dismissed by Gransden (1982, 47, n. 21). Nevertheless, there may well be substance in the grievance claim. Indeed, it is inconceivable that the canons of Wells would have accepted de Villula's depredations cheerfully, especially after Giso had left such explicit instructions concerning the future care of the church's assets. Moreover, if the loss of status was of no spiritual concern to the canons, it is difficult to justify the protracted struggle that was soon to ensue for the recovery of the bishopstool from Bath.

The fact that the *Historiola* does not inveigh against Bishop Robert over this matter should not be taken automatically to imply the acquiescence of the canons: there is almost certainly a deeper significance than is now recoverable. The account of his episcopate is positively laudatory in every respect, and this could be for any one of several reasons. The most likely is that the *Historiola* was written by a relative or other person close to the bishop. The way the narrative is rounded off with one curt sentence, covering the nine-and-three-quarters years following Robert's death, is sufficient to suggest that the writer's interest waned thereupon:

> From that time there was no bishop for the space of eight years, eight months and fifteen days, until Reginald was elected, which election took place in the month of June, and in the June of the year next following he was consecrated in Moriana. (Hunter 1840, 28)

Thus, for almost a decade the see was without a bishop in office and history has blanketed the era with silence.

The new bishop, Reginald de Bohun (*alias* Fitzjocelin; 1174–91), was of Norman origin, and his father was Bishop of Sarum (1142–84). To have father and son as contemporary bishops in adjacent dioceses can hardly have been a good advertisement for celibacy in the priesthood, even though the situation was officially excused. Although Reginald was *Episcopus Bathoniensis*, he was destined to be Wells's greatest builder. Once again, it is difficult to find a convincing explanation for the level of input to what was only a college of secular canons, *a fortiori* because his predecessor had carried out major work less than half a century earlier.

Whatever was happening behind the political scenes, it is clear that Bath was not universally accepted as the ideal seat for the episcopal throne. There is no evidence to show how Reginald viewed the matter, but he presumably accepted Bath as his spiritual and temporal home, since he was buried in the abbey church there. An entirely new twist to the struggle over the *sedes praesula* was introduced by Reginald's nephew and successor, Bishop Savaric. In 1193 he obtained consent from Pope Celestine III to move the see from Bath to Glastonbury, to which end he was assisted in obtaining the abbacy of the latter. That could only be done with the king's consent, since the Crown held the vacant abbacy. Savaric was thus simultaneously abbot of the two great Somerset houses. Why he wanted to establish his see at Glastonbury is unclear, unless geographical convenience was deemed important. While Glastonbury had a distinguished history, and was a powerful monastery, in Savaric's day it was relatively impoverished — at least in European terms — and the monks were appealing for funds to rebuild their house after the disastrous fire of 1184. The monks' ability to construct such a huge building, in only a few years, testifies to the ready flow of funds.

The brethren of Glastonbury refused to submit to Savaric's designs for their abbey, and succeeded in blocking his move to a large extent. They did not, however, prevent Savaric from styling himself 'Bishop of Bath and Glastonbury'. He died in 1205 and was buried at Bath, but, curiously, it was not until 1219 that 'Glastonbury' was dropped from the title of the see. Even though explicit historical mention is lacking, the feud between Wells and Bath must have been active contemporaneously with these other tumultuous events.

Savaric's successor as bishop was a local man, Jocelyn of Wells (1206–42), and it was not until after the latter's death that the quarrel between Wells and Bath came to a head. Roger of Salisbury was unilaterally elected bishop by the monks of Bath in defiance not only of the canons of Wells, but also of Henry III. The case was placed before Pope Innocent IV who, in January 1244/45, ruled definitively on the procedure henceforth to be adopted: the elections were to be joint, they were to be held alternately at Wells and Bath, every installation had to be conducted in both cathedral churches, and the see was to be known as 'Bath and Wells' (VCH 1911, 13). The title has remained unchanged to this day.

A new church on a new site

Preliminary considerations

Bishop Robert of Lewes had rebuilt Giso's wrecked college, and dedicated the work in 1148. It is argued that he restored and refurbished the Anglo-Saxon

church, built a cloister on its north side, and laid out at least parts of the surrounding precinct, which included the provision of generous house plots for the four newly appointed cathedral dignitaries (p. 121). This was no mean achievement, but nevertheless it hardly brought Wells into the mainstream of Romanesque building. In less than thirty years Robert's work was to be replaced by a grandiose and innovative scheme.

Between his accession in 1136 and the dedication of the unspecified new work in 1148, it would have been impossible to carry out more than a modest amount of reconstruction on the old church. Even if Robert's entire episcopate of thirty years was spent in building at Wells — which it plainly was not, given the volume of his commitment at Bath — a large new Romanesque church could not have been built *ab initio*. Moreover, had a new church at Wells been completed twenty or thirty years before Reginald de Bohun ascended the episcopal throne, it is difficult to imagine that he would have destroyed it and begun afresh.

It is therefore inevitable that the Anglo-Saxon cathedral, as it stood in Giso's day, still formed the structural frame of St Andrew's church a century later. The old building may have been labyrinthine, with an agglomeration of spaces unsuited to Anglo-Norman liturgy. Fundamentally, that is why no Anglo-Saxon minster, in use as a cathedral church, survived the Conquest by very long. Of course, some large, transeptal churches were erected decades before the Conquest (*e.g.* Stow, Lincolnshire), but that is not likely to have been the case at Wells.

There was a limit to the extent to which worthwhile improvements could be carried out on an archaic building complex. Wells was, it seems, the last pre-Norman cathedral church in England to be rebuilt, many of the others having been superseded before the end of the eleventh century.

Episcopal decisions and their consequences

Bishop Reginald must have taken the decision to construct a wholly new church at Wells almost as soon as he was enthroned, in November 1174. During the previous year, since the moment of his election to the see of Bath, Reginald made extensive foreign journeys. He accompanied the archbishop-elect of Canterbury to Rome, he carried out business for the king at Maurienne, he visited Hugh of Avalon at Chartreuse, and he finally went to his home diocese of Coutances in Normandy, before embarking for England on 8th August 1174 (Church 1894b, 44–9). During this intensive period of travel, Reginald will have encountered first-hand some of the greatest and most recent works of late Romanesque and early Gothic architecture in Europe. These will have been in the forefront of his mind when he surveyed the state of the erstwhile cathedral that he had inherited at Wells. Why he regarded its rebuilding as such an immediate priority cannot be evinced, but that he did is unquestionable.

The sequence of erection, and precise dating, of the new building are of seminal importance for understanding the destruction of the Saxo-Norman cathedral and the events that followed, swallowing up its former site. Reginald made two tactical decisions that had a profound and lasting effect on the topography of Wells: he moved the site, and he changed the liturgical orientation.

The site

The desire to maintain continuity of the daily offices in the dignified setting of a quire dictated the need to build on a fresh site, rather than to demolish and build anew on the ancient *locus sanctus*. In practice, this did not mean that a wholly separate site had to be appropriated: there could be a measure of overlap. As long as there was sufficient unencumbered space to erect the new quire, and to seal it off from the continuing works, liturgical propriety could be satisfied. The *Opus Dei* was not interrupted.

While Anglo-Saxon builders seldom abandoned a venerable *locus*, and preferred to encapsulate it, whatever the architectural consequences, Anglo-Norman builders regularly adopted a more pragmatic and less sentimental approach. Clear instances of this have been revealed in those cases where archaeological excavation has taken place in the quire area of cathedral and other greater churches. Thus, excavations at York Minster demonstrated, largely through negative evidence, that the Anglo-Saxon cathedral did not lie beneath the eastern arm of the Anglo-Norman one (Phillips 1985). At Winchester, the Norman cathedral was begun well to the east, and a little to the south, of the Old Minster, so that there was scarcely any physical overlap between the two. It was also physically clear of the New Minster (Biddle 1972, fig. 6).

In those cases where there was superimposition of a new church upon the old, as at Glastonbury, or at St Augustine's Abbey, Canterbury, a modest axial shift to the east was sufficient to permit the quire of the one to be completed before the other had to be demolished. Christchurch, Canterbury, displays an unusual solution to rebuilding, presumably on account of the restricted space available in the crowded city. Here, Lanfranc evidently wished to superimpose his new cathedral church on the old one, but with a slight lateral shift to the south (Blockley 1997, 95–121). He began the new presbytery to the east of the old one but, in order to complete the transept and crossing, it would have been necessary to demolish the easternmost part of the Anglo-Saxon building. Nevertheless, the old monks' quire could be retained until the new presbytery was complete.

A major consideration in most rebuilding programmes would have been practicality. Closing down a cathedral or monastic church, for years on end while reconstruction took place, was not an acceptable option, and therefore individual solutions had to be worked out to suit the local circumstances. The ideal was to stop holding services one day in the old building,

and to begin again the next day in the new building. In most cases, however, a compromise, or transitional phase, was inevitable.

The approach adopted at Wells was similar to that at Winchester, except the lateral shift was to the north. There was also a shift towards the east, but not by very much. Broadly speaking, the west front of the new cathedral was on the same line of longitude as the old one. The same was true at Winchester. This was no coincidence: at Winchester in particular there was a conscious attempt to retain the western approach to the cathedral in as nearly the same position as possible. That was not the case at Wells, where other planning considerations supervened.

Demolition of the posited Norman cloister (Structure 8) on the north side of the church at Wells would have been all that was necessary to enable the master mason to set out on the ground the entire plan of the new building (the new cloister excepted). The only other topographical change necessitated at this stage was the slight realignment of the road delimiting the precinct on the north (*i.e.* the former Roman road, now St Andrew Street). The section of this road lying to the west of the cathedral transept had to be swung a little to the north in order not to collide with the west front of the new church. The effect of this realignment was to set back by a small amount the southern frontages of two of the four capitular house plots that had been laid out in the mid-twelfth century (Fig. 110). Whether there were any street-frontage properties affected, in the market place or elsewhere, is impossible to assess. They would, in any case, have lain within the ecclesiastical precinct which, by this date, had doubtless expanded well beyond its early Anglo-Saxon limits.

Orientation

Just as there could be a modest shifting of the site during the process of rebuilding a great church, so too the alignment could be altered. Indeed, it was almost a *sine qua non* that when one occurred so did the other. The reasons were clearly complex, and related to the individual topographies of the towns concerned. In major Roman towns the earliest churches invariably followed Roman street and building alignments. In cases such as London, Colchester and Lincoln this meant that the churches automatically acquired an orientation close to true east–west. However, at York, Exeter, Gloucester and Rochester, Roman topographical alignments deviated by 40°, or more, from east–west, and so too did the churches. Liturgical orientations tended to be more nominal than cardinal.

Pre-Norman ecclesiastical alignments have been demonstrated archaeologically at York, Exeter and Gloucester, where Norman realignments were drastic. In the case of the last, the Old Minster (St Peter's Abbey) was realigned, while the New Minster (St Oswald's Priory) never was.[1] At Rochester, the cathedral still reflects the Roman alignment, while at Lichfield the local 'topographical' axis has prevailed throughout the cathedral's history.

At those sites where a dramatic realignment of the church took place, and was associated with an Anglo-Norman rebuild, the motivation seems to have been largely, if not wholly, liturgical. There were no topographical benefits to be gained from realigning a church, without also replanning its setting: that simply created a plethora of awkward plots and junctions. It has been argued elsewhere that Anglo-Saxon churches most commonly followed topographically convenient alignments, whereas in the early medieval period there was a greater predilection for achieving a true east–west orientation, or something approaching thereto (Rodwell 1984). How that was calculated is a matter upon which there has been an inordinate amount of speculation, most of it based on demonstrably spurious premises.[2]

In addition to the dramatic realignments are some less obvious ones, the significance of which is not so easy to determine. Winchester supplies a curious instance. The Old Minster orientation was close to east–west, but the New Minster was turned by a few degrees towards the south-east. The Anglo-Norman cathedral followed the New Minster (Biddle 1972, fig. 6). The explanation is probably topographical in this case, it being less problematic to fit a huge new church into the townscape on the axis that had become dominant in the late Saxon period.

Such an explanation is certainly not plausible in the case of Wells. The change of alignment introduced by Bishop Reginald's church amounted to 12°, which brought the new building to within 6° of true east–west. The change could not immediately have introduced any practical advantages. On the contrary, there were minor disadvantages in that the new work stood askew to existing streets, properties and boundaries on all sides. The partial realignment of the road to the north of the church, and the consequent paring down of the capitular house plots, noted above, could all have been avoided by permitting the new cathedral to stand parallel to the old one. In this case, it is difficult to see how there can be any explanation, other than liturgical, for the realignment, which was presumably implemented at the dictate of Reginald himself. In the circumstances, one cannot help wondering why greater cardinal accuracy was not sought.

Dating: the keen debate

Nineteenth-century discussions concerning the dating of Wells's Gothic cathedral centred around the activities of Jocelyn, bishop 1206–42, who was popularly credited with having been its 'builder' (*e.g.* Irvine 1873; Freeman 1888). Such was the attraction of the west front — which is undeniably Jocelyn's work — that the remainder of the structure was given less attention than it merited. The possibility that the majority of the early Gothic cathedral was older than *c.* 1200 was not seriously explored until the 1920s, when the well-known pair of scholarly papers by Robinson (1928) and Bilson (1928) appeared. The former tackled

the historical evidence, and the latter pronounced on the architectural evidence. The conclusions that they reached were parallel in some respects, but mutually repellant in others.

Robinson demonstrated that the documents provided a firm indication that building had started by 1186, at the latest, while Bilson assigned the architecture to 1191, at the earliest. Wells is of seminal importance in elucidating the origins of Gothic architecture in the west of England, and the need to assess its dating correctly was considered with their customary percipience by Colchester and Harvey (1974, 200–2). They established that, while 1186 was historically the *terminus ante quem* for the commencement of the work, it was to be inferred from the wording of a grant that the project was already well in hand by then. They argued for a date of *c.* 1180 for the inception of building, citing other circumstantial evidence which would fit neatly with such a hypothesis.

One of the observations made by Colchester and Harvey concerned the appearance of Chilcote conglomerate, as a substitute for Doulting stone, in certain parts of the eastern arm of the cathedral. The use of the former, they suggested, was datable to the years following 1186, when the supply of Doulting stone is likely to have been diverted to the rebuilding of Glastonbury Abbey, to repair the fire damage of two years earlier (Colchester and Harvey 1974, 203). The use of different stone types at Wells, and the attendant chronology, has now been studied in detail by Sampson (1998, 11–28), and a compelling case can be made for a start on the structure of the new cathedral in the later 1170s (p. 134). When allowance is made for demolition, terracing, foundation digging, and general site preparations, it is obvious that another one or perhaps two years must be allowed, before anything appeared above ground level.

A further consideration in the process must be the design-time. Reginald had to find an architect (or master mason, as he would have been known), who is generally assumed to have been an Englishman, schooled in the West Country, but *au fait* with the latest architectural developments in France.[3] He had to be commissioned and brought to Wells, and then to begin work on the design. All this cannot have taken less than a year. On the one hand, evidence is stacking up to show that construction was in progress before *c.* 1180, and on the other it must be remembered that Reginald did not arrive in Somerset until nearly the end of 1174.

Unfortunately, very little is known of the later twelfth-century architecture of the reformed orders in the locality, which might otherwise have provided clues to the source of Wells's Gothic. Some of the new monastic houses were of major regional significance, such as Keynsham Abbey and St Augustine's, Bristol. However, the former, founded in 1170, seems to have been unequivocally Romanesque in style (Lowe 1987, 106–23), and nothing is known of building work at the latter in the late twelfth century.

Fig. 111A Early seals of Wells, drawn by James Irvine in 1874–75. Top and bottom centre Seal and counterseal of Bishop Reginald, dated 1174–80. Left and right Obverse and reverse of the 'Common Seal of the Borough of Wells', dated before 1305. Upper left Borough steward's seal, thirteenth century (Courtesy of Wells City Council)

Having prepared the design and determined upon a course of action at Wells, work on site could not have begun much before the end of 1175. Logically, the spring of 1176 is the earliest that a start is likely to have been made on the ground. It is, of course, possible that the date was one or two years later, but the further it is pushed the greater the difficulty of reconciling the complex chronology between the mid-1180s and *c.* 1200. However the project is viewed, it had to start well before 1180 and, moreover, run at a cracking pace.

At precisely the same time as Reginald was erecting the new church at Wells, Christchurch, Canterbury, was being rebuilt following the major fire of 1174. It is instructive to examine the first-hand account of the ten-year rebuilding programme, which was recorded by Gervase of Canterbury (Willis 1845, ch. 3; Stubbs 1879). Despite all expeditious efforts, it was not until the sixth year that the quire was ready for use. The timescale to reach this signal moment can hardly have been much less at Wells, even though the building was smaller.

Fig. 111B Thirteenth-century impressions of the borough seal of Wells. The obverse shows the cathedral church, cloisters, and the springs under a bridge of three arches. The reverse depicts a tree growing out of a well. Seal diameter 55 mm

It is not appropriate here to enter into a detailed discussion of the archaeology and architecture of Reginald's church, but a basic appreciation of its inception and progress, down to *c.* 1200, is essential to a proper understanding of developments in the Camery and cloister areas. The eastern termination of the new church has long been uncertain, as has the provision of a Lady Chapel. Small excavations undertaken for various purposes inside the eastern arm of the cathedral, in 1914, 1966 and 1983, all revealed foundations relating to a structural phase which antedated the early fourteenth-century quire and retro-quire. Collectively, these observations have facilitated a confident reconstruction of the plan of the east end of Reginald's church.

The complete layout of the early Gothic cathedral church is now known. The quire was of three aisled bays, with an eastern ambulatory separating it from a three-bay Lady Chapel. The crossing supported a low lantern-tower, and was flanked by transepts, each of three bays. The transepts were fully aisled, both to east and west. There were no apses, all terminations being square-ended. The nave was of nine bays and had a pair of western towers, placed outside the aisles. A two-bay porch projected from the mid-point of the nave on the north, and a cloister occupying the full length of the nave was envisaged on the south. Oxford Cathedral provides one of the closest parallels for the ground plan, its eastern arm being exactly contemporary with Wells (Halsey 1988, fig. 60). At Oxford, however, the Lady Chapel projected by only one bay, and its double-aisled transepts were asymmetrical, which was partly due to the union with a pre-existing cloister on the south side.

The greater part of Reginald's church survives today, although the original Lady Chapel and eastern ambulatory have gone, the design of the west front and towers was modified during construction, and the cloister has been much altered. The footprint of the new church, less the cloister, is shown in relation to the structure it supplanted on Figure 73.

The Borough Seal

Unlike the episcopal seals, the corporation seal of the Borough of Wells has received little study hitherto. It has occasionally been illustrated (Church 1894b; Imray 1991), but barely discussed (Serel 1858, 17–18). It is sometimes assumed that Reginald's church is depicted, albeit in highly stylized form, on the seal, which also includes a representation of the springs. The earliest surviving impression dates from 1335, since when the die has been re-engraved on several occasions (Fig. 111). Although small details have changed very slightly with re-engraving, the underlying design is still the same today. Its true age is unknown. The design may have been carried forward from an earlier period, and it cannot therefore be asserted that the structures depicted actually existed in the fourteenth century, if at all. Closer inspection, however, reveals some interesting clues.

Matrices and impressions

First, it is well to clarify the nature of the source material, which has not been expressly listed hitherto.

(i) The earliest recorded seal impression was on a deed, which was dated by Thomas Serel to 1305. Enlarged drawings of the obverse and reverse were made in the nineteenth century, but both the document and the seal are now missing.[4] The accuracy of these representations is unknown, and is questionable on points of detail.

(ii) A pair of drawings made by James Irvine in 1873 cannot be matched with any extant seal, and may well be of the same missing example (i), but there are considerable differences of detail. It is likely that Irvine's illustrations are minutely accurate.[5]

(iii) The earliest extant seal impression is on a deed dated 1335 (SRS 1932, no. 78).[6] The seal was made using two markedly concave matrices, 54–55 mm in diameter. There are also later impressions from the same matrices.

(iv) A pair of gilt bronze or brass seal matrices, 55–56 mm in diameter, each with four locating lugs and pins.[7] They are clearly later medieval, but not closely datable (perhaps late fourteenth century). The matrices are more-or-less flat, and could not have produced the convex impressions of (iii), although the details appear to be virtually identical.

(v) A pair of copper matrices, 55 mm in diameter, being near-perfect copies of the last. These are thought to be nineteenth century, and are still in use today. It was an impression from these that Church published with the caption '13th century' (Church 1894b, pl. opp. 127).

The design

Obverse

There is a marginal inscription, in Lombardic letters, which declares the object's identity as the 'Common Seal of the Borough of Wells' (*SIGILLVM: COMMVNE: BVRGI: WELLIE:*). The calligraphy would support a date in the thirteenth century.

The centre of the seal contains a composite design of four distinct components, arranged in zones or tiers. These are vertically stratified, each depicting an aspect of the church or city. The lowest tier takes the form of a bridge, consisting of three semicircular arches, with water flowing under all of them. This is an allusion to the springs, which have frequently been portrayed as a triplet (p. 375). There are faint traces on the 1335 impression (iii) of a possible fourth arch on the right. Above these is a firm line, representing ground level (and also the conventional division between the field and the exergue on the reverse of a coin or medal).[8]

Standing on the ground is a long, low building, consisting of three similar but separate units. Gabled roofs are shown, and each unit contains a broad, semicircular arched opening. This must surely be a representation of three claustral ranges.[9] The tegulation on the centre block differs from that on the two flanks, perhaps indicating the different perspectives of the ranges.

Above again, and occupying the centre of the field, is a bold representation of a major ecclesiastical building, which must be the cathedral church. It is depicted in the form of a line of five arches, under gabled roofs, with small gabled turrets rising from the valleys between.

The central gable-end is the largest, and is symmetrically flanked by a slightly smaller pair. All three appear to be in the same plane; a figure stands within the central portal. The two outermost arches, however, are incomplete and seemingly on different planes. What we see here is undoubtedly a tripartite façade with hints of the flanking walls, or structures set back from the viewing plane. Plausibly, this is the west front of the cathedral.

Finally, the uppermost tier contains a nimbed bust of Christ, emerging from a cloud, flanked by the sun and moon in roundels.

Reverse

The legend on the reverse is an invocation to Saint Andrew to protect his servants: *+ANDREA: FAMVLOS: MORE: TVERE: TVOS*. The field is filled by a tree with intertwined branches, which is growing out of a water-hole. The latter contains a single fish, and is flanked by several small birds. According to local tradition, and the City Arms (p. 376), the tree is an ash.

Discussion

Depictions of buildings on seals, like those on early manuscripts, are notoriously difficult to interpret, and some scholars maintain that the representations they bear are purely notional, no physical likeness being intended. To dismiss the Wells seal in that vein would however be rash, and potentially valuable evidence might be overlooked. Some seals bear uncomplicated designs, such as that found on the late eleventh-century seal of Bath Priory: it depicts a tripartite east front dominated by tall apses (Heslop 1984, 310; Davenport 1988, fig. 5). Seen from the Avon valley to the east, the soaring apses of John de Villula's Romanesque church would have been particularly striking. It can thus be claimed that this seal embodies a simple and stylized, but nevertheless evocative, representation of the church to which it belonged. It has been argued that the same is true of the eleventh-century seal of Sherborne Abbey, Dorset (Gibb 1975, 88–9).

By contrast, the iconography of the Wells seal is much more complex. Moreover, it is demonstrably not generalized, but is linked very specifically to the place: the buildings are sandwiched between the springs and Christ. It may further be argued that because two buildings are shown, a special characteristic of Wells is in some way being emphasized. Perhaps it was the rarity of having a cloister as an adjunct to a secular cathedral which determined its inclusion here in a subordinate position.

If we are correct in identifying the principal structure as the west front of the cathedral church, the dominant central section must represent a grand portal,

while the flanking gables may be aisles or transepts. Both flanking arches are filled by pairs of tall lancets, surmounted by large trefoils, and these are plausibly representations of thirteenth-century plate-tracery, of which there was plenty at Wells. The incomplete outermost arches contain some space-fillers in the form of pairs of tiny fleurs-de-lys, again indicative of the thirteenth century. It was presumably these details that led Church to date the seal matrix earlier than any surviving impression. Short, well-curled fleurs-de-lys also occur on the Exeter city seal, dated 1200–08 (Heslop 1984, 319; Campbell 1991, fig. 70).

No amount of special pleading could equate the representation on the seal with the Gothic west front of Wells (or with any other part of the extant church). If, however, we remove the infill of tracery from the arches, and the fleurs-de-lys space-fillers, we are left with a building that has a clear Romanesque, or even Anglo-Saxon, countenance. All the arches on the seal are semicircular, and their outlines are boldly emphasized, the whole bringing to mind the arcading on the Anglo-Saxon font in the cathedral (p. 152). There is no hint of Gothic form in the architecture of the seal. Furthermore, the heavy imposts (and flanking string-courses?) of the portal are characteristic of late Saxon monumental architecture, as exemplified by the great crossing arches at Stow, Lincolnshire (Fernie 1983, pl. 71). Equally, it must be remembered that some early Romanesque west fronts embodied a triplet of giant arches containing recessed portals, and in that respect the Wells seal is decidedly reminiscent of the west front of Lincoln Minster in the eleventh century (Gem 1986, fig. 3). Lincoln Cathedral's own seal of 1150–60, is an intricate architectural composition, with emphasis on a major portal (Heslop 1984, 78, 314).

In conclusion, it is argued that the design on the borough seal of Wells is not of generalized form, but is to some degree representational. Although the earliest extant impression comes from a matrix which was probably engraved in the first half of the thirteenth century, and incorporates some contemporary embellishments, the basic design was inherited from an earlier age. Whether it was the Romanesque collegiate church of the mid-twelfth century that was represented, or Giso's cathedral of a century earlier, is less easy to argue with conviction. We may suspect the latter, in which case when the seal was new it would have provided yet another tangible demonstration of the antiquity of the church at Wells, in an age when its status was insecure.

Demolition and construction: interleaved processes

Site preparation

The clearance and preparation of the site for the new church involved the demolition of Structure 8 which, it is argued, was the east walk of a northern cloister, built in the first half of the twelfth century (p. 99). It included more than one phase of work, and had a secondary structure projecting eastwards: could this perhaps have been a chapter house? Robbing of the old foundations was evidently thorough, as shown by the very small amount of masonry surviving in the wall trenches (Figs. 87–9).

The site had to be terraced, since there was a natural southward slope which, until 1874, was most distinctly seen on the Cathedral Green, where ground level against the north side of the west front was in the order of one metre higher than against the south side.[10] This slope has now largely been eradicated, and a marked terrace created along the southern flank of St Andrew Street and Cathedral Green (Fig. 4).

In order to set the floors and the plinth of the new church at a constant level, a significant volume of earth-moving must have been involved. It is clear that at Wells the expedient, commonly seen in parish churches, of allowing internal floors to slope in sympathy with the topography was not adopted: the wall-benches are at a constant height throughout the building, demonstrating that a level floor was achieved.[11] The natural ground slope across the transepts at Wells must have been in excess of 1.5 m, and this was apparently overcome in two ways.

First, there was some cutting-in to the rising ground on the north side, and the external plain-chamfered plinth here is low. Second, steps were introduced on the south elevation, to facilitate access from the transept to the lower ground outside. The difference between internal floor level and twelfth-century ground level outside the transept was 85 cm. Consequently, the plinth is much higher here, with several additional courses of ashlar below the chamfered offset. Subsoil dug out on the north side of the building would have been used as infill beneath the floor on the south. At this stage, no attempt was made artificially to raise external ground level to the south of the church, although a terrace was later constructed for the cloister.

Foundations

The only point at which the foundations of the 1170s have been examined is under the south wall of the south transept, where it was seen that a small part of the earlier cloister(?) masonry had been incorporated in the new work (Fig. 112). Reginald's foundation was constructed in a trench 1.45 m deep, cut not only through the remains of the previous structures, but also through the Anglo-Saxon and Norman cemetery. For the most part the foundation trench was filled with broken sandstone rubble, laid only very roughly to courses, and set in a matrix of pink lime mortar. At the top of the foundation, however, there were two or three courses of roughly dressed sandstone, laid to a face that, in places, was slightly inset from the general trench edge below. None of this masonry was intended to be seen, but was taken up to contemporary ground level, at which point the limestone ashlar of the plinth began.

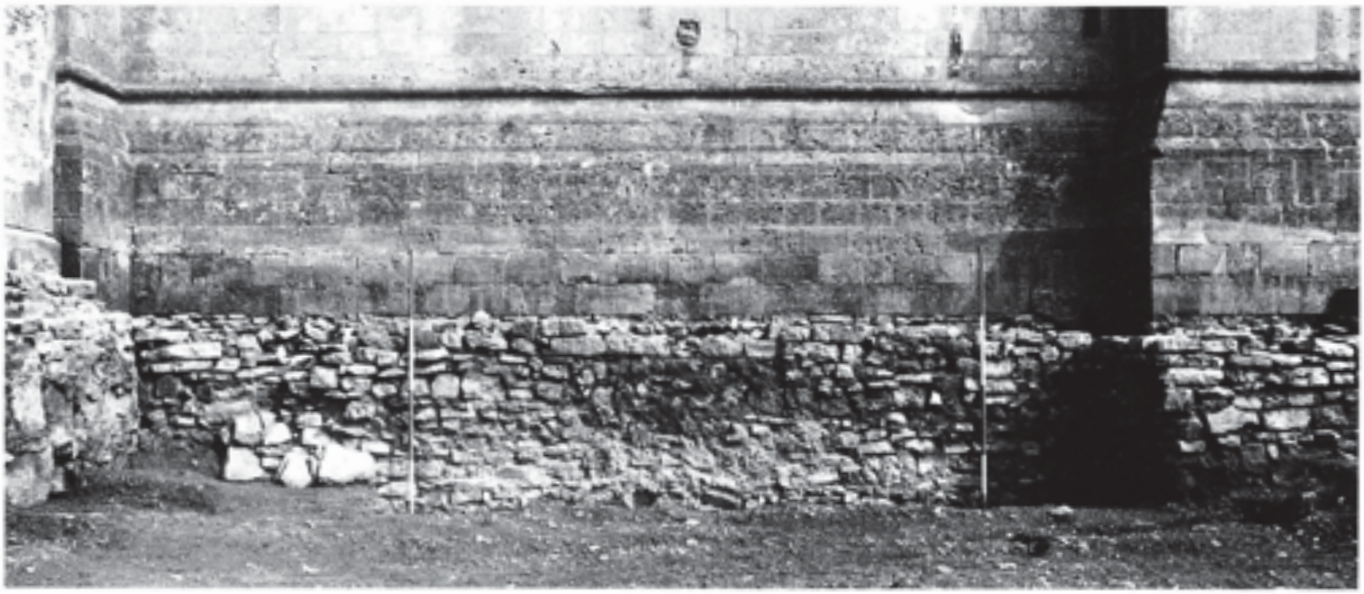


Fig. 112 The plinth and rubble foundation of the south transept, seen to its full depth, after the excavation of all deposits down to bedrock. Scales of 2 m

The foundation was seated on bedrock, which here took the form of very compact and tenacious clay and gravel. There is a continuous offset, *c.* 80 cm wide, between the foundation and the superstructure, stepping around the buttresses (Fig. 135, F606). The average thickness of the walls of the cathedral is 2.3 m (7½ ft) at floor level (*i.e.* including plinth and bench), although in the end-gables of the transepts the figure increases to 2.7 m. Assuming an internal offset (below floor) of not less than 40 cm, this indicates an overall foundation width in the order of 3.5 m (11½ ft). The total volume of soil excavated, matched by an equal volume of rubble infill, was not inconsiderable, and the two operations cannot have taken less than two building seasons, and more likely three, to complete the entire circuit of the church.

Whether the whole of the substructure for the new building was laid as one, or divided into two or three separate operations, cannot be determined with certainty. Since it does not appear that the creation of the foundation structure necessitated the demolition of the existing church, it would have been logical to deal with this entire phase of groundworks at one time. Moreover, the precision with which the plan was set out, and the correct alignment of the various parts, one with another, would support the hypothesis of a single operation.[12] The only area where a deviation from the original plan undoubtedly occurred is in the flanking towers of the west front. If a two-stage foundation construction were envisaged the breakpoint would likely have come between the crossing and the nave; if of three stages, there could have been a further break between quire and crossing.

The volume of masonry released from the demolition of the putative Norman cloister would not have been anywhere near sufficient to fill the foundation trenches of the new church, although that was doubtless the fate of much of it.

Supply of stone for ashlars and mouldings

The small amount of Romanesque moulded masonry that has been recovered at Wells is all of Chilcote stone (p. 415); so too are the ashlars used as linings of eleventh- and twelfth-century cist-graves (p. 109). No unequivocal use of Doulting stone for ashlars or decorative work in the Anglo-Saxon and early Norman periods has yet been found. The evidence at Wells is wholly consistent with that at Glastonbury, where Jope noted the lack of Doulting stone in early contexts, concluding that it was 'not until the later twelfth century (after 1184) did it begin to be used alongside stone of Dundry and Bath type at Glastonbury' (Jope 1964, 105).

Doulting stone was certainly known at Wells in the Saxon period, but whether as freshly quarried material or as rubble reused from Roman structures is open to debate. In view of the paucity and small size of the pieces in question, the latter seems more probable. On present evidence it would appear unlikely that the Doulting quarries were opened, or reopened, for serious stone production until the 1170s. It is entirely feasible to link the rise of the Doulting quarries to the building of Wells Cathedral, although the land yielding the stone was in the possession of Glastonbury Abbey (p. 27). The Chilcote quarry, on the other hand, belonged to Wells. While it may be presumed that Doulting stone was used in the new building, *ab initio*, this cannot actually be proved since the masonry erected in the first few seasons — namely the Lady Chapel — has entirely gone. It was pulled down in the early fourteenth century, to make way for the extended eastern arm.

Although Wells Cathedral is substantially built with Doulting stone, mixed with it is also a considerable amount of Chilcote stone, the historical significance of which was first commented upon by Colchester and

Harvey (1974, 202–3). While the weathering properties of Chilcote oolite are undoubtedly superior to those of Doulting, the voids and inclusions in such a conglomerate make it less suitable for detailed mouldings or carved work. During the 1980s, Jerry Sampson carried out a careful inspection of the stone types used at Wells, in conjunction with Dr Desmond Donovan, and the latter identified for the first time the use of fine-grained Chilcote stone, which is superficially similar to Doulting, but somewhat grey in colour.

Sampson observed that stone from the Chilcote quarry seems to have been used in the surviving work of the late 1170s only sparingly, accounting for perhaps a maximum of 25% of the ashlars and none of the decorative work. Its distribution tends to be concentrated, so that a whole course may be in Chilcote — as with the courses above and below the aisle bench, or below the interior triforium moulding — suggesting that loads were being brought in when other sources failed. Its weathering properties were also appreciated in the quire. Doulting stone, while making excellent ashlars, tends to weather badly when used as moulded work outside, thus the hood-moulds over the clerestory windows of the quire tend to favour Chilcote. The bulk of the stone for the new quire was, however, brought from Doulting.[13]

Superstructure and building phases

It has long been appreciated that there are several structural 'breaks' in the fabric of the church, the most notable being in the nave, a little to the west of the mid-point (Bilson 1928). Others have been mentioned *en passant*, for example by Willis (1863–64, 17), but without examining their significance in terms of building history. Sampson's painstaking study of the masonry has now demonstrated clearly how the church was built in several constructional stages, not only along its length but vertically too. A layered construction is apparent in the elevations, and is demonstrated by stone type, block size and masons' marks (Fig. 113). A fuller account of his observations will be found in Sampson 1998, ch. 1. Construction proceeded from east to west.

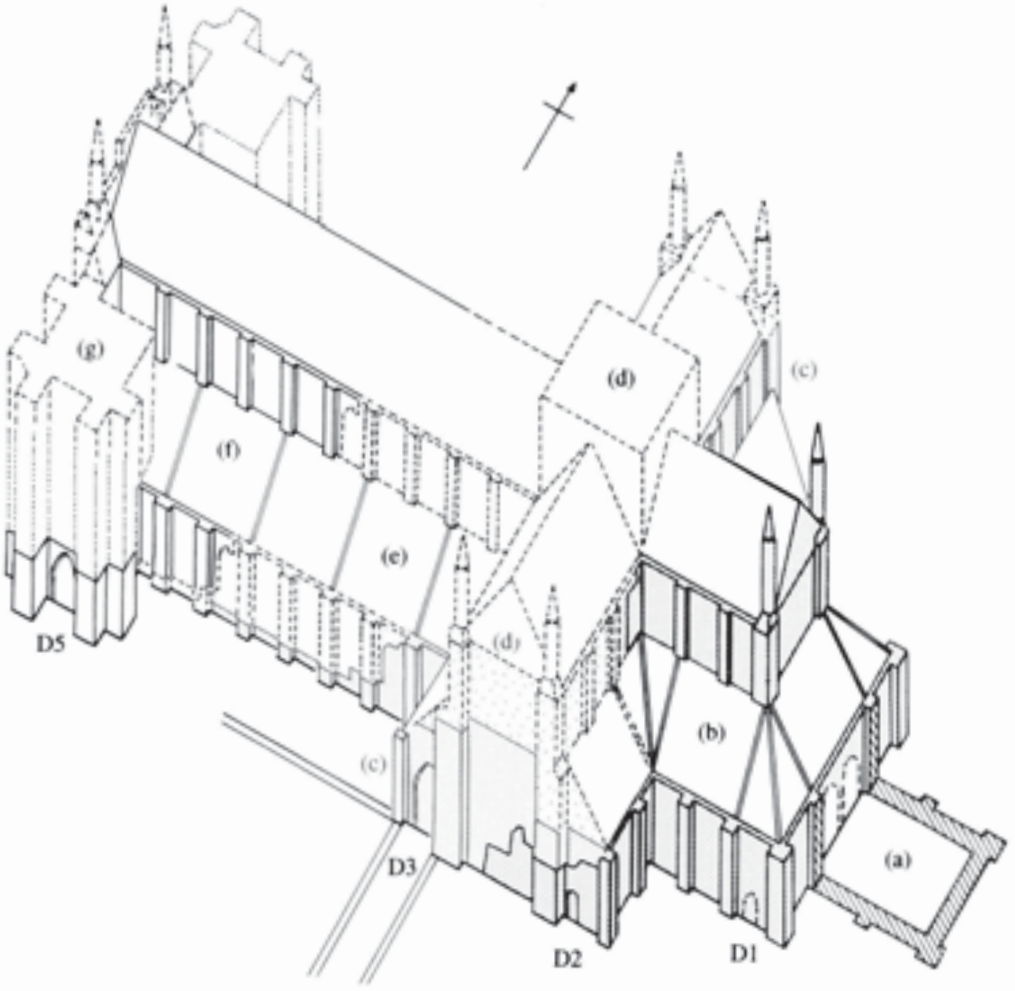


Fig. 113 Simplified axonometric view of Reginald de Bohun's church from the south-east, illustrating the principal stages and stone-types used in its construction. Red indicates Chilcote stone; the remainder is Doulting stone. (a) Lady Chapel; (b) Quire; (c) Transept (Chilcote phase); (d) Transept (mixed stone phase); (e) East nave; (f) West nave; (g) West towers. After Jerry Sampson, with additions

The elusive eastern Lady Chapel

The quire design of the 1170s comprised three bays with aisles and an ambulatory returning on the east. The structure was fully stone-vaulted.[14] Most antiquarian reconstructions of the plan of Reginald's church show the eastern arm terminating in a square-ended Lady Chapel of two bays, projecting beyond the quire ambulatory (Willis 1863–64, 15; Bilson 1928, fig. 1). Until recently, the evidence for such a chapel has been ambivalent (Fig. 114).

Small-scale excavations beneath the floor of the quire in 1914 confirmed the existence of the foundation for the main eastern gable at the end of the third bay (Bilson 1928, 30). They also located further areas of a raft-like foundation to the east, the extent of which was not established in any direction. More of this masonry was exposed in 1983, under the floor of the north quire aisle. In the retroquire itself solid masonry has been observed under the western pair of piers, in the space between them, and extending west towards the high altar.[15] The evidence points almost certainly to the presence of a huge, rectangular raft of mortared masonry, the plan and indeed the edges of which remain largely undefined. That the structure it supported was a Lady Chapel is only an assumption, albeit a not unreasonable one. Whether the chapel was of two bays (as indicated here), or three (*cf.* Sampson 1998, ch. 1), is not clear. Further evidence is needed to resolve the issue.

The extent of the foundation masonry at the east end of the church, whatever it supported, indicates that a large undertaking was involved, for which adequate construction time must be allowed in calculating the rate of progress. The apparent need for a raft to carry this structure is not difficult to explain: the eastern arm of the cathedral projects towards the springs, where anciently the ground sloped gently away, and became less stable. In these circumstances a raft was preferable to a strip foundation.

While there is no doubt that building started at the east and progressed westwards, it might be questioned whether the projecting chapel was begun before the quire, or added later in the programme. For purely practical reasons, it would have been easier to commence with the eastern projection because this was probably only half the height of the main vessel of the quire, and would have been needed to serve as buttressing for the high vault of the latter. Fortunately, there is clear archaeological evidence to confirm the sequence of events.

Sampson has observed that there was once a small doorway in the easternmost bay of the south quire aisle (*i.e.* at the end of the eastern ambulatory), and that this

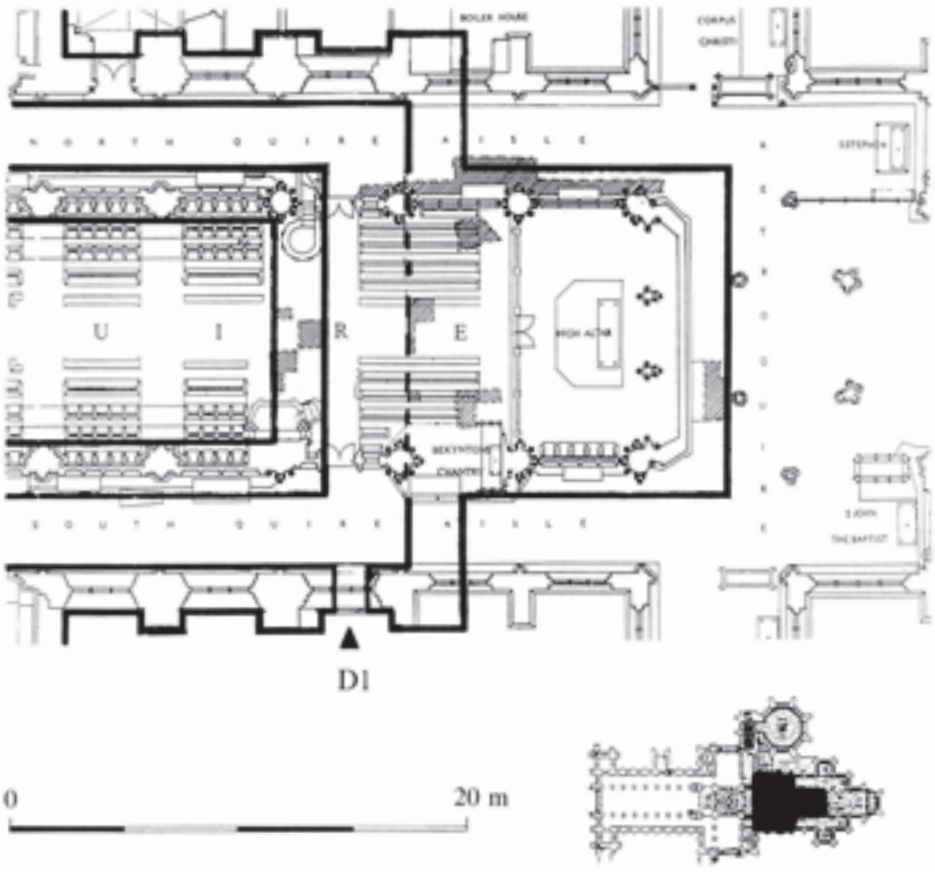


Fig. 114 Outline of the eastern arm of Bishop Reginald's church, superimposed on the plan of the present quire. Hatching indicates recorded areas of foundation for the east wall of the quire, and the masonry raft which carried the Lady Chapel. After Sampson 1998

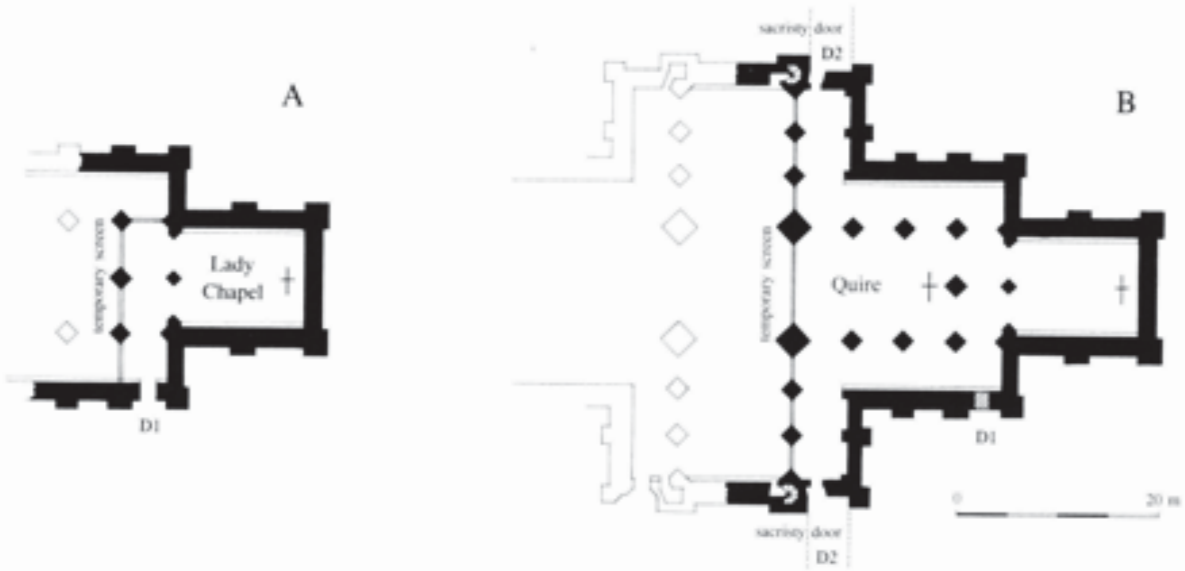


Fig. 115 Plans of the eastern arm of Bishop Reginald's church, showing the first two stages to be completed, and the short-term access arrangements. A Lady Chapel and east quire aisle, c. 1180, with access via temporary doorway (D1); B Quire and east transept aisle, c. 1185, with access via the 'sacristy' doors (D2). Scale 1:750

was carefully infilled with masonry at an early date. It was clearly only a temporary opening, which would have provided access to the eastern chapel while the quire was being built (Fig. 115A, D1).[16] This confirms that the Lady Chapel was both erected and brought into liturgical use at the earliest opportunity.

The Quire[17]

The style of the capitals in the quire shows that work on the arcade advanced from east to west: the easternmost surviving carvings being almost Romanesque in their treatment of the volute, and the form of the top of the capital is also unique in the church. In the 1983 excavation (north quire aisle) a fragment of foliage carving of even more archaic character was found, probably deriving from the ambulatory, or Lady Chapel. The leaf forms of the western piers are fully developed stiff-leaf foliage.

As part of the same east-to-west progression, the eastern aisles of the transepts were also constructed. It is not clear whether the whole of the quire-transept aisle system was completed at the same time, or whether the transept aisles were left until parts of the quire triforium were underway. There is little evidence of masons' marks in the aisles, but in the triforium above the distribution of marks suggests that, at least on the north side, the quire and transept triforia were more-or-less contemporary. This points to a layered construction, with one storey of the elevation being completed before the next was begun.

The same approach to the mechanics of building seems to have been generally adopted throughout the construction of the cathedral, though the obvious building breaks have tended to obscure it. It seems that the arcade was completed to a given point — and in the quire-phase this was the eastern aisle of the transept — then the triforium was built above, but usually not quite to the same distance as the work below; after that, the clerestory was constructed, again stopping short of the extent of the lower work; and finally the vault was added. In the nave the stopping of each storey before the limit of the previous one gives the break-lines between phases a visibly diagonal profile, and superficially suggests that work progressed on a diagonal front. Examination of the distribution of masons' marks, however, confirms that each layer of the elevation was built up separately and that the diagonal profiles of the building breaks represent a series of pre-arranged objectives to which the builders were working.

Each of these stopping points entailed the use of the lower parts of the elevation as buttressing against the higher works: thus the transept-phase embraced the nave for two bays at ground level, but only just to the first window jamb at clerestory level; and here in the quire-phase the eastern module of the transept fulfilled a buttressing rôle at arcade level, while again the first jamb of the clerestory window is all that was built of the highest level of the transept.[18] The *raison d'être* of this approach was, of course, to bring each major component of the new church into use as soon as possible, without hindering work on the next element.

Primary access to the eastern arm

The builders' first objective was a usable Lady Chapel, and to that end the eastern ambulatory of the quire would have been completed and screened off (Fig. 115A). The chapel-phase need not have taken more than three or four years to complete, and the clergy could then have had access from the Camery, through the temporary door (D1) in the south wall. The completed Lady Chapel must have been in use by *c.* 1180 (Stage 1).

The second objective was a serviceable quire, and to achieve this it would have been necessary to include the eastern crossing piers and the beginning of the transept aisles within the quire-phase. However, building seems to have progressed a little beyond this, and included the completion and vaulting of the eastern aisles of both transepts. It is not difficult to appreciate the reason for this. If the quire was brought into commission it had to have safe and convenient access, separated from the turmoil that was to occupy the crossing and transepts for some years to come.

A simple and ingenious way of achieving such access was to build the vaulted eastern aisles of the transepts, and to use them as temporary entrance passages, thus obviating the need to gain access to the quire from the west. The eastern crossing arch and the low arcades forming the western side of each aisle could be boarded up, providing complete enclosure. All that was required was a means of gaining entry to the aisles from the outside. In this connection it is of interest to note that access was possible via two small doorways, one in the outward face of each transept (Fig. 115B, D2). The whole of the eastern arm of the church could then be made available for the daily office (Stage 2).

Analogous evidence for temporary access points — sometimes infilled, and sometimes retained as minor entrances — can be found in the eastern arms of other major churches. At Oxford Cathedral there is still a small, blocked doorway in the westernmost bay of the south quire aisle which, Richard Halsey suggests, provided external access to the eastern arm, *before* the transept aisles were built. Here, it seems, a temporary wall was erected across the first bay of the quire and its aisles, rather than at the crossing (Halsey 1988, 124).[19]

At Salisbury, a series of openings in the south side of the cathedral may likewise be interpreted as providing successive points of entry into a growing building. The first was probably in the ambulatory between the Lady Chapel and the presbytery (the site of the destroyed St Stephen's porch). The second was in the eastern aisle of the south-east transept, where it later provided access to the treasury (now vestry). These positions are directly comparable to those at Wells. The third is now a blocked opening in the base of the stair-turret at the south-west corner of the south-east transept,[20] and the fourth is the existing cloister doorway at the south-west corner of the main south transept (Cocke and Kidson 1993, plan).

The transept aisle doorways

We have seen that both transepts were provided with small doorways at the ends of the eastern aisles, and there is no doubting that they are primary features. However, unlike the first temporary entrance (D1), these doorways were not expunged and carefully masoned up. They were permanent features, even though the aisles were designed to house chapels in the usual manner, two in each transept. Since the doorways opened off the two extreme chapels, they cannot have been intended as external entrances or as part of a thoroughfare through the cathedral, notwithstanding the fact that they temporarily served as such in the 1180s (Fig. 115B).

It is interesting to note that the doorways are set as far west as possible in their respective walls, and that their reveals skew slightly towards the east as they pass through the thickness of the masonry. The purpose of this contrivance can only have been to avoid impinging, as far as possible, upon the space in front of the transeptal altar.

Both doorways still exist, although the southern one is blocked. They have caused a certain amount of embarrassment to previous writers, because their purpose has never been fully understood, and thus no convincing explanation has hitherto been offered for their existence. For the most part, commentators on the cathedral have preferred to ignore these features, but Buckle, and others following him, explained them as the entrances to 'penthouse' vestries that have since been demolished (Buckle 1894, 57, 59; Church 1894b, 287). The archaeological evidence was examined on the south side of the cathedral in 1979, and it is convenient to deal fully with the issue here.

The south transept chapels, dedicated to St Calixtus and St Martin, remain in use, and the first recorded mention of the latter is in 1206 (Church 1894b, 124). The blocked doorway in St Martin's chapel serves as a tomb-recess for the recumbent effigy of Canon William Byconyll (d. 1448), whose will expressly refers to 'pulling down' the door (SRS 1903, 347–52). While Byconyll was responsible for mutilating the internal arch and the reveals, he clearly did not insert the external blocking, the masonry of which is twelfth or thirteenth century.

In the late thirteenth century the north transept chapels were reduced in size, or may have been dispensed with altogether, when access to the present chapter house was created.[21] The small doorway in the north wall was adopted as a convenient means of entry to the chapter house, which purpose it still serves today.[22]

The aisle doorways have depressed, two-centred heads, and are remarkably low. Their jambs rise only 1.7 m above transept floor level. Externally they are totally plain and flush with the wall face, while internally they have chamfered arrises, roll mouldings, and hood-mouldings (Fig. 121.1). The most curious feature of these doorways is their width in relation to the height: they were made to accommodate double doors, the leaves of which folded into the skewed passage through the wall. There was an original window directly above each doorway, although later tracery has been inserted in the southern opening, and the northern was infilled with masonry in the fourteenth century. Internally, each window sill was immediately above the door-head, and the lower part of the aperture was built with an integral blocking on the glazing line; externally, there is plain ashlar between the doorhead and the

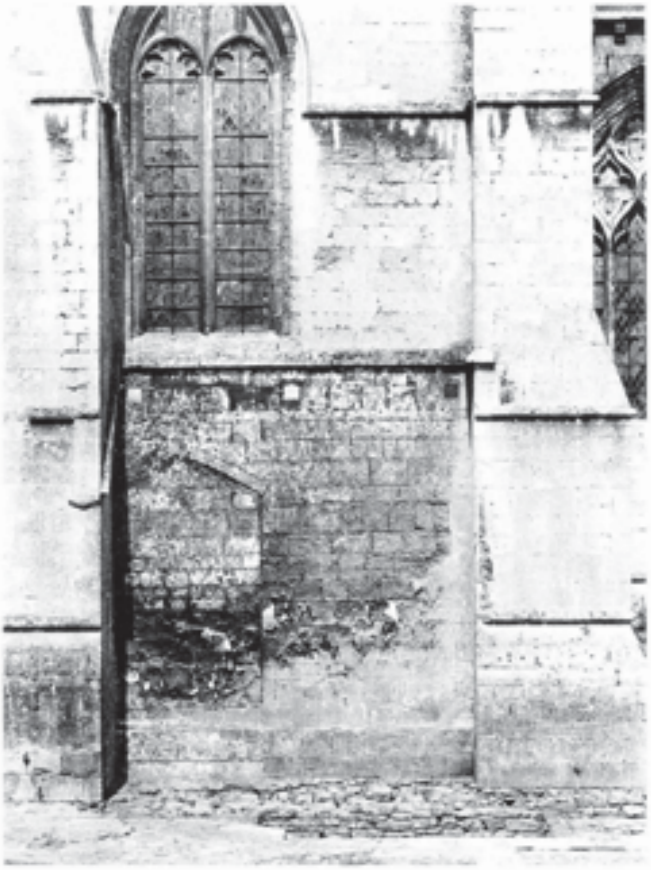


Fig. 116 The infilled doorway in the eastern aisle of the south transept (St Martin's chapel), with a roof weathering for an intended structural abutment. The window opening above is primary, but with inserted Perpendicular tracery

window sill. This technique for masking differences between the internal and external appearance of a window is found elsewhere in the Early English cathedral.

It is undeniable that the doors were designed to lead *out* of the chapels, and into subsidiary chambers beyond the body of the church. External indications in the masonry amply confirm this (Fig. 116). First, the entire plinth is omitted from the face of the transept, and the buttress returns, at the ends of the eastern aisles. Second, the string-course running around the transept at window-sill level is displaced here: both the string-course and the chapel window itself are set slightly higher than their neighbours. Third, the sides of the two flanking buttresses have integral stone weatherings for a lean-to roof (Fig. 121.2). Fourth, sockets intended to receive three roof timbers can be seen immediately under the string-course below the chapel window in the south transept.

Despite these overt indications of an intended external abutment, there are serious problems in realizing one. The following discussion relates to the south transept, but is likely to be equally applicable to the north. In his excavation report, Buckle did not claim to have found any structural trace of a lost building, but merely noted a 'stone preparation for floor of vestry' (Buckle 1894, 57). When re-examined in 1979, there was no floor, only the top of the offset foundation for the transept itself (F606).[23] Neither were there any signs of footings for walls that could have been associated with the supposed vestry, nor attachment scars arising from the removal of such a structure. We are forced to conclude that if any excrescence was ever built here it was either so small that it could be accommodated on the existing foundation offset, or it was of such an ephemeral nature that it did not require foundations. In either case, it was not bonded to the main structure.

The first option is untenable. The buttress which serves as a stair-turret projects 1.58 m, and the corner buttress only 82 cm, beyond the face of the transept. If there had been a small chamber created by walling across from one buttress to the other, it must either have been tapered in plan, or projected no more than the extent of the shallower buttress.[24] Assuming that the wall was only one block in thickness, say 40 cm, the maximum depth of the chamber could not have been greater than 1.18 m, tapering to 50 cm or less: it would have been no more than a cupboard. Clearly, this is nonsensical and can be dismissed without further ado.

The second option is marginally more plausible in theory, but more speculative in practice. The possibility of a timber vestry has been mooted in the past, but its supposed form has not been discussed. A lightweight construction would not have required substantial foundations, which would excuse their absence from the excavation record, but it is difficult to visualize what this structure might have looked like. The stone weathering on the side of the stair-buttress has a slope of 45°, while that on the corner buttress is horizontal: this demonstrates that a simple lean-to roof was not envisaged, and points firmly to an L-shaped roof-plan with a diagonal valley. That would suit a low, cloister-like abutment with a returned-pentice roof, but not a lean-to vestry. Since an identical arrangement of weatherings occurs on the north transept, this is clearly cannot be evidence for a potential early cloister attachment.

It is, moreover, unthinkable that timber vestries, or other ephemeral excrescences, would have been conceived as an integral part of the design for a great church of this quality. Moreover, a small vestry would have required only a small door, not a substantial pair of doors. Timber structures with doors opening outwards from the cathedral would patently have constituted a security risk. The incongruity of any arrangement of this nature is such that the hypothesis must also be discarded.

Another detail that seems previously to have been overlooked is the 85 cm difference in levels between the floor of St Martin's chapel and the ground outside. Any chamber opening off the chapel would have needed a raised floor, or a flight of steps (of which there is no trace, unless they are concealed within the thickness of the wall), and there would have been no necessity for the external jambs of the doorway to descend to such a low level (Fig. 116). A series of seemingly irreconcilable factors has to be explained.

It nevertheless remains irrefutable that the original 1170s design allowed for a single-storey, roofed structure to abut the aisle doorways, and the timber sockets suggest that something was in fact erected there. Even so, there is no hint of lead flashings having been fixed over either doorway. Whatever was intended, it was important enough to be entered through double doors and a moulded arch. There is one possible explanation, which accounts for all the extant evidence, and which at the same time solves other outstanding problems.

It is suggested that the transept doorways were indeed designed to give access to a pair of sacristies, although these were plainly not intended to be lean-to wooden 'sheds', but substantial masonry buildings which stood slightly apart from the church and were linked to it by low structures with pentice roofs. It would have been a curious omission for there to be no sacristy provision at Wells, especially since the building was of such advanced design, and there clearly never was a lateral chamber to the quire where a sacristy might otherwise have been expected.

That the sacristies were never built is demonstrable from the fact that the foundations were not laid (at least on the south), and no toothings were ever cut into the buttress faces to effect a structural bond. Nor are there any chases for fixing lead flashings. The intention to build the link structure in masonry is evident from the way in which the horizontal stone weathering on the corner buttress of the south transept projects 10 cm beyond the face, and then terminates abruptly. Clearly it was meant to continue, either as a string-course or as part of a coping.

The reason for not building the sacristies, or even laying their foundations, as part of the quire-phase of construction is not difficult to appreciate: as we have shown, the doors served as temporary entrances to the eastern arm. The southern doorway, at least, might have been tall enough for processional entry, since its threshold was initially at ground level and not at internal floor level. There would have been no differential between internal and external levels until the transept was properly floored. Before that, there could simply have been a gentle rise towards the north.

The three timber sockets over each doorway (infilled on the north side) need imply nothing more than a temporary lean-to roof for the protection of those using the entrance while building work proceeded overhead. Indeed, a simple covered passage with a monopitched roof supported on posts may well have been erected in the Camery. It is easy to envisage such a structure projecting perhaps twenty feet or more out from the transept, and providing a safe covered-way up to, and under, the scaffolding.[25]

As the building of the eastern arm progressed, various changes of plan took place and economies were effected (see below). The proposed addition of vestries was evidently abandoned. The doorways were securely infilled with ashlar, once the transepts and crossing had been completed, and suitable permanent access became available further to the west. When the chapter house complex was begun, in the later thirteenth century, its undercroft was built as a combined sacristy and treasury, fulfilling what must then have been a pressing need.

For an indication of the kind of sacristy structure that might have been intended, we may look to Salisbury. There, a late thirteenth-century octagonal sacristy with a short link-structure projects from the south-east transept (Cocke and Kidson 1993). The entrance arrangement, from a transeptal chapel, is precisely comparable to that intended at Wells. Whether the sacristies would have been square, or octagonal, can only be surmised, but a suggested reconstruction showing the former is given on Figure 279.

The transepts and the 'Chilcote phase'

As the construction of the new church moved into the third stage, namely the transepts and crossing, an interesting change occurred in the fabric. The change is not defined by art-historical or archaeological evidence, and does not represent an interruption in the progress of building: it is marked simply by a switch from the use primarily of Doulting stone to an almost exclusive use of Chilcote stone. Sampson (1998, 13) has coined the term 'Chilcote break'. A change of supply plainly occurred and, given that it was not materially for the better, it was almost certainly involuntary. In other words, the change was forced upon the masons. This point is made, *a fortiori*, by the subsequent return to the use of Doulting stone, some years later. Colchester and Harvey (1974, 203) were the first to note the presence of a large quantity of Chilcote freestone in the transepts, and to link it to a crisis in the history of Glastonbury Abbey, but Sampson (1998) has refined the chronology.

It is argued that the great fire which totally consumed the abbey on 25th May 1184 was, indirectly, the reason for the change of stone type used at Wells. According to the Chronicle of Adam of Domerham, rebuilding began immediately after the fire and the eastern Lady Chapel was dedicated on 11th June 1186 (Willis 1866, 22). Hence, work proceeded at a truly remarkable pace, and the great majority of it was done in Doulting stone. Since the abbey owned the quarry, it could, and clearly did, divert the entire output to its own purposes, leaving Wells to seek an alternative stone supply. If this argument holds good, it means that the ragged junction between Doulting and Chilcote ashlar seen in the lower part of the south transept is datable to 1184 (Figs. 113 and 118A). That gives a *terminus ante quem* for the completion of the quire and eastern crossing piers, and for part of the work on the eastern return-aisles of the transepts.

During the 'Chilcote phase' at Wells very little use of Doulting stone occurred, and that was limited to carving on capitals. Presumably the stone was already

in stock, and was eked out sparingly for the most precious tasks. By the time the great doorway was constructed in the west aisle of the south transept there was no Doulting stone left, and even its foliate arch had to be carved in Chilcote (Fig. 120). This, above all, provides the most emphatic demonstration of a complete cessation in the supply from the Doulting quarry. The north porch was also begun about this time, its lower courses being entirely in Chilcote stone.

At least some of the Chilcote stone being used in the north transept was not freshly quarried, but was robbed from the Norman church. An incised tomb-cover in fine condition was reused as a window lintel in the triforium: this was presumably retrieved from the floor of the old church (p. 494; Fig. 494.6). Two pieces of twelfth-century chevron-moulded Chilcote stone had also been recut and used in the triforium string-course (p. 420). Doubtless there is much more material of this kind concealed in the fabric.

Meanwhile, building at Glastonbury was proceeding apace, and Doulting was the only freestone being used. However, Adam of Domerham records that royal funding for the rebuilding of the abbey dried up with the accession of Richard I in 1189, and work had to stop. It can hardly be coincidental that Doulting stone suddenly reappeared at Wells at about this time, mixed with some Chilcote. It is found at triforium level. In terms of the structural sequence in the building, it is clear that the Chilcote intermission could not have lasted more than a few years, say 1184–90. Hence Sampson suggests a date of 1190–91 for the construction of the west triforia in the transepts at Wells. At the same time, work was in hand on the first two bays of the nave, which formed essential buttressing for the crossing.

The nave and the 'second Doulting phase'

Bishop Reginald died at the end of 1191, and it is generally considered that his successor, Savaric Fitzgeldewin (1192–1205), is unlikely to have devoted a significant proportion of his resources to building work at Wells, given his other interests, mainly political (Church 1894b, 121). Building probably slowed down, but that it did not stop is made clear by a private grant in 1196 of three silver marks *ad constructionem novi operis*, and another two marks to the restoration of St Mary's chapel (see below; HMC 1907, 48; Church 1894b, 82). Doulting stone was back in use at Wells, even if in limited quantity.

Although Savaric may not have been generously disposed towards Wells, he was certainly not antagonistic to its canons, and they are known to have supported him. His dealings with Glastonbury, however, were of a more openly hostile nature. He obtained the abbacy, amidst acrimonious dispute, in 1194, and the following year received papal confirmation of his self-styled title: Bishop of Bath and Glastonbury. In 1199 Savaric made an even greater impression when he took a party of soldiers to Glastonbury, stormed the abbey and abused the monks (Church 1894b, 104–5). The canons of Wells were present and assisted him with this action. The rebuilding programme at the abbey must have ground to a halt by this time, and there is no evidence that it was restarted for some years to come.

Meanwhile at Wells the use of Chilcote stone ceased entirely, and the church was completed in Doulting stone. This was achieved in a further three stages. The first (Stage 3) involved finishing the transepts and crossing, and bringing these into use along with the eastern arm (Fig. 118B). The screens that temporarily

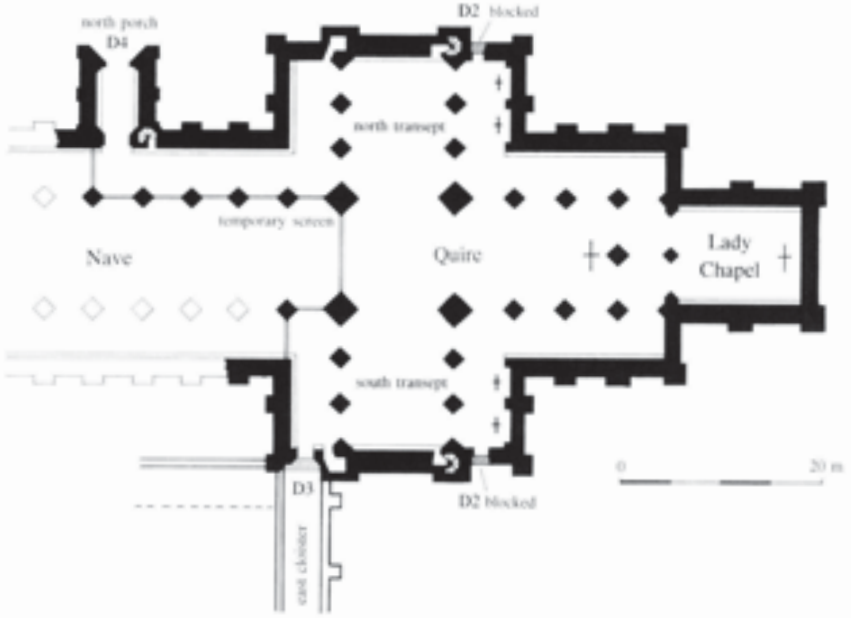


Fig. 117 Plan of the eastern arm and transept of Bishop Reginald's church in c. *1205, showing the completed third stage, and the suggested arrangement of temporary screens enabling access via the south transept doorway (D3). The north porch access (D4) may be a little later. Scale 1:750*

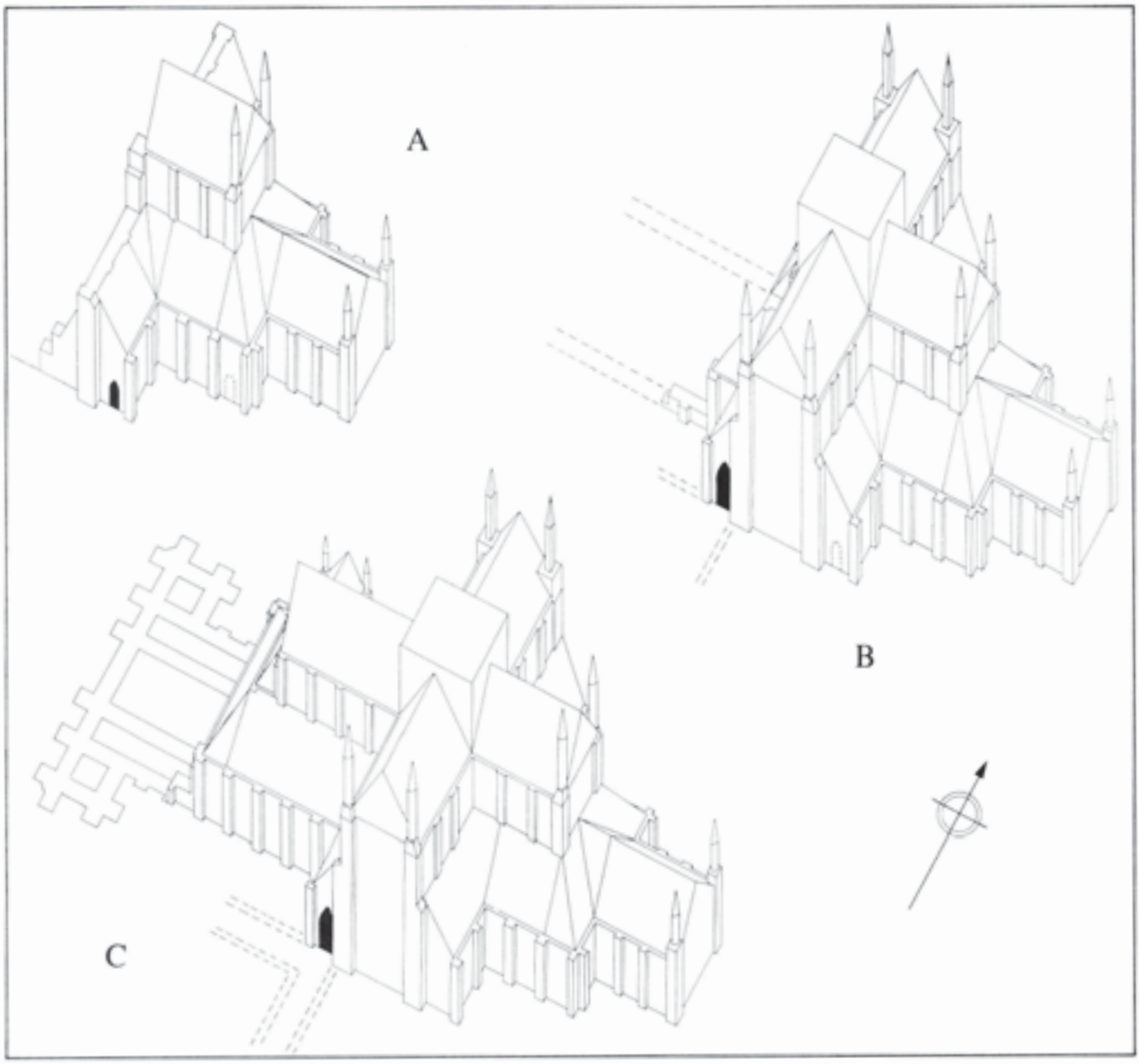


Fig. 118 Axonometric reconstructions showing the principal stages in the erection of Bishop Reginald's church. A Lady Chapel and quire phases, c. 1175–84; B Transept phase, c. 1185–1205; C Eastern nave phase, c. 1205–10. After Sampson 1998

closed off the quire would have been resited further west, at the junction between the crossing and the nave (Fig. 117). The monumental doorway (D3) in the south transept then became one of the two principal entrances to the church, the other being the north porch (D4). It is suggested that the latter entrance was ingeniously contrived by building and vaulting the porch and part of the north aisle in advance of the main vessel of the nave. The aisle then served as protected entrance passage, in the same way that the eastern aisles of the transepts had previously done.

The completion of Stage 3 must have been achieved by *c.* 1205, although it is likely that the south transept was finished first and brought into use some years earlier, probably by *c.* 1200. Its grand portal (D3) was the first ceremonial entrance into the new church. The use of the small 'sacristy' doorways (D2) in the transept would have been discontinued, and the eastern aisles fitted out as chapels. Presumably the doorways were infilled with neat ashlar at this stage, and the southern one remains so (Fig. 116).

Work on the eastern part of the nave (Stage 4) proceeded during the period *c.* 1205–15, leading up to another structural break (Fig. 118C; Sampson 1998, 16).[26] This is the well known and so-called 'Interdict break'. It lies just beyond the mid-point of the nave and has been interpreted as a genuine hiatus in the construction, related to the Interdict under King John, 1209–13, when building operations must have been suspended at Wells (Colchester and Harvey 1974, 203). The break is an archaeological and technological one: Doulting stone was freely used both before and after it.

Stage 5 involved the completion of the nave, west front and western towers, during the period *c.* 1215–40. Aspects of this are considered further, in relation to the union with the west cloister, in chapter 8.

The cloister

It is evident from the layout of Reginald de Bohun's church that the architect planned a southern cloister at Wells from the outset. The highly decorated south transept doorway has been misunderstood in the past, and assumed by most writers to be a secondary insertion, related to the supposed construction of the cloister under Bishop Jocelyn (1219–42). This in turn was linked to the perceived history of the Bishop's Palace, the earliest extant part of which is undoubtedly Jocelyn's work. But this involves a circular argument, since there is no solid basis for insisting that Jocelyn was the progenitor of the palace. Its origin as an episcopal residence may be centuries earlier, but only archaeological investigation can establish that.

John de Villula had a *palatium* at Wells (SRS 1924, 64) and, given the level of Reginald's commitment, he too must have had a residence in the city; there is no record of his living in Bath (Church 1894b, 52). Plausibly, John's and Reginald's residence was the predecessor of the present palace. That being so, the desire to incorporate a major ceremonial portal in the south transept, with a cloister-link extending in the direction of the palace, is readily explained in the late twelfth-century building programme.

Buckle (1894, pl. 3) dated the transept portal to *c.* 1240,[27] but now that it is known to be securely stratified in the Chilcote phase, it must be assigned to the mid or later 1180s (Figs. 119–21). Moreover, its position is highly significant in relation to the question of the cloister's dating.

Decorated portals are found in the transepts of a number of other great churches in the Early English style, and are usually axial. Such is the situation at Lichfield, for example, where the two doorways are unrelated to contemporary claustral abutments. Wells differs not only in the asymmetrical siting of the portal, but also in having western aisles to its transepts, a notable rarity. The aisle in the south transept is, in a sense, a processional extension of the cloister walk, and it may have been conceived as such. Additionally, the door must have served as the main entry to the church from the 1190s, while the nave was under construction, and before the north porch assumed precedence. A precisely comparable situation obtains at Oxford Cathedral, where there is a major door in the west transept aisle, directly into which the east cloister leads (Halsey 1988, fig. 60).

Practically, the Gothic cloister could not have been laid out until the old cathedral was completely demolished and the site levelled. It might be expected that this would have come late in the building programme,

Fig. 119 The south transept portal of the late 1180s, asymmetrically abutted by the east cloister and partly obscured by the vaulting of c. *1420 (Jerry Sampson)*

Fig. 120 Detail of fretted, stiff-leaf carving in Chilcote stone on the head of the south transept doorway. Late 1180s. For the moulding profile of the arch, see Fig. 121 (George H. Hall)

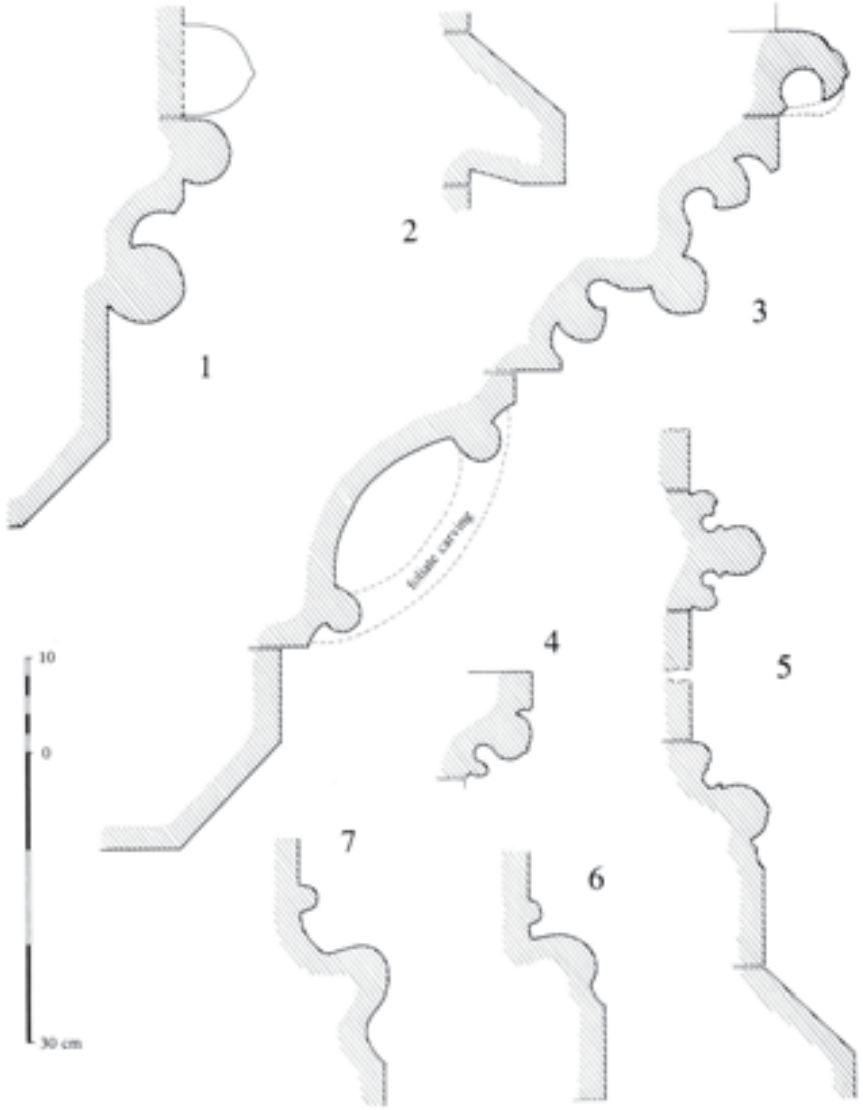


Fig. 121 Moulding profiles of the two south transept doorways. 'Sacristy' doorway: 1 Internal arch, with hood-moulding reconstructed from the identical opening in the north transept; 2 External weathering-course above the doorway. Main south doorway: 3 Label moulding, enriched arch and chamfered inner order; 4 Impost; 5 Vertical section through flanking shaft, annulet and base moulding; 6 Chamfer-stop on inner order of door jamb; 7 Chamfer-stop on south-west arris of the buttress adjoining the doorway on the east. Scale 1:8

and certainly there would have been little point in constructing the full cloister until the church had a west front to which it could be attached. However, it may be argued that the cloister, like the church, was also erected and brought into use in planned stages. It is suggested that the east walk alone was built in the first stage, in order to provide a ceremonial entrance from the bishop's residence to the south.

The critical piece of evidence for the beginning of the cloister sequence is the recorded donation in 1196 of two marks towards the restoration of St Mary's chapel, *ad emendationem capellae beatae Mariae*. The money was given by a local man, Martin of Croscombe (HMC 1907, 48; Church 1894b, 82–5). The chapel (Structure 6), which was part of the old cathedral, was most surely due for demolition along with the remainder of that complex, and the decision to spend money on its restoration must reflect a serious review of policy that took place in or shortly prior to 1196. There are two, or probably three, implications, all of which have a direct bearing on the archaeological and structural sequence.

First, a decision must have been made to reprieve the chapel and to retain it, despite the overtly incongruous relationship that it would ultimately exhibit to the new work when that was completed. Second, the demolition of at least part of the old church of St Andrew must have taken place, or been in hand in the mid-1190s, in order to free the chapel from it. There would have been no point in restoring the chapel if its west end was soon to be shorn off during the demolition of the structure to which it was attached. Third, the construction of the east cloister walk must have been in hand: had it not been, restoration of the chapel would have been pointless for similar reasons, *mutatis mutandis*. Furthermore, it can be demonstrated that the foundations of the east cloister walk had been laid

before the decision was taken to reprieve the chapel, when the construction of two buttresses was abandoned at ground level (p. 95).

A likely scenario suggests itself. The eastern arm of the church was complete and in use by *c.* 1184, and work was in hand on the transepts. The supply of Doulting stone dried up and progress slowed; then Bishop Reginald died in 1191, and funds became even more scarce. Work continued at a high level on the transepts and central tower, using whatever freestone became available. At the same time, attention was also turned to a lower-key operation, perhaps while funds were gathered, and the masons awaited the resumption of the supply of Doulting stone for fine carving.

Demolition of the old cathedral, no longer needed for the daily office, was underway by *c.* 1190, perhaps even earlier. That would have created a great stockpile of rubble which could be recycled in wall-cores and foundations. It doubtless also released both Doulting and Chilcote ashlars that could be reused. Doulting stone was certainly being redressed to make new mouldings, as evidenced by the Romanesque chevron decoration discovered on the hidden faces of two stones removed from a string-course in the north transept triforium in 1987 (p. 420; Fig. 439).

For reasons which are uncertain, St Mary's chapel was not demolished along with the body of the old cathedral, but must have been left as a freestanding building. That may have been a temporary expedient while it housed furnishings that were due for relocation in the new building.[28] The foundations for the east cloister were laid in the late 1180s or early 1190s, according to the prescribed plan, their buttress positions clearly indicating the intention (at that stage) to clear away St Mary's chapel. It may be that reverence for this ancient *locus sanctus*, or pure sentiment, evinced a change of mind: embodying inconveniently-sited fragments of old structures in new buildings was not uncommon in the Middle Ages.

Whatever the motivation, it must have been realized during the course of this work that, with minor surgery, the old chapel of St Mary could be joined onto the new east cloister walk, thus effecting an economy by not replacing it with a new chapel, chapter house, or whatever it might have been intended to build alongside the cloister. By 1196 the construction of the outer wall of the cloister was probably running in tandem with the restoration of St Mary's Chapel. The plinth and buttress arrangement was modified to accommodate the change of plan.

The outer cloister wall is very largely of rubble, and the chapel was almost certainly of similar build. It is therefore clear that a great deal of demolition and new building could have been carried out in the 1190s without the need to buy in much freestone for dressings. There may still have been a shortage of Doulting stone if work at Glastonbury was proceeding, even on a reduced scale since 1191. Anyway, by *c.* 1199 the supply of Doulting stone to Wells was fully reinstated, and work on the nave was progressing. A few years later is was again interrupted, this time by the Interdict. Completion of the nave and the lower stages of the west front — thus fully enclosing the vessel of the church — was achieved by 1239, when the new building was dedicated on 23rd October. Within five years, Wells was once again elevated to cathedral status.

Summary of dating

Reginald's new church at Wells was not begun before 1175, and by 1239 it was sufficiently complete to allow dedication, although the west front was certainly unfinished (Sampson 1998, 54–5). Within that span of *c.* 64 years a great deal was accomplished, despite the known setbacks, and doubtless others that have not been recorded. The project was probably begun by one architect, continued by another, and finished by a third. Certain intermediate points within the building chronology can be fixed with a high degree of confidence, and several others may be suggested: 1184 and 1196 are the two key dates. The entire sequel displays a remarkable level of cohesiveness: historical, architectural and archaeological. It is therefore possible to attempt a reconstruction of the architects' works-schedule, dating not only the five basic stages of building, but also the intermediate phases to within less than five years, and in some cases perhaps to within one year. Similarly close dating for progress in the construction, or reconstruction, of some other major buildings is available, and Gervase's contemporary account of the new quire at Canterbury, following the fire of 1174, is perhaps the best known (Stubbs 1879). As a by-product of Sampson's study of stone supply and construction at Wells, the building sequence of the great church at Glastonbury Abbey has also become very much clearer. Moreover, a close chronology for the erection of Salisbury Cathedral is now emerging, as a result of archaeological study in the mid-1990s by Sampson and Tatton-Brown.

It is important to remember, *vis-à-vis* stone supply, that the completion of any given phase of masonry work is not synonymous with finishing the structure. It is a moot point whether the roofs were built before the vaults they protected, or *vice-versa*. Either way, paving, plastering, glazing and decoration would all require time for completion after the masonry shell had been erected and roofed.

Date (*circa*)	**Building operations**
1175	Design of new church; general preparations; assembling workforce.
1176–77	Demolition of Norman cloister; site clearance; levelling; foundation trenches dug; foundation construction (eastern arm only?).
1178–80	Eastern Lady Chapel built and brought into use, with temporary entrance (D1).
1180	*Completion of Stage 1*

1180–83	Quire of three bays and quire aisles built.
1184	East aisles of transepts completed to serve as temporary entrances (D2); quire brought into use.
1184	*Completion of Stage 2*
1185–90	Foundations of nave constructed; lower parts of south transept and most of north transept built, together with returns into nave.
1191–95	Upper part of south transept completed; east end of nave begun.
1195–96	Old cathedral demolished; cloister laid out, and east cloister begun; north porch begun.
1196–99	East cloister finished; St Mary's chapel restored.
1200(?)	South transept portal (D3) in use as main entrance.
1200–05	Central tower built; north porch and nave aisle under construction(?).
1205	*Completion of Stage 3*
1205–15	East nave and north porch completed, providing new ceremonial entrance (D4).
[1209–13+	Interdict and other disruptions delay work.]
1215–20	*Completion of Stage 4*
1220(?)–39	West nave and centre section of west front completed, including gable; west towers raised to an uncertain height.
	Completion of Stage 5: dedication, 1239
1240–60(?)	Continuing work on upper part of west front and flanking towers.
	Never completed according to design.

The translocation of furnishings

The process of moving out of the old church and into the partially completed new one will naturally have involved the transfer not only of readily portable items such as relics, vessels, vestments, books and muniments, but also a good deal of furniture and other semi-portable possessions. With the exception of some relics and a few muniments, none of this material survives today. Moreover, there can be little doubt that some monumental remains, to which particular reverence attached, were also transferred. It was not uncommon for tombs and other bulky items, not normally considered portable, to be amongst the removals when relocating to a new church. Sometimes there is extant documentation for these translocations, particularly for the later Middle Ages, but most earlier instances have to be deduced on archaeological or art-historical evidence.

This is well illustrated at Salisbury, for example, where three extant twelfth-century tomb effigies (and possibly other items) were brought from Old Sarum to the new cathedral, where they were installed in the Trinity Chapel when it was dedicated in 1226 (Shortt 1971; Pevsner and Metcalf 1985a, 282).

So too at Wells were transfers effected. Surviving remains enable us to reconstruct something of the history of two aspects of the furnishing of the Anglo-Saxon cathedral: these are the tombs of its early bishops, and the font.

Tombs and relics of the Anglo-Saxon bishops of Wells

Episcopal effigies

Seven recumbent effigies of bishops are preserved in the quire aisles at Wells. They are approximately life-sized, are carved in Doulting stone, and have the appearance of being tomb-covers. They represent seven Saxon bishops of Wells although, being uninscribed, their individual identities are now far from certain. The effigies have been moved on several occasions, and their locative histories were traced as far as possible by Robinson (1914). Today, each effigy rests on a rectangular stone chest, of coffin-like form, mounted upon the benching under the north and south arcades of the quire. This arrangement, as well as the chests themselves, dates only from 1913.

Fig. 122 Upper part of the retrospective effigy of c. *1200 of an Anglo-Saxon bishop, reputedly Levericus. The figure is carved in 'standing' pose, and the architectural detail bears comparison with the north porch*

Fig. 123 Upper part of the retrospective effigy of c. *1220–30 of an Anglo-Saxon bishop, reputedly Giso. The figure is carved in recumbent pose*

The effigies fall into two distinct groups. Five of them are plainly Early English in style and date from *c.* 1200 (Fig. 122). The remaining two display a mixture of stylistic features: on the one hand the bishops are shown wearing low mitres appropriate to the Anglo- Saxon period, and their heads rest upon plain pillows, yet on the other hand it is obvious from the edge mouldings of the slabs, and other details, that these monuments were not carved before *c.* 1230 (Fig. 123; Fryer 1915). In short, they are deliberately archaic, a point which confused Robinson and other early commentators, who thought the effigies had been salvaged from the old cathedral. Robinson eventually set the record right, concluding that the two effigies of 'early' appearance were loosely copied from, and replaced, genuine Anglo-Saxon sepulchral sculptures (Robinson 1914, 108–9). If so, these must have been relict from the earlier building.

Robinson also demonstrated that the two replacement effigies almost certainly represented Dudoc and Giso, the last two Anglo-Saxon bishops, who had been interred in the *hemicyclia* in the old cathedral (p. 111). The identities of the figures in the other sculptural group are far less certain, although names have been put to four out of the five. The stylistic date of these, *c.* 1200, almost certainly indicates that they were specially commissioned to adorn the quire of the new church, and that they were probably not replacements for existing effigies.

Each effigy covers a stone chest which in turn houses a wooden box containing a collection of bones, and in some there were also textiles and inscribed lead tablets. In the case of Giso, an accompanying pectoral cross, also of lead, was inscribed with excerpts from the Latin Mass for the Dead. In 1979, the chests were opened and their contents subjected to detailed study (Rodwell 1979; 1982b, 17–22). *In toto*, the corporeal remains of not less than ten adult males were identified, and there is no reason to doubt that these belong to seven or more Anglo-Saxon bishops, probably augmented by sundry other relics. A full report on the effigies, skeletal remains, and associated furnishings is in preparation, and further discussion here would be premature (Rodwell forthcoming).

There is thus no serious doubt that when the old cathedral was demolished in the 1190s the corporeal remains of the Saxon bishops were translated into the newly built quire, and not less than five were honoured with specially commissioned, retrospective, effigies while two — Dudoc and Giso — may initially have been accompanied by their original monumental tomb-covers, dating from 1060 and 1088, respectively. Alternatively, it is possible that these two bishops were interred in painted chests which were displayed above ground level in the *hemicyclia*, and that the chests themselves were moved bodily into the new church.[29]

Giso's mortuary cross

One artefact, which is a genuine relic of the Anglo-Saxon episcopacy, merits inclusion here, namely Giso's mortuary cross (Fig. 124). The cross has been cut from a piece of sheet lead 3 mm in thickness, and measures 16.7 cm by 12.1 cm overall. It has expanded arms, *patée formée*, and is of simple and crude manufacture. On the upper face, centrally placed, is an incised Greek cross, which was doubtless intended to be equal-armed. The short lines crossing the terminals symbolize splayed or ansate ends. The reverse is plain, although there are corrosion marks and traces of the

Fig. 124 Bishop Giso's leaden mortuary cross (A.D. 1088), with fragment of attached foil bearing four lines of inscription. Scale 1:2. Drawn by Helen Humphries

coarse weave of cloth, probably resulting from contact with the shrouded corpse in the primary grave. It is therefore likely that this was a pectoral cross, specifically manufactured for mortuary use.

A stylistically close and exactly contemporary analogue has been found at Chichester in the tomb of Bishop Godfrey (d. 1088).[30] Another relevant example is Wulfmaeg's mortuary cross from St Augustine's Abbey, Canterbury, deposited in 1063 (Potts 1924). Although of more refined manufacture, and of quasi-Latin form, Wulfmaeg's cross has approximately similar overall dimensions to Giso's. An inscribed lead cross with splayed arms found at Glastonbury was an inset on a slab covering the alleged grave of 'King Arthur', but its date is disputed: it may be tenth century, or later twelfth (Carley 1988, 178). Sundry other examples are known from medieval monastic cemeteries.

Most of the known flat lead mortuary crosses bear inscriptions commemorating the dead, either generally or with specific reference to the associated *depositum*. Giso's cross is uninscribed. However, a secondary attachment, clipped to the reverse side of the cross, is a thin (1 mm), fragile piece of lead foil, on which are the remains of a faintly incised inscription. The foil, which is clearly incomplete, has long been attached to the cross, and the union may well have been effected when Giso's corporeal remains were exhumed from the old cathedral and translated to the new church in the early 1190s. The retention of the foil, with the cross, presupposes its intimate association with the original interment. It is far too thin to be considered as part of a lead coffin, or as a loose artefact, and the careless and faintly scratched lettering suggests that the inscription was not intended to be visibly displayed. More likely, the plaque was attached to a timber coffin and was concealed with the burial itself inside a tomb: the lead foil was therefore surely a *depositum* plate.

Parts of four incomplete lines of inscription remain, in Anglo-Saxon capitals. The cross was studied by Dr Elisabeth Okasha, who interpreted the clearer elements as reading:

[+*TO*.....] [...*ISDO*] [...*EM*..] [.....*O*.] (Okasha 1983, 101)

Subsequent scrutiny of the inscription indicated that the first line may read]*ITOL*[, and it has been suggested by the Very Revd Patrick Mitchell that this uncommon letter combination belongs to the words *QUI TOLLIS*, the use of which is best known in the Latin Mass for the Dead. If so, the full reading of the first line would almost certainly have been:

AGNUS DEI QUI TOLLIS PECCATA MUNDI
'O Lamb of God that takest away the sins of the world'

The letters of the second line make no sense as part of a single word, but would fit *EIS DOMINE*. The letters of the third line appear to be]*IEMIT*[, although the first is less certainly complete. If this reading is accepted, it may be posited that the word *REQVIEM* is included, followed by another word *IT*[. In the Latin Mass, this should be *AETERNAM*, but the unconventional rendering *ITERNAM* is not impossible.

Taken together, the second and third lines invite association with another excerpt from the Mass:

DONA EIS, DOMINE, REQVIEM AETERNAM
'Rest eternal, grant unto them, O Lord'

Fig. 125 Hypothetical reconstruction of the triangular lead depositum *plate and inscription from Bishop Giso's coffin. Scale 1:1*

This should then continue:

ET LVX PERPETVA LVCEAT EIS
'and let light perpetual shine upon them'

It is not, however, possible to fit what seem to be the remains of three uncertain letters in the fourth line with these words. But the difficulty can be overcome by inverting the inscription, whereupon the letters may plausibly be read as]*CEA*[, which would place them in the middle of *LVCEAT*. The full reading may therefore be tentatively reconstructed as follows (the last three lines inverted):

AGNVS DEI QVI TOLLIS PECCATA MVNDI
DONA EIS DOMINE
REQVIEM ITERNAM
ET LVX
PERPETVA
LVCEAT EIS
'O Lamb of God that takest away the sins of the world. Rest eternal, grant unto them, O Lord, and light perpetual shine upon them.'

Superficially, it would appear improbable that part of a funerary inscription would have been inverted, but a possible explanation for such an action might be found in the need to fit the words into a constrained space on the plaque. If the proposed rendering of the inscription is drawn out, with the additions made to scale, it at once becomes clear that the wording fills a triangular area (Fig. 125). It is therefore tentatively suggested that the lead foil is part of a triangular plaque that was affixed to Giso's coffin, and that it carried an appropriate funerary inscription in the form of two excerpts from the Mass for the Dead.

Wells Cathedral font

with contributions by Jeffrey West

Introduction

'In the middle of this transept stands the font, which is in no way remarkable': thus wrote the Reverend D.J. Powell in *c.* 1810, in his topographical notes on Somerset.[31] The font of Wells Cathedral presents a paradox (Fig. 126; Pl. XV). On the one hand, it has attracted the attention of antiquarian artists since the early nineteenth century, yet on the other hand it is generally ill-known. While the font appears prominently in James Storer's view (1818) of the south transept (Storer 1819, **4**, pl. 6; here Fig. 127), the earliest detailed illustration is a fine watercolour in Edward Carlos's journal of 1824.[32] John Buckler made a pencil sketch, with dimensions, in 1827, in preparation for his series of watercolour studies of Somerset fonts (Fig. 134),[33] and a set of drawings was made by F.T. Dollman, perhaps in 1844.[34] All are unpublished. Nevertheless, the font has often been illustrated, by a sketch or photograph, in guide-books to the cathedral (*e.g.* Dearmer 1898, 95; Malden 1955, opp. 50; Colchester 1987, 108), but never with any attempt to highlight detail.

Simpson assigned it to the Early English category of his handlist of 'Ancient Baptismal Fonts' (Simpson 1828, xxiii), and Bond, who published an illustration of the complete structure, offered no comment on its style or date, referring only to the Jacobean oak cover (F. Bond 1908, 312). Dearmer, who was the first to discuss the font with any real enthusiasm, considered it to be 'of peculiar interest as the one surviving relic of Bishop Robert's Norman church', adding 'whether it also stood in the still earlier Saxon church is an open question: it is as likely to be pre-Norman as of Norman date, and the fact that whatever ornament there may have been in the spandrels of its shallow arcades (*sic*) has been hacked off, makes conjecture unsafe' (Dearmer 1898, 95). Dearmer's assessment did not go unchallenged, and in the final, posthumous edition of his guide to the cathedral, the editors introduced a small, though fundamental, change of date, stating that 'the font has unfortunately been much mutilated. There is no doubt that it belongs to the end of the twelfth century and was the original font of the present church' (Dearmer 1922, 96).

No further assessment of the date of the font was published until Malden's guide (1934), when the font was judged to be 'of Saxon workmanship and to have lost some of its original ornament' (Malden 1955, 42–3). Acceptance of an early date has not, however, prevailed, and in the only extended (and inaccurate) modern description of the font, it is assigned to the mid-thirteenth century (Reid 1973, 36–7).

The purpose of the present essay is to provide a detailed description of the font and to reconsider the evidence for its date. It will be argued that the bowl belongs to the early tenth century, at latest, and that it was subsequently recut and transferred (probably in the 1190s) from the old cathedral to its present position in the south transept of Reginald's church, where it was placed on a new plinth.

Location

As far as available records allow us to judge, Wells Cathedral has only ever had one font. It stands in the centre on the south transept on the north–south axis

Fig. 126 Wells Cathedral font, without the Jacobean cover, viewed from the south-east

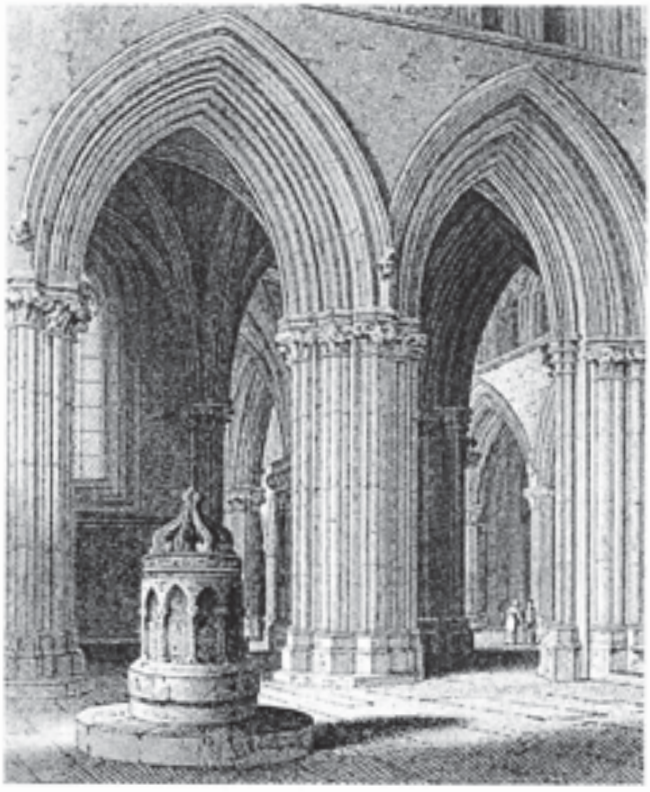


Fig. 127 The west aisle arcade in the south transept, with the font in the foreground. Viewed from the south-east. From a sketch by H. Gastineau, 1818. After Storer 1819

and in line with the piers that define the division between the first and second bays (Figs. 3 and 16). There is neither evidence to indicate that the font has at any time occupied another position within the building, nor to suggest the presence of a second font elsewhere. There are very few recorded references to the font, and they are all incidental. The earliest, dating from 1206, mentions the close proximity between the font and the chapel of St Martin, which is situated in the south-east bay of the south transept (Church 1894b, 124).

Later references confirm the continuity of the position noted in 1206. Examples include a cash transaction made beside the font in 1372 (HMC 1907, 273), a descriptive charter of 1535–36 (HMC 1914, charter 759), and sundry later mentions.[35]

The location of the font in the transept is unusual. Bond reminds us that 'It was the custom to place the font in the nave, not in the eastern parts of the church, either in the neighbourhood of the north or south door of the nave, whichever was the entrance usually employed, or exactly in the centre of the nave, equidistant between the north and south doorways' (F. Bond 1908, 88). Not only is the Wells font in a part of the church that would have been regarded as 'eastern' in the Middle Ages — that is, beyond the *pulpitum* — but also its position cannot be considered as close to any of the public doors.

As we have already noted, the doorway in the south transept was not intended for public access in the Middle Ages, its purpose being primarily to provide the bishop with a private and processional entry to the cathedral. The font's position would be understandable if the transept had served as a parish church — in the same way that aisles and transepts sometimes did in monastic foundations — but there is no evidence to support such a suggestion at Wells.

The principal entry to the cathedral was via the north porch, halfway along the nave, but this was primarily the door used by the clergy, and has generally been equated with the *magna porta canonicorum* (Church 1894b, 130).[36] A possible position for the font was, therefore, in the centre of the nave, opposite the north porch. It is however more likely that, since there are several entrances at the west end of the cathedral, a location in the western part of the nave might have been chosen: the doorway beneath the south-west tower, which provided access from the cloister, was the main public entrance from the town. In other cathedrals of the 'old foundation' it is common to find the font under the second bay from the west of one of the nave arcades, either on the north, as was formerly the case at Lichfield, or on the south as at York, Lincoln and Hereford.[37]

In the context of the completed cathedral, the location of the Wells font in the transept is manifestly anomalous. If the font can be shown to pre-date the present building, as was first suggested by Dearmer, then its unusual position may be explained: an existing font was transferred from the Anglo-Saxon cathedral to the new church at a date before the early Gothic nave was built. It has been argued that demolition of the Anglo-Saxon cathedral began in the early 1190s (p. 143), when the new work had not progressed west of the crossing. Hence, there was no possibility of siting the font in the nave, and a 'temporary' position in the transept was adopted so as to meet all the practical and liturgical criteria. The south transept entrance was the only doorway into the completed portion of the church in the late twelfth century and, *ipso facto*, was the principal entry. That being so, there may have been an intention to resite the font in the middle or western part of the nave at a later date, when building work was complete. But, for reasons that can never be known, this did not happen. Because of the proximity of the south transept to the site of the old cathedral, and in particular to the dipping-well in the cloister — which presumably provided the water for baptism — the location of the font in the south transept may have been symbolic.

Finally, it is of interest to note that there is a single medieval reference to an enclosure around the 'baptistery in the church'. This was evidently an openwork timber screen ('pales'), with a door or gate that required a new pair of hinges ('gymyes') in 1457–58, at a cost of 4d (HMC 1914, 87).

Description

The font is circular and comprises three distinct components: a tub-shaped bowl, a plinth and a step (Figs. 126–8). There is a lead lining to the bowl, and a Jacobean oak

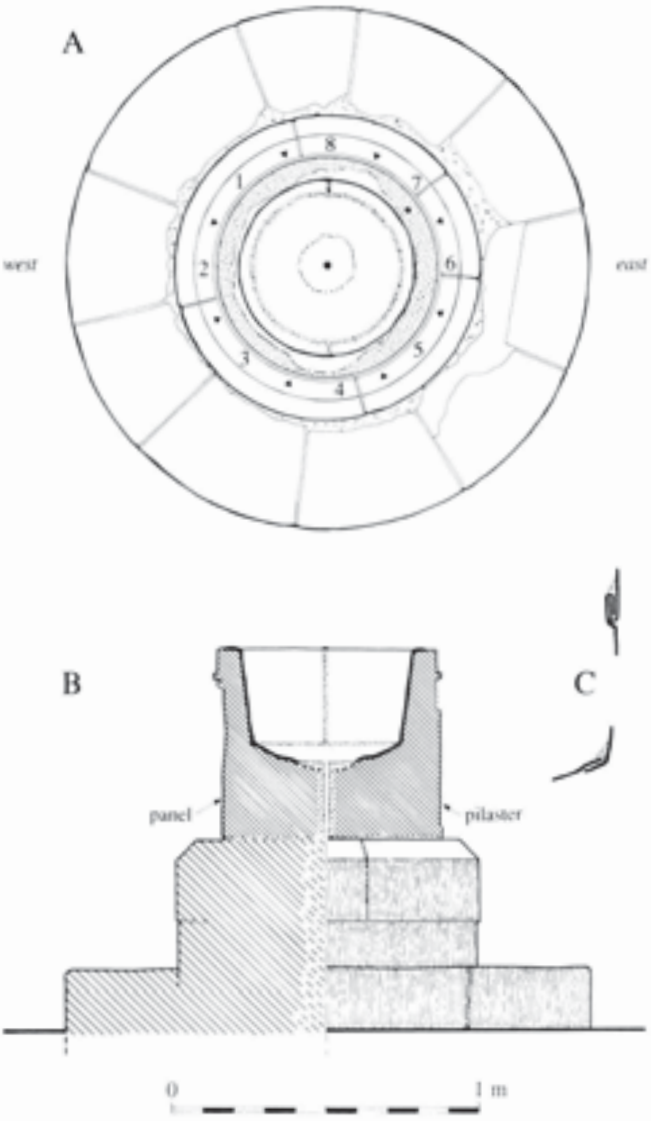


Fig. 128 The font. A Plan. Arrows indicate the bay divisions on the bowl; the arcade bays are numbered 1–8. B Section, with the plinth and step shown partly in elevation. C Details of the welt and lap-joints in the lead lining (not to scale). Scale 1:25

cover of *c.* 1635–45. This may have been made when the font was restored, after it had been overturned by undisciplined troops in 1643 (HMC 1914, 427).[38]

The bowl

The bowl is cylindrical, and is carved from a single block of Bath stone. It is 73.5 cm in diameter and 61 cm high, and there are several irregular *lacunae* of natural origin in the stone (principally in bays 1 and 2). The interior is hollowed out to form a basin with slightly splayed sides and a sagging base; all of which is entirely hidden by the lead lining. There is a drain-hole of unknown diameter through the base: it contains a modern pipe.

The exterior is decorated with a blind arcade of eight unequal bays with moulded arches, pointed on the intrados and semi-circular on the extrados.[39] Defining the bays are chamfered pilasters with broach-stops, on simple chamfered bases. The pilasters flow into the arches without the interruption of imposts, and the spandrels are decorated with symmetrical sprays of foliate ornament carved in low relief. The decoration has variously been recut, reworked or removed, but not systematically destroyed. Above the arcade is a raised flat-band moulding surmounted by an undecorated band 7.6 cm high. With the exception of bay 1, the surfaces within each of the arches show vestigial evidence of figures carved in bas-relief, and of subsequent chiselling and abrasion. The expunging of the figures was deliberate and thorough.

There are also a number of drilled holes in the stone, which may be listed as follows:

(a) On the top of the rim, over bay 7. The hole is open, 18 mm in diameter and 15 mm deep.
(b) In bay 1, a hole seems to have been drilled into a natural pocket. There are two successive fillings: cream gritty mortar in the pocket, and white lime mortar in the hole itself.
(c) In bay 3 is a neatly drilled hole, 23 mm in diameter, which has been carefully plugged with a pellet of Bath stone.
(d) In bay 5 is a less regular hole *c.* 25 mm in diameter, plugged with a piece of wood.
(e) Cutting through the pilaster between bays 7 and 8 is a hole 23 mm in diameter, filled with cream lime mortar.
(f) At a higher level in the same pilaster is a gypsum-filled hole 12 mm in diameter.
(g) In the apex of the arcade in bay 3 is the bottom of a small drilling, 8 mm across.

Holes (b)–(e) are all 38 cm below the rim of the bowl and are undoubtedly a cohesive group; they are not equally spaced around the circumference, but (b) is diametrically opposite (d), and (c) is opposite (e). In bay 2, a natural pocket in the stone has been filled with white lime mortar, in which a small fragment of iron is embedded. Finally, the letter 'W' is faintly scratched on the rim-band above bay 4.

Plinth and step

The plinth stands 42 cm high and is 98 cm in diameter. It comprises two courses of finely jointed Doulting stone with vertical claw tooling. The upper course is composed of five blocks of varying sizes and is finished with a bold, plain chamfer of 45°. The lower course is slightly underset, being about 1 cm less in diameter.

Beneath the plinth, and extending concentrically beyond it, is a circular step, 20 cm high and 1.72 m in diameter. The step comprises ten shaped segments of Chilcote stone, which clasp and partly conceal the lower course of the plinth. Its segmental stones vary in size and were clearly not cut with a view to fitting neatly around the plinth, and substantial gaps were filled with rubble and mortar. The step is almost certainly made from reclaimed stone from the old cathedral, and its riser is dressed with vertical claw tooling; the tread,

although now smooth, exhibits surprisingly little wear. Perhaps Chilcote stone was selected specifically to resist wear. The step is abutted by modern concrete paving.

There must be a central hole through the plinth and step, through which the font bowl can be drained. Presumably there is a simple medieval soakaway in the floor beneath the font: such features are often encountered in church excavations, and their provision seems to have been usual practice.

Lead lining

The bowl has a lining which is made from three pieces of cast lead sheet, beaten to fit the shape of the stone. The lead is also turned over onto the rim of the basin, to form a flange. The thickness of the lining is uncertain, but is probably *c.* 3–4 mm; the heavily beaten flange is up to 1.5 mm thick. Since Bath stone is porous it requires a lining in order for the font to retain water, and there can be little doubt that this is the original lining.

The wall is made from two equal-sized pieces of lead, with diametrically opposed joints (north and south). These are welted (folded) joints, to which seams of solder have been applied to seal the bowl. The floor of the lining is hollowed to match the contour of the stone basin. It would appear that there is only a lap-joint between the wall and the floor, sealed with a fillet of solder. For details of the joints, see Figure 128.

The interior surface carries innumerable scratchings, none of which bears any intelligible form. At some time in the distant past the bowl has leaked, and a small circular punch has been used in an attempt to reseal the joints. There are multiple punch-marks on the lower part of the northern welted joint, and on the joint between the wall and the floor around the south side.

A pool of molten lead has been poured into the central sinking in modern times, encapsulating a brass tube which now serves as the font drain. It is not therefore possible to determine what form of outlet was originally provided in the lining.

On the east side of the font, the lead flange has been trimmed off the rim, using a knife. The top of the stone bowl has also been ground down here, evidently in order to level the rim. This will have been done to allow the font cover to sit level, and thus presumably dates from *c.* 1635–45.

Analysis (Figs. 129 and 130)

Before discussing the style and date of the font, it is necessary to assess the evidence for the recutting of features of the bowl. The broad, undecorated band at the rim is set back from the outer surface of the cylinder represented by the face of the flat-band moulding which separates the rim from the area of the arcade. The colour, surface texture and patination of this undecorated band suggest secondary re-tooling, although the depth by which it may have been cut back cannot be determined. With the exception of its upper edge, which shows comparable evidence of recutting, the flat-band moulding retains its original surfaces on the front and lower faces.

The arcade, which occupies the main part of the bowl, consists of eight arches of varying widths, supported on pilasters and surmounted by seven spandrels decorated with foliate ornament of different design, set against a recessed background (Fig. 130). While both the arches and the pilasters are crudely chamfered, there is considerable variation in the width of the arches at their springing points, apices, and interstitial sections. At its outer edge, the face of each arch has a lightly incised line which runs parallel to the extrados. In bay 7 there is clear evidence of a second incised line, set in from the intrados. Although there are no clearly defined capitals at the springing of the arches, the base of each spandrel is marked by a common horizontal and, on five of the seven pilasters, there are the remains of a second horizontal — in the form of a faintly incised line — at the point where the pilasters widen into the arches. Again colour, surface texture and patination suggest secondary tooling, of which there is further evidence not only in the front surfaces of the pilasters, but also in the irregularities of the chamfers, arches and their springing points.

The evidence of substantial recutting to form a 'Gothic' arcade is incontrovertible, and there is a firm basis for the suggestion that, in their original form, the arches were round-headed and decorated with two, lightly incised, parallel lines. For a possible reconstruction of the arcade, see Figure 132A. There, it is apparent that the arches were not semicircular, rather than pointed, but were segmental, a feature commonly seen in both Anglo-Saxon architecture and sculpture.[40] The evidence for the original form of the capitals, or imposts, is less clear, but it is certainly possible that they were of the trapezoid form seen at Bibury, Bradford-on-Avon and Milborne Port (Taylor and Taylor 1965, **1**, figs. 30, 38 and 202). Re-tooling has removed all evidence of the original form of the arcade supports, but as there is no indication of secondary tooling on the bases, these may be accepted as primary. The pilasters were originally rectangular in cross-section, the chamfers and broach-stops being part of the recutting.

It has already been noted that, with the exception of bay 1, each of the arches contains evidence of relief carving (Fig. 130). In all but bay 4, these residual elements are situated between the imposts and may be identified as the remains of haloes. In bays 4, 7 and 8 the outlines of shoulders remain beneath the haloes, and in bay 4, on the sinister side, there are the traces of an incised line, presumably marking the edge of a cloak or other garment. As there is no evidence for relief carving in bay 1, it is impossible to say whether each of the eight bays contained standing figures of saints, or whether bay 1 was left uncarved or contained a different motif, possibly a Tree of Life. What is not in doubt

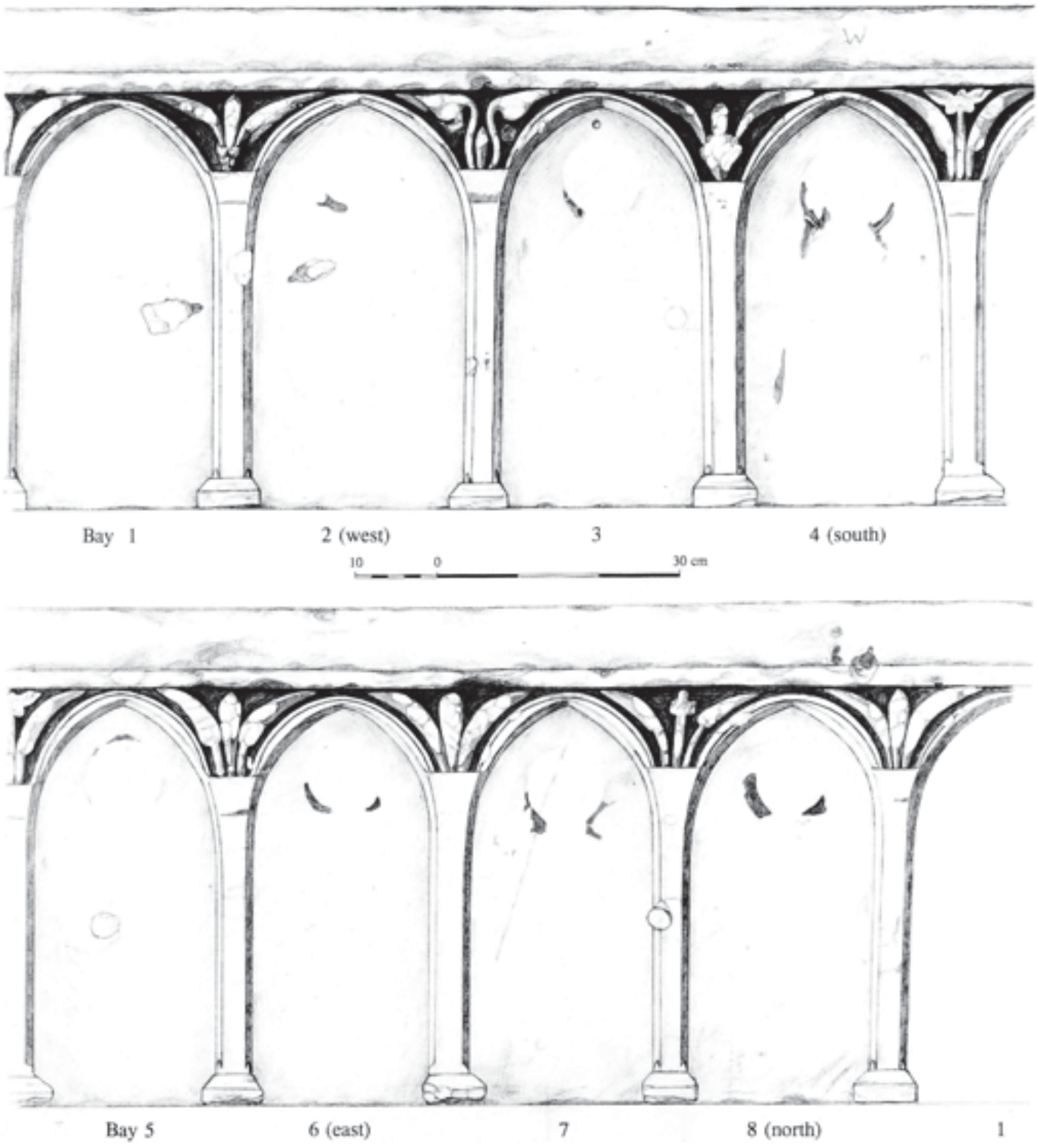


Fig. 129 Development drawing of the arcading around the bowl of the font. Drawn by Richard Bryant

is the chiselling-off of low-relief figure carving, and the smoothing-down of each panel to provide a slightly facetted surface free of tool marks. Finally, a small hole drilled above the halo in bay 3 may be original and could have provided a fixing for a metal attachment.

The best preserved of the original surfaces are the spandrels, which contain sprays of individualized foliate ornament carved in low relief against a recessed background (Fig. 133). Although much of the surface detail has been lost, the fact that the ornament survives at all may suggest that the spandrels were filled with plaster when the font was recut. While each of the foliate sprays comprises three elements which rise directly from the base provided by the impost, spandrels 1/2 and 3/4 rise from a ridged and facetted sheath, respectively. The detail of the ornament is different in each case. With the exception of spandrels 2/3, 4/5 and 7/8, the leaves are delicate, pointed and, where they retain their original surfaces, facetted. Even in its present damaged state, it is apparent that the quality of carving

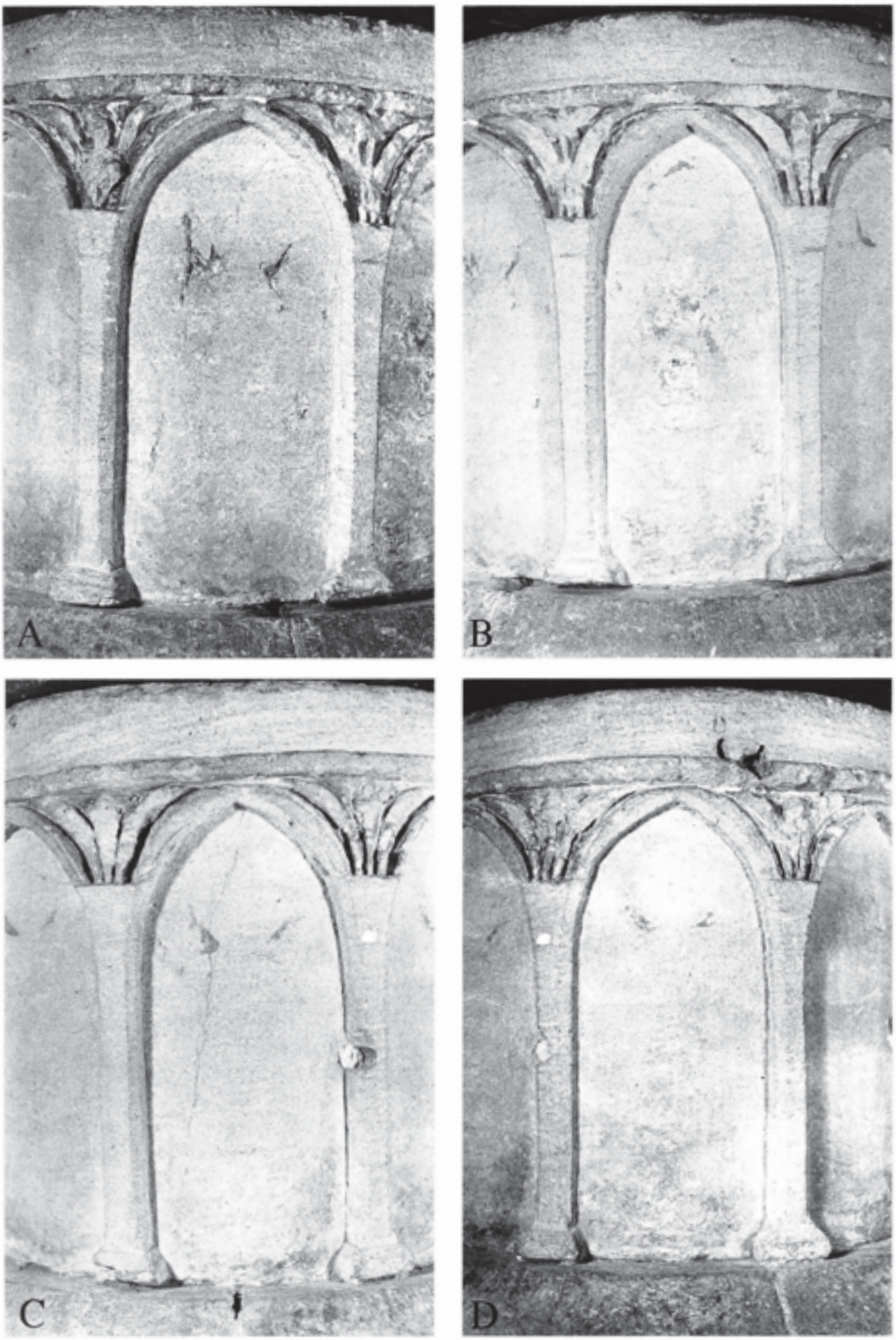


Fig. 130 Details of the mutilated arcading around the font bowl. A Bay 4; B Bay 5; C Bay 7; D Bay 8 (Jerry Sampson)

Fig. 131 Font: detail of pilaster-base no. 2/3. The chamfers and broach-stops are secondary (Jerry Sampson)

Fig. 132A Suggested reconstruction of the original form of the arcading of the font bowl (based on bay 8), including the profile of the arch moulding and section through a pilaster. Scale 1:8

Fig. 132B Heavily abraded fragment of an arcaded panel from Glastonbury Abbey. The spandrel is filled with interlace, and the outline of a head can just be discerned under the left-hand arch. The scale of the decoration is similar to that on the Wells Cathedral font

was extremely good. Although a similarly facetted, pointed leaf forms the axial component in spandrel 2/3, the outer leaves are carved in profile as folded leaves with the smooth margins of both the front and back halves delineated. As in the case of the carved panel from the excavation at Wells (Fig. 486), the outer leaves bear no acanthine details, even though they are generically similar to the foliate ornaments of such manuscripts as the Junius Psalter.[41] Conversely, the ornament of spandrel 4/5 incorporates two facetted, pointed leaves for the laterals, but uses a five-pelleted 'floral' motif of a type found on 'face b' of the early tenth-century cross-shaft from East Stour, Dorset (West 1984, cat. no. 23). A similar disposition of two pointed leaves and a single, individualized axial component occurs in spandrel 7/8, which retains a small trefoil set on an elongated stem. Although it is possible that in its original state this leaf comprised a trefoil cluster of three circles, or berries of the type used as terminals in ninth-century 'leafless' scrolls, it may be compared with the Winchester (?)shaft fragment now in the National Westminster Bank, Winchester, and dated by Tweddle to the late ninth century (Tweddle *et al.* 1995, 331, pls. 679–82).

Almost everywhere where the original stone surface has been preserved, traces of a reddish-brown pigment can also be seen. This is the ground for painting, and it is undoubtedly original both because there is nothing under it, and it antedates the recutting of the arcade to its present pointed form. No trace remains of polychrome overlying this pigment, even in the interstices of the spandrels, and it is therefore likely that the surviving pigment was not only a ground-coat applied generally to the sculpture, but that it also served as the background colour for the recessed areas. It is likely that polychrome was applied to the relief decoration but, since very little original surface remains, the matter is now incapable of resolution. However, a speck of vermilion paint remains in bay 1, adjacent to the infilled natural hole.

An instructive comparison for the background painting is to be found on the Romanesque font in Holy Trinity Church, Lenton, Nottinghamshire. Here, a large, cuboid bowl with lavish carving dates from the

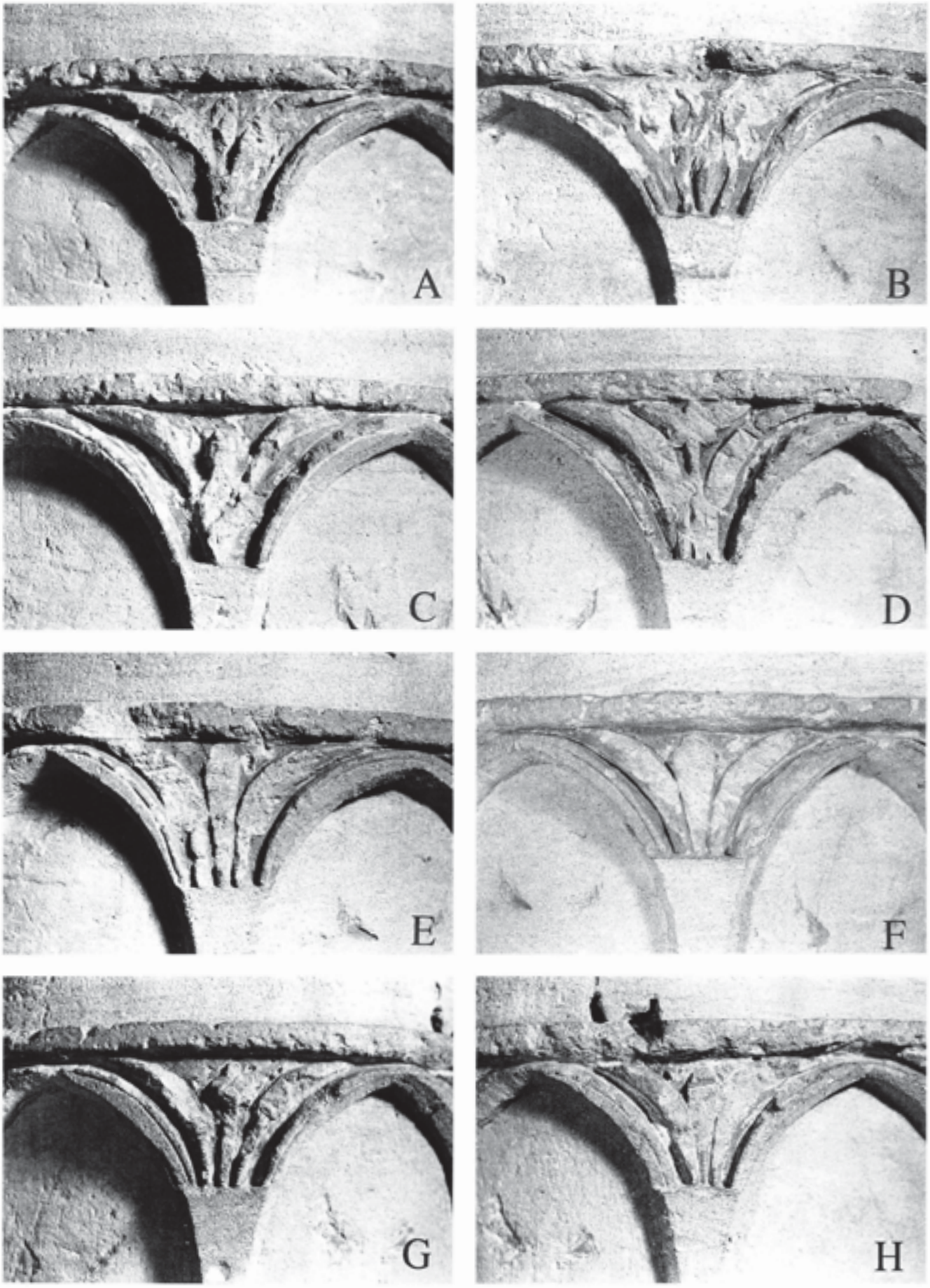


Fig. 133 Details of the spandrels around the font bowl. A No. 1/2; B No. 2/3; C No. 3/4; D No. 4/5; E No. 5/6; F No. 6/7; G No. 7/8; H No. 8/1 (Jerry Sampson)

middle of the twelfth century (F. Bond 1908, 160 pl.; Zarnecki 1998). It has traces of dull reddish-brown paint on all four sides, but on one (that which faces south) the extent of preservation is very much greater than elsewhere.[42] It is noticeable that the surviving paint is all confined to the background, and there are no traces of overlying polychromy. These and other examples suggest that in Anglo-Saxon and Norman England there was widespread use of reddish-brown pigment to provide a contrasting background for painted sculpture.[43]

Returning to Wells, it is interesting to note that the outlines of several of the haloes are ghosted in the stone, even where no firm line or painted surface has been preserved. This is well demonstrated in bays 3, 5 and 7: where the sculpture has been dressed back, the secondary surface so created is paler in colour than the adjacent primary one, even though that retains no visible paint. The differential may be accounted for by the surface absorption of applied pigments.

Traces of limewash and tiny fragments of white lime-plaster containing animal hair have been preserved in some of the interstices of the spandrels (overlying the reddish-brown pigment), and elsewhere. This implies that the font was enveloped by a plaster skim-coat at some stage in its history. The plaster type indicates a late medieval or early post-medieval date; mutilation of the sculpture had taken place before it was applied.

Discussion

Pevsner's terse description of the font as 'circular with blank arches and something unrecognizable in the spandrels. Dating is no longer possible...', needs to be reconsidered (Pevsner 1973, 308). The appearance of three different types of stone in its construction suggests that the font in its present form exhibits work of not less than two periods (the Chilcote stone employed for the step having been recycled for use in the second period). Such a proposal is also supported by the evidence adduced for the re-cutting of the bowl.

The plinth and the step are contemporaneous, and there is no suggestion that they have subsequently been modified. The tooling on both matches that on the chamfered plinths beneath the wall-benches of the eastern arm of the cathedral, dating between *c.* 1180 and 1185. As the construction of the south transept was complete by *c.* 1195–1200, it is reasonable to conclude that the plinth and step to the font were formed at about that time.

The chronology of the late twelfth-century cathedral does not, however, explain the choice of Bath stone for the font itself. Throughout the construction of Reginald de Bohun's church, Doulting was the preferred material, the only alternative being Chilcote stone which was used when circumstances dictated. Furthermore, it can confidently be asserted that Bath stone was not used by Bishop Robert earlier in the century: in his building campaign Chilcote was the only freestone employed. Since there is a sound body of evidence indicating that Bath stone was consistently used by Anglo-Saxon sculptors (Jope 1964; see also below), there is a distinct possibility that the bowl of the font derives from an early period, and was reused in the Gothic context.

That the style of carving on the font bowl — and particularly in the spandrels — is incompatible with its Early English surroundings must lie beyond question. Despite the volume of foliage carving lavished on the cathedral in the period *c.* 1176–1239, there are no points of comparison to be drawn between the ornaments of the font and those of the building. Equally certain is the fact that the font has been extensively recut so as to convert a round-headed arcade enclosing figures into an early Gothic arcade relieved against a plain background. The recutting of the rim — whatever its original ornament or inscription — was without doubt part of that project, as was the shaving-down of the imposts, the chamfering of the pilasters, and the introduction of broach-stops. More difficult to determine is the date at which these alterations took place. It must also be questioned whether the figures were removed at the same time as the architectural remodelling occurred. Tooling suggests that the two operations were not coeval.

Expressed in crude terms, the Wells font was 'modernized', once if not twice. The most likely date for the architectural remodelling is the end of the twelfth century when, as has already been demonstrated, the font was set up in its present position on a new plinth. Pointed arcading, simple in form and uncluttered by imposts, is a characteristic of the early Gothic work at Wells: *cf.* the triforium openings, and the external blind arcading on the transept gables and north porch. The font, it is argued, was adapted to emulate these.

It is, however, less easy to accept the removal of the figures as part of the same operation. Their obliteration is more plausibly viewed as an act of post-medieval iconoclasm, although there is nothing to suggest that the figures were hurriedly or maliciously hacked away. On the contrary, they were removed methodically and the surface of the stone was carefully rubbed smooth. Of course, it is possible that a tidying-up operation followed clumsy mutilation. In the circumstances, it seems unlikely that this aspect of the remodelling took place after the Reformation. The care taken to smooth the panels stands in contrast to the treatment of the arches, imposts and pilasters, where rough tooling is plainly in evidence. It may therefore be concluded that the removal of the figures did not occur at the same time as the arches and pilasters were recut.

It is instructive to consider the Wells font in its local diocesan context, and it is particularly helpful that John Buckler prepared a corpus of drawings covering most of the historic fonts in Somerset. This allows comparisons to be made between numerous fonts in their pre-Victorian guise.[44] It is immediately apparent that the Wells example is isolated in both form and style.

Romanesque fonts are relatively scarce in Somerset, but of those which do survive very few are of the simple tub-shape. The entirely plain tub-font at Orchard Portman is set on a square base, while that at Cloford is relieved only by a simple roll-moulding just below the rim, and is mounted on an octagonal base. Both are probably early Norman.[45]

The most ornate Romanesque font in Somerset is at Lullington (Dunning 1996, 26). The bowl is tub-shaped, but its profile is not moulded: it rests on a plain circular plinth of two chamfered stages. The decoration takes the form of lavish carving, and there is a linear inscription. Barwick font has a similar plinth and a decorated Romanesque bowl. At Otterhampton the completely plain tub-shaped bowl again rests on a two-stage chamfered plinth, but here the upper chamfer is decorated with saltire crosses.

A few Somerset fonts are raised on circular steps, or bases, of the kind seen at Wells. Milverton and Charlinch both have comparable bases, made from numerous radially-set segmental blocks. In each case, the step supports a Romanesque font. Comparative evidence thus generally reinforces the argument that the chamfered plinth, the circular step made of segmental ashlars, and the recutting of the bowl are all assignable to the late twelfth century.

The application of a plaster skim-coat and lime-wash to the font might have taken place at an equally early date, or it could be a much later attempt to tidy up a liturgical furnishing that was becoming increasing battered with age. Here it is relevant to turn to the earliest known depictions of the font, which are the watercolour of 1824 by Carlos,[46] and Buckler's drawing, dated 1827.[47] The latter is reproduced here as Figure 134. The drawing is executed in ink and grey wash. It shows the font, without a cover, standing on its circular step of segmentally arranged ashlars, as now. The bowl is depicted in a smooth and clean-cut style, without evident blemishes. This seemingly pristine appearance could well be dismissed as artistic licence but, in view of the evidence just cited, it is probable that the font's crisp outlines in the 1820s, were provided by a recent skim-coat of lime-plaster. Storer's slightly earlier engraving distinctly shows the pilasters as all having moulded capitals, but this is undoubtedly explainable as artistic licence: he made the font conform rather too well with its arcaded surroundings (Fig. 127).

It is also noteworthy that no decoration is indicated in the spandrels, either by Carlos or by Buckler: they are shown blank. Nor is the flat-band moulding apparent. The same applies to Dollman's drawing.[48] Given the high quality and uniformity of agreement between these illustrations, there can be little doubt that the rough tooling of the font bowl, and the crude spandrel carvings, were masked from view in the nineteenth century. Further, it is perhaps worth noting that Buckler's drawing shows the arcading as four-centred, with simple, continuous mouldings around each arch and its responds: there are neat moulded bases, but no imposts. This could support a Tudor or Stuart date for the plaster remodelling, but it is just as likely to be Georgian Gothick.

Fig. 134 Wells Cathedral font, drawn by John Buckler in 1827 (Somerset Archaeological and Natural History Society)

Finally, the four holes in the external wall are almost certainly relics of the metal fixings for securing a medieval flat wooden cover. It probably had two iron straps, at right-angles to one another, with hinged hasps, staples and locks. Why such a robust arrangement was deemed necessary at Wells is unclear. More often, a simple hasp and staple were fixed to the rim of a font, and the tell-tale evidence — two pairs of holes, diametrically opposed — are commonplace (F. Bond 1908, 284). The single hole in the rim of the Wells font is unexplained, but cannot easily be interpreted as having held a locking device. No medieval flat covers or their ferramenta are known to survive in Britain.[49]

Dating the bowl

The choice of Bath stone for the bowl of the Wells font is of both importance and interest. There is no evidence to suggest the use of this stone type at Wells at any time during the Romanesque or early Gothic periods, a proscription which applies equally to both structural and decorative stonework.[50] Bath stone was, however, uniformly used by sculptors of the late Anglo-Saxon era, and Donovan's recent re-assessment of Jope's analysis has confirmed his finding that all known pre-Conquest

sculpture from Somerset is made of Bath stone (Jope 1964).[51] We may therefore conclude that, in terms of petrology, the font is extremely unlikely to date from any post-Conquest phase of work at Wells.

Comparatively little is known about Anglo-Saxon fonts, since scarcely a dozen undisputed examples have survived. The problem has been discussed by Professor Richard Morris, who has raised the important suggestion that wooden barrels or tubs may have been more commonly used than stone fonts in Anglo-Saxon England (Morris 1991, 16–18). There is no doubt that the tub-shape was the basic pre-Conquest form, whatever the material.[52] This is seen in most of the surviving examples, and at two excavated sites circular emplacements have been found in the floors of Anglo-Saxon baptisteries, indicating where tub-fonts formerly stood: Potterne, Wiltshire (Davey 1964), and Barton-upon-Humber, Lincolnshire (Rodwell and Rodwell 1982, 299). Elsewhere, early cylindrical font bowls have been fashioned from sections of Roman column, as at Wroxeter, Shropshire.

The tub-font is seen at its most elaborate at Deerhurst, Gloucestershire (F. Bond 1908, 128 pl.), and in its crudest and plainest form at Old Radnor (F. Bond 1908, 130–1). The Potterne font survives and is entirely plain except for an inscription around the rim, which establishes its late Saxon date (F. Bond 1908, 107, 111 pl.; Okasha 1983, 96–7, pl. IXa). Geographically, this is the nearest relevant item to Wells. It is particularly interesting that the Potterne inscription occupies only a flat-band moulding immediately below the rim: this is precisely comparable to the position of the recut and now plain band on the Wells font.

None of the surviving pre-Conquest fonts carries arcading with figures beneath. The type is, however, present in the earliest stratum of Norman-period fonts, and several of the extant examples display strong residual Anglo-Saxon characteristics: *e.g.* Stoneleigh, Warwickshire, Avington, Berkshire, and Kirkby, Lancashire.[53] In the twelfth century, the arcaded font bowl became a familiar sight, but its ancestry has yet to be fully explained.

While reference to local Romanesque fonts provides a broader context for the decoration of the Wells example, none provides direct comparison. The portrayal of figures under arcades occurs in eighth- and ninth-century sculpture, although nearly all the extant examples are from Northumbria or Mercia.

A potentially comparable sculpture has been found at Glastonbury Abbey, although the circumstances of its discovery are unrecorded (Fig. 132B).[54] The heavily battered fragment includes parts of two round-headed arches forming an arcade, the moulding profile being of simple rectangular section (*c.* 18 mm by 10 mm). The stone is probably from a flat panel, the back of which bears traces of chisel marks. The arches clearly described less than a semicircle, as at Wells, and although it is impossible to determine the bay pitch precisely, it was within the range 28–30 cm, which puts the arcade on the same scale as the font. Remains of a defaced head can be seen under one of the arches, but no features are preserved. However, the size indicates that the head was probably nimbed. The spandrel was filled with latticed interlace, of which only the bottoms of the drillings for the interstices now survive. Significantly, the piece is in Bath stone and, in the Glastonbury context, this again signifies a pre-Conquest date.[55]

On the shrine at Hovingham, Yorkshire, a simple arcade of eight bays beneath a flat-band moulding contains both standing and seated figures (Lang 1991, 146–8, ill. 494–9). The spandrels are filled with a series of triple-leaf motifs, also very simple in form. The stone is extremely worn, but appears to have had plain pilasters, with trapezoidal capitals and no bases. The six-bay arcade on the 'Hedda' stone at Peterborough is closely similar, but its spandrels are filled with symmetrical double-leaf motifs (Cramp 1977, fig. 57c). A smaller and better preserved fragment of a shrine from Castor, Northamptonshire, is closer in style to the Wells font: the arcade has capitals and bases, and the arches have concentric lines on their faces, simulating mouldings (Cramp 1977, fig. 57b). Again, the sole surviving spandrel contains a simple double-leaf motif. One notable difference between the Wells font and the comparisons cited is that the latter all have shafts of rounded profile between the bays, whereas the font has chunky pilasters. These are more akin to the divisions between bays on the Breedon-on-the-Hill, Leicestershire, sculptures (Cramp 1977, figs. 58c–59).

These examples, although spread widely across England, have so much in common that Professor Rosemary Cramp has suggested that a national style, with local idiosyncrasies, can be detected in ninth-century sculpture (Cramp 1978, 9). In general terms, the Wells font must surely rank with this material, even though none of the known examples provides any meaningful comparisons for the decoration of the spandrels. Although some indication of comparable motifs has been proposed, detailed analogues for each of the foliate elements have proved elusive. While it is important to recognize the limitations of the available material, both the detail of the architectural forms and the foliate ornaments indicate a date for the font in the late ninth century or, more likely, in the early years of the tenth.

It is tempting to link the commissioning of the font with the elevation of Wells to the rank of episcopal church in 909. Since we know next-to-nothing about the provision of fonts in English pre-Conquest cathedrals, and very little about them in parish churches, it is unfortunately impossible to discuss the Wells example in context.

6 The Lady Chapel-by-the-Cloister, *c.* 1196–1477

The identity of the chapel

A decision was made in the mid-1190s to retain the Saxo-Norman chapel of St Mary, to restore it, and to link it to the new cloister, the foundations of which had already been laid. This gave the ancient chapel a fresh and unexpected lease of life, and the archaeological evidence relating to the process of physical union has been described in chapter 4 (pp. 87–98). The most remarkable feature of this union was the way in which the long, narrow chapel stood markedly askew to the east cloister, visibly disrupting the carefully ordered, rectilinear layout of the new church and its appendages. The misalignment amounted to 12°, which would have been strikingly obvious from both within and without. However, it was accepted, although it may only have been viewed as a medium-term expedient.

There are numerous mentions of the chapel in medieval records, and in nearly every case a qualifying phrase is used to indicate either that the building lay on the south side of the cathedral church, or that it adjoined the cloister: the usual form was *capella iuxta claustrum*, but other descriptive phrases are also found. The explicit suffix was necessary to distinguish the structure from the main Lady Chapel which projected from the east end of the cathedral, beyond the high altar: that was the *capella retro magnum altare*.

The earliest recorded use of this distinction occurs in 1250, when Geoffrey de Bridport covenanted with Lady Agatha de Meysy that he and his heirs would provide an annual sum of 100 shillings to pay for two chaplains to celebrate masses for her soul and for her family, and that the celebration would take place in 'the chapel of the Blessed Mary which is situated in the southern part of the great church of Wells', *in capella beatae Mariae quae sita est ex parte australi maioris ecclesie Wellensis* (HMC 1907, 450).[1]

In the will of Bishop William Bytton II both Lady Chapels received benefactions, and in an ordinance for the execution of the will, dated 1279, reference is made to a priest celebrating at 'the altar in St Mary's Chapel by the cloister', and to two tapers burning 'in St Mary's Chapel behind the high altar' (Church 1894b, 331). Several references have also been preserved to ordinations taking place in the cloister chapel in the fifteenth century, when it was described as *capella beatae Mariae iuxta claustrum*.[2]

The cloister Lady Chapel housed various chantries and must have contained several altars, although only one is specifically recorded by name. That is the altar of St Nicholas, where a chantry was constructed in *c.* 1276 for the family of Bishop William Bytton I (HMC 1907, 373; Church 1894a, 21–2). Whether this supplies a date for one of the structural enlargements carried out to the chapel is open to debate, although the connection has been assumed in the past: Buckle (1894, 37) assigned both the aisles to *c.* 1275.

In 1477 the chapel was completely demolished and rebuilt to a new plan by Bishop Stillington (chapter 7). In the late fifteenth century the replacement chapel is recorded as housing transeptal altars to SS Nicholas and Katherine, both of which were almost certainly transferred from the earlier building (Buckle 1894, 37, 54). In 1392 a burial was made in the chapel of St Katherine 'situate in the cloister of Wells' (SRS 1903, 1). It may therefore be surmised that SS Nicholas and Katherine were the dedications of the altars in the two aisles of the thirteenth-century chapel, and that they were transferred to the transepts after the rebuild (p. 199). Finally, it should be noted that the Lady Chapel was the customary meeting place of the Consistory Court, and its use for this purpose had to be suspended in 1477, pending reconstruction (SRS 1941, 155).

Development of the chapel in the thirteenth century

The site of the Lady Chapel-by-the-Cloister (Structure 11) was first correctly identified by Clerk (1851, 87), further examined by Irvine (1873), and more fully explored by Buckle (1894). Each attempted a reconstruction of the plan, based on the very fragmentary foundations that were uncovered. Buckle had more evidence at his disposal than his predecessors, and he interpreted the building as having a rectangular nave and flanking aisles, interconnected by a two-bay arcade on each side (Buckle 1894, pl. 2). He did not envisage the chapel having an eastern arm or 'chancel', and an isolated fragment of buttressed wall discovered a little to the east of the chapel was simply disregarded. Buckle assumed that it belonged to an earlier building on the site, about which no further comment was made.

In so far as the evidence was available at the time, Buckle's reconstruction of the plan was creditable, and his arguments regarding the development of the chapel were sound, although he made rash assumptions about its dating. Re-excavation has now demonstrated that the building was both considerably larger and more complex in its evolution than hitherto perceived. For ease of architectural description, the terms 'nave' and 'chancel' have been adopted in this report for the two principal cells, without implying that they had the same liturgical functions as those parts of a parish church, similarly named.

The final plan

The fully developed Lady Chapel of the fifteenth century comprised the following.

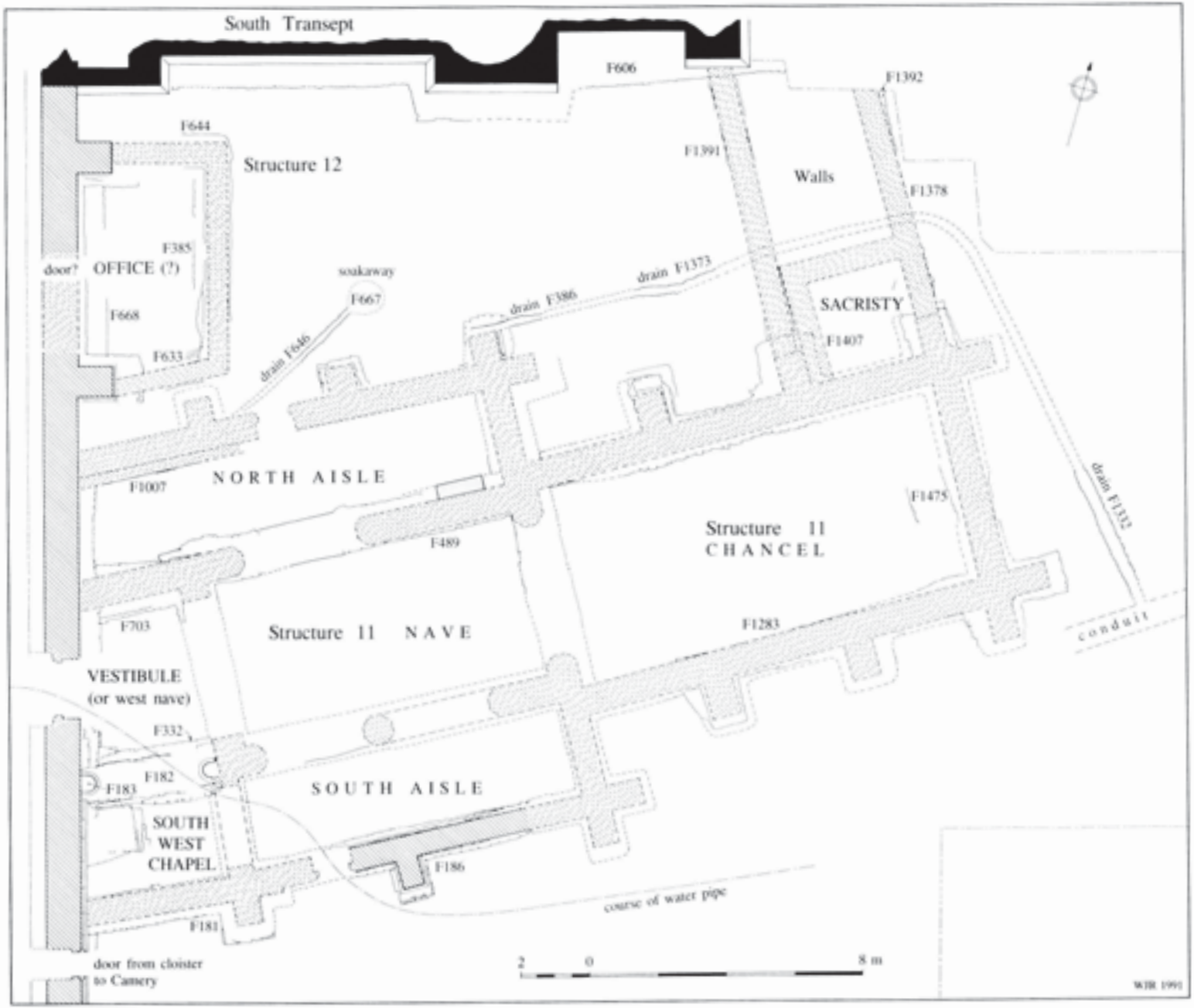


Fig. 135 Ground plan of the fully developed Lady Chapel-by-the-Cloister (Structure 11) and associated remains, in the mid-fifteenth century. The reconstructed wall plan of the chapel is shaded

The **nave** seems to have been a two-part structure, with a subdivision towards the west end. This was a legacy of the previous chapel on the site (Structure 6), the original nave of which had been extended and an annexe created. In the rebuilt chapel, the south wall at least still retained a slight change of direction at the point of extension (Fig. 135). For convenience, this extension is called the **west nave**: it has been suggested that this oddly shaped space was originally a vestibule (p. 91). The axis of the main vessel of the nave lay 12½° north-east of that of the cloister which it adjoined. The west nave deviated from the cloister by 10°.

The **north aisle** was added parallel to the nave and was of three bays, with buttresses; it seems to have had a single arched opening to the nave, rather than an arcade. The **south aisle** was a more complex structure, added in two stages. First came a small chapel, built in the obtuse angle between the cloister and the Lady Chapel. It was laid out parallel to the south wall of the west nave, to which it was linked by a broad, arched opening. The chapel was buttressed at the south-east corner and was of mildly trapezoidal plan, owing to the exigencies of the site. It will be convenient to refer to this as the **south-west chapel**. Later, a buttressed south aisle of two unequal bays, was added to the easternmost two-thirds of the nave, to which it lay parallel. Communication with the nave may have been through a single arch, or a two-bay arcade (the evidence is lacking). The south aisle and south-west chapel did not share a common axis, there being a discrepancy of *c.* 2½° between them. Nevertheless, it seems likely that the two elements were interconnected.

The three-bay, buttressed eastern arm, or **chancel**, was another addition, slightly larger in plan than the nave, and not quite sharing its axis. The chancel was orientated 15° north of east, and its east wall was given a compromise alignment. which was neither at right-angles to its side walls, nor parallel to the east end of the earlier nave. The east wall would have conformed to an axis 13½° north of east.

Finally, various fragmentary foundations abutting and running north from the chancel point to a succession of boundary walls and, apparently, a north-east **sacristy**, which was the last structural element of the chapel to be built.

Description of the excavated remains

The components of the Lady Chapel will be described in the approximate order in which they were erected. For ease of reference, the foundations are designated on plan as follows.[3]

Nave: main rectangle, F489.
West nave: north wall, F703; south wall, F182.
North aisle: north and east walls, F1007; buttresses, F1007a, b, c (north), F1007d (east).
South-west chapel: south wall and buttress, F181; respond base, F183.
South aisle: south wall, F186; buttress, F186a.
Chancel: north, south and east walls, F1283; buttresses, F1283a, b, c (north), F1283d, e (east), F1283f, g, h (south).
North-east sacristy: east wall, F1378; west wall, F1407.

Nave and west nave (Figs. 136 and 137)

Buckle uncovered the principal surviving elements of the nave, and correctly recognized its importance as the primary component of the medieval Lady Chapel (Buckle 1894, pl. 2). He did not, however, appreciate either its early origin, or its structural complexity.

The nave remained a two-part structure, the main vessel of which was unchanged since the Saxo-Norman period (p. 89). The original link, or vestibule, was probably demolished along with the old cathedral in the early-to-mid 1190s, thus returning the chapel once again to an independent structure. Following the erection of the east cloister, the link was reconstructed, using the old foundations. A central doorway at the west end of the chapel provided access from the cloister. Presumably the north and south doors continued in use, although nothing now remains of them.

The nature of the opening between the primary nave and the 'west nave' cannot be ascertained. There could have been a restricted aperture — a doorway or narrow arch — so that the west nave was effectively a separate chamber, or vestibule (as has already been argued for the Saxo-Norman period). Interpretation is closely related to function, and one is reminded of the small vestibule which normally preceded a chapter house; this must raise the question of whether the chapel at Wells served as a chapter house at an early date.

Although on a much larger scale, comparison might also be made with the Galilee which separated the Lady Chapel from the nave at Glastonbury. Alternatively, there may have been a broad opening, either arched or flanked by pilasters (effectively stubs of the cut-back west wall). The latter arrangement is more likely in the thirteenth century, in which case the nave and west nave would have functioned as a single, undivided space.

The restored chapel at the close of the twelfth century thus comprised three cells: the (Saxo-Norman) nave and chancel, and the rebuilt link, now connecting with the east cloister. A series of additions was made during the thirteenth century, the first of which was apparently the north aisle.

North aisle (Figs. 136 and 137)

The foundations of the buttressed aisle wall (F1007) had been almost wholly destroyed by Stillington's chapel, save small pockets of masonry at the abutment of the east wall to the corner of the nave, and the inner edge of the north wall where it abutted the cloister.

Fig. 138 Stepped foundation of the north-east buttress of the north aisle of the Lady Chapel (F1007c). Behind it is the buttressed north nave foundation of Stillington's chapel. View south-west. Scale of 75 cm

The latter was encapsulated in Stillington's nave foundation, which at this point was coterminous with the line of the earlier aisle.

The site of the presumed first buttress (F1007a) was wholly lost, part of the middle one survived (F1007b), as did virtually all of the footing for the third (F1007c; Fig. 138). The east-facing corner buttress (F1007d) was represented only by a fragment of core rubble.

The buttresses were robbed to below medieval ground level, but sufficient survived of F1007c to show that it had been constructed with at least three offsets on its east side. The shallow projection of footing F1007b shows that the aisle had pilaster-buttresses. White lias was mainly used, bonded with soft pinkish-brown mortar with unburnt lime inclusions. The construction of the middle buttress was visibly different, and there were no surviving offsets; red sandstone rubble was employed here, as in the foundation fragment abutting the north-east corner of the nave. The mortar, however, was the same throughout.

Scanty though the remains are, they demonstrate that there was an aisle which ran the full length of the nave, and had an internal width of *c.* 3.0 m (10 ft). A reconstruction is given on Fig. 137. The aisle was divided into three bays, of which the westernmost was both shorter than the others, and of irregular plan, owing to the acute angle at which the aisle abutted the cloister wall. Wall thickness is not easily determined, but appears to have been *c.* 75–80 cm. The buttresses were of squat proportions, and did not project more than *c.* 80 cm. The foundation on the east seems to have been wider than that on the north side, which may have been intended to provide an internal offset for the support of a reredos or altar. The construction trench was preserved there too (F699). Against the north wall, at the west end, was the base of a shallowly founded wall-bench (F663).

Fig. 139 Lady Chapel. General view of the abutment of the foundations of the south-west chapel to the cloister. The masonry in the centre foreground is the top of the great conduit. Scale of 2 m

Fig. 140 Lady Chapel. The west respond-base of the arch between the nave and south-west chapel, looking south-west. A single piece of lias paving can be seen on the chapel-side (left of the base), and a fragment of medieval tile paving (fleur-de-lys) on the nave-side (Fig. 137, area H). Scale with 25 cm divisions

The north aisle was plainly an addition to the nave, and its construction was not comparable to its southern counterpart. The buttress design differed too, and thus the aisles were evidently not contemporaneous. It is argued elsewhere that there was a small doorway in the central bay, leading to the northern cemetery (p. 96).[4] Again, this was probably a legacy from the plan of the Anglo-Saxon chapel.

South-west Chapel (Figs. 136 and 137)

This small lean-to structure was formed by erecting two walls in the angle between the west nave and the cloister. The south wall was laid out parallel to the west nave, the side of which was breached for the insertion of a

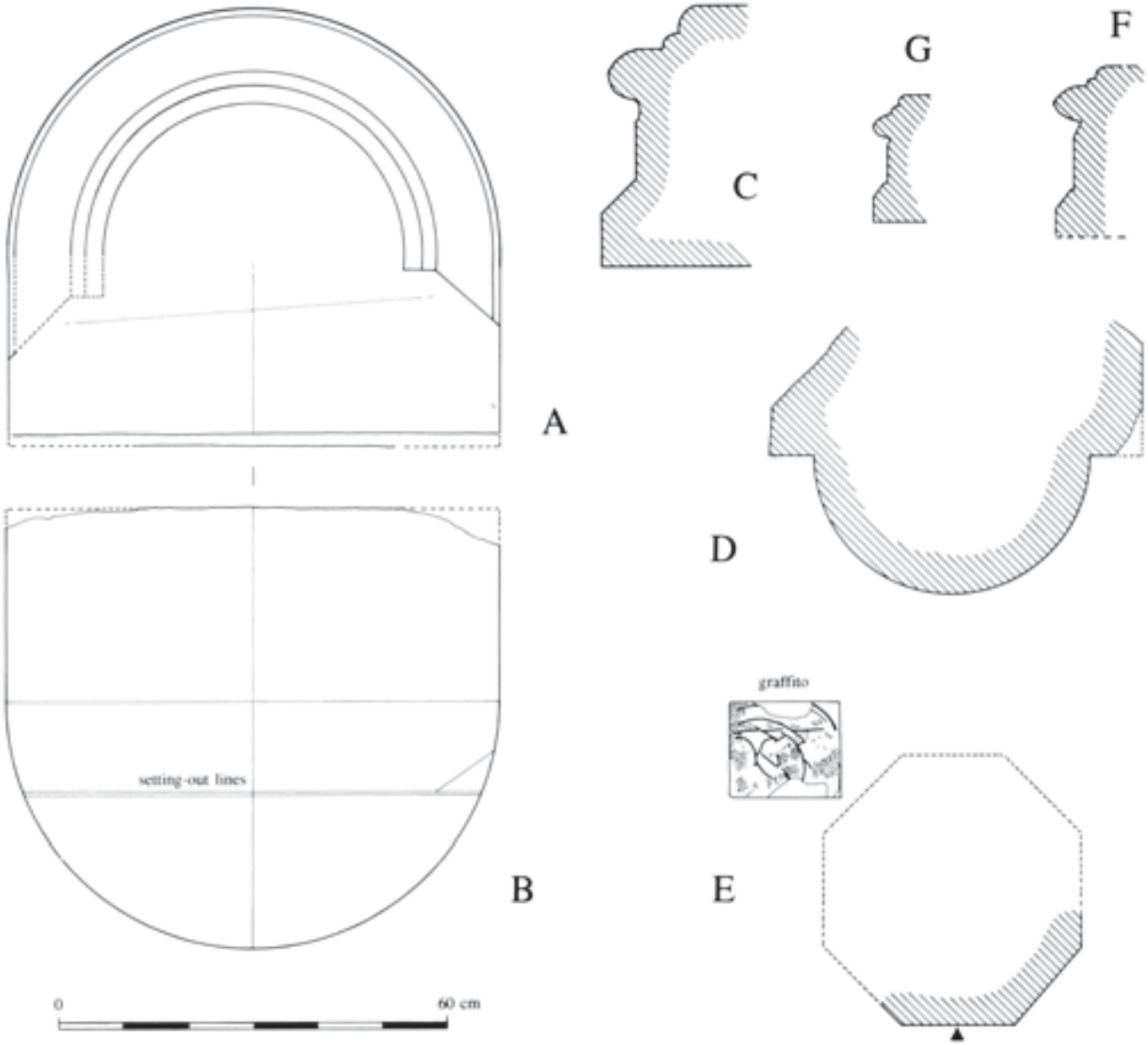


Fig. 141 Architectural fragments associated with the arcades of the Lady Chapel. A–C Mid-thirteenth-century respond-base in the south-west chapel (top and underside views, and profile); D Section of semi-circular respond; E Section of octagonal respond or column shaft, with a detail of the graffito and plaster on one face (see also Fig. 151); F Profile of respond-base, perhaps from a doorway; G Profile (for comparison) of the base of the doorway to the chapter house undercroft. Scale 1:10

broad arch. Remarkably, the western respond-base, set hard against the cloister wall, has remained *in situ* (Figs. 80 and 139, F183); it was probably first exposed in 1873, when it was recorded by Irvine (1873, plan). The base was re-examined in 1894, when its association with the south aisle of the Lady Chapel was postulated (Buckle 1894, 37, pl. 2, F). The Doulting stone base-block was specially made to accommodate a skewed respond (Figs. 140 and 141A). The site of the eastern respond, and the corner of the original nave which it must have abutted, were destroyed by one of the buttress foundations of Stillington's chapel (Structure 15).

Buckle believed the respond-base to mark the beginning of an arcade of two bays, associated with the added south aisle. However, it is now clear that that could not be the case: both the nave wall and the outer 'aisle' wall were of two builds, and incorporated changes of direction at the points of junction. The south-west chapel — and the arch connecting it with the west nave — was undoubtedly a separate structural entity from the south aisle.

The foundation for the chapel's south wall, which abutted the cloister, was largely intact as far as, and including, the south-east angle buttress (F181). This south-facing buttress was presumably one of a pair which clasped the corner of the chapel. The east-facing buttress and the whole of the east wall had been destroyed by the construction of the fifteenth-century conduit and the water-pipe trenches which traversed the chapel's interior. A notable concentration of loose

rubble occurred in the backfills of the later trenches in the vicinity of the lost east wall. The south wall was constructed of sandstone and conglomerate rubble, in a matrix of red clay. Against the cloister it survived to a sufficient height to indicate an offset. The true wall thickness was 75 cm, or less.

The internal width of the chapel was *c.* 3.0 m (10 ft), and the average length was *c.* 4.1 m (13½ ft); the west end was markedly skewed. The reconstructed plan of the chapel is shown on Fig. 137.

South aisle (Figs. 136 and 137)

A 6 m length of the aisle wall (F186), complete with the central buttress, survived in remarkably good condition, and had previously been exposed in 1894 (Buckle 1894, pl. 2, E). This was the only section of Lady Chapel wall still standing above foundation level. The wall was severed to the west by the fifteenth-century conduit, and to the east by the transept of Stillington's chapel. The latter had also entirely destroyed the east end of the aisle and its junction with the nave.

The lowest part of the foundation was trench-built, but about halfway up a modest inward batter was introduced on the north side, by slightly insetting each successive course. The construction comprised fairly thin courses of mixed red sandstone, white lias and occasional pieces of Doulting stone, all set in a matrix of red clay. A distinct offset was created at contemporary ground level, above which the wall continued with a rubble face, while the buttress (F186a) had dressings of Doulting stone. The lowest ashlar course of the buttress — a plain chamfered plinth — remained intact (Fig. 142). The position of the chamfer-stop allowed for a thickness of external rendering on the rubble. Although differing in scale, the lowest stages of the main cathedral and cloister plinths are both plain-chamfered.

In the reconstructed plan of the south aisle, shown on Fig. 137, the wall thickness is 70 cm, and the buttress measures 84 cm by 90 cm. The aisle's internal width can only be estimated, but must have been *c.* 2.75 m (9 ft). The length is unknown and is more problematical: it is merely an assumption that the aisle terminated flush with the south-east corner of the nave, and that there were clasping buttresses here (Fig. 135; *cf.* the north aisle, below). If that was indeed so, the aisle was of two unequal bays, for which no obvious reason can be suggested. It may therefore be that the south aisle was shorter than the nave, stopping *c.* 1.0 m short of the south-east corner, which would have imparted symmetry to the plan and south elevation. Effecting a junction at a later date with the new chancel would not have been as easy, but that was not a relevant consideration at the time.

Although nothing survived *in situ*, there was evidently a small south doorway in the centre of the western bay of the aisle, leading from the chapel to the

Fig. 142 Lady Chapel. South aisle foundation and mid-wall buttress (F186a), showing the surviving plain-chamfered plinth. Scale of 75 cm

Fig. 143 Mid-thirteenth-century moulded base of a door jamb(?), reused in the foundation of Stillington's chapel. For the moulding profile, see Fig. 141F. Scale of centimetres

southern and eastern cemeteries in the Camery. It is likely that the door perpetuated one in the south wall of the Saxo-Norman nave (Fig. 86). Fortuitously, the exact position of the doorway is indicated by the course of the lead water-pipe, laid in *c.* 1451–53, which snaked its way through the Lady Chapel and into the cloister. For a description of this feature, see pp. 402–8. The pipe, which was in a deep trench, entered the south aisle through the south doorway, turned into the south-west chapel, and took a diagonal course into the west nave, leaving via the main doorway to the cloister (Fig. 136).

Coincidentally, several fragments of thirteenth-century roll-moulding were observed in the foundation raft for the south transept corner-turret of Stillington's chapel (Structure 15); and the base of a moulded respond was recovered from its south chancel wall (Fig. 143). These mouldings are likely to derive from the Early English aisle, or the south-west chapel. Whether the respond-base belonged to a blind arch, or was part of a composite door jamb, is uncertain (there being no closing-rebate in this stone). The scale would suit a modest-sized doorway; whatever the feature, it was evidently dignified with detached shafts, flanked by hollow chamfers with bar-stops.

Finally, it is uncertain whether the east wall of the south-west chapel remained intact after the aisle was added. The accretive plan and aberrant angles certainly did not allow for the creation of a continuous aisle with clean-cut lines, to match its northern counterpart. It is more likely that the south-west chapel retained its separate identity, although the dividing wall may have been replaced by an arch and a screen, in succession to an east window.

Chancel (Figs. 144 and 145; Pl. VI)

The foundations of the three walls of the chancel (F1283) were laid as one. They were extensively robbed, and large parts had been entirely removed by the construction trenches for Stillington's chapel. However, the only component which was totally missing was the central buttress on the south (F1283g), but there is no reason to doubt its former existence. No part of the superstructure remained, and therefore the precise dimensions of the walls and their positioning on the foundations have to be adjudged.

The foundation was built of rough rubble, mainly red sandstone and conglomerate, but with occasional pieces of white lias. No dressed stone or other materials arising from demolition were observed in the construction. The lower half of the foundation was trench-built and uncoursed. Frequent voids occurred in the rubble, there being no mortar-matrix. Higher up, coursing was introduced, red clay was employed as a matrix, and the larger stones were arranged along the edges of the trench with small rubble used to infill the core. An irregular offset occurred at this level, above which the foundation outline began to assume greater precision. The final three or four courses, comprising *c.* 35 cm, up to medieval ground level, were mainly composed of well-cut, flattish pieces of stone laid in red earthy mortar; gaps in their face joints were packed with small pieces of rubble. This detail was best preserved in the footing of the south-west buttress (F1283h), which evidently survived to the interface with the superstructure, and measured 1.3 m by 1.1 m on plan. The buttress was first exposed in 1894 (Buckle 1894, pl. 2, B). Foundation width at ground level was *c.* 95 cm, and the overall depth was *c.* 1.5 m.

When the foundation trench for the chancel was dug, an infilled well was discovered directly on the line of the south wall, in the third bay (p. 103). The well-shaft continued below the base of the foundation trench; and the mouth was packed with large flat stones (F1351), topped by clay and rubble (F1334). A relieving arch was then incorporated in the chancel foundation. Robbing had removed most of the arch, F1339, but a few flat pieces of rubble which served as voussoirs remained in place on each side (Fig. 94, S147). A further 40 cm of filling were excavated from the well, the depth of which is unknown.

A reconstructed wall plan at ground level is shown on Fig. 145, where the internal measurements of the chancel were 12.0 m (39½ ft) by 6.0 m (19¾ ft); the walls were 90 cm thick, and the buttresses projected 1.1 m (3½ ft). Although the plan of the chancel was a double-square, it was divided architecturally into three equal bays, and there were clasping buttresses at the eastern angles.

The junction between the south wall of the chancel and the nave was destroyed by Stillington's chapel, but the northern junction remained, albeit largely robbed. While the foundation trench (F698) for the north chancel wall clearly abutted the corner of the nave, its physical relationship to the north aisle wall could not be established. Although the new chancel was slightly wider than the nave, this does not necessarily imply that it was constructed after the aisles had been added.

North-east sacristy and boundary wall
(Figs. 144 and 145)

The two easternmost buttresses (F1283b, c) on the north side of the chancel were both abutted by secondary foundations, running north. More than one phase of activity is indicated.

The earliest seems to be represented by a foundation (F1391) linking the mid-wall buttress (F1283b) and the south-east corner of the cathedral transept. Adjacent to the buttress, only a robbed fragment of one face of the wall survived. Further north, however, a well-preserved stretch of the complete foundation ran up to the cathedral transept buttress (Fig. 135). It was a drystone foundation, 75 cm wide, with the lowest two courses of rubble remaining; there was an offset between them, on both faces. There is little doubt that F1391 represents a short length of boundary wall enclosing the small area of former cemetery between the Lady Chapel and the cathedral church.

The reason for the poor preservation of the boundary wall, where it abutted the chapel, was partly due to its having been cut away by a second, deeper foundation which lay alongside to the east (F1407). Only the lowest level survived later robbing, and comprised small, red sandstone rubble packed into a trench. The foundation extended northwards for 2.5 m before being truncated, and did not reappear on the same alignment, closer to the cathedral: the wall must therefore have stopped, or turned, somewhere not far north of the chapel. The foundation width could not be ascertained, since its east side was cut away by later features.

Running north from the easternmost buttress of the Lady Chapel (F1283c) was a 1.5 m length of foundation (F1378): it too was severely robbed and truncated, but appears to have been *c.* 1.2 m (4 ft) in width. The foundation was of mixed rubble, loosely packed into a trench. It cannot be determined how far north this wall originally ran since its projected line, for a considerable distance, was later occupied by the foundations of Stillington's chapel. It is, however, noteworthy that the foundation raft for one of Stillington's buttresses has a markedly skewed east side (F1392),

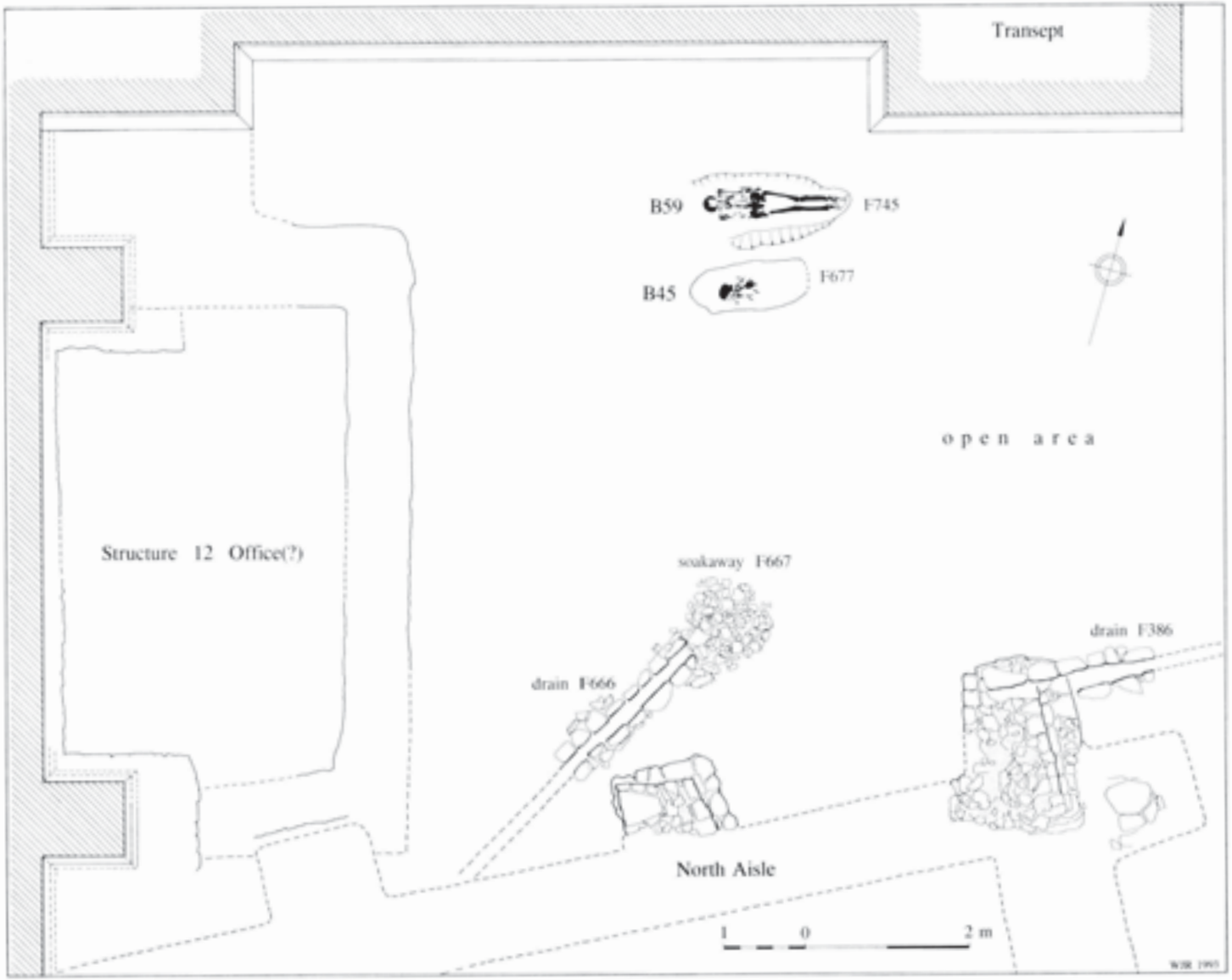


Fig. 146 Plan of features between the Lady Chapel and the cathedral transept. Scale 1:80

and this aligns well with the section of wall just described. It may therefore be that a second cemetery-enclosure wall ran from the north-east corner of the Lady Chapel towards the transept of the cathedral, as suggested in Fig. 135.

Interpretation of these remains is problematical. Superficially, it would appear that there was a parallel pair of walls running from two adjacent buttresses on the chancel of the Lady Chapel, to the cathedral; but the two cannot have been part of a single structure. One was shallowly founded, the other deep; and their construction was markedly dissimilar. It is more logical to regard these as successive walls enclosing basically the same space, although how the more easterly one terminated is enigmatic, since it certainly missed the corner of the transept.[5]

The third fragment of foundation, F1407, provided the likely clue to the interpretation of the sequence: it was stratigraphically later than F1391, and generally similar to F1378. The most plausible interpretation would be that a small sacristy was added to the north-east corner of the chancel, and that the wall enclosing the space between the cathedral and the chapel was repositioned at the same time. The location is ideal for a sacristy, and such structures were often added to chancels, making use of existing buttresses. The line of the north side cannot be determined, but a squarish plan may be adumbrated. Internally, the room would have been *c.* 2.9 m square, and interconnected with the chancel via a small doorway.

Minor features outside the chapel
(Figs. 135 and 146)

Four lengths of stone-built drain associated with the disposal of rainwater from the roofs of the chapel were encountered. All were severed, so that their full runs could not be established. One flowed north-east (F646), away from the centre of the north aisle: it must have collected water from a spout between the north doorway and the western buttress, and discharged it into a soakaway (F667) in the former cemetery (Fig. 147).

Fig. 147 Stone-lined drain (F646) running north-east from the north aisle of the Lady Chapel, to a soakaway pit (F667). Scale of 25 cm

Another drain (F386) originated at the base of the north-east buttress and headed east, running parallel to the axis of the chapel. After an interruption, the line was picked up again by a further section of drain (F1373), which appeared to be veering slightly to the south, as though it was intended to turn around the north-east corner of the chancel, and that is probably what it originally did. However, there was a marked kink in the line of this drain, causing it to change direction and head for a more northerly course. The reason for the kink is not difficult to appreciate, if it is accepted that a sacristy was added to this corner of the chancel. The drain had to be realigned in order to pass around it. Finally, a length of drain (F1332) running in a south-easterly direction, past the east end of the chancel, is likely to be a continuation of the north-side drain. Whether this discharged into the medieval conduit, or continued on its course across the Camery, is unknown.

The need for effective drainage of the confined area between the Lady Chapel and the cathedral is self-evident, and without it water-logging would have occurred. The chapel, the cloister and Structure 12 (Fig. 135) all discharged roof-water into this area. However, the drains described here were not primary, since that which ran around the east end overlay burials of vicars choral that were subsequent to the building of the chancel (p. 359). No drains relating to the chapel have been found on the south side; they may have been entirely lost through later works, but in any case the fall of the land in this direction made drainage less of a problem.

Minor features inside the chapel
(Figs. 137 and 145)

Apart from small areas of surviving tile pavement, and burials, which are considered separately (below), very little was found inside the chapel that could be specifically related to its use. Several patches of mortar remained, particularly in the entrance to the chancel, but whether these represented true floor surfaces relating to the use of the chapel is questionable, especially in view of its high status. The possibility that the 'floors' were no more than builders' working surfaces must be borne in mind. It would be surprising to find mortar floors in the Lady Chapel in the twelfth and early thirteenth centuries, prior to the introduction of tile paving. Stone flagging would be expected, especially in such an important area as the entry to the chancel.

Cutting into, and underlying, these mortar surfaces in the vicinity of the chancel arch were several small pits or postholes for which no satisfactory interpretation can be offered, the evidence being so fragmentary. Again, some of these features were probably constructional, while others may have been connected with the setting of screens or fixtures. One discrete feature, however, calls for comment.

On the axis of the nave, just in front of the chancel arch, lay a shallow, flat-bottomed pit (F539) with sharply defined edges (Fig. 148). Although disturbed on the west, the evidence suggested that the pit had originally been square in plan (*c.* 55 cm), and was partly cut into the fill of an underlying cist-grave (F590). The feature contained a layer of coarse, white lime mortar, up to 5 cm thick; this had a smooth but uneven surface, and appeared to turn up the sides of the pit. The shape and size are not characteristic of a mortar-mixing pit, and it is not readily interpretable as a construction feature at all: its axial placing suggests that a liturgical interpretation is more likely. This was clearly not a drain, and cannot therefore be considered as a *sacrarium* alongside an altar.

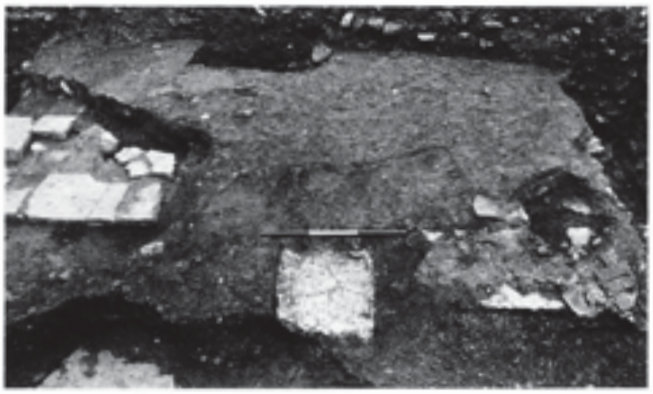


Fig. 148 Lady Chapel. Square, mortar-lined pit (F539) at the east end of the nave, with a pink mortar floor beyond. View east. Note the small patch of floor tiling (area G) on the far right. Scale of 75 cm

The position is nevertheless one which might well have been occupied by an altar in the early Middle Ages. In which case, the shallow, plaster-lined pit could have been associated with housing a foundation deposit. One option might be a relic-pit, although it is difficult to explain why that should have been plaster-lined. Another, perhaps more plausible, option is a pit for a heart burial. The pit could comfortably have received a casket containing a heart or other viscera. The division of the body, with separate interment of the heart, became very popular in the thirteenth and fourteenth centuries (Bradford 1933). Although there are many recorded eviscerations, and some heart reliquaries have survived, very little is known about the subject of heart burial from the archaeological viewpoint.[6]

It is highly likely that there was, at all periods, a substantial liturgical feature at the east end of the nave, which effectively divided the chapel into two independent cells. The burial pattern argues strongly for this: all graves within the nave stopped short of the east end, and none extended through the chancel arch. Had there been a broad opening, with free passage, between the nave and chancel it is almost inconceivable that at some period in the chapel's history, a grave would not have been placed under the arch, or at least projected somewhat east of the first row of burials in the nave. Equally, it is clear that there was no solid wall obstructing the axis of the chapel, since mortar floors (or subfloors) were continuous from the nave through to the chancel.

Unfortunately, robbing had entirely removed the southern respond of the chancel arch, and Victorian excavations had rendered the evidence ambiguous on the north. The balance of probability must favour a lightweight division under the arch, presumably a timber screen, with paired openings flanking a nave altar.

Within the chancel itself, four areas of rubble foundation were encountered. In the first bay, the two ends of what was presumably a single north–south footing survived, filling a shallow trench (F1344) which in part had a plastered face. There would appear to have been two successive features here, the first a slightly sunken and plaster-lined 'chamber', of which up to 10 cm (depth) survived, followed by a masonry footing occupying the same site. When complete, the footing would have measured *c.* 2.4 m by 0.8 m (8 by 2¾ ft), but whether the plaster-lined trench was as extensive as this could not be determined (for example, there could have been two separate pits, rather than a single, long chamber). The feature was largely robbed, and the central area was cut away by later graves.

The most plausible liturgical interpretation is that an altar stood here, against a screen which separated the first and second bays of the chancel. In essence, the eastern arm would have been divided into two parts, of which the more westerly, with its own altar, may be seen as revering the site of the former Saxo-Norman chancel (and hence its predecessor, the mortuary chapel). Alternatively, subdividing the chancel with a lightweight screen might have been no more than a convenient means of creating a setting for another altar. The plaster-lined feature could have been a chamber or reliquary constructed within the base of the altar, at a late phase, but the seemingly large dimensions must cast doubt on such an interpretation.

Another division occurred at the junction between the second and third bays, where there was probably a step, surmounted by a low screen. Part of the rubble platform that underlay the step remained (F1474): it was composed of small, mixed rubble, with the western edge roughly built out of larger stones. Up to three courses survived, with pink mortar used as the matrix.

The final area of rubble (F1475) lay against the east wall of the chancel, where it slightly overlapped the offset foundation. This appears to have been an altar base, the faces of which were roughly built, and the core infilled with mixed rubble. Although incompletely surviving, the plan may be reconstructed as *c.* 2.3 m by 1.2 m (7¾ ft by 4 ft), on the reasonable assumption that the base was symmetrical about the axis of the chancel.

The architecture of the chapel

Although the complete foundation plan of the Lady Chapel-by-the-Cloister has been recovered — or can be confidently reconstructed where it has been destroyed — scarcely any of the superstructure survives *in situ*. The upstanding elements may quickly be listed: the chamfered plinth of the mid-wall buttress to the south aisle; the western respond-base associated with the arch into the south-west chapel; and the greater part of the west doorway opening from the cloister into the nave. This doorway, now infilled, stands to its full height and is partly visible, both within the cloister and from outside.

The physical abutment of the Lady Chapel to the east cloister resulted in several scars remaining, after the building was torn away in 1477. For the most part the evidence was removed during Stillington's

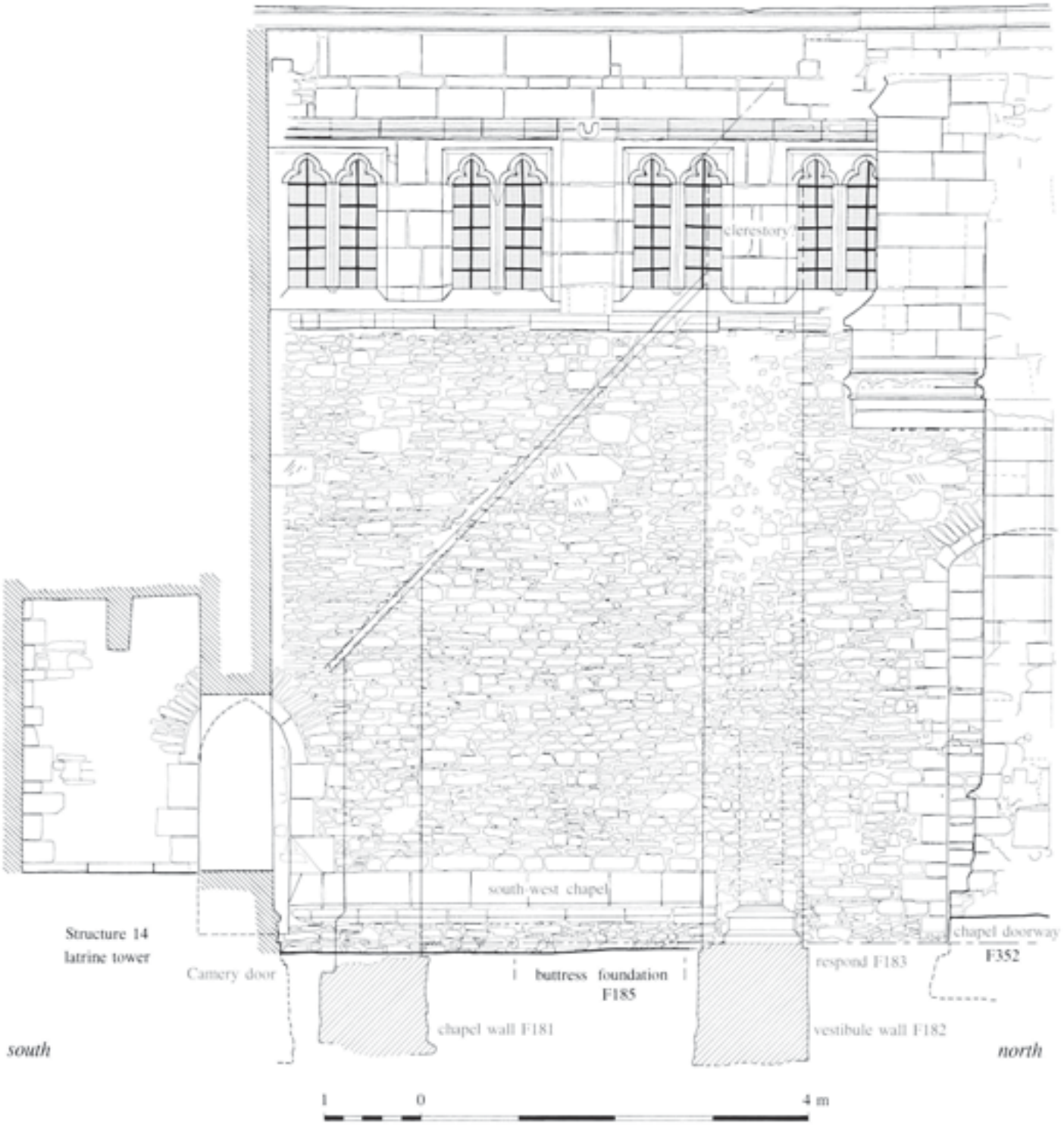


Fig. 149 Detailed elevation of bay E_4 of the east cloister, showing a reconstruction of the successive abutments of the nave and south aisle of the Lady Chapel, respectively. The elevation is based on photogrammetry and rectified photography. Scale 1:60

succeeding construction, but the wall abutments and roof-line associated with the south-west chapel can still be seen, and provide the only tangible evidence for the height of the thirteenth-century Lady Chapel.

Also *in situ* were several small patches of medieval tile paving, which provide evidence for floor finishes and decorative treatment in the late thirteenth century. Other, *ex situ* discoveries may be used to augment the architectural and decorative record, although they cannot be tied to specific areas of the building with any certainty. These finds include stone mouldings, architectural sculpture, decorated floor tiles, painted plaster and window glass. Of the last two categories, very little indeed has been preserved. Many small fragments of wallplaster bearing polychrome were found, but nothing is reconstructible from them (p. 486; Pl. XI). Some limewashed blocks of stone and pieces of plaster exhibited false-ashlar jointing, painted in dark red. Finds of window glass were few and in poor condition, but some were assignable to the thirteenth century (p. 481).

The major problem encountered in attempting to interpret the architectural history of this chapel is the lack of available information regarding the precise sequence of additions to the nave-core. Several options are available.

Surviving architectural detail

The Doulting stone plinth of two chamfered stages, which runs the full length of the east cloister, evidently returned along the sides of the newly restored Lady Chapel in the late twelfth century. The mitre for the junction of the cloister plinth with that of the south wall of the chapel is preserved. Curiously, the upper order is stopped and returned, while the lower order runs on: possibly this has been dressed back (Fig. 140). Scarring of the cloister wall above the plinth shows where the south wall of the chapel's nave has been removed (Fig. 149; Pl. II). The wall rose to a height of at least 8 m (26 ft) above contemporary floor level.

The doorway leading into the Early English chapel from the east cloister is blocked by the abutment of the nave wall of Stillington's chapel. However, the mouldings of its pointed arch are visible within the cloister (Fig. 326; p. 313), and part of the rear-arch can be glimpsed on what is now the outside face. The segmental rear-arch is entirely plain, and the thin ring of dressed Doulting stone is reinforced externally with a soldier-arch of sandstone rubble (Fig. 149). The doorway must be dated to *c.* 1196.

The addition of the chapel — and subsequently the aisle — to the south side of the nave caused only slight disruption to the masonry of the cloister: no attempt was made to bond the two structures. The principal effect on the cloister was the cutting of a chase into its masonry, to receive a lead flashing for the abutment of the roof. The chase indicates that the chapel had

Fig. 150 Outer face of the east cloister wall, showing the abutment scars of the south aisle of the Lady Chapel. Far left is one jamb of the small, infilled doorway that led from the cloister into the Camery; far right is one jamb of the infilled doorway into the nave of the Lady Chapel. Scale of 2 m

remarkably low eaves — only *c.* 2.9 m (9¾ ft) above ground level — and that the angle of pitch of the roof was 48° (Figs. 149 and 150).

Piercing the nave wall when the south-west chapel was added involved the removal of a length of the original plinth, and the construction of an arched opening: its western respond-base remains *in situ* (Figs. 140 and 150). This asymmetrical Doulting stone base still bears the mason's setting-out lines, on both the top and the underside, for embracing the acute angle between the chapel and the cloister. Buckle observed that the moulding profile of the respond is identical to that of the column bases in the chapter house undercroft, which he linked to a recorded date of 1286, when work was in progress on the chapter house (Buckle 1894, 37). This is, however, too late for the undercroft, which is considerably earlier, and a date in the 1240s or 1250s is more likely (Colchester and Harvey 1974, 205). An almost identical base-moulding also appears on the *ex situ* respond, mentioned above, which may be derived from the doorway to the south aisle of the Lady Chapel (Fig. 141F, G).

Nothing can be said about the superstructure of the north aisle, or of its abutment to the cloister. However, the shallow pilaster-buttresses argue for an early thirteenth-century date, and hence it was probably the first of the additions.

Displaced architectural sculpture and mouldings

Exposure of the foundations of Bishop Stillington's chapel during the 1978–80 excavations revealed that they are replete with recycled stone, and that there is an evident consistency throughout the assemblage, suggesting that it was mostly derived from a single source. This occasions no surprise since there must have been a huge stockpile of rubble in the Camery,

resulting from the demolition of the old Lady Chapel in 1477–78. The source of the rubble, and hence of the architectural fragments, is thus near-certain.

The profligate use of pink lime mortar in the Stillington-period foundations obscured the outlines of many of the individual stones, and thus it was difficult to recognize pieces of especial interest when only one edge was exposed to view.

The architectural fragments observed included: the respond base of a doorway (noted above), plain chamfered plinth stones, sections of string-course, roll mouldings from door or window arches, a semi-circular respond for a major arch, and several portions of octagonal respond and column-shaft (Fig. 141E). The diameter of the semi-circular respond is slightly too small for the extant base associated with the south-west chapel, but it could have belonged to another part of the south arcade. The octagonal fragments may have been derived from the arcade between the nave and the north aisle, where the semi-octagonal western respond base, although long gone, was still ghosted by surviving floor tiling (p. 179). Many of the moulded stones, together with plain ashlars, bore traces of limewash on their principal faces, and in some cases false-jointing was indicated by red painted lines. On one of the column sections was a deeply incised, geometrical graffito, partly hidden by plaster (Fig. 151).

Two rectangular blocks of dressed Doulting stone with a small, rounded moulding on one edge were noticed in the foundations of the south nave wall of Stillington's chapel. Cleaning around the joints revealed these to be the top edges of panels of architectural sculpture, with their decorated faces horizontally embedded in the foundations. The decision was taken to extricate the two panels, and to retain them for display. Other, possibly similar, stones were not investigated and remain *in situ*. Upon removal, the two panels were found to be spandrels, derived from a trefoil-headed arcade of small scale and high quality workmanship. One spandrel depicts a hunting scene involving St Eustace, or St Hubert (Fig. 448), and the other a seated angel holding a palm branch (Figs. 152 and 446). Both were battered and fractured, and the angel's head was lost but, remarkably, this was later found during excavation in Area 7 (Fig. 153).

Fig. 151 Section of an octagonal column, perhaps from the north arcade of the Lady Chapel, reused in the foundations of Stillington's chapel. Note the limewashing and graffito (cf. Fig. 141E)

The newly discovered sculptures were recognized as belonging to a series of which two further examples and some fragments had long been known: these depict a crane and wolf, and the Fall of Jerusalem. A sketch of the latter was published by Irvine[7] (Fig. 154). Irvine, with his customary percipience, appreciated the collective interest of the sculptures and other potentially associated fragments which he recorded as having been discovered in the 1870s, in and around the west cloister.[8] He initially believed them to derive from a wall arcade in the Lady Chapel, but later favoured the cloister itself. Irvine asserted that the arcading was supported by a series of blue lias shafts, arranged in pairs, rising from lias bases and carrying limestone capitals with lias abaci. Presumably he found fragments of bases or capitals with twin seatings for shafts, but specific information is lacking. He further argued that each recess in the arcade was vaulted: whether he identified the components, or assumed vaulting on the basis of the depth of the recesses implied by the use of twin shafts, is unclear.

By chance, a *cache* of long-forgotten architectural fragments was rediscovered at the cathedral, in 1984, and it included portions of seven or eight more spandrels which had presumably been collected by Irvine. The total is now at least twelve. Stylistically, the spandrels date from the second or third quarter of the thirteenth century and a detailed study of this outstanding assemblage has been carried out by Jerry Sampson, a précis of which is given in chapter 12.

Irvine recovered some of the spandrels from the demolition of an 'old wall' adjacent to the west cloister, and others he prised out of the masonry supporting the stone stairway leading to the upper floor of the same range (Structure 24).[9] They were all reused in fifteenth-century contexts, like those discovered in the Camery in 1979.

The reconstruction of the west cloister range was begun by Bishop Bekynton (d. 1465), the work was continued by Bishop Stillington, and a completion date of *c.* 1480 is usually given (Colchester 1987, 73). The fact that the spandrels recovered by Irvine were all found above ground, and were encapsulated in masonry that must date towards the end of the rebuilding, suggests that they are unlikely to derive from the demolition of the old cloister arcade, the débris of which would logically have been recycled at an earlier stage.[10] Conversely, the discovery of spandrels in the foundations of Stillington's Lady Chapel-by-the-Cloister implies that they were readily to hand when work on it commenced in 1477–78.

A possible sequence may be suggested. The reconstruction of the west cloister was nearing completion in the late 1470s, and as it did so work began on the old

Fig. 152 Mid-thirteenth-century spandrel (no. 6) showing a seated angel, as recovered from the foundations of Stillington's chapel. Note the angel is headless, and compare with Fig. 444

Fig. 153 Head of the angel belonging to the spandrel (no. 6) shown in Fig. 152, found separately. Left: full-face view; right: dexter profile

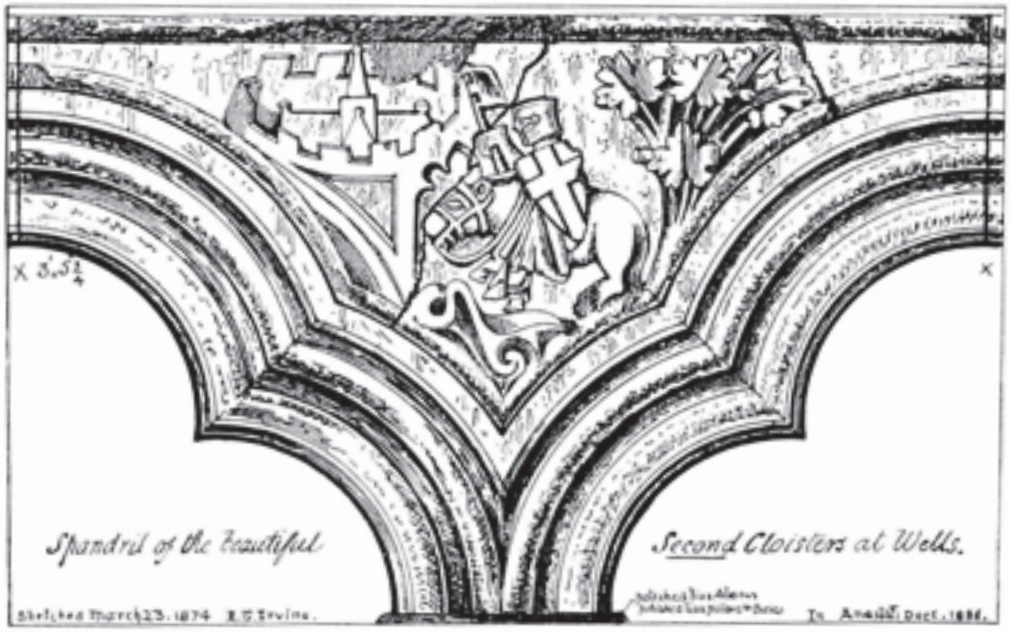


Fig. 154 Irvine's drawing of spandrel no. 8, depicting the Fall of Jerusalem, showing also his reconstruction of the moulded arcading beneath. See also Fig. 448. After Anastatic Drawing Society 1886

Lady Chapel. This was demolished and some of its rubble was recycled in the cloister adjuncts, while the remainder found its way into the substructure of the new Lady Chapel. Stratigraphically, there is thus a stronger case for regarding the spandrels as having come from the Early English Lady Chapel than from the cloister. This has significant implications for the architecture of the chapel.

It is difficult to envisage the spandrels being derived from anything other than an elaborate wall arcade, and this could hardly have been accommodated in the nave or aisles of the chapel. The spacious chancel would be the obvious setting for wall arcading. It is therefore posited that the north, east and south sides were enlivened by trefoiled arcading above the wall-benches.

One piece is a half-spandrel, which must have been at the sinister end of a structural bay. The spandrels all conform to a single outline, showing that they were cut from the same template. The bay pitch was 1.07 m (3½ ft). If the arcade was continuous around the walls of the chancel, there would have been room for exactly twelve bays on each long side; the east wall could, in theory, have accommodated six regular bays of arcading, but in practice there are unlikely to have been more than four, the altar and reredos occupying the central one-third, where there may have been a specially enlarged bay. It is highly unlikely that the arcading was arranged in separate structural bays on the north and south sides, divided by wall-shafts opposite the buttresses: the pitch set by the spandrels would not work. Since there is no reason to suppose that the chapel was stone-vaulted, wall-shafts were unnecessary.

At the west end, there could have been a return of one or two bays of arcading on either side of the chancel arch, but this seems unlikely. Since, however, it is unknown whether the connection between the nave and chancel was in the form of a wide or narrow opening, further speculation is pointless. The former is more likely (p. 195).

Broadly speaking, there could have been between 28 and 30 bays of arcading in the chancel, which implies a sumptuous interior. The excavations yielded fragments of arch mouldings and string-courses in Doulting stone, together with abaci, shafts and bases in blue lias, all of which point to a rich composition, having much in common with the west front of the cathedral.

Each spandrel carried an individual unit of decoration, which could be foliate or figural. The latter include a New Testament scene, a saint, an angel, dragons and birds (Figs. 442–50). There was presumably an iconographic scheme into which the religious representations fitted, but the nature of this is now entirely lost to us. Clearly, the Wells spandrels did not form a structured narrative, like the spandrel-frieze in the chapter house at Salisbury, which depicts a contiguous series of Old Testament scenes (Blum 1996). Salisbury is slightly later in style, and probably dates from the 1260s, although it has recently been argued that the chapter house was not begun until the 1280s (Blum 1991, 23).

Apart from the Wells Lady Chapel spandrels, there are parts of two other sets in the locality, unfortunately again *ex situ*. One set is at Wells (Vicars' Close), the other in a house at Wookey, 3 km to the west; these series are discussed on pp. 436–8. The source of inspiration for the Lady Chapel spandrels is not immediately obvious, although the plain foliate examples have antecedents in the lowest register of arcading inside the north porch, dating from *c.* 1205–10 (Kidson and Tudor-Craig 1978, pls. 27–9), and of course in the

Fig. 155 Bristol Cathedral, Elder Lady Chapel. Wall arcading with sculptured spandrels, c. *1220. Enlarged views of beasts also shown. After Lysons 1803*

great spandrel-frieze which tops the Resurrection tier on the west front. The carving of the latter dates from the late 1230s and 1240s (Sampson 1998, 52–6).

A closer parallel in style for the Lady Chapel spandrels is found in the trefoil wall-arcading of the Elder Lady Chapel at Bristol Cathedral, dated to *c.* 1220 (Fig. 155; Lysons 1803, pl. 88). Here, both foliate and figural compositions occur in the spandrels, in an architectural setting to which the Wells Lady Chapel must have borne a distinct resemblance. Indeed, Wells' masons were involved in the construction of the Elder Lady Chapel (Thurlby 1997). Its stiff-leaf capitals, waterholding bases, mouldings and detached shafts of blue lias are all in the characteristic Early English style of Wells.

A two-celled 'Lady Chapel' added to the north transept at Tewkesbury Abbey in the early thirteenth century (*c.* 1210–20) also has trefoil arcading above the wall-bench, the spandrels being enriched with foliage (Massé 1911, 57; Morris 1985). The eastern transepts, retroquire and Lady Chapel at Worcester Cathedral display similar but much more extensive trefoil arcading around the walls; the spandrels are both figural and foliate (Grant 1984, pls. 98, 100, 102–4; Pevsner and Metcalf 1985b, fig. 175). The arcading continues across the full width of the east wall of the Worcester Lady Chapel, which could have accommodated ten equal bays, but there are only nine on account of a double bay at the centre. In a similar vein, it may be suggested that there were five rather than six bays of arcading on the east wall at Wells. A construction date for the new eastern arm at Worcester in the mid-1220s seems secure (Singleton 1978). Later still, and significantly different in style, is the series of foliate and figural spandrels in the wall-arcading of several chapels in Westminster Abbey.

The Wells Lady Chapel, with its trefoil wall-arcading and richly carved spandrels, may thus be seen as part of a series of developments in Lady Chapels and chapter houses in the West Country during the first half of the thirteenth century. Indeed, the north porch may provide the clue to the local origin of the tradition.

Finally, attention must be drawn to the small male head depicted on spandrel no. 2 (Figs. 442 and 445). Although superimposed over the heads of a pair of addressed birds, this is clearly a serious portrait.

The face is bearded and has strong features, and on the head is a distinctive skull-cap of the type worn by medieval masons. The figure calls to mind the head-stop at the west end of the north nave triforium which is generally accepted as a portrait of Adam Lock, the master mason of Wells who was responsible for much of the early Gothic cathedral (Colchester 1987, 14). Lock, who died in 1229, was probably also the designer of the Bristol Elder Lady Chapel. The spandrel portrait is not of the same head, but it is plausibly a depiction of the master mason who created the new chancel of the Lady Chapel. The most likely name to fit the face is Thomas Norreys, who was Lock's successor. His *floruit* at Wells was from 1229 to at least 1249 (Harvey 1982, 99; 1984, 216–17). He is also perhaps to be equated with 'Thomas the Mason', who was at work at Glastonbury Abbey, *c.* 1230–53.

Tile pavements

The interior of the Lady Chapel was extensively paved with glazed tiles in the third quarter of the thirteenth century, and there were clearly a number of subsequent repairs and changes to the floors, which necessitated the introduction of fresh tiles. Burial must have been the chief cause of disruption of the paving, and tiling doubtless gradually gave way to ledger slabs between the late thirteenth and the fifteenth centuries. The severe disturbance of the site during the demolition and reconstruction of the Lady Chapel during Stillington's episcopate involved the removal of all but about one per cent of the floor surface of the old chapel.

Three patches of tiling survived in the main part of the nave, one in the west nave, four in the north aisle and one in the south aisle: they total less than 1.5 square metres of paving. None remained in the chancel and, in view of the paucity of finds of loose tiles here, it is very doubtful whether this part of the chapel was ever floored with ceramic materials: stone paving is more likely. Some thousands of fragments of glazed tiles were recovered from features inside and outside the chapel, and these included both used and unused specimens. Semi-wasters also occurred amongst the latter.

A detailed study of the tile types, fabrics and designs has been carried out, and a catalogue and discussion of the evidence are presented in chapter 12. The earliest phase of tiling in the chapel employed products from Nash Hill, near Laycock, Wiltshire, which can be dated to the period *c.* 1250–60. Only one tile might belong to the previous decade.

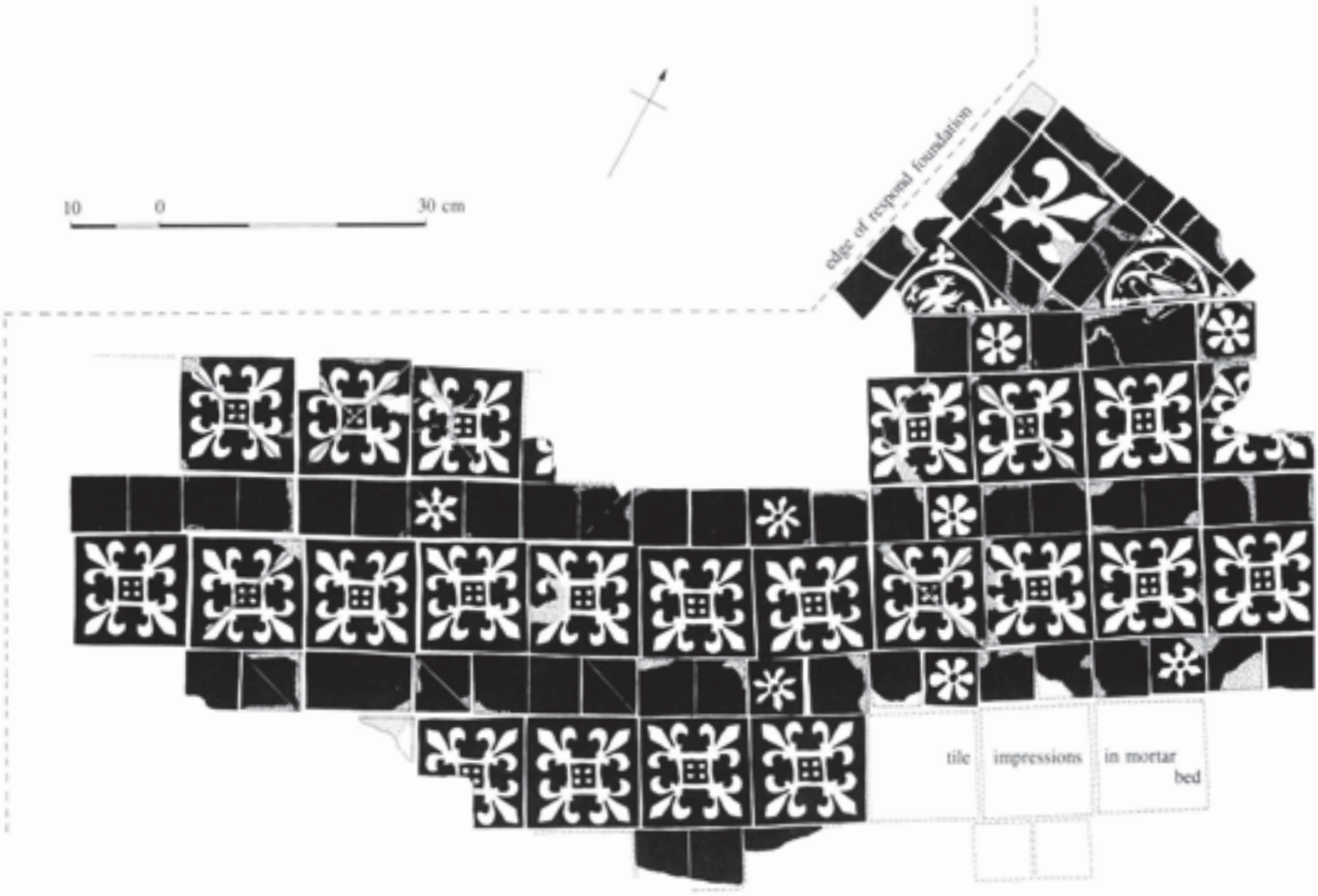


Fig. 156 Lady Chapel. Plan of medieval tile paving F512, area A, in the nave. Broken lines indicate the matrices of lost tiles preserved in the mortar bed. Flaked or crumbled tile surfaces are denoted by stipple. Scale 1:8

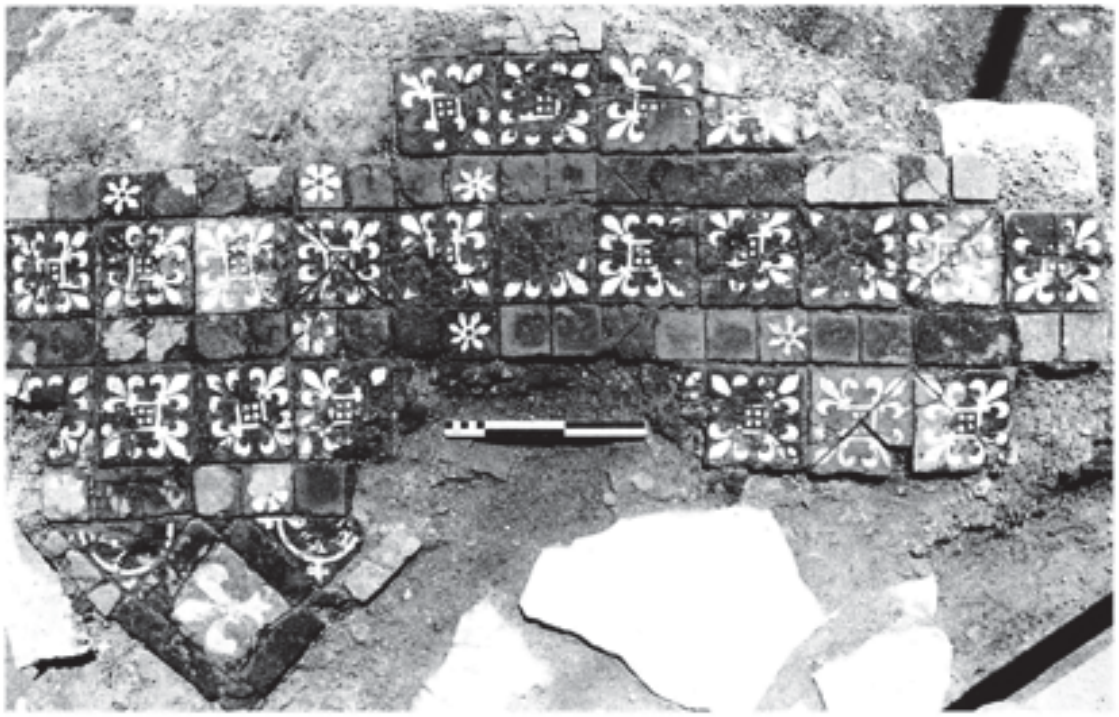


Fig. 157 Lady Chapel. General view of tile paving, area A. South is at the top. Scale of 25 cm

Description of paving found *in situ*

The locations of the surviving areas of tiling are marked on Fig. 137, and lettered *A* to *H*. The tiles have all been lifted and preserved with the other excavated material.

Nave, Area A (Figs. 156–8)

The largest patch of surviving pavement (F512a) lay in the north-west corner of the main part of the nave. This tiling was exposed by Buckle, whose sketch shows it virtually as found in 1979 ((Buckle 1894, pl. 2, D); it may also have been seen by Irvine, whose plan of 1885 marks 'here fragment of early tile pavement exists' (Fig. 8).

Preservation was almost certainly due to the fact that the floor here was protected in the Middle Ages by being in the angle between two standing walls, and was just west of the main transverse row of graves. The tiles were laid in white lime mortar, set on a soft bed of pale pink mortar, *c.* 5 cm thick.

Thirty-four slip-decorated tiles and forty-three plain border tiles made up the composition, which is divisible into two parts. First, a simple 'carpet', consisting of alternate rows of decorated tiles — all of design 31, a quartet of fleurs-de-lys — and lines of greenish-black border tiles, mostly plain. These lines were punctuated at irregular intervals by small rosettes, of several types, both six- and seven-petalled (designs 3, 4 and 5). The second part of the floor, adjoining on the north, was a small patch of diagonally-laid tiling. Each decorated tile was surrounded by a plain border, narrower than the borders used in the main carpet. The decoration included a large fleur-de-lys (design 38), and beasts and birds in roundels (designs 26 and 40, respectively).

Fig. 158 Detail of the eastern part of the tile paving in area A, showing its worn and shattered condition

Fig. 159 Lady Chapel. Plan of medieval tile paving F1155, area B, in the north aisle. Scale 1:8

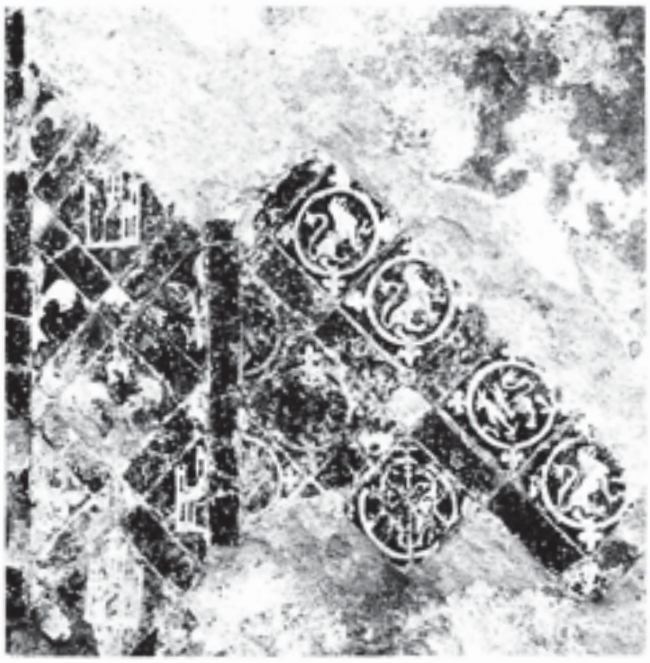


Fig. 160 Lady Chapel. Tile paving, area B, and surrounding mortar floor of later date. North is at the top

The change of direction of the tiling reflected a change in the superstructure of the chapel, the diagonally-laid patch being under the arch leading into the north aisle. Furthermore, it appears likely that the angle of the tiling reflected the plan of a semi-octagonal respond base. Indeed, it would appear that only a narrow border had fallen away from the north and west edges of the preserved tiling, which would have occurred when the masonry was robbed from the adjoining walls. The suggested original extent of the paving at the north-west corner of the nave is indicated by a dashed line on Fig. 156.

The surface of the pavement was well worn, to the extent that the inlaid decoration was wholly lost in some places. The tiles were also badly shattered, doubtless caused by falling masonry during the demolition of both this chapel and its successor. The distortion in plan of the east-west lines of the carpet was caused by slight slumping into an adjoining grave on the south.

North aisle: Area B (Figs. 159–61)

The second largest area of tiling (F1155) lay in the north-west corner of the aisle, where it was sealed beneath a later mortar spread. The tiles, which were neatly laid, had been subjected to only a modest amount of wear underfoot, and in this respect were in a very much better state of preservation than those in area A: many retained not only their inlaid decoration, but also their glaze. The tiles had, however, been mostly shattered by falling masonry, and their surface was partially obscured by mortar adhesion.

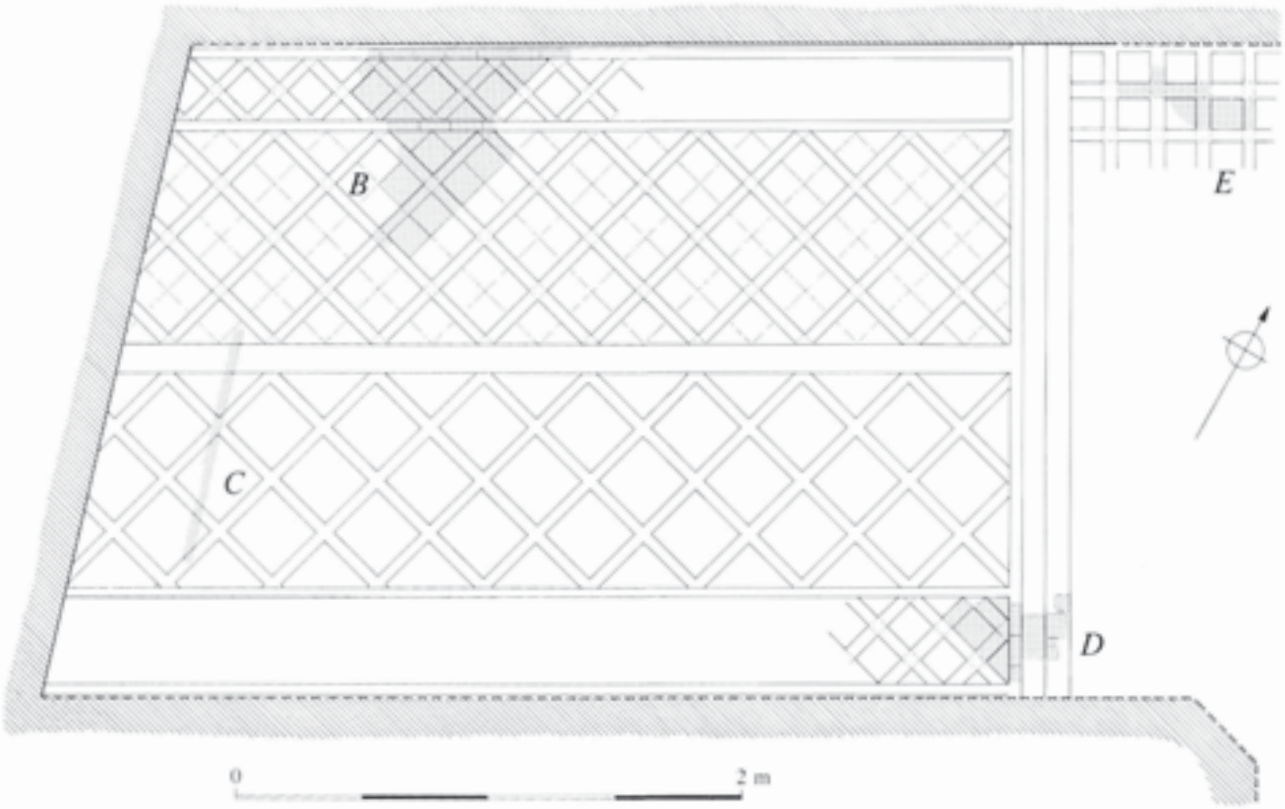


Fig. 161 Reconstructed outline of the tile pavement at the west end of the north aisle of the Lady Chapel (incorporating areas B–E). Scale 1:30

A few were discoloured by burning which had occurred *in situ*: the area affected was very restricted and suggests the presence of a brazier.

Part of a carpet of diagonally-set paving remained, the tiles grouped in fours, with narrow borders around. To the north of this carpet was an infill strip, similarly laid (and running up to the wall-bench), with each tile separately bordered. The borders were all narrow and plain, and had square yellow tiles at the diagonal intersections. The four-tile groups comprised birds and beasts in medallions (designs 23, 26 and 40). The infill strip was dominated by representations of a three-towered church and a large fleur-de-lys (designs 39 and 38), but also contained one example of the fleur-de-lys quartet (design 31).

North aisle: Area C

A narrow strip of diagonally-set paving (F1520), evidently part of the same floor as area B, survived at the very west end of the aisle, where it was firmly embedded in the foundation masonry for Stillington's wall-bench. The tiles were too damaged to enable the designs to be recovered.

North aisle: Area D (Figs. 162 and 163)

This included the junction between two units of paving of differing character (F512b). The western part comprised diagonally-set tiles (addressed birds, design 40) with individual borders; the latter included one fragment of rosette (design 4). The eastern part was probably a carpet of tiles laid with the axis of the aisle, and divided from the western part by a scrolled border (design 12). This was made of rectangular tiles, wider than others seen elsewhere in the floor. The jumbling of adjacent tiles on the east suggests that this patch had been relaid; it included a beast (design 26).

North aisle: Area E (Figs. 162 and 164)

This fragment, against the northern edge of the aisle, seems to have been part of a carpet with individually bordered tiles (F512c). Another example of the beast (design 26) occurred, and the borders were all patterned with annulets (designs 8a and 8b), and had rosettes (design 4) at the intersections.

***North aisle:* ex situ** (Fig. 162)

From a late medieval grave fill came a section of bedding mortar with two tiles adhering, designs 31 and 8b.

Nave: Area F (Fig. 162)

A small patch of diagonally-set paving and tile impressions (F512d) survived close to the north wall. The tiles were worn to the core. The arrangement would appear to have comprised four-tile units with narrow borders.

Nave: Area G (Fig. 162)

Paving on an island of stratigraphy at the east end of the nave comprised two border tiles and a fragment of another, with a wide fillet of white mortar between

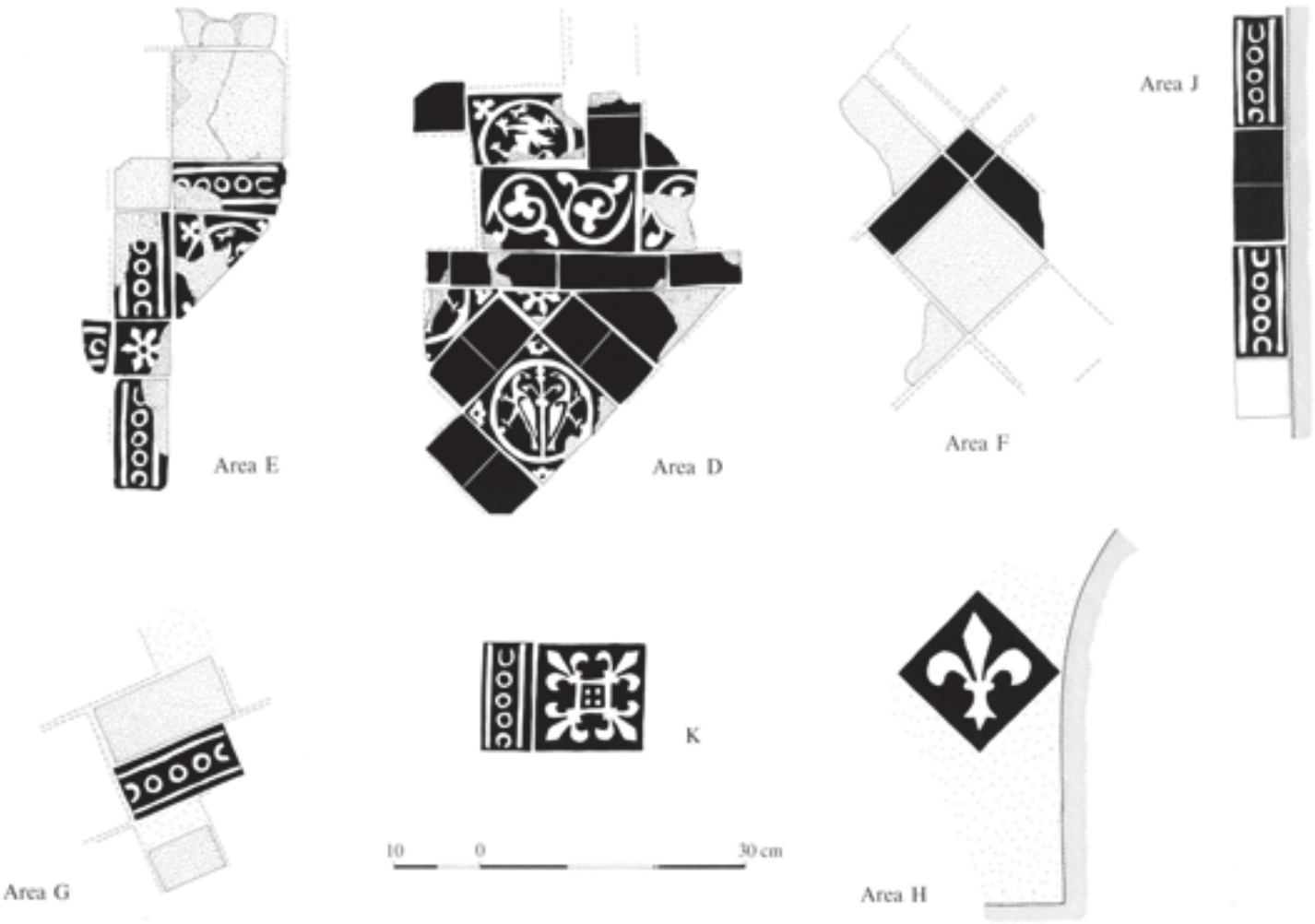


Fig. 162 Plans of small patches of medieval tile paving, areas D–J, and an ex situ *fragment (K), from the Lady Chapel. Scale 1:8*

them (F540). One tile was decorated (design 9a). Although this patch lay askew to the axis of the chapel, it was not at 45° and did not appear to be part of a carpet of diagonally-set tiling. Almost certainly, this was a repair or relaid patch; it overlay the infill of a grave.

West nave: Area H (Figs. 140 and 162)

A small area of original floor survived adjacent to, and on both sides of, the respond-base in the south-west corner of the nave (F329). South of the base (*i.e.* in the south-west chapel) was a single, small slab of blue lias paving, while to the north lay a solitary tile, diagonally-set in pink mortar. It was decorated with a large fleur-de-lys (design 38), in unworn condition.

South aisle: Area J (Figs. 162 and 165)

Four border tiles remained against the surviving south wall of the aisle, set on a bed of pale pink mortar (F304). These were first uncovered by Buckle (1894, pl. 2, E). Two were plain tiles, and the others were decorated with annulets (designs 8a–b); they were unworn. A substantial area of mortar bedding for paving survived in the central part of the aisle, although its surface was too damaged to recover the pattern of impressions.

Burials within the chapel

The Lady Chapel was a privileged and popular place of burial in the thirteenth to fifteenth centuries. The earliest record of significance, dating from 1250, refers to the chantry of Dame Agatha de Meysy and her ancestors, in 'the chapel of St Mary on the south side of the great church' (HMC 1907, 450). A second reference to the same chantry occurs in 1268 (HMC 1914, charter 95). Doubtless the family was buried here, although that is not specifically recorded.

The Lady Chapel was adopted by the Bytton family in the late thirteenth century as their chantry and, presumably, place of burial. Obits were endowed and celebrated here for Bishop William Bytton I (d. 1264) in 1271, and again in 1273–76, when his brother John (Provost of Wells) constructed and endowed the altar of St Nicholas in the chapel (HMC 1907, 23, 376). This was evidently the Bytton chantry altar, where masses were said for Bishop William I, Provost John, and Bishop William II (d. 1274).

Potentially some members of the family were buried in the chantry chapel, but the two bishops were interred — as might be expected — within the cathedral church. William I had his tomb and primary

Fig. 163 Lady Chapel. Tile paving in area D. East is at the top. Scale of 25 cm

Fig. 164 Lady Chapel. Tile paving in area E. South is at the top. Scale of 25 cm

chantry in the main Lady Chapel, and William II was buried in the south quire aisle, where his incised effigial slab of blue lias is still in place on top of his coffin (Church 1894b, 277n; Greenhill 1976). Thomas Bytton, who had been Dean of Wells, added further endowments to John's chantry in 1301 and provided for his own obit to be celebrated there (HMC 1907, 164–5). Thomas was, however, Bishop of Exeter at the time, and was buried in that cathedral in 1307.

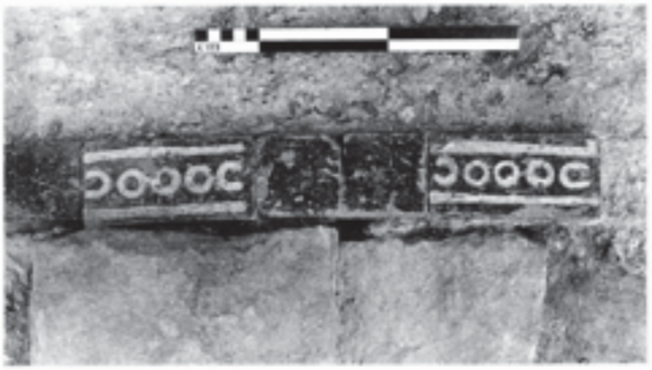


Fig. 165 Lady Chapel. Tile border, area J, in the south aisle. Scale of 25 cm

A chantry with two priests was founded in 1331 by Dean John Godelee. There were two altars, one in the Lady Chapel-by-the-Cloister and the other in Corpus Christi Chapel (in the north-east transept of the cathedral). The chantry was thus bi-locational. Its purpose was to remember Edward I and Queen Margaret, as well as members of the Godelee family, and Roger le Someter and his wife (HMC 1907, 220–1). Dean Godelee was buried in the north quire aisle, at the entrance to Corpus Christi Chapel. It is not unlikely that the other named persons (excepting Edward and Margaret, of course) were buried near to the chantry altar in the Lady Chapel.

Thus, although there were three important chantries in the Lady Chapel by 1331, the exact location of none is known. Moreover, there is only one specific record of interment, and that occurs in the will of Canon Thomas Aliston, 1392. He wished to be buried 'in the chapel of St Katherine, situate in the cloister of Wells, before the image of the Blessed Virgin, in the same chapel, if it can be conveniently done' (SRS 1903, 1–3).

Nevertheless, many burials took place in the Lady Chapel, a fact well confirmed by the intensity of cist-graves recorded during the excavations. The greatest surviving number of graves was in the nave, where there were five end-to-end rows running across the building. Row number 3 (counting from the west) continued uninterrupted into the north aisle, evidently passing through the opening in the arcade here. The same obtained in respect of the south aisle, although the evidence is less complete. The westernmost row of graves also continued from the nave into the south-west chapel.

Altogether, twenty-five graves (one with two interments in it) were recorded in the chapel. Twenty-two of these lay in the nave and aisles: four of the graves were earth-cut, two contained stone coffins, and the remainder were stone-built cists (Figs. 166 and 167). The graves all lay within about half of the gross floor area of the nave and aisles, the other half having been totally destroyed by later foundations (Fig. 168). Within the surviving floor area there was space for only one more grave, against the north wall of the

nave, which tends to suggest that by 1477 the chapel was full to capacity with burials. The total complement at that time must have been about forty, or slightly more.

Evidence in the chancel was too fragmentary for any meaningful conclusion to be reached concerning density or distribution. Here, only four graves have been recorded: two earth-cut, one in a stone coffin, and one stone-built cist (Fig. 145).

Nave and aisles (Figs. 166–8)

Row 1

Starting at the west end of the chapel, three graves survived in this row. Close to the north wall was a cist (F530), containing burial B25 in a nailed timber coffin. The bottom of the cist was of clay and the sides were made of squared and roughly tooled Doulting stone blocks; the joints were mortared and crudely smoothed over. The east end of the cist had been cut away by the adjacent grave, and disarticulated bones had intruded. The lid was formed from four rough slabs of blue lias, which had collapsed. The west end of the cist comprised a single Doulting stone block with a lightly incised cross-crosslet on its inner face (Fig. 169). This is reminiscent of the much larger cross-crosslets which occur (as masons' marks?) on the flying buttresses inside the nave triforium of the cathedral: they date from the earliest years of the thirteenth century.

Dug into the foundation under the arch to the south-west chapel was cist-grave F1515, built of mortared blocks of Doulting stone. The grave, which had contained a nailed wooden coffin, was substantially cut away by the duct for the water-pipe laid in *c.* 1451–53. This burial (B12), although certainly associated with the Lady Chapel, did not conform well with its alignment. A heavily corroded iron object found under the left femur was probably a buckle, potentially from a belt (*cf.* burial 30, p. 184). Immediately south of burial 12, and under the same arch, lay burial 13 in a heavily nailed coffin, placed in an earth grave (F208). This too was truncated by the fifteenth-century pipe-duct.

Row 2

Only two fragmentary graves remained in this row, one in the north aisle, the other under the cross-arch at the west end of the nave. The first, burial 78, comprised the lower legs and feet of an earth burial in a nailed timber coffin (F835). The second was a cist constructed of mortared Doulting stone and mixed rubble (F490). The original interment had been removed and the construction of the grave modified in the fifteenth century, when the cist was reused for a burial (B19) within Stillington's chapel (p. 234).

Fig. 166 General view (east) of the nave and north aisle of the early medieval Lady Chapel, showing associated cist-graves with their covers in place. The dominant walls flanking the photograph belong to the nave of Stillington's later chapel. Scales of 2 m

Row 3

This row, which marked the cross-axis of the chapel, between the north and south doors, probably comprised eleven or twelve tightly packed interments. At the north end was an earth-cut grave (F665) containing a nailed wooden coffin with burial 42. An unexplained feature of this grave was the presence of small pockets of extraneous blue-green clay, which must either have been inside the coffin, or directly on its lid; the clay was mostly found at the joints of the limbs, although this may be coincidental. The grave fill also yielded a small Anglo-Saxon silver coin, evidently residual (p. 518, no. 3).

The southern edge of the northernmost grave was clipped by the large pit (F550) that had been excavated to receive a stone coffin, F586.[11] This was carved from a monolithic block of Doulting stone, and was covered by two slabs, both of well dressed Doulting stone. There was a small piece at the foot-end and a substantial slab, measuring 1.51 m by 68 cm by 18 cm thick, covering the head and body. These cover-slabs, which were firmly mortared to the coffin, were not intended for exposure in the chapel floor; there was

Fig. 167 General view (east) of the nave and aisles of the early medieval Lady Chapel, showing associated cist-graves following the removal of their covers. Scale of 2 m

presumably a free-standing monument over the grave. The grave fill around the coffin was topped with a thin layer of white mortar, level with the rim of the coffin. This must have been done to enhance the setting of the open grave during the funeral. The mortar layer survived only at the east end of the coffin; elsewhere the surrounding fill had been removed by nineteenth-century excavations (Fig. 170). The existence of the coffin had previously been noted, but it had not been opened (p. 17; Buckle 1894, 38, pl. 2).

The coffin is described in chapter 13 (p. 500; Fig. 496, no. 4). The burial (B30) was evidently of a priest, who was accompanied by a mortuary chalice housed in a purpose-made niche in the south wall of the coffin (Figs. 171 and 172). The pewter chalice, and the paten that lay upon it, had decayed to a pile of crumbs: only a portion of the stem was recognizable, and that had fallen to the floor of the coffin (see also p. 528 and Fig. 520). Despite being well sealed in a limestone environment, with no possibility of disturbance or animal intrusion, the condition of the skeleton was far from good. Some bones had crumbled, particularly the pelvis and the extremities of the limbs. The skull, which had rolled out of the head-recess and onto the chest, had also decayed quite severely (Fig. 173), but had left its teeth behind as a scatter in the dexter side of the head-recess. The positions of the arms and hands, and the outward obtrusion of the elbows, indicates that the hands were placed together on the stomach, probably pointing upwards in an attitude of prayer.

Around the feet, the bones of which had largely disintegrated, were several small pieces of brown leather with stitching holes, evidently the remains of shoes or slippers (Fig. 174).[12] Traces of brown cloth were noted, although none was in a condition capable of being lifted and conserved: in the head-recess, on the chest, and between the thighs. There were also fugitive cloth impressions visible on some bones, and wisps of fibres in the dust on the floor of the coffin. On the pelvis lay a heavily corroded piece of iron, which was recognizable as a small buckle; there were minute specks of red enamel(?) adhering. Although nothing was physically recoverable, the position of the belt around the waist was clearly discernible; this had evidently been the last item to decay on the body, and had done so leaving a band of brown dust running across the pelvis from side to side. The burial, which was probably of a canon, dated from the fifteenth century.

Centrally placed under the arch between the nave and north aisle, and cut into the foundation masonry, was a cist-grave (F534) containing burial 31. It had been exposed but not opened in 1894 (Buckle 1894, 37). The cist was built of large blocks of Doulting stone, five per side on the north and south; the joints were roughly mortared (Fig. 175). A layer of clay formed the floor of the grave. The lid comprised four finely tooled slabs of Doulting stone, three of which had fractured and fallen in. The cist had contained a wooden coffin constructed with two dozen iron nails; the majority of these lay on the floor of the grave with their heads around the perimeter, showing that they

Fig. 169 Incised cross-crosslet on the west end of the cist containing burial 25. Note bolster-dressing on the stone. Scale of 25 cm

were associated with side-to-base fixing. There were a few fallen nails at the corners, as would be expected, but nothing specific to suggest that the lid had been nailed in position (Fig. 524).

The next grave (F532) to the south had been exhumed in the nineteenth century, but probably not by Buckle. The fill contained much disarticulated bone, but no trace of a stone cist, or the débris that would have arisen from the destruction of one. It is therefore not improbable that a stone coffin had been removed, and the obvious enlargement of the west end of the grave is consistent with the digging-out of a heavy object. A context for this exhumation may be the laying of the gas-pipe in the 1870s(?), or of the water-pipe in 1893 (p. 17). The two pipes crossed over, virtually on the site of this grave (Fig. 12).

Fig. 170 Coffin F586, containing a priest's burial (B30). The grave fill around the coffin was capped with a thin layer of lime mortar, which survived only at the lower end. Scale of 25 cm

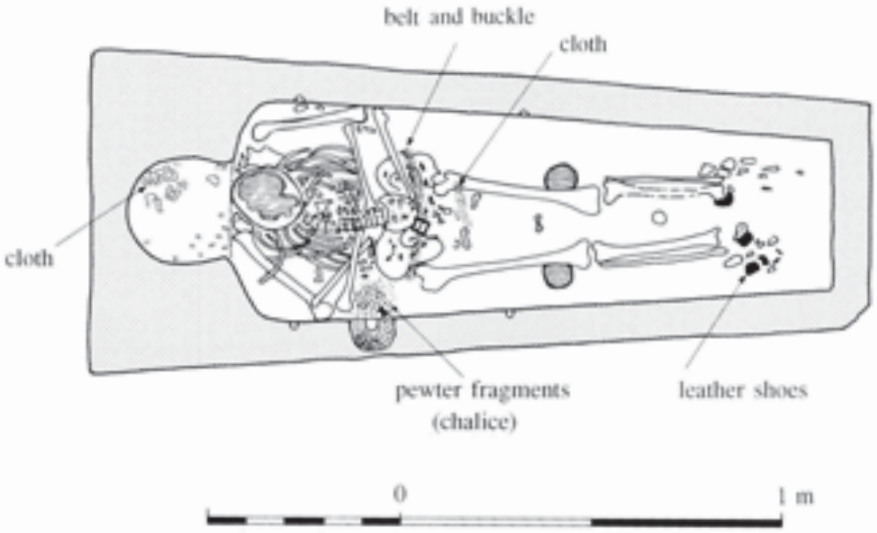


Fig. 171 Plan of coffin F586 and burial 30. Scale 1:20

Fig. 172 Burial 30, showing the positions of the arms and hands, the partially disintegrated pelvis, and the chalice-recess in the wall of the coffin. Scale of centimetres and inches

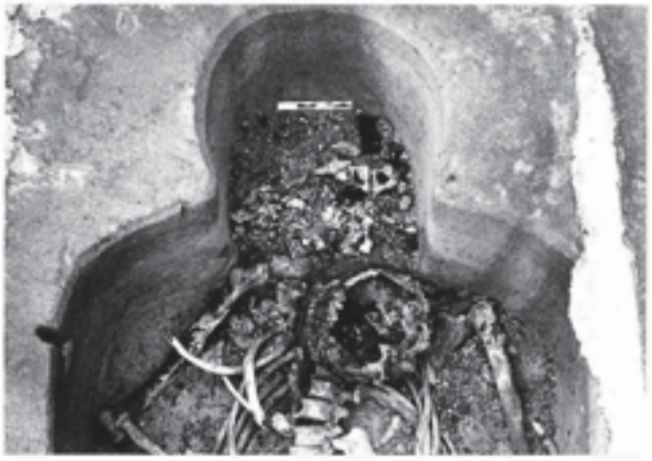


Fig. 173 Burial 30, showing the head-recess in the coffin, out of which the skull had rolled. The dark patches are decayed organic material, apparently cloth. Scale of centimetres and inches

The coffin which was removed from this spot was clearly not massive, and only one of those preserved in the cloister would fit the grave, *viz.* no. 5 (p. 500; Fig. 497). It may be noted that the lip on the dexter side of the coffin has small areas of damage at the point where the trench for the gas-pipe would have intercepted it. By chance, it is further possible to suggest that one of the medieval decorated grave-covers now

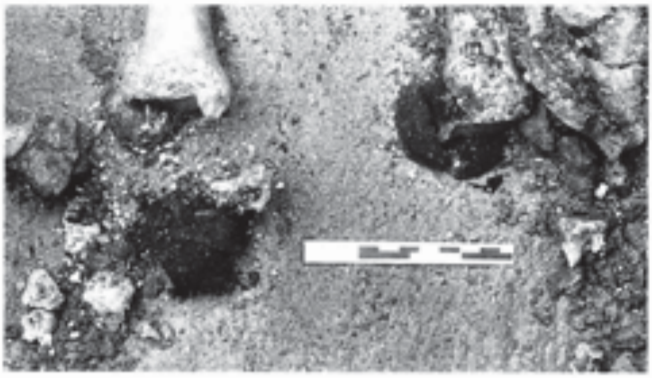


Fig. 174 Remains of the ankles and feet of burial 30, as found. The dark patches are fragments of leather slippers. Scale of centimetres and inches

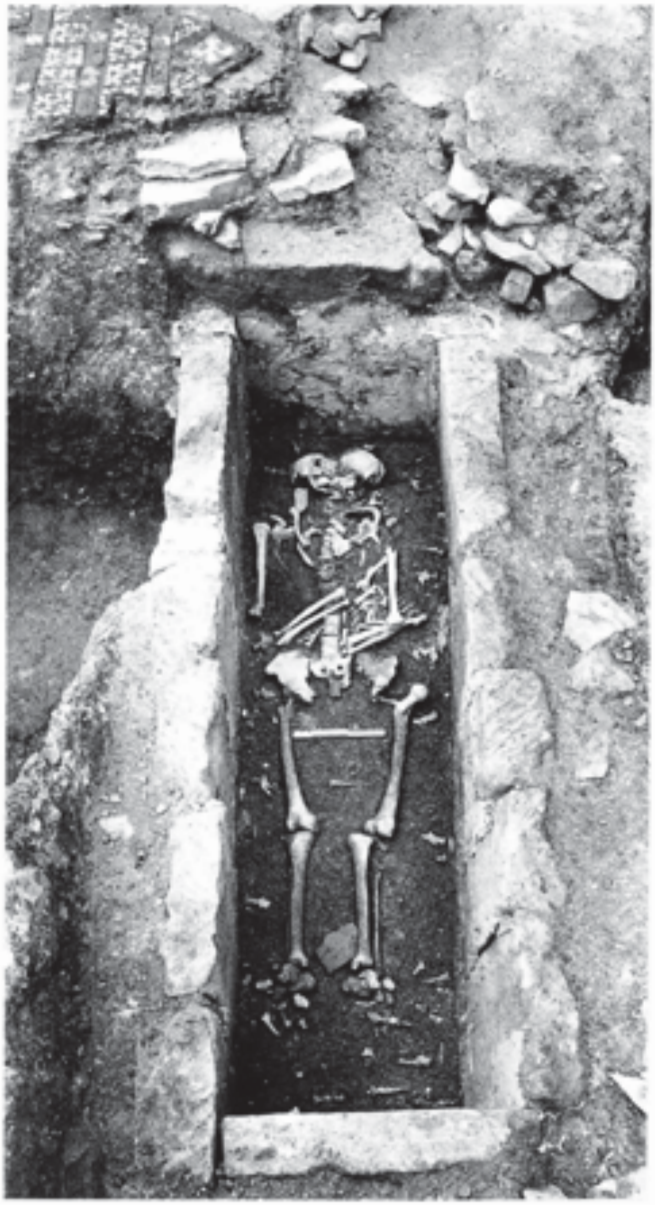


Fig. 175 Burial 31, in a stone cist, under the north arcade of the Lady Chapel. The axial rotation of the left femur is clearly seen. Beyond the grave is a patch of tile paving (area A). Scale of 25 cm

Fig. 176 Burial 32, in a timber coffin within a rubble-built cist. This is an example of near-perfect bone articulation which survived the decay process. Scale of 25 cm

preserved in the cloister also belonged to this coffin. The blue lias cover, no. 4 (p. 494; Fig. 494), is a perfect fit for the coffin. Moreover, both are broken at the foot-end, presumably where the grave was cut into by a post-medieval feature. If further confirmation of the union is required it is provided by the fracture across the cover, and the adjacent damage to the decoration, which occurs at precisely the point where the gas-pipe trench would have crossed the slab. The incised floriated cross on the slab indicates a later thirteenth-century date for the grave.

The next grave to the south was a cist built of unmortared rubble (F585). It was butted against the west end of an earlier cist, and thus had only three purpose-built sides. The rubble comprised blocks of Doulting stone, Chilcote stone, red sandstone, white lias and a little Purbeck marble. The last was probably from a destroyed grave-slab. Worn floor tiles of the late thirteenth century were also incorporated in the structure. The floor of the tomb was of clay, and the walls were rough and unrendered. The four capstones forming the lid were all fractured and were of an uncommon type of yellow sandstone. This cist was clearly

Fig. 177 Cists F560 (foreground) and F559 in the south aisle of the Lady Chapel, before opening. View south. Scale of 2 m

built from a collection of old materials. It housed a nailed wooden coffin containing burial 32, which was in a near-perfect state of articulation (Fig. 176). The construction of the coffin was curious: there were variously angled nails at the west end, a row along the north side, and a group with their points downwards at the east end. The last included a line of nails running across the coffin, over the knees.

Earlier than the last burial, and partly overlapped by its masonry, was an earth-cut grave (F602), covered by three large, rough capstones of red conglomerate. The interment was made in a nailed wooden coffin, F642 (Fig. 524). Although undisturbed, the skeleton (B33) was in very poor condition: only the skull and shafts of the leg long-bones survived, the torso having totally dissolved. The contrast in preservation between this skeleton and its immediate neighbour to the north was dramatic.

Under the south aisle arcade lay a cist-grave (F560), truncated at the west end by a later foundation trench. It was built of dressed blocks of Doulting stone, one at the east end and four (remaining) on each side; the west end was missing. Some stones carried chamfers and were evidently reused; various forms of dressing were also present, including diagonal axing, vertical claw-tooling and diagonal claw-tooling. The joints were mortared and there was a thin skim of lime plaster on the floor of the grave, which had been laid before the construction of the sides began. The cist was covered by two dressed Doulting stone slabs which had been neatly cut to form a trapezoidal (*i.e.* 'coffin-shaped') lid, but the upper surface was left rough, as though there were an intention to carve it (Fig. 177). That did not happen and the lid was never visible in the aisle floor. There must originally have been a third cover-stone, over the lost head-recess (Fig. 523).

Inside the cist lay two uncoffined skeletons, one directly on top of the other. The lower skeleton (B27) was of an adult male, the upper (B28) was a child aged

Fig. 178 A double burial in cist F560. Sections of chamfered limestone plinth have been used to form the sides of the cist. The child (B28) overlies an adult male (B27). The west end of the grave has been lost. Scale of 25 cm

Fig. 179 Detail of the head-recess and pillow-stone of cist F559. The stone block which closed the west end of the recess is missing. Scale of centimetres and inches

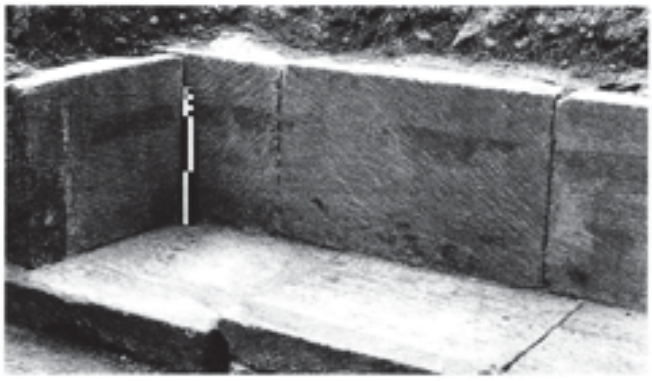


Fig. 180 Detail of the construction of the east end of cist F559, when partly dismantled. Note the brown staining and 'tide mark' on the walls. Scale of 25 cm

8–9 years. Bone preservation was poor. There is little doubt that the two were interred contemporaneously (Fig. 178), and no wooden coffins were included.

Immediately to the south, and seemingly sharing a contiguous construction pit, was another stone cist built entirely of dressed Doulting blocks (F559; Figs. 177 and 523). These were freshly cut for the purpose: the exposed faces and edges were finely tooled, while the back faces were left rough. There were four stones on each side and one at the east end; at the west end a head-recess was carefully formed using four blocks (one was subsequently displaced). Three blocks defined the recess, while the fourth was a pillow-stone, slightly hollowed and rounded on the leading edge. The grave floor was paved with five slabs of Doulting stone, laid before the walls of the cist were built; the lid, made of two slabs, was mortared in place (Figs. 179 and 180).

A skim of lime-mortar had been laid over the backfill around the cist, at the level of its rim: this was clearly a cosmetic detail for the benefit of the funeral (*cf.* burial 30, above). The interment (B26) was uncoffined and bone preservation was extremely poor (Fig. 181). A striking feature of the internal face of the cist was patchy brown staining on the stone. This ceased at a level line 23 cm above the floor (Fig. 180). Although having the appearance of a 'tide mark', it was plainly not caused by water retention inside the cist. In the first place, the jointing of the masonry was not watertight, and the cist could not therefore have retained surface water. Secondly, ground water was not sustainable at such a high level. It therefore seems inevitable that the cist must have been carefully packed with an organic material, the decay of which was sufficiently slow to allow permanent staining of the masonry to occur. The nature of that material is a matter for speculation, but moss is a possibility.

The two graves just described were the most elaborate of all the cists found in the chapel, and there is no doubting that they belonged together as a pair. They dated from the late thirteenth or early fourteenth century, and may well have been surmounted by a substantial monument which kept other burials at bay.

Row 4

The two interments in this row in the north aisle were both fragmentary. The south wall of cist-grave F499 survived: it comprised three courses of dressed

Fig. 181 Cist F559, containing the remains of burial 26. The torso had almost entirely decayed, while the legs remained intact. Scale of 75 cm

Doulting stone, with a skim of lime plaster on the inner face. The west end of the cist was simply a layer of plaster applied to the vertical earth face of the grave-cut. The north and east sides were destroyed by Stillington's construction trench (F455). There was no evidence for a coffin, and the carefully finished interior of the cist was probably intended to simulate one. The floor was of mortar. Little of the skeleton (B20) survived, but this included the lower right arm, the position of which implied that the hands were placed upon the stomach, potentially in an attitude of prayer, as in the case of B30 (p. 184).

Adjoining F499, but of earlier construction, was the second cist-grave, F500. It had been built hard against the north wall of the nave, and was cut into its offset foundation. The south side of the cist and a fragment of the north side survived. They were built of two courses of rough stone, mostly Doulting, covered on the inner face by a thin mortar skim. There were no stones used at the east and west ends of the grave, and the vertical earth face of the cut was simply rendered. All that remained of the skeleton (B22) was the right fibula and foot, since the grave had been thoroughly disturbed by a Victorian excavation trench (F339) in which fragments of the former capstones were found. No coffin nails were observed.

It is likely that these two graves in the aisle were deliberately paired (B20 and B22). There were no fragments of medieval floor tile in their construction, which is a pointer to an early date (before *c.* 1270). They were however later than the truncated burial 23, in row 5.

Towards the middle of the nave lay two more cist-graves (Fig. 182). The northern one (F587) was the earlier and it also antedated the neighbouring cists in row 3 (F585) and row 5 (F589 and F590). The sides of the cist were constructed of small pieces of mortared Doulting stone, many of which were reused and had been cut down from large ashlars with joint-keying grooves; there was also a piece of chamfered plinth with diagonal tooling. The east end was formed from a single, roughly dressed block, and the west end from a large block with a finely tooled face. The bottom of the grave was clay, and the cist-cover comprised three large, rough capstones of red conglomerate, all fractured. Inside the cist was an undisturbed burial, B34, in a heavily nailed wooden coffin (Fig. 524). Bone preservation was good, except for the vertebral column and pelvis.

Fig. 182 Cist-graves F593 (centre) and F587 (right), in row 5 in the nave of the early medieval Lady Chapel. Intruding on the left are the cover-stones of the later and differently aligned grave F594 (associated with Stillington's chapel). Scale of 25 cm

The adjoining cist-grave to the south (F593) had been disturbed by, and some of its stone robbed for, a Stillington-period burial (F594). The sides of the cist

were constructed of finely dressed slabs of Doulting stone, with a small amount of mortar between the joints; several types of tooling were present. A single large stone formed the east end, and the head-recess was created using three uprights and a pillow-stone at the west end (Fig. 523). The construction was the same as in cist F559, and again the central end-stone was missing (removed in this case by grave F602). The floor of the grave was of clay, and the cover comprised three capstones of blue lias and one of sandstone; Treborough-type roof slates were used to bridge the joints.

There was no evidence of a coffin. The corpse (B35) had been disturbed, and was literally pushed towards the north side of the cist while partial articulation remained. Crumbs of decayed pewter or lead lay on the sternum and in the thoracic region generally, potentially indicating the former presence of a mortuary chalice. There were also the remains of an iron buckle in the pelvic region. These finds invite comparison with the priest's burial B30 in row 3 (p. 184). There were no medieval floor tile fragments included in the fills of the graves in row 4 in the nave.

Row 5

The remains of a single burial were encountered at the east end of the north aisle; it was truncated on the west by two graves in row 4 and on the north by a Stillington-period foundation trench. Parts of the south side and east end of a cist (F501) remained, and were constructed of unmortared blocks of Doulting stone. The floor of the grave was of clay, and one loose capstone was found. Slightly more than half the skeleton (B23) was present, with disarticulated bone and other débris dumped on top of it. There was no evidence of a wooden coffin, and the right leg was pressed hard against the south side of the cist. A fragment of gold braid was found in the grave.

Set into the south side of the aisle, adjacent to this grave and immediately above aisle floor level, was a large Doulting stone block which was presumably the plinth of a funerary monument, F1516. The base was uncovered in the last century, when it was apparently complete (Buckle 1894, pl. 2, H). In 1979 only the eastern half remained *in situ*, the other portion being found elsewhere, in backfilled material. The complete base, which measured 1.39 m by 42 cm, had a worn upper surface with two square seatings for uprights in the back corners, and a slight chamfer on the front edge.[13]

Within the nave, and hard against its north wall, lay cist-burial F588 (Fig. 183). The two sides were each made of four large blocks of Doulting stone with pronounced diagonal tooling; there were single blocks at either end. The grave had a clay floor, with a thin skim of lime mortar over it. The cover comprised five slabs of squared Doulting stone, which were thoroughly mortared to the structure below; worn floor tiles of the late thirteenth century were used as packing material under the capstones.[14] The mortar employed was of a late medieval type: white with inclusions of charcoal and grey ash. A fifteenth-century date seems likely.

Fig. 183 Stone cist F588, in the nave of the Lady Chapel, containing burial 37 within a wooden coffin. Medieval floor tiles were used in the construction, as seen on the south side (left). Scale of 25 cm

The skeleton (B37) was well preserved and had been contained in a heavily nailed wooden coffin (F618; Fig. 524). Owing to the liberal use of mortar in the construction of the cist, squeezes of surplus material had fallen into the void between the coffin and the masonry walls, forming a negative 'cast' of the base of the coffin (Fig. 184). In part, this cast stood 7 cm high, preserving marks of the wood grain. Oak was evidently the timber used. The grain of the end-board on the west stood vertically, as did a series of nails on the floor of the cist; this showed that the end-board was placed on top of the base-board, rather than clasping it as was commonly the case in the Middle Ages. Wood-grain impressions from the lid of the coffin were preserved in

Fig. 184 Cist F588, after the removal of burial 37. On the right can be seen a wedge of mortar which fell into the gap between the coffin and the north side of the cist, preserving an impression of the wood grain, and trapping coffin nails. Scale of 25 cm

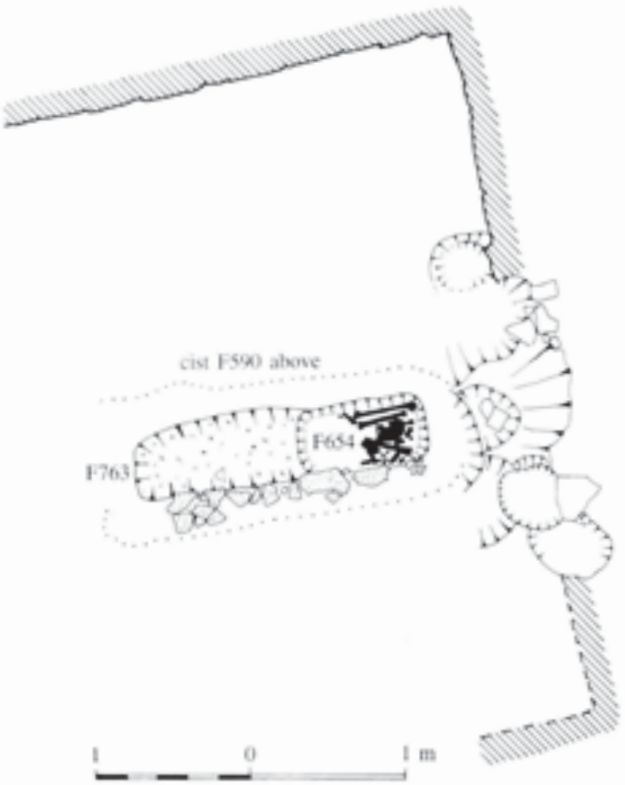


Fig. 185 Plan of minor features at the east end of the nave of the Lady Chapel. Scale 1:50

mortar squeezes between the capstones at the south-east corner of the cist. The full dimensions of the coffin could thus be recovered; it tapered slightly along its length, as did the cist.

Coffin F618: external dimensions
Length, 1.88–1.90 m
Width, west end, 45 cm; east end, 40 cm
Height, 32–33 cm
Board thickness, south side, 2.7 cm; west end, 2.5 cm
The nails used were up to 9 cm in length.

Stratigraphically earlier than, and damaged by, the last grave was F589, a stone cist with heavily disturbed contents. The sides were each made of four dressed slabs of Doulting stone, and a single one at the east end (Fig. 523). The west end was built of three upright blocks (one missing) and a pillow-stone (*cf.* cists F559 and F593, previously described). The capstones were in place, and comprised three large, rough slabs of red conglomerate and a small Doulting block. However, the grave had previously been opened, probably in the eighteenth century, and window glass of that period was found under the capstones. There was intrusive débris inside the cist, and the skeleton (B38) was in complete disarray, with much of it missing: only the fibulae and right humerus were in place. There was no timber coffin and the floor of the cist was of clay.

Fig. 186 Rectangular pit containing a skull and long-bones, evidently a medieval reburial of a disturbed skeleton. View west. The deposit lay axially at the east end of the nave, perhaps in front of an altar: see Fig. 185. Scale of 25 cm

Fig. 187 Cist F591. cpmtaomomg tje dostirned remains of burial 40. Scale of 25 cm

Fragments of gold braid were found in four places in this tomb, suggesting that it may have been woven into a cloak or other over-garment.

Grave F590 was another cist built mainly of finely tooled Doulting stone slabs with mortared joints. Although there were four large blocks per side, these did not constitute an adequate length for the cist, which was supplied by adding extra small stones at the western corners. This was a curious arrangement, and one of the 'extension' pieces was a former pillow-stone derived, presumably, from a dismembered cist in the vicinity. Fragments of medieval floor tile were embedded in the construction, to make up levels, and a mortared surface was laid around the rim of the cist, over the backfill of the construction pit. The south side of the cist was also of anomalous construction in that the Doulting blocks here were not bedded directly on the clay floor of the grave pit (as elsewhere), but were underlain by a course of small pieces of sandstone and lias, with fragments of floor tile incorporated.

The cover-stones comprised four rough slabs of red conglomerate, three of which were fractured and had collapsed into the grave. There was no evidence of a timber coffin. The skeleton (B39) was undisturbed and

Fig. 188 Detail of burial 40, showing the disintegration and dispersal of bone, and the crossed ribbons that appear to have been used to tie-up a parcel (centre); cf. Fig. 189. Scale of centimetres and inches

in a reasonable state of preservation; it provides one of the more dramatic examples of the axial rotation of limbs during decomposition (Fig. 525).

The likelihood of there having been an earlier cist on this site must be considered: the curious construction, and the reuse of a pillow-stone, point to the reforming and enlarging of a cist-coffin which was already in existence (reconstruction, Fig. 523). This was confirmed when the cist was dismantled, and the construction trench for its predecessor revealed (F763; Fig. 185). It was also discovered that a rectangular pit had been dug through the floor of the early grave, probably at the time of rebuilding the cist. The pit (F654) measured 88 cm by 45 cm, and contained a carefully placed collection of human bones (Fig. 186). The contents had been lost from the west end of the pit, but to the east lay a skull flanked by long-bones, interspersed with various small bones.[15] Amidst these were the vestigial remains of a pewter vessel, too decayed to recover any detail of its form: it was little more than a shadow of lead salts in the soil. The deposit is most

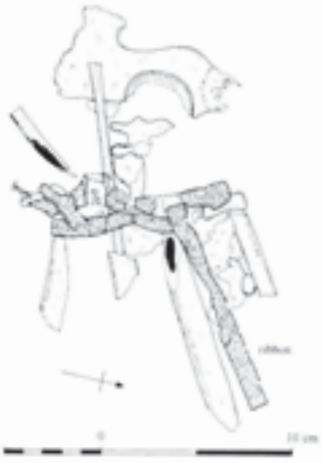


Fig. 189 Plan of gold-braided ribbon overlying decayed bones in the thoracic region of burial 40. The ribbon was evidently knotted, and would appear to have been used to tie a small parcel of bones. Scale 1:4

plausibly interpreted as a reburial of the collected remains of the interment which had first occupied the cist here. The presence of pewter suggests a mortuary chalice, and hence a priest's burial. The axial position in front of the chancel arch is, of course, a critically important site in the Lady Chapel, and its colonization for burial several times over is to be expected.

The final grave recorded in the nave was another cist, F591, built of finely dressed Doulting stone blocks with six per side, bedded on mortar and stonedust. The head-recess at the west end was again formed with three upright blocks (one missing) and a pillow-stone (Fig. 523). The floor of the grave was of clay, and there was no inner coffin. The cist was covered by four rough slabs of yellow sandstone, one fractured and collapsed. Basically, the cist was intact, but the skeleton (B40) was disturbed and very fragmentary, although there is no apparent reason why this should have been so. Many of the bones were missing, and there were supernumerary bones present. The lower legs were found correctly juxtaposed, but were too far west in the grave: they lay approximately where the thighs should have been. The skull was not in the head-recess, but lay in the thoracic region, where the femora and parts of the pelvis also occurred (Fig. 187). In this area, and further down the grave (where the pelvis should have been), were found fragments of cloth and gold-braided ribbon (Figs. 188 and 189; Pl. IV; p. 534). A strip of this ribbon was tied with a knot, as though it had once been wrapped around a parcel of bones.

The interior of the cist bore traces of brown staining, up to a height of 22 cm above the floor, which, it is suggested, resulted from the presence of an organic filling (*cf.* burial 26, p. 188).

Chancel (Fig. 145)

About 40% of the interior of the chancel was destroyed by later features, and the remainder was only partially excavated. Nevertheless, it is clear that the density of stone-coffined and cist burials in the chancel was much lower than in the nave.

On the central axis of the chapel, in front of what was presumably the Lady Altar, had been a substantial stone-built cist (F1297), which was almost entirely destroyed by a Stillington-period cist-grave on the same site (Fig. 225, F1296). The evidence for the earlier tomb lay in the floor and under the walls of the later one. The two were separable because the former was built using pink mortar, and the latter using white. Pink mortar in the bottom of the grave pit defined much of the outline of the primary cist, but of its structure only two mortared stones at the north-east corner remained *in situ*. Nothing is known of the skeleton, or of any coffin, which is unfortunate since this would undoubtedly have been an interment of major significance. The dimensions suggest the likelihood of a cist-coffin rather than a chamber to house a separate wooden coffin.

Axially east of this, and just clipped by it, was another cist (F1503) containing burial 308. It is unexcavated, as is a further cist-grave (F1495, burial 302), which lay north of cist F1297.

Finally, a limestone coffin, F1294, was found against the north wall. It had been encountered during the digging of a Stillington-period wall trench: there was no cover on it and no articulated skeletal remains inside. The coffin had been used as a convenient charnel box, being filled with loose bones (F1282). The grave dates from the late thirteenth or the fourteenth century, but the coffin is of a much earlier type and must have been recycled. It is probably of late Roman date, and was salvaged in the Middle Ages. The internal dressing of the stone, and the two groups of drainage holes in the base, are secondary and associated with the coffin's reuse. The coffin is illustrated in Figs. 37 and 69, and is discussed on p. 48.

Burial types and chronology

Incomplete though the evidence is, it is readily apparent that several different types of grave provision are represented in the Lady Chapel, and that some stratigraphic evidence exists which can be used to establish a relative chronology. There were basically four grave types.

Type 1 Monolithic stone coffin.
Type 2 Stone-built cist with head-recess, simulating a coffin.
Type 3 Plain rectangular stone-built cist, to receive a timber coffin.
Type 4 Earth burial in a timber coffin.

Of type 1 there were three examples, one intact (B30), one involving the reuse of an older coffin (F1294), and one removed in the nineteenth century (F532). All were tapered along their length.

Type 2 yielded four unequivocal examples, where the head-recess — complete with pillow-stone — survived (burials 26, 35, 38 and 40), and a further three examples may reasonably be inferred, although the west end of the cist had been lost in each case (burials 23, 27/28 and 39; for the second, see Fig. 523). Additional common factors of all seven were the use of large pieces of Doulting ashlar for the walls of the cists, and the complete absence of coffin nails or other indications that there had been any inner shell. In other words, the cist was the coffin. Again, these were all certainly or probably tapered. In two definite cases, and in others possibly, a distinct stain, like a 'tide mark', occurred on the wall of the cist, indicative of a lost filling material which, it is argued, was packed around the corpse. This must have been organic, and was perhaps slightly iron-rich: moss is suggested.

There were at least six occurrences of type 3 cists, half of which were modestly tapered towards the foot,

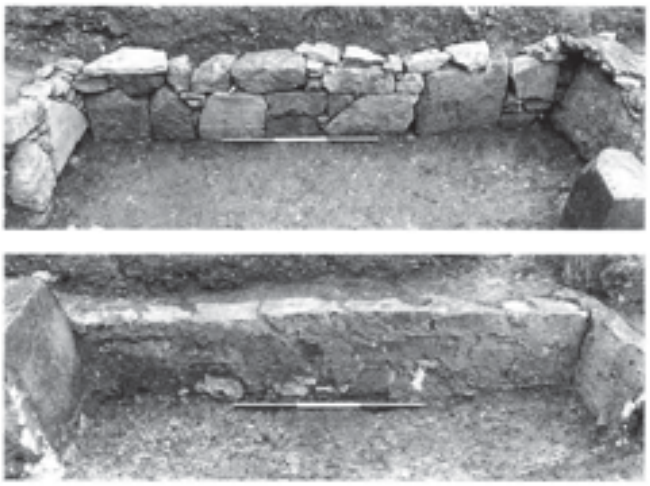


Fig. 190 Examples of cist construction. A (upper) Rubble walling laid without mortar (F585); B (lower) Roughly dressed stone, laid to courses, with the joints heavily smeared with mortar (F587). Scales of 75 cm

while the others were not perceptibly so. The nature of their construction varied considerably, appearing to depend upon the materials that came readily to hand (Fig. 190). All had once contained nailed timber coffins, also with little or no apparent taper. Several other damaged cists were consistent with type 3. There were three earth burials of type 4 (B13, 33, 42 and 78).

The clustering of graves in the centre of the nave enabled a relative burial sequence to be elucidated, which is illustrated on Figs. 191 and 192). The earliest burial (B34) lay near the centre of the nave and towards, but not at, the east end. It was of type 3, and parallel sided. The cist was abutted by burials 35, 38 and 39, two of which were type 2 coffins, and the last had arguably been one too. On plan, it is clear that burial 40 (also of type 2) was part of a cohesive group with 38 and 39. Stratigraphically later than 38 was the plain cist burial 37 (type 3); and later than 35 was the earth burial 33. This last was followed by another type 3 cist containing burial 32.

Three conclusions emerge. First, that the sequence probably began with a pair of important burials in the nave (although only one remained). Secondly, that there was a phase when a series of simulated stone coffins, all very similar in detail, were constructed; but they were not contemporary with the monolithic coffins. Two simulated stone coffins in the south aisle and, probably one in the north aisle, belong with the series found in the nave. Thirdly, there was a tendency for burial to progress in a westward direction.

Although there was a centrally placed cist-grave in the chancel, it evidently did not become the focus of intense burial, as occurred in the nave. But more excavation would be needed to elucidate the arrangements in the eastern arm. There may have been a row of burials in front of the sanctuary step.

Synthesis and discussion

The Lady Chapel-by-the-Cloister was a remarkable building in several respects, not least for the very fact of its continued existence throughout the Middle Ages. It was an early Gothic rebuild of the Anglo-Saxon chapel of St Mary, and was directly connected with the construction of the Gothic east cloister (for which, see chapter 8). While respect for the ancient *locus sanctus* may reasonably be invoked to explain the presence of a chapel on this spot, its adherence to the north-east to south-west alignment of the Anglo-Saxon minster complex is so extraordinary in the context of a wholly replanned precinct, that powerful forces must have been brought to bear.[16] It would have been no great task to square-up the rebuilt chapel, so that it articulated comfortably with the cloister. It is almost as though the obliquity of the chapel was cherished as a conspicuous reminder of the historic past. While it can be no more than surmise, the canons of Wells might have wished literally to enshrine a fragment of their old cathedral in the new church complex. This would have served as a permanent reminder of the lost diocesan status that they were still seeking to recover.

The development of the Lady Chapel is divisible into several structural phases, which followed in quick succession. The precise sequence in respect of the added aisles cannot be determined, but the following is suggested (Figs. 191 and 192).

Structural evolution

Phase 1

In the mid-1190s the Saxo-Norman chapel was restored and linked to the east cloister which was then already under construction. A tall, processional entrance was provided on the west, while the old north and south doorways leading into the Camery cemetery were probably retained. The chapel was three-celled, comprising a small, squarish chancel, a rectangular nave, and a trapezoidal vestibule, or west nave extension. All three components reflected the plan and dimensions of their predecessors. There appears to have been a nave altar, with two burials in front. Possibly, that was the altar of St Katherine.

Phase 2

In the middle years of the thirteenth century, a rapid process of enlargement occurred. The first addition was almost certainly the north aisle, with its shallow pilaster-buttresses. A date around the 1220s is likely. Communication with the nave was via a single arched opening, and there was probably a doorway in the north wall.

This aisle provided a side-chapel which presumably housed a chantry. Two burials were placed before

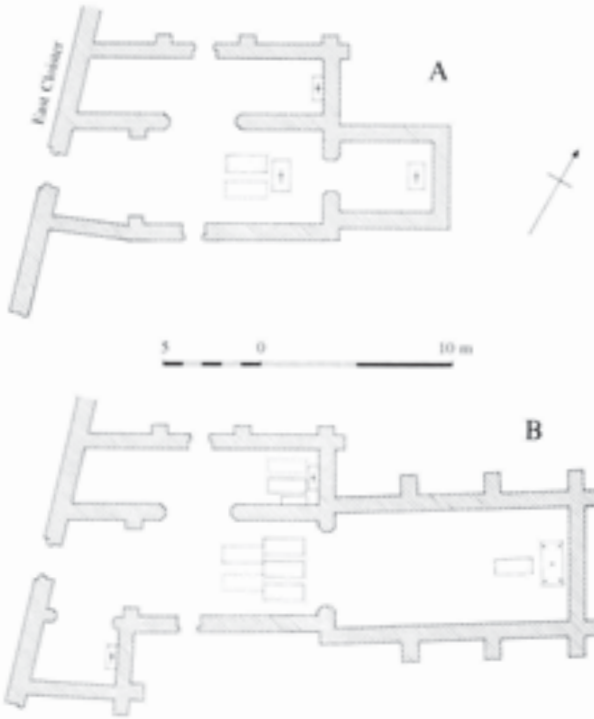


Fig. 191 Development of the plan of the Lady Chapel and the burial sequence within it. New graves of each phase are shown stippled, existing ones in outline; a broken outline indicates a notional grave site. A Phases 1 and 2, early to mid-thirteenth century; B Phases 3 and 4, mid-thirteenth century. Scale 1:400

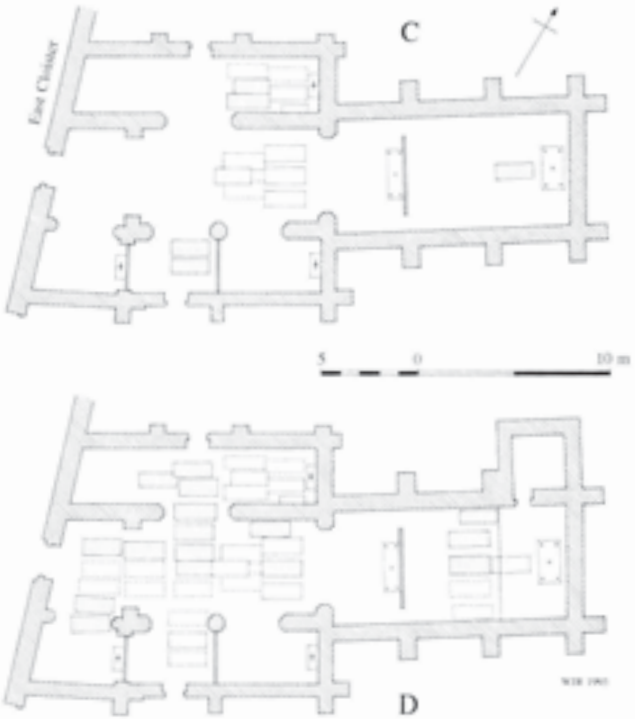


Fig. 192 Development of the plan of the Lady Chapel and the burial sequence within it. C Phase 5, late thirteenth to late fourteenth century; D Phase 6, fifteenth century. Key as for Fig. 191. Scale 1:400

the altar. The nave altar was evidently removed — perhaps to the north aisle — and its site taken over by three graves. Hence, the north aisle may have become 'St Katherine's chapel', with Canon Thomas Aliston buried in front of its altar in 1392.

Phase 3

The next development probably involved the addition of a small chamber in the angle between the south wall and the cloister, namely the south-west chapel. That this was a side-chapel, rather than a sacristy, is indicated both by its western location and by the fact that it was entered through a broad arch. The near-complete destruction of the floor in this chapel had removed evidence for any burials in front of its altar. A date in the 1240s or 1250s is implied.

By 1250, at least one chantry was housed in the Lady Chapel. The south-west chapel could be the site of Agatha de Meysy's chantry (p.161).

Phase 4

The rebuilding of the chancel, as a three-bay structure of large size, relative to the nave and aisles, occurred in the middle years of the thirteenth century. Logically, it came later than the addition of the north aisle, but its chronological relationship to the south aisle can only be surmised.

If we are correct in associating the series of *ex situ* spandrels with the new chancel — and the circumstantial evidence for so doing is compelling — then a wealthy patron is required. The only name which can be advanced as a candidate is that of the Bytton family, which clearly had an interest in the Lady Chapel-by-the-Cloister, as well as the Lady Chapel in the cathedral church. Bishop William Bytton I (1248–64), his brother, Provost John, and his nephew William II (1267–74), all receive historical mention in connection with the cloister chapel. Surely, it was William senior who was responsible for building the sumptuously decorated chancel, probably *c.* 1250–55? He too may have introduced the first decorated floor tiles to Wells. They had to be carted a considerable distance overland from the Nash Hill tilery and, at the time, tiles must have been an uncommon sight in Somerset.

The Bytton family chantry was founded at the altar of St Nicholas in the cloister chapel, and this receives specific mention in 1276, but there is no clue to its precise location. The Lady Altar was doubtless in the easternmost bay, but there are hints of another prominent altar in the western bay of the chancel: perhaps this was where the Bytton chantry lay.

During the course of the late thirteenth and fourteenth centuries, the chapel attracted burials of wealthy lay-folk. One complete thirteenth-century grave-cover bearing an incised foliate cross, and a fragment of a second, have survived, but these were not found *in situ* (Fig. 494, 4 and 5).

Phase 5

The south aisle of two bays was added in the latter part of the thirteenth century. It evidently had a doorway in its south wall, and communication with the nave was via an arcade. The nature of any connection with the south-west chapel is a matter for inference. There would have been an altar against the east wall, presumably with interments in front. This is an alternative site for the altar of St Nicholas.

Phase 6

At an uncertain date in the fourteenth or early fifteenth century, a sacristy was added to the north side of the chancel. Burial continued in the chapel, and there is every indication that by the middle of the fifteenth century the floors of the nave and aisles were well packed with interments. Much of the tile paving would have been replaced by ledger slabs, but these were all subsequently robbed. The discovery of fragments of pewter mortuary chalices points to at least four clergy having been buried in the chapel.

Architecturally, the Lady Chapel-by-the-Cloister must have appeared somewhat curious, and certainly 'vernacular' by the standards of the adjacent cathedral church. The nave was probably fairly tall in relation to its plan, a common feature of Anglo-Saxon churches. Whether, in the 1190s rebuild, the roof of the western extension was carried through at the same height, or was lower (thus emphasizing its function as a vestibule) cannot be determined. Either way, the extant scar on the cloister wall shows that the eaves height at the point of abutment was at least 8 m.

The eaves of the south aisle were less than 3 m above ground, which implies small lancet windows and a modestly proportioned south doorway. The windows could not have admitted much light to the nave, and on the north, where the aisle faced the cathedral transept, light levels would have been even lower. The absence of full arcades between nave and aisles made the situation worse, and clerestory lighting is therefore strongly implied. This could have taken the form of a series of simple oculus windows but, more likely in the Wells context, quatrefoils (*cf.* Etton, Cambridgeshire[17]). Elongated quatrefoils appear prominently in the plate tracery of Jocelyn's solar-block at the Bishop's Palace (*c.* 1230–50).

The new chancel was slightly wider than the nave to which it was abutted, and might have been taller too. It would have been better lit, probably with single lancets in each bay, and a graduated triplet in the east wall. It seems highly likely that the exterior of the chapel was fully rendered and was not elaborately decorated with mouldings and sculpture. However, there could well have been a niche in the east gable, containing a statue of the Virgin Mary, and in this connection it is worth noting that the crowned head of such a statue has survived in the cathedral's lapidary collection (Fig. 193).

Fig. 193 Crowned head of the Virgin Mary, possibly from a gable-niche statue in the Lady Chapel-by-the-Cloister (Jerry Sampson)

At close to life-size, the scale would have been appropriate to a gable niche, as already observed by Tudor-Craig (1982, 122). A date of *c.* 1300 has been suggested for the figure, implying that it was an addition.[18] With these observations and deductions in mind, it is possible to attempt a reconstruction of the general appearance of the Lady Chapel in its late thirteenth-century form (Fig. 194).

The south aisle roof had a pitch of 45°, but the nave and new chancel were probably steeper. While the early Gothic roofs on the cathedral church were covered with sheet lead, it appears that the cloister and ancillary buildings were slated. The demolition of the Lady Chapel in 1477 released a large number of greenish-grey slates (probably originating from west Somerset, p. 30), which were found throughout the excavation, and reused as a damp-proof course in the footings of Stillington's chapel. Nonetheless, it is still possible that the chancel was roofed in lead.

There is no reason to believe that any part of the Lady Chapel was stone vaulted. However, in the light of recent compelling arguments for recognizing the loss of thirteenth-century timber vaults from a number of important buildings, including the Elder Lady Chapel at Bristol and the northern Lady Chapel at Tewkesbury, it is worth bearing this option in mind for the chancel (Thurlby 1997, 33; Hearn and Thurlby 1997).

Internally, the chancel probably bore a strong resemblance to the Bristol Elder Lady Chapel, which itself was an architectural 'export' from Wells (Thurlby 1991). The two structures, although differently pro-

Fig. 194 Artist's reconstruction of the Lady Chapel-by-the-Cloister in the late thirteenth century, seen from the south-east. Drawn by Alan Rome

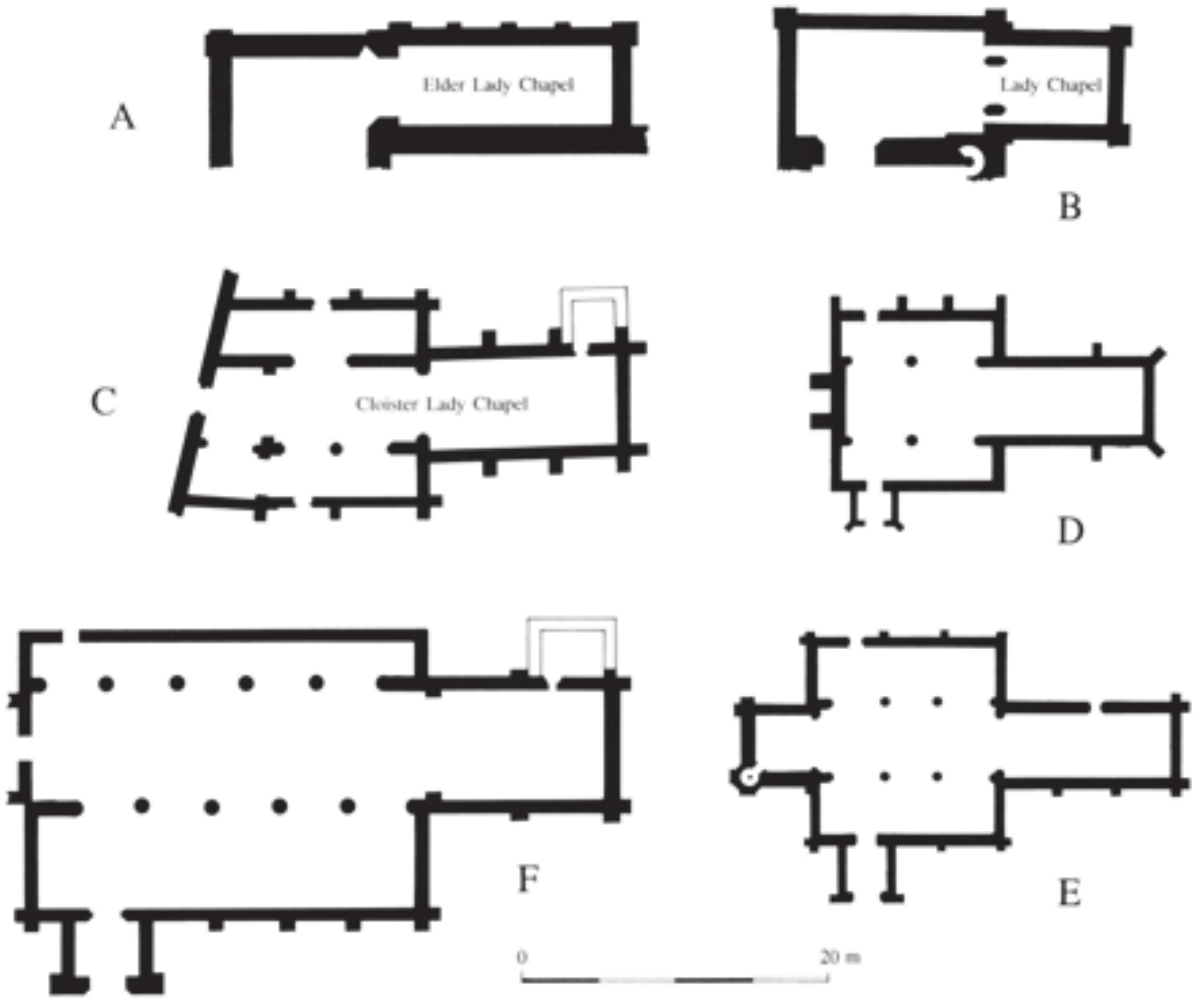


Fig. 195 The ground plan of the Wells cloister chapel compared to some other thirteenth-century buildings. A Elder Lady Chapel, Bristol Cathedral; B Lady Chapel, Tewkesbury Abbey; C Lady Chapel-by-the-Cloister, Wells; D All Saints, Little Casterton, Leicestershire; E St Stephen, Etton, Cambridgeshire; F St Peter, Barton-upon-Humber, Lincolnshire. Scale 1:500

portioned, had similar floor areas (Fig. 195A, C). The chancel at Wells was twice the size of the eastern chamber of the Lady Chapel at Tewkesbury (Fig. 195B).

Although the chancel dominated the building, and its internal decoration was sumptuous, it must not be forgotten that, overall, the Lady Chapel was not a large building in cathedral or even parish-church terms. Thus, it was only two-thirds the size of the eastern Lady Chapel at Worcester, which has already been mentioned in connection with its similar wall-arcading. The scale of the Wells chapel, relative to the cloister and transept, can be appreciated from Fig. 354.

In terms of absolute size, the chapel was significantly larger than some contemporary rural parish churches, such as Little Casterton (Leicestershire)[19] and Etton, although the family resemblance is not in doubt (Fig. 195D, E). The dimensions of the chancel compare more favourably with larger quasi-urban parish churches, such as St Peter, Barton-upon-Humber (Fig. 195E).

All in all, the exterior of the Lady Chapel may have had an ungainly appearance, owing to the relatively great bulk of the chancel. We may speculate that when Bishop Bytton built his addition he envisaged the eventual replacement of the nave and aisles with a more grandiose structure. However, the remarkable architectural evolution of the chapel, from its distant origins as a late Roman mausoleum, came to an end in 1477, when it was completely demolished by Bishop Stillington.

7 Bishop Stillington's Lady Chapel and Chantry, 1477–1552

Introduction

Robert Stillington, who was a more colourful character than many of the bishops of Bath and Wells, rose not only to high office in the Church, but also in public life, becoming Lord Chancellor of England. However, he lived in politically troubled times, fell from power and died in disgrace. Even so, he left his mark at Wells in the form of a notable architectural legacy which, sadly, did not long outlive its creator.

Stillington was a Yorkshireman who arrived in Wells as a young canon in 1445, becoming treasurer two years later. Other preferments heaped upon him included the archdeaconries of Taunton in 1450 and of Wells in 1465. Finally, he was elected Bishop of Bath and Wells on 11th January 1466.[1] Concurrently, Stillington was leading a potentially dangerous political life: he became Keeper of the Privy Seal in 1461, and Lord Chancellor in 1467. As an avowed Yorkist, his position was insecure and he was forced to resign the chancellorship in 1475. Presumably, this led in due course to his return to Wells, where he had not been at all during the previous decade. In fact Stillington visited Wells on only one occasion during the twenty-six years of his episcopate, and that was for less than four weeks: 23rd September to 16th October, 1476 (SRS 1937, xv, 108–9).

The bishop held a visitation in the chapter house on 15th October 1476, on which occasion it was reported by Hugh Sugar, the canon treasurer, that the Lady Chapel-by-the-Cloister was *ruinosa et defectiva* (SRS 1941, 91–2). That must have been the moment at which Stillington determined to embark upon the reconstruction of the chapel, which he evidently funded himself. The principal purpose of the exercise was to provide a sumptuous setting for his own chantry and sepulchre.

Stillington may possibly have recognized that his political career was nearing its end, and therefore determined to devote his efforts to the cathedral.[2] He evidently saw himself as having a greater involvement in its affairs than hitherto, since he fixed the date of his next visitation for 28th April 1477, although in the event that never took place (SRS 1941, 92). Stillington supported the cause of Richard III, and rose to political prominence once again. Although his episcopal duties at Wells were soon forgotten, the bishop's new chantry chapel was nevertheless under construction in the Camery. Stillington fell with Richard in 1485, was imprisoned at York, briefly pardoned, but soon imprisoned again at Windsor Castle. He died there in May 1491.

Historical notices of the chapel

Although the decision to rebuild the Lady Chapel-by-the-Cloister was probably taken in 1476, on the occasion when it was described as *ruinosa et defectiva*, work evidently did not begin until the next spring. A memorandum recorded in the proceedings of the Consistory Court on 28th January 1477 stated that the court would meet in future in the chapel of the Holy Rood, owing to the rebuilding of the Lady Chapel. The completion of at least the major part of the new chapel had evidently occurred by the autumn of 1487, since collations were made at the altar of St Nicholas there on 1st October in that year (HMC 1914, 107). It was not however until 22nd September 1488 that the Consistory Court recorded that it would return to the Lady Chapel from its temporary quarters in the chapel of the Holy Rood (SRS 1941, 155).

Two altars are specifically attested in Stillington's Lady Chapel. First, there were the collations, mentioned above, made at the altar of St Nicholas in 1487; these were for not less than seven chantries at the same altar. Second was the altar of St Katherine, which was recorded in a will dated 26th October 1486 (SRS 1901, 261; see also p. 234, below). There can be little doubt from these two early records that they refer to the primary side chapels, namely those in the north and south transepts. Which was which, we cannot now tell, but it has been suggested above that St Katherine's chapel lay on the north (p. 195). Victorian accounts placed St Nicholas on the north. Other mentions of the Lady Chapel in wills refer to the 'image of the Blessed Mary' and the 'cross' in the chapel (p. 234), again without giving specific locations.

The only surviving contemporary descriptions of Stillington's chapel, while it was still standing, are by William Worcestre (1480) and John Leland (1542). Worcestre probably witnessed the erection, or at least the completion of the chapel, referring to it as 'the new chapel built at the costs of the Bishop is 36 yards long and 7 yards wide' (Harvey 1969, 488–9). Leland's observation was terse but complimentary: 'There is set to the est ende of the cloystre an exceding goodly ch[apel *in*] *transepto* of Bisshop[s] Stil[lington and King]' (Toulmin Smith 1964, 292).

Edward VI's Chantries Act (1547) precipitated the demise of structures such as Stillington's Lady Chapel, and in 1552 it was granted to the king's agent for demolition. Francis Godwin, writing half a century after its destruction, seems to have encountered men who not only saw the chapel, but also witnessed its destruction (Godwin 1601). Robbing of the ruins continued until the early seventeenth century, after which the site of the chapel disappeared beneath a garden. It was rediscovered in 1851 when the first archaeological excavations were carried out in the Camery (p. 15; Clerk 1851), but it was not until 1894 that the complete plan was revealed (Buckle 1894). Full re-excavation in 1978–80 led to the discovery of much hitherto unrecorded detail.

The plan

As originally constructed, Stillington's chapel (Structure 15) was of regular cruciform plan and comprised a nave of three bays, a crossing, north and south transepts, and an eastern arm of two bays (Fig. 196). We may call this last element the 'chancel' — without implying that it had the same liturgical functions as the chancel of a parish church — since it was actually so described in a will dated 1493 (SRS 1901, 307). In view of the fact that this was Thomas Overey's will, cathedral precentor, the nomenclature can hardly be doubted. Like its predecessor, the chapel was entered from the east cloister walk, but through a new doorway: Stillington's building was sited a little closer to the cathedral transept.

In a secondary phase, a sacristy or vestry was added to the north side of the chancel, and a bridge was built at a high level, connecting the stair-turret of the chapel's north transept with the south transept stair-turret of the cathedral. These additions are likely to have been the work of Bishop Oliver King (1495–1503), to whom Leland attributes part of the credit for the chapel.

Superficially, it might appear that the plan of the building above ground was not closely reflected by the disposition and size of the foundations. For example, the gross area of each buttress foundation tended to be three times larger than that of the ashlar structure standing upon it and, moreover, some of the foundations were curiously skewed. Also the octagonal stair-turrets were founded on circular rafts that have the appearance of being the bases for small drum-towers. Nevertheless, it is clear that the builders were mindful of the detailed form of the superstructure — including the positions of vaulting shafts — even at an early stage in the foundation layout.

The above-ground plan of the chapel is substantially reconstructible, even though it is only the west wall (embodied in the cloister, Fig. 197) that survives above contemporary floor level. Other critical dimensions, giving for example the sizes of the buttresses, are recoverable from the intermittently surviving ashlars of the footing course that lay immediately below the ground-level plinth. The outline of the chapel's superstructure is shown reconstructed on the foundation plan on Figure 196. The geometry and mensuration of the plan are readily comprehensible. The nave, crossing and chancel were all 6.7 m (22 ft) wide internally at floor level, increasing to 7.5 m above the wall-bench. The crossing was square, while the nave and chancel shared a bay pitch of 5.04 m (16½ ft). The overall internal length of the building was 32.5 m (107 ft).

The transept plan is slightly unusual for the period: while the internal width was the same as that of the other arms (*i.e.* 6.7 m, 22 ft), unlike the crossing the transepts were not square. Each was foreshortened internally by *c.* 1.4 m, which was equivalent to a wall's thickness. Thus the overall internal width of the chapel measured 18.86 m (62 ft). Had the transepts been square in plan, this dimension would have been 21.36 m (70 ft).

The depth of the transepts does not appear to bear any proportionally significant relationship to the remainder of the chapel plan, and is most plausibly explained as being a deliberate departure from the original scheme, literally a reduction by a wall's thickness. The reason for this is not hard to find: had the transepts been square in plan, the northern arm would virtually have collided with the south transept of the cathedral: there would certainly have been insufficient space to walk between the two buildings. Even with the reduced transepts, it still left only a very narrow passage between the two structures.

The shortening of the transepts was consequent upon the position chosen for the building. There was no topographical necessity for Stillington's chapel to be sited so close to the main body of the cathedral, and it would have been both logical and architectonically preferable to follow one of two other courses. The first and most obvious course would have been to reuse the existing late twelfth-century Lady Chapel doorway to the cloister. The disadvantage of this was its asymmetrical siting within the early fifteenth-century reworked bay-structure of the east cloister (p. 246). The second and clearly better alternative would have been to move the entrance slightly southward, into bay 8 where it could have been centred.

In the event, a far less satisfactory arrangement, involving an awkwardly asymmetrical entrance, was adopted. This forces us to the conclusion that, in 1477, Stillington's architect found a compelling reason to avoid interference with the water-pipe laid a quarter of a century earlier (p. 402), and modified his plans accordingly. He may also have supposed that, by selecting a more northerly location he would be clear of the line of the old conduit which ran across the Camery. It is interesting to note the lateral displacement of the chapel from the idealized position just described was exactly equivalent to the nave's width. It is therefore posited that both the siting and the intended plan of the chapel were modified before construction began: the building was moved northward by a nave's width, and the transepts had consequently to be reduced by a wall's thickness. A reconstruction of the likely intended arrangement is shown on Figure 198.

Why there should have been such concern over the conduit and water-pipe is perhaps beyond speculation, but concern there was, and it may have been motivated more by political considerations than by cost. To realign the lead pipe — even if this meant cutting a fresh opening through the cloister foundation — would have been a task of little consequence; moving the conduit was certainly a much greater undertaking, but still paled into insignificance beside the overall cost of the chapel project. The fact that both the pipe and the conduit primarily served not the cathedral but the

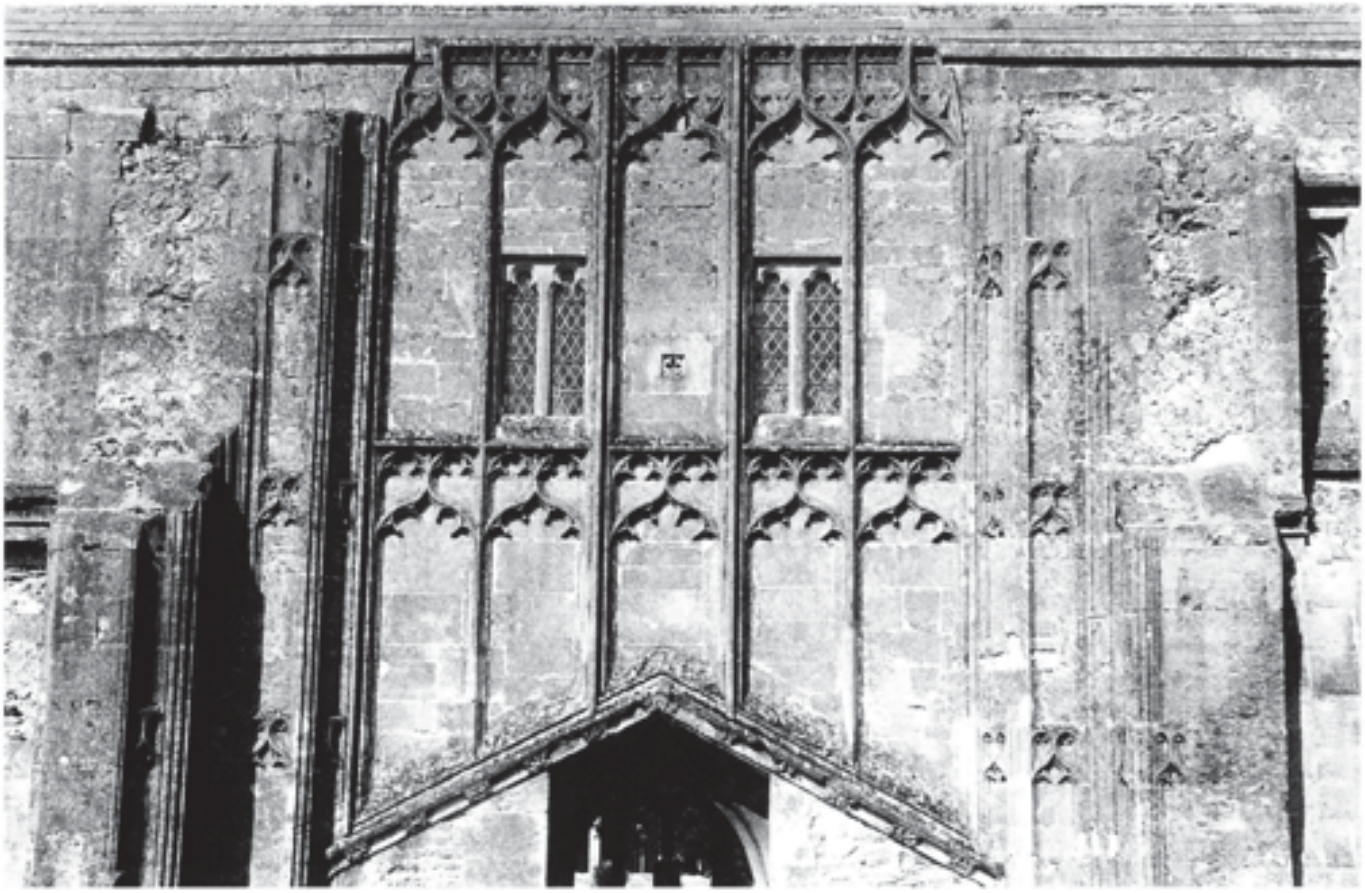


Fig. 197 Blind panelling covering the west wall of the nave of Stillington's chapel, now exposed on the east side of the cloister

twelve houses of the *Nova Opera* in the market place (see p. 402), may have had a bearing on the matter. Even so, the eventual need to divert both services was not overcome.

Returning to the general plan of the chapel, it can be seen that there was a uniform wall thickness of 1.29 m (4¾ ft) at floor level, which reduced to only 70 cm above the wall-bench and external plinth (shown in section on Fig. 237).

The regular system of lateral buttressing reflected the arrangement of the internal vaulting. The eastern angles of the chancel and transepts were supported by pairs of clasping buttresses, which appear to have measured 1.0 m (3¾ ft) wide, by *c.* 1.38 m (4½ ft) deep. The western angles of the transepts were emphasized with externally projecting stair-turrets of octagonal plan, the geometrical centres of which lay at the intersections of the transept sides. The points of the octagon were contained by a circle 3.4 m (11¼ ft) in diameter, and each facet measured 1.29 m (the same as the general wall thickness). The internal diameter of the stairway was half that of the turret itself, *i.e.* 1.7 m (5½ ft). A projecting block of masonry on the west face of each transept, adjacent to the turret, indicated the position of the access passage.

It finally remains to consider whether a proportional or unitary system of measurement is detectable in the plan of Stillington's chapel. At first sight this does not appear promising, since none of the imperial measurements quoted above suggests 'round' numbers of feet, and few of the lesser dimensions relate to units involving half-feet. No more convincing results are obtained by scrutinizing measurements taken to wall-centres, or to external faces.

Two of the undoubtedly critical measurements in the plan of a complex vaulted building such as Stillington's chapel are the pitch and width of the bays. These are precisely determinable at 16½ ft and 22 ft, respectively. The former equates with the medieval rod, or pole, a unit of measurement commonly encountered in the plans of both ecclesiastical and secular buildings (5.03 m). Moreover, 22 ft is equivalent to 1⅓ rods, and therefore the ratio of bay width-to-length was 3:4.

In terms of rods, the component parts of the chapel measured 3 by 1⅓ rods (nave), 2 by 1⅓ rods (chancel), and 1⅓ rods square (crossing and transepts, as designed, rather than as built). The one-third and one-sixth subdivisions of the rod were commonly employed by medieval architects, and invariably indicate the use of the so-called 'Northern' system of measurement (Huggins *et al.* 1982). In this system the Northern rod comprised fifteen feet, each of 33.5 cm. Translated into Northern feet (N ft) the dimensions of the chapel are readily seen to correspond to round numbers. Thus the bays of the main vessel were each 20 × 15 N ft; the nave measured 45 × 20 N ft, and the chancel 30 × 25 N ft.

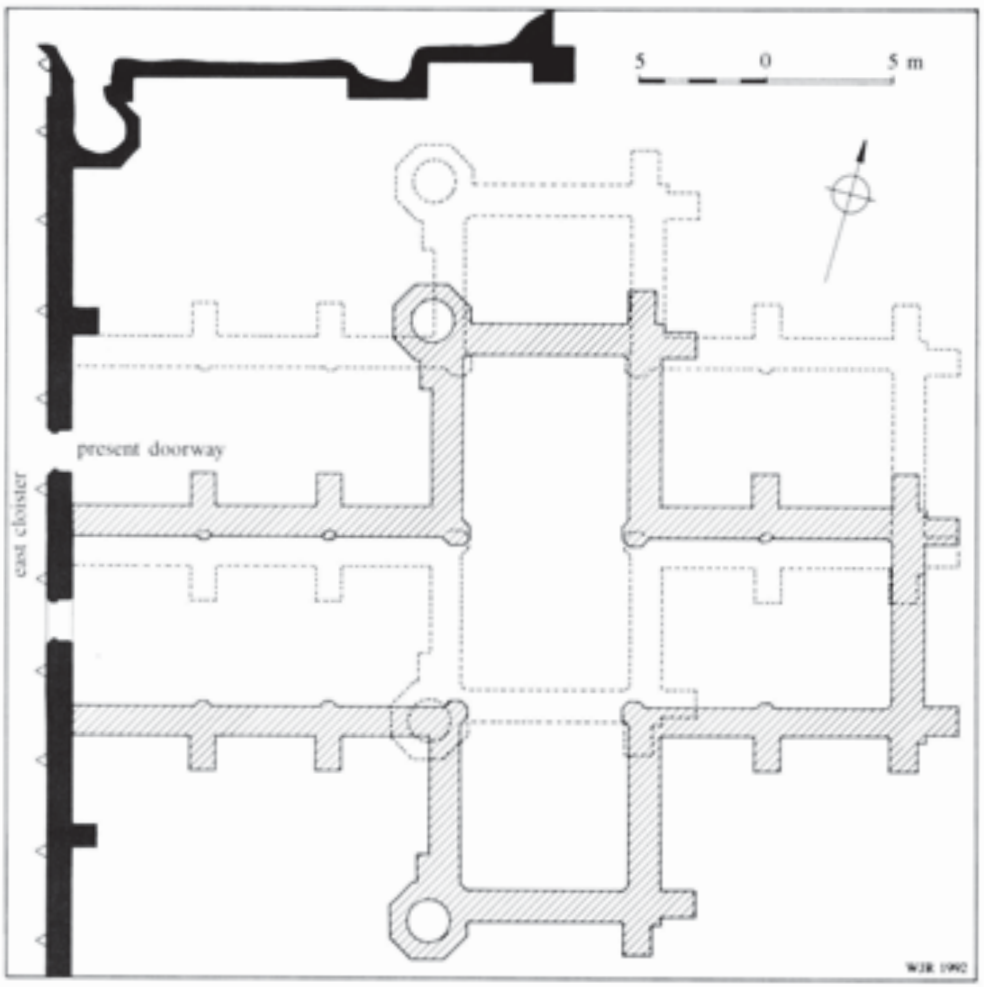


Fig. 198 Diagram to illustrate the probable intended location and plan of Stillington's chapel, reusing the Early English doorway in the cloister as the entrance. The chapel as actually built is shown in dotted outline. Scale 1:300

The precise correspondence of the chapel's critical planning dimensions with Northern units, and not with statute ones, leaves little room for doubt that the former system was used at Wells. Further scrutiny of the plan shows, as might be expected, that lesser components conformed to the same system. Thus the lay-out circle for the octagonal turrets was 10 N ft in diameter, and the stairs themselves were 5 N ft across. The buttresses seem to have measured 4 × 3 N ft, and although the principal walls were a little less than 4 N ft thick at their bases, that would appear to have been the dimension of the footing-course upon which the buttresses rested.

Primary construction works

The decision in 1476 to rebuild the old Lady Chapel-by-the-Cloister brought to an end a long tradition of piecemeal repair and alteration. The venerable structure was razed and a completely fresh start made on the site, untrammelled by historical or existing architectural considerations. Even the lofty doorway which led from the ninth bay of the east cloister into the Lady Chapel was blocked up and a new one created further to the north (in bay 10). As already argued, the lateral move (but not the eccentric placing in relation to the cloister bay-structure) can be accounted for by the architect's attempt to site the new chapel clear of the conduit and water-pipe, where they passed under the east cloister. Nevertheless, in the event, both had to be partially diverted to accommodate the new foundation works; these features are fully described in chapter 11 (pp. 383–408).

In this comprehensive operation, there was no question of any element of the old chapel remaining in being, even for part of the period during which rebuilding took place. The liturgical discontinuity was as emphatic as the structural: the intermission can hardly have been less than seven or eight years, and may have been ten; certainly the consistory court did not sit here again for nearly a decade (p. 199). The old chapel was taken down to ground level, and the rubble piled up somewhere close at hand, ready for incorporation in the wall-cores of the new building. The foundations were not robbed, and the remnants of the medieval tile floors were untouched. All floor slabs, sepulchral and otherwise, were however removed and were presumably recycled; only one early medieval grave-cover, and fragments of another, have been found (Fig. 494.4, 5). The many graves of rich and

important lay-folk, and some clerics, filling the interior of the chapel were not systematically cleared, despite the massive disturbance that was impending.

The overall plan of the new foundations and other ground works is shown on Figure 196, and detailed plans of the five structural components of Stillington's chapel are given on Figs. 203, 212, 216 and 220.

Diversion of the conduit and water-pipe

The thirteenth-century conduit lay deeply buried beneath the floor of the south aisle of the old chapel, and whether its exact position was known in 1477 is debatable: there are reasons for supposing that its existence was overlooked until foundation works were well in hand. The lead water-pipe laid in *c.* 1451–53 was not as deeply buried (*c.* 1.3 m) and may have been less obscure. Nevertheless, it seems to have caused a good deal of trouble to Stillington's builders. Excavation revealed that not only was the pipe realigned in 1477, but that a further adjustment had subsequently to be made. The sequence of events was not stratigraphically recoverable, but may be deduced with confidence (p. 405).

The water-pipe entered the Camery from the grounds of the Bishop's Palace, near the south-east corner, taking a diagonal course towards the south aisle of the old Lady Chapel-by-the-Cloister (Fig. 135). The pipe skirted around the mid-wall buttress, before cutting through the threshold of the south door, and taking a swan-necked course under the chapel floor (Fig. 136). The pipe then emerged into the east cloister after passing under the threshold of the main doorway to the chapel (pipe course 1, Figs. 199B and 200). That is where Stillington's builders found it.

By positioning Stillington's chapel where it is, the south side of the nave was just clear of the point where the pipe pierced the cloister foundation: theoretically, there may have been no need to disturb the water supply. Indeed, the foundation for the south-west buttress (F352a) of Stillington's nave was angled in such a way as to demonstrate that it was respecting the pipe (Fig. 196). The new masonry touched, and slightly overhung, the old pipe duct, F314 (Fig. 429). There can be little doubt that the water-pipe was in use when the nave foundations were constructed.

However, it would quickly have been discovered by the builders, when excavating the foundations for the south transept of the new chapel, that the water-pipe would pass right through it. This could have been accepted, as it was with the old Lady Chapel. But another problem arose. Trenching for the foundations must have revealed the position of the earlier medieval stone-vaulted conduit (Figs. 390 and 391). Had its course simply passed under the projected south transept, it could readily have been incorporated beneath relieving-arches in the new foundations. Unfortunately, the line of the conduit ran obliquely across the site where the south-east crossing pier was due to be constructed, and no medieval architect could allow such a vital load-bearing point to be weakened by building on top of an old watercourse. Diversion was inevitable, and that was a major undertaking.

The old conduit was severed at two points: ten metres inside the eastern boundary of the Camery, and two metres before it passed under the east cloister. A new section of conduit, *c.* 57 m in length, was constructed, swinging in an arc around the south side of the new chapel (Figs. 16, 199 and 418). The decision was also taken to realign the water-pipe, by constructing a duct for it alongside the new conduit (pipe course 2). This was done at the same time as the foundations for the transept were laid, but after the cutting for the conduit had been backfilled. The new pipe-duct (F216) was bonded to the masonry of the south-west turret (F224a; Fig. 216).

Fig. 200 The lead water-pipe of c. *1451–53 emerging from beneath the junction between the east cloister (left) and the south wall of Stillington's chapel. The large sandstone blocks provided a protective casing. Scale of 75 cm*

The foundation circuit

The foundations for the chapel — designed as a continuous circuit without rafts or linking sections beneath the crossing arches — were constructed freestanding in broad and irregular sided trenches which varied in width from *c.* 2.4 m to 3.0 m. Everywhere the trenches were taken down to the top of the natural red gravel, which lay at an average depth of nearly 2.0 m below contemporary ground level. The foundation trenches were excavated after the old Lady Chapel had been levelled, and scores of graves were cut through in the process, plainly with no regard for the corporeal remains. Some thousands of bones were collected together and buried as charnel deposits in the backfilling of the foundation trenches. Where earlier walls were encountered during the work, the old masonry was entirely removed, but there was no systematic attempt to rob foundations for their materials. Backfilling of the new trenches took place piecemeal as

Fig. 201 Stillington's chapel. Stepped buttress foundation (F337b) on the north side of the nave, showing the footing-course of Chilcote stone; west face. Scale of 75 cm

construction proceeded. Trampled surfaces and layers of stone-dust and mortar dropped by the masons were interleaved amongst the tips of gravelly clay, rubble and human bone.

Unlike many of the earlier medieval foundations at Wells, Stillington's masonry was for the most part not laid to a vertical face with a single offset at or near ground level. Instead, several distinct modes of construction were employed. Parts of the chapel's foundations were of the 'spread' type, beginning with an irregular mass of rubble *c.* 2.5 m (8¼ ft) wide, set in mortar in the base of the construction trench. The foundations were then raised, in roughly laid courses, progressively reducing in width as they rose towards ground level. Here, they were capped with a single course of crude ashlar that formed the footing upon which the first course of fine ashlar was laid. Externally the ashlar dressing comprised a hollow-moulded plinth, and internally it was the base of the wall-bench.

Chilcote stone was selected for use in the footing-course, presumably on account of its greater durability than Doulting stone. The footing varied from *c.* 20–40 cm in depth, according to the lie of the land, and for the most part comprised a single course of masonry, but in some places two courses were employed, the upper alone being of Chilcote stone. Only about 15% of the wall circuit survives to a height that includes the footing course, the best preserved areas being the north side of the nave (Fig. 201) and the north transept stair-turret (Figs. 213 and 214). On the south side of the chancel, where some of the footing course survives around the buttresses, the Chilcote blocks are of exceptional size, being 40 cm in thickness, and up to one metre in length (Fig. 202). The extent of survival of the footing is indicated by a solid outline on the plan, Figure 196.

Buckle noted that the chapel was provided with a rudimentary damp-proof course, made from fragments of secondhand roof slates set in mortar and laid on top of the footing-course (Buckle 1894, 48). Very little of this survives, except under the two standing fragments of nave wall adjoining the cloister, but many pieces of mortared slate were found in the robber trenches, and some survived *in situ* on top of the footing-courses of the better preserved buttresses. The slates were presumably salvaged from the old Lady Chapel roof. Small pieces of white lias were employed for packing and levelling below the footing, thus reinforcing the contention that slate was deliberately employed at chapel floor level for its damp-proofing qualities, and not merely as a levelling aid.

Above ground, the structure of Stillington's chapel was entirely of Doulting ashlar, but in the foundations a considerable mixture of stone was found. This mostly comprised rough rubble (red sandstone, white lias, Dulcote conglomerate, etc.), but also included many reused pieces of dressed Doulting and Chilcote stone. From the exposed faces, much of this material appeared simply to be recycled rubble and plain ashlar from the demolished Lady Chapel-by-the-Cloister, but close inspection revealed that amongst it were also some thirteenth-century limestone mouldings and several finely carved spandrels belonging to a series which, it has been argued, once adorned the chancel of the Lady Chapel (p. 173).

The foundations of Stillington's chapel undoubtedly still contain numerous pieces of moulded, sculptured and painted masonry, which cannot be recovered

Fig. 202 Stillington's chapel. Footing-course of large Chilcote blocks of buttress F1208f, in relation to contemporary ground level on the south side of the chancel. View north. Scale of 75 cm

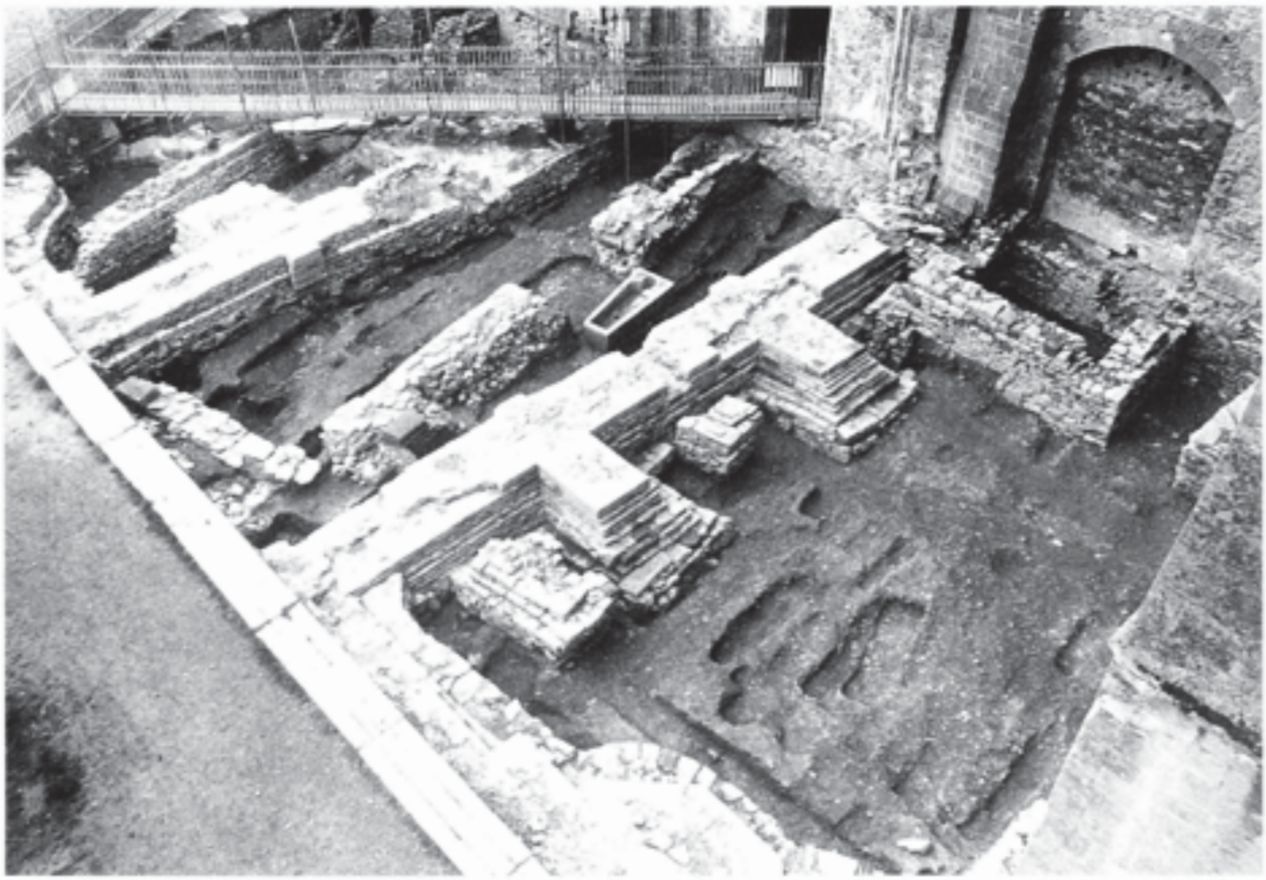


Fig. 204 General view of Stillington's nave, from the north-east, after full excavation in 1979. The west entrance from the cloister is seen at the top, where the scaffold bridge connects. The foundations of the Holy Cross chapel are exposed to the right, in front of the wall-arch

without a thorough dismantling of the structure. Only three of the more outstanding and readily accessible decorative fragments have been removed for indoor preservation (Fig. 152). Probing into open joints showed that decorative fragments tended to be concealed by the builders, so that only plain ashlar faces were externally visible, and they too were of course hidden as the foundation trenches were infilled. Reused ashlar was particularly prolific in the south wall of the chancel, where many pieces still exhibited lime-washed surfaces, and some also had false-jointing outlined in red paint. All were probably derived from the thirteenth-century Lady Chapel (p. 173).

Prodigious quantities of hard, pink lime-mortar were used in the construction. This material, which also occurred as a spread in the bases of the foundation trenches, was frequently encountered as an irregular deposit obscuring the tops of the offsets, and was sometimes partially smeared over the vertical surfaces of the masonry. Added to which, the percolation of groundwater through the foundations had caused some constituents of the limestones and mortars to be dissolved, and redeposited as calcareous incrustations, not only on the surface of the masonry but also in the immediately surrounding soil. The effect was to cement an obscuring layer of red gravel and clay over parts of the foundations. Hence it was not feasible to prepare detailed stone-by-stone plans and elevations of the foundation masonry. Sample elevations were cleaned and recorded.

Neither the construction of the foundations nor the effect of subsequent weathering was uniform: different techniques of stone laying and varying quantities of mortar were used, showing clearly that the foundations were built by several gangs working side by side. The 'arms' of the chapel constituted four separate constructional units, and the two sides of the nave were of non-matching construction: that might point to five gangs of workmen. While it would seem logical for the entire foundation circuit to have been set-out and the trenches excavated as a single operation, followed by continuous masonry construction, there are hints that this may not have been the case. Owing to the discovery of the ancient conduit, and the need to divert it, the south transept foundations were probably laid some time after the rest.

The nature of the robbing of certain parts of the foundation — for example, the south transept turret — exposed large areas of the corework, revealing more clearly the method of its construction. Unlike earlier buildings on the site, the wall-cores were not of loosely mortared rubble, or voided, but were solid and monolithic in nature. The technique employed, at least with the larger masses of masonry, was to build a few

courses of the two outer skins and then to pack the core with small rubble and liquid mortar, so that all interstices were filled, and the facework was firmly bonded to the core. Effectively, this was a poured-concrete foundation.

For ease of reference, the foundation components of Stillington's chapel are labelled as follows.

Nave: west wall (for bench only), F1156; north wall, F337; north buttresses, F337a (west) and F337b (east); south wall, F352; south buttresses, F352a (west) and F352b (east).
North transept: walls, F1187; stair-turret, F1187a; buttresses, F1187b (north) and F1187c (east).
South transept: walls, F224; stair-turret F224a; buttresses, F224b (south) and F224c (east).
Chancel: walls, F1208; north buttresses F1208a (west) and F1208b (east); east buttresses, F1208c (north) and F1208d (south); south buttresses, F1208e (east) and F1208f (west).
Sacristy: walls, F1232; buttresses, F1232a (north-west) and F1232b (north-east).

Nave (Figs. 203 and 204; Pl. VI)

The nave was almost certainly begun first and, as already indicated, its two side walls differed in construction. The north was much better preserved than the south. Owing to the natural fall of the land, both the plinth and the footing-course on the south stood above surrounding ground level, and thus suffered greater degradation when the building was demolished. The west wall of the chapel was basically the existing cloister, against which was added a narrow and shallow foundation (F1156) for a stone bench. This foundation rested directly upon the remains of the medieval tile pavement of the earlier Lady Chapel. The bench foundation was not constructed until after the side walls of the nave had been built.

Fig. 205 Junction between the nave (right) and south transept of Stillington's chapel, showing also buttress F352b (note Victorian narrow-trenching around the walls). A section of the buttressed south aisle wall of the thirteenth-century Lady Chapel survives left of centre. Scale of 2 m

The foundations for the south nave wall (F352) and its buttresses were *c.* 2.2 m wide, and for the most part were only slightly battered; there was a single substantial offset just below ground level, best preserved in buttress F352b (Fig. 205); and there must have been a lesser offset (up to 20 cm wide) carrying the footing-course, but this is not preserved, other than at the extreme west end beneath the surviving wall stub. The toe of the east buttress on the south wall (F352b) was battered, for the better distribution of the outward thrust exerted by the vaulting. The corresponding edge of the west buttress (F352a), however, was more sharply curtailed, and built into it were several pieces of freestone that had formerly defined one flank of a duct (F314) to carry a lead water-pipe (pipe course 2).

At the west end, where the nave wall joined the cloister, the water-pipe and its duct were protected by two huge blocks of sandstone built into the former Lady Chapel door opening. One block flanked the pipe on the north, while the other bridged over it (Figs. 200

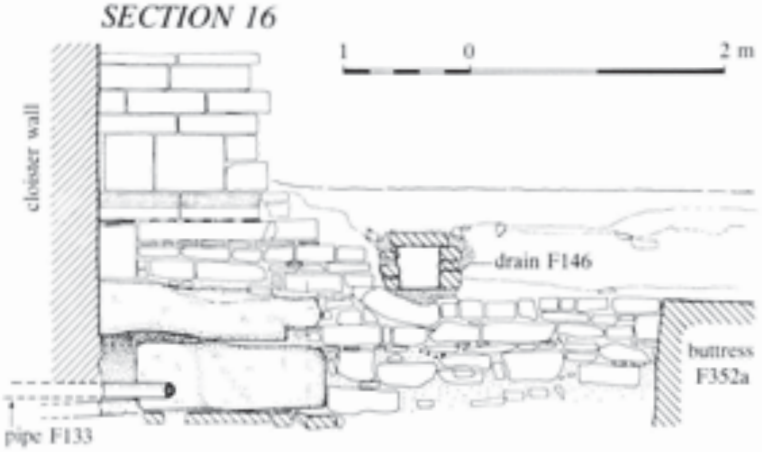


Fig. 206 External elevation of the south wall of Stillington's nave where it abuts the cloister, showing the large sandstone blocks which formed part of a protective encasing for the water-pipe laid in c. *1451–53 (*cf. *Fig. 200). Scale 1:60*

and 206). Realigning the pipe-duct, parallel to the nave, was evidently part of the same operation as building the south wall.

A second problem was encountered by Stillington's builders at the junction between the nave and the east cloister. Here, the digging of the foundation trench down to the top of the bedrock revealed the tip of the apse (F1522) of the Anglo-Saxon minster church, and beyond it the silty infill of an even earlier well-shaft, F1523 (Fig. 64A). The soft material was dug out to a depth of 80 cm, but was found to continue still deeper. Instead of simply bridging over the well-shaft, it was evidently determined to drive timber piles into it, and support the new masonry off these. When excavated, it was found that the piles themselves had decayed, but some had left clear 'pipes' in the ground, which were still voided (F1525; Fig. 64B). The piles were circular, or sub-circular, in section and measured 8–10 cm across; they were sharp-pointed and had been driven to a depth of at least 2.0 m below the surface of the bedrock (this was established by probing the voids). Traces of charcoal adhering to the sides of the 'pipes' indicated that the piles were charred, to improve their lasting qualities. Only the pipes which remained as voids are indicated on plan, Figure 64B; there were probably many more piles whose pipe-mouths had become blocked and were not excavated.

The pile-head area was treated curiously. A 2.1 m long rectangular stone 'box' was constructed against the curving face of the apse: it was formed by lining the freshly excavated mouth of the well-shaft with slabs of sandstone (F844). The 'box' was capped with further slabs, level with the top of the bedrock. The southernmost capstone (F915) projected beyond the edge of the chapel; it doubled as the floor for the water-pipe duct, described above. The foundation for the nave wall (F352) was constructed on top of the capstones. The 'box' was apparently not backfilled with soil or rubble around the pile-heads: it was found as a void,

Fig. 207 Stillington's chapel. Corbelled foundation of Chilcote blocks for the support of a wall-shaft between the first and second bays on the south side of the nave. Scale of 75 cm

forming in effect a blind tunnel under the standing wall (Fig. 64C).[3] That the timber piles did originally reach up to, and support, the capstones was demonstrated by the presence of dark patches on their undersides. There may have been so many piles that there was little space for interstitial material. What filling there was, fell into and blocked the pipe mouths as the timber decayed.

On the inner face of the south nave wall a pilaster-like projection of masonry, opposite the eastern buttress, marked the position of the vaulting wall-shaft between the first and second bays. The projection, which comprised four courses of Chilcote ashlar, was an integral feature of the foundation, although it did not begin at the lowest level of construction (Fig. 207). Instead, it was corbelled out after several

Fig. 208 Stillington's chapel. North wall of the nave, showing the stepped foundations of buttresses F337a and F337b. In between, are the remains of two buttresses belonging to the earlier Lady Chapel. Scale of 75 cm

Fig. 209 Interior of the north wall of Stillington's nave, contrasting its neatly stepped foundation (right) and the rough rubble foundation added against the cloister (left) for the support of the wall-bench and screenwork at the west end. Scale of 75 cm

Fig. 210 Stepped projection in the foundation of the north wall of Stillington's nave, intended to receive the base of the wall-shaft between the first and second bays. Note the canted ashlar blocks at the top. Scale of 75 cm

courses had been laid, and the adjacent foundation trench partially infilled; this is presumably evidence for an accidental oversight. There was no corresponding feature at the junction between the second and third bays of the nave: here, the base of the vaulting wall-shaft must simply have rested on the general offset. A slight change in the alignment and character of the masonry of the inner wall face at the junction between the first and second bays indicates a gang-break.

Fig. 211 Pillar-like projection in the foundation of the north wall of Stillington's nave, intended to receive the base of the wall-shaft between the second and third bays. Scale of 75 cm

The north foundation of the nave (F337) was markedly different in construction, with superior coursing: it averaged 1.8 m wide at the base (buttresses 2.0 m wide), and rose in a series of regular steps, up to the footing-course, much of which was well preserved (Figs. 208 and 209). This included the complete outline of buttress F337b, which measured 1.0 m by 1.38 m (3 by 4 N ft). The stepped construction of the foundation was not only regular along both faces of the wall and around the buttresses, but also included one of the projections upon which the vaulting wall-shafts rested (Fig. 210). The other projection (between bays 2 and 3) was a vertical pilaster-like feature, fully bonded to the wall and provided with its own projecting foundation (Fig. 211).

Less mortar was employed in the north wall than elsewhere, and hence the character of the masonry was more readily appreciable. The lower courses of the eastern buttress (F337b) were visibly skewed as a result of the influence unconsciously exerted by one of the north aisle buttresses of the old Lady Chapel on the labourers who excavated the foundation trench. The error was progressively corrected as the masonry courses rose. At the west end of Stillington's nave the foundation clasped the base of one of the late twelfth-century cloister buttresses (F184).

North transept (Figs. 212 and 213)

For the most part, the foundations were stepped and battered, although they were not fully excavated and exposed on the north side. Preservation was good, especially at the north-west angle, where the entire Chilcote stone footing-course of the octagonal stair-turret remained intact, resting upon a solid circular foundation, 4 m in diameter (F1187a). No certain evidence remained for the base of the stair-well, although an irregular, but roughly central tump of rubble core-work may ghost the outline of the well (Fig. 214).

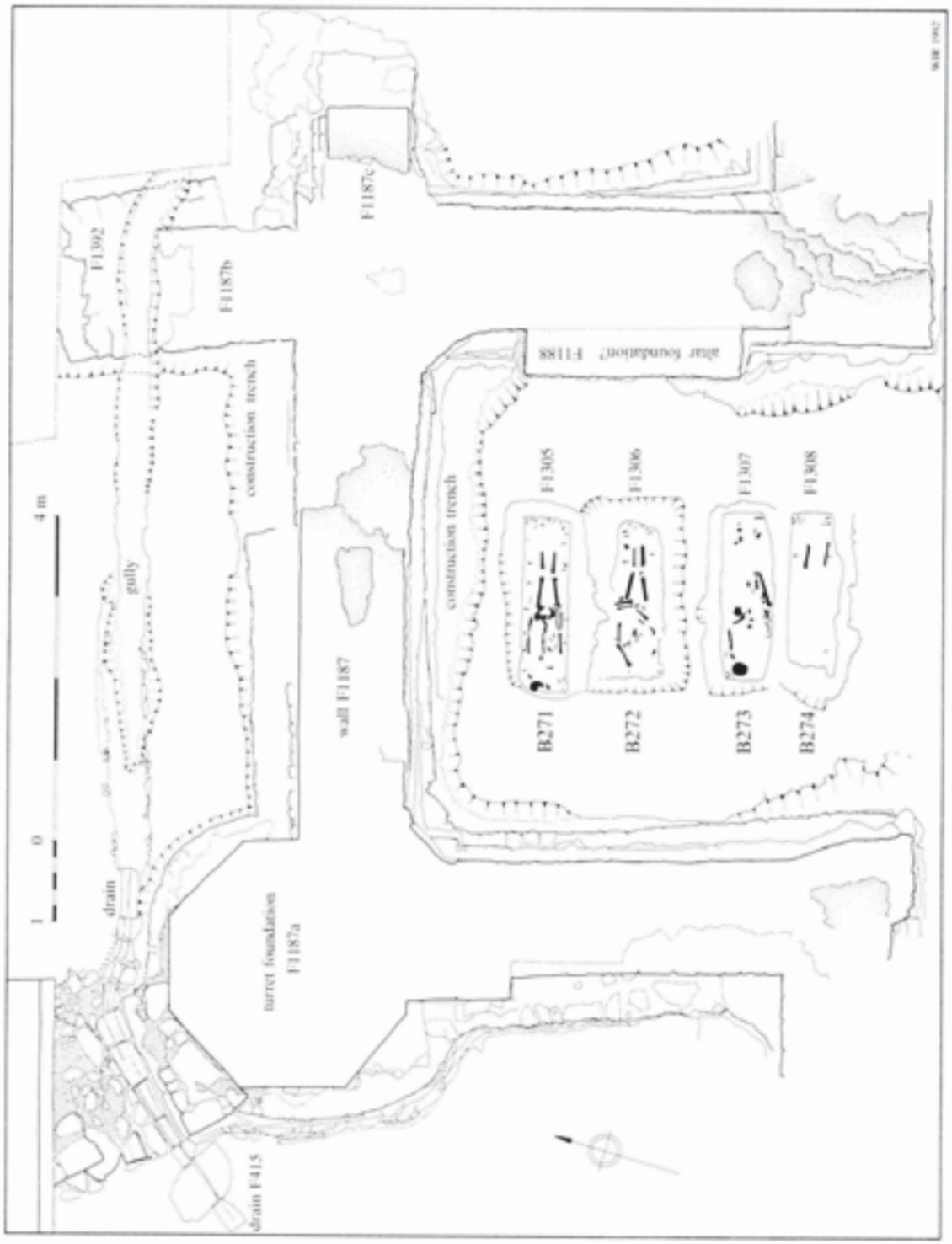


Fig. 212 Plan of the north transept of Stillington's chapel, showing foundations and construction trenches. Contemporary burials are also included. Scale 1:80

Fig. 213 General view east across Stillington's north transept, after full excavation in 1980

Fig. 214 The north wall, buttresses and stair-turret of Stillington's north transept, showing the close proximity to the cathedral transept and its foundation (which just appear at the bottom of the frame). Scale of 2 m

Fig. 215 The east wall of Stillington's north transept, showing the added foundation (F1188) for an elongated altar, or possibly a reredos. Note the pile of ashlar blocks used to support the north end of this structure where it overlay a soft grave filling. Scale of 2 m

The lowest foundation courses of the east wall were slightly skewed, influenced by the alignment of a fragmentary earlier wall. The same applied to the foundation of the north buttress (F1187b) which rested on a mass of masonry (F1392) that appeared to be contemporary with Stillington's works, but was probably filling the robber trench from which an earlier, and differently aligned, wall had been removed.

Inside the east wall of the transept, and directly abutting it, was a shallow foundation 2.7 m long by 0.6 m wide (9 ft by 2 ft), F1188. This was certainly a structural addition, since it overlay the consolidated infill of the foundation trench for the east wall; it was also curiously supported at the northern end alone by a pillar of stone blocks set into the robber trench of an earlier medieval wall (Fig. 215). The foundation is interpreted as the base for a reredos associated with the use of the transept as a chapel (p. 239). The cream mortar employed in the construction of the base was not

found elsewhere in the primary fabric of Stillington's chapel, but it occurred in the foundations of the added sacristy (p. 215). The base was therefore secondary.

South transept (Figs. 216 and 217)

This was poorly preserved, by comparison with its northern counterpart; the foundations were also less regularly stepped and cruder in construction. While a footing-course survived on the buttresses at the south-east angle, this was broader than elsewhere in the chapel, and it seems probable that there was a double-stepped footing around the southern extremity of the building; but only the lower component survived. Some hint of this arrangement may also be reflected in the stepping of the circular foundation for the stair-turret (F224a) where it joined the west wall of the transept (Fig. 218). Although nothing remained of the octagonal footing-course(s) for the turret, it was noted that a roughly circular area of mortared rubble, 1.7 m in diameter, stood slightly proud of the surrounding level at the centre of the foundation. This was undoubtedly the ghosted sub-floor of the stair-well, remaining after the ashlar facing had been robbed from around its perimeter.

Halfway along the west side of the transept a change in the masoncraft occurred, coinciding with the point where the foundation crossed the thirteenth-century conduit. It would seem that this feature was unexpectedly encountered during construction work, resulting in a pause while the diversion was constructed. The old conduit was then broken through, and the foundations taken down to bedrock, as elsewhere (Fig. 219). In fact, the bottom of the transept foundation was not precisely recorded, since the lowest few courses were trench-built into the natural gravel.

Two pieces of evidence show clearly that the lead water-pipe was again re-routed and that its stone duct (pipe course 3) was built at the same time as the transept foundations were completed. First, the circular foundation for the turret incorporated a 2.4 m length of one side of the stone-lined duct (F216) in its masonry. Secondly, the southern edge of the corner buttress foundation (F224b) was both curtailed and skewed to accommodate the closely juxtaposed pipe-duct. It may also be noted in passing that the trench excavated to receive the buttress, together with the lowest foundation course on the west side, was markedly skewed. At this lower level it was probably

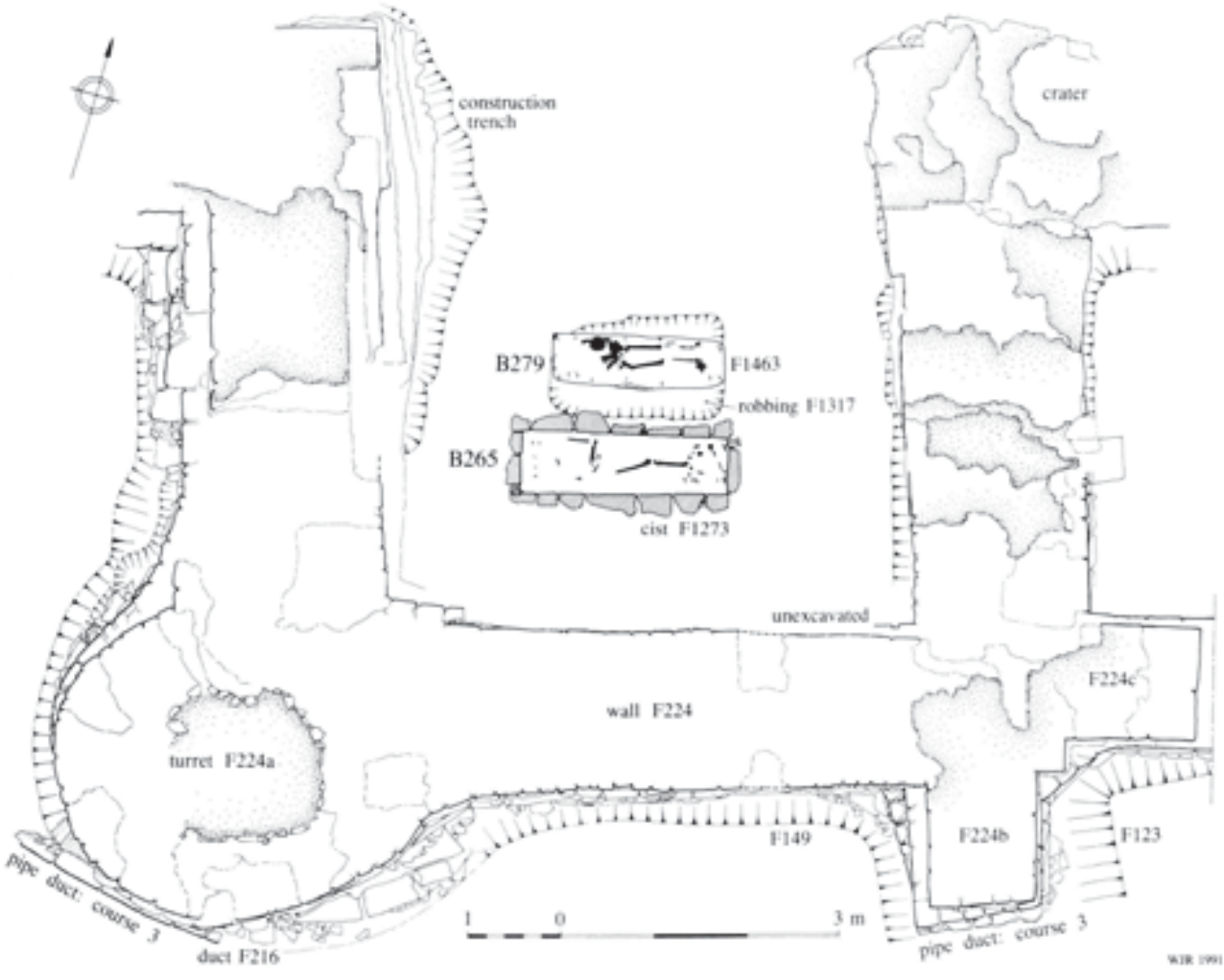


Fig. 216 Plan of the south transept of Stillington's chapel, showing foundations and construction trenches. Contemporary burials are also included. Scale 1:80

Fig. 217 View of the south transept of Stillington's chapel, from the south, showing robbing to a level below the footing-course of the octagonal stair-turret. The cover-stones of the conduit and pipe-duct can be seen in the foreground. Scales of 2 m

Fig. 218 Stillington's chapel. Stepped circular foundation for the south-west stair-turret. View south, with the pipe-duct and conduit beyond. Scale of 2 m

Fig. 219 The junction between Stillington's south transept and the early medieval conduit, looking south. The vaulted roof of the conduit has the 2 m scale lying on it. It is severed by the transept foundation (left) and one of the nave buttresses (right). Note the offset and other changes in the masonry of the transept where its construction was interrupted when the conduit was encountered. Beyond the conduit, and partly overlying it, is the south aisle wall of the earlier Lady Chapel

not the influence of the pipe, but rather that of the old Lady Chapel alignment which had caused the errant work. The misalignment of the buttress was corrected in the second foundation course.

Chancel (Figs. 220 and 221; Pl. VI)

The east wall was largely robbed out, but substantial parts of the north and south walls remained (F1208). Excavation of the interior revealed stepped and battered foundations; the external construction was not examined. Unlike the nave, there were no supports provided for the bases of the vaulting wall-shafts, which must either have rested on the floor, or perched on the edge of the footing-course.

The buttress outlines on the south and east sides were well preserved, complete with footing-course, but their foundations were not exposed by excavation (Fig. 222). The original extent of the two northern buttresses (F1208a, b) was not clear, since they had been incorporated in the side walls of the later sacristy. The foundations for these buttresses were anomalous, possibly suggesting that they were built to carry stub-walls with the specific intention of adding a sacristy (Fig. 223). The more westerly foundation (F1208a) projected considerably further north than would appear to have been necessary for a buttress, while the eastern one (F1208b) was of a more appropriate length, but was much broader. The broadness was probably only a function of the level to which the structure had been robbed: the masonry here survived to just below the footing-course, as seen on the adjacent east buttress (F1208c; Fig. 224).

The same problem clearly exercised Buckle's mind in 1894, and he wondered whether the squat eastern buttress foundation had formerly supported a small stairway leading to a room over the sacristy, or to the higher levels of the chapel's eastern arm (Buckle 1894, 46 and pl. 3). An alternative, and perhaps less likely,

explanation is that the foundation carried a chimney stack associated with a sacristy fireplace, or a wafer oven.[4] The sacristy is described on pp. 214–17.

Crossing (Fig. 225 and 226)

No continuous foundations were constructed within the crossing area, either for the support of the arches opening into the four arms of the building, or for carrying heavy stone screens under those arches. Instead, the only foundation work in the crossing consisted of the provision of modest clasping projections at the junctions between adjacent arms. These projections, which carried the bases of the shallow responds of the four great arches, were well preserved on the west side of the crossing, but effectively destroyed on the east side owing to the level of stone robbing. There is nothing to suggest that the crossing was surmounted by a tower.

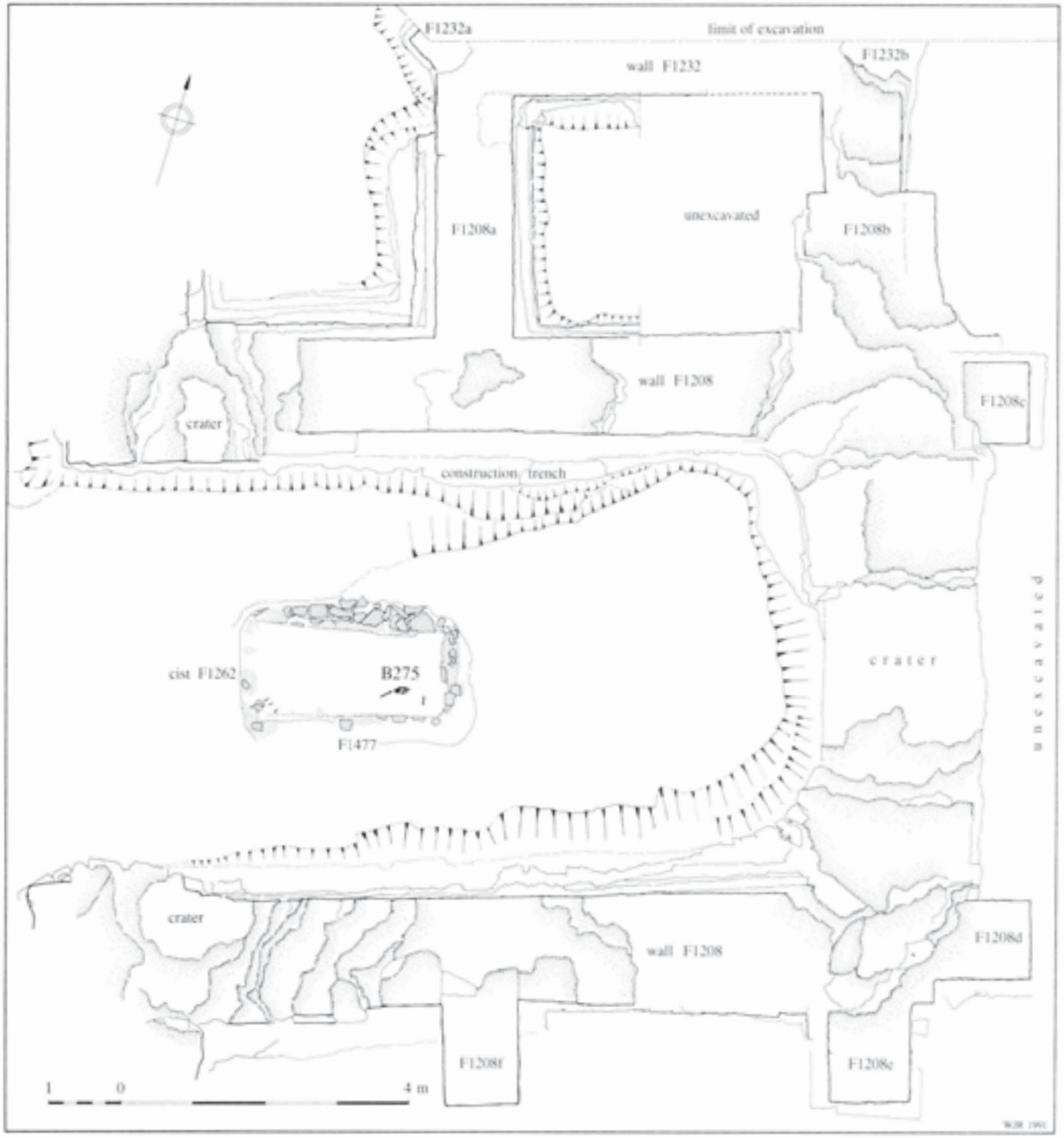


Fig. 220 Plan of the chancel and sacristy of Stillington's chapel, showing foundations and construction trenches. The sole contemporary burial is also included. Scale 1:80

Fig. 221 The chancel and sacristy of Stillington's chapel from the north-east, during the excavation of the construction trenches. Scale of 2 m

Fig. 222 South-east corner of Stillington's chancel, showing the survival of footing-courses to buttresses, and large postholes association with construction scaffolding. Scale of 75 cm

Secondary construction works

The original, symmetrical plan of Stillington's chapel was compromised by three secondary constructions, all of which seem to have been added sometime after the primary work had been completed. A sacristy was added to the north side of the chancel; a bridge was built to link the northern stair-turret to the south transept of the cathedral; and a pair of workshops was erected immediately adjacent to the south transept. The last-mentioned, along with the masons' yard generally, are discussed in chapter 10, pp. 361–8.

Sacristy

Whatever the original intention regarding the provision of a sacristy or vestry (p. 212), one was certainly added to the second chancel bay, using the existing buttresses

Fig. 223 The sacristy of Stillington's chapel from the west. The east wall of the north transept is seen in the foreground, and upon it rests the 2 m scale

Fig. 224 The junction of the narrow east wall of the sacristy (foreground) with the broad buttress foundation at the north-east corner of Stillington's chancel. View south. Scale of 75 cm

or wall-stubs (Fig. 220, F1208a, b). An additional foundation had to be constructed for the north wall and its southward returns (F1232), and the external angles were supported by diagonal buttresses (F1232a, b), rather than clasping ones (Fig. 227). The sacristy foundation was constructed to the same depth as that of the main chapel, but was ill-coursed and employed large blocks of Chilcote stone with small packing stones between. There was no well-defined footing-course. Doulting ashlar was used both above and just below ground, and there was again a damp-proof course of slate at floor level. On account of the rising ground towards the cathedral, part of the north wall of the sacristy still stands to one course above internal floor level.

The foundation mortar was hard and creamy-grey in colour; the wall mortar was softer, with chalk lumps and occasional charcoal fragments. The wall core was of inferior construction, being a more-or-less unmortared agglomeration of freestone offcuts, fragments of lias roof tiles and other débris. Where the facing

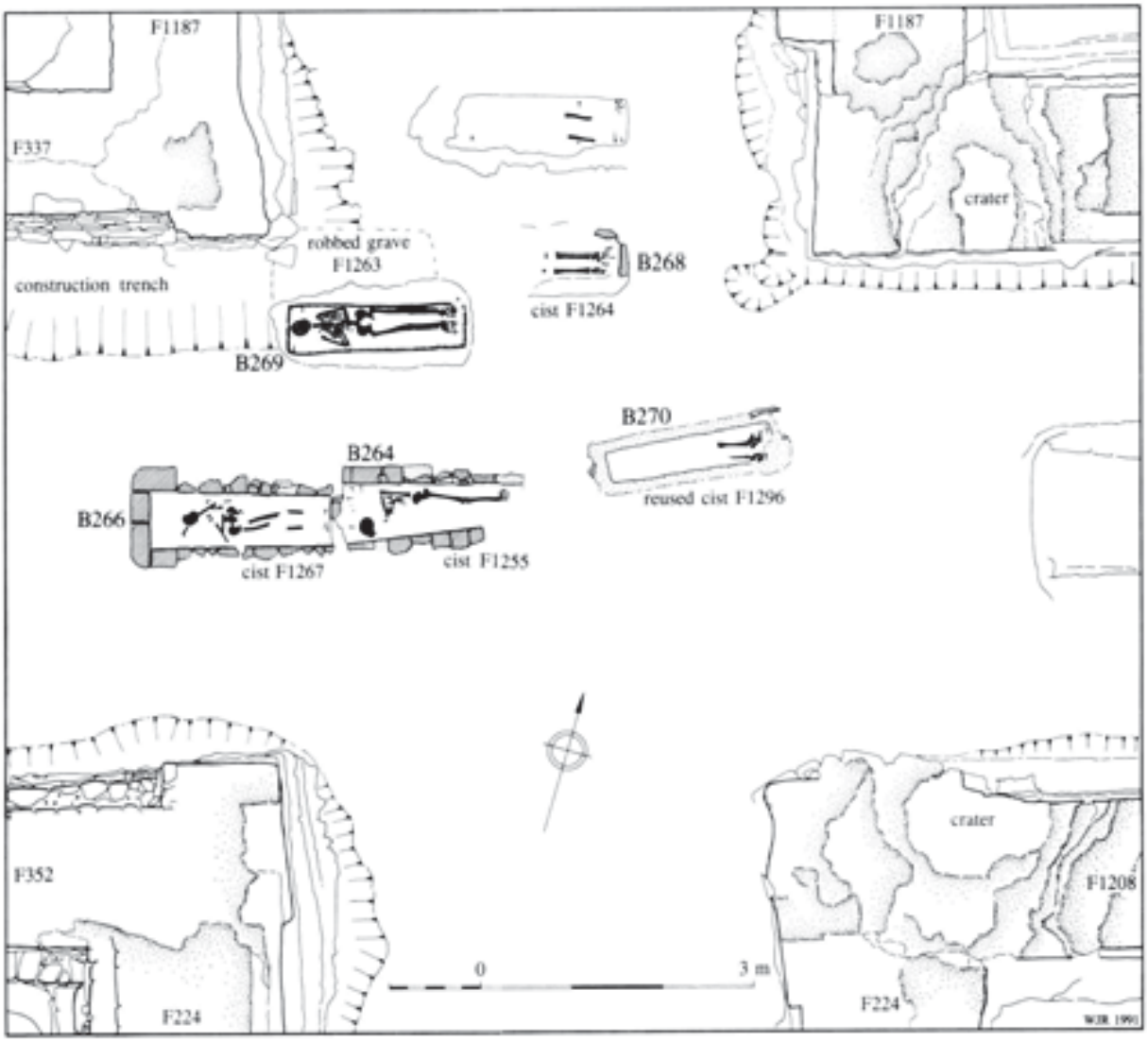


Fig. 225 Plan of the crossing of Stillington's chapel, showing foundations and construction trenches. Contemporary burials are also included. Scale 1:80

Fig. 226 General view of the crossing of Stillington's chapel, looking south, after the excavation of Victorian trenches and robbing pits. The craters caused by the use of gunpowder to blow up the eastern crossing piers (left) are visible. Scales of 2 m

Fig. 227 Foundation of the west wall and diagonal buttress of the sacristy of Stillington's chapel, showing the incorporation of an original chancel buttress. The shadow (left of centre) marks the junction between the two periods of construction. Scale of 2 m

stones had been robbed from the interior of the sacristy, the wall core readily collapsed. The north-east buttress had largely been robbed out. Full excavation of the sacristy north wall and its buttresses was not possible on account of the adjacent graves of recent date. The full extent of the structure is, however, known from Buckle's excavation plan.

The sacristy had been floored with plain glazed tiles, and part of the border of cut tiles remained *in situ* against the north wall. The remainder of the floor had been salvaged at the time of demolition. The tiles were of coarse manufacture and had a lead glaze of orange-brown colour (p. 481).

The bridge to the cathedral

Between the northern stair-turret of Stillington's chapel and the large, stepped buttress containing the newel stair leading to the upper levels of the cathedral transept (Fig. 228) lay a gap of only 1.5 m, at plinth level. This was merely sufficient to gain access to the area of dead ground lying between the chapel and the cathedral. There was clearly no original intention of providing a physical link for access between the two structures, but it must subsequently have seemed desirable to effect one. This was not done at ground level but at a height of *c.* 5.5 m above the floor of the chapel: the new structure was therefore a bridge.

A rough foundation (F1536) was constructed on an angled course between the cathedral and the north-west turret of the chapel. Through the top of the foundation ran an open channel (F415) for draining surface water (Figs. 212, 229 and 230). A wall *c.* 1.6 m in thickness was erected upon the foundation; two of the Doulting ashlar facings survive on the west side (both are reused stones). The wall was pierced by an opening, presumably arched, at ground level, through the centre of which ran the gully. The width of the opening cannot be determined with certainty since the jamb stones are missing, but it was probably only *c.* 70 cm.

Fig. 228 The south transept of the cathedral, showing the projecting stair-turret to which the bridge from Stillington's chapel connected. For a detail, see Fig. 231. Scale of 2 m

The attachment of the link-structure to the cathedral is still witnessed by a series of scars on the face of the transept (Fig. 228). First, the chamfered plinth has been notched to house facing stones on the east and west sides of the bridge. Second, there is a rough housing where a moulded string-course on the west face of the bridge was recessed into the buttress. Third, two levels of string-course have been cut back to receive the bridge, and the dripping of rainwater off the broken ends of these mouldings has fortuitously created marks on the transept buttress ghosting the abutment of the bridge. Fourth, the second in a vertical series of narrow, square-headed windows that lit the transept stair

Fig. 229 The base of the north-west stair-turret of Stillington's chapel and foundation for the later bridge linking it to the cathedral. View north-east

Fig. 230 Detail of the final phase of the open drain passing under the bridge between Stillington's chapel and the cathedral transept. View west. Scale of 75 cm

Fig. 231 Blocked high-level doorway and scars left by the removal of the linking bridge between Stillington's chapel and the south transept of the cathedral

was opened out to form a doorway, which appears to have been given a roughly arched head. The chamfered west jamb of the former window may still be glimpsed. The post-Reformation ashlar infilling of the doorway is set in hard white mortar, with ample joints, and remains plainly visible both internally and externally (Fig. 231).

The level of the doorway did not readily relate to a significant architectural horizon in either the cathedral transept or the chapel transept. The position was dictated by the point at which the spirals of the two stairs came closest together. In the case of the cathedral, this was well below triforium level. The bridge itself may have been internally stepped, and did not necessarily have a level floor.

The open drain beneath the bridge exhibited several phases of use and reconstruction. Initially it was little more than a naturally formed gully in the ground surface; but in its final form the drain comprised a series of gutter blocks (Fig. 230).

The form and detailing of the superstructure

There are no extant illustrations of Stillington's chapel, in either its complete or ruined form, and any reconstruction of the above-ground fabric has to be based upon a combination of evidence. First, the general form of the structure was dictated by the ground plan (Fig. 232). Second, almost the complete internal west elevation survives as part of the east cloister wall (Fig. 197; Pl. II). Third, when the chapel was demolished stubs of the north and south nave walls were allowed to remain as buttressing for the cloister. These stubs incorporate the splays of the westernmost windows in each side (Fig. 233). Fourth, many loose fragments of window tracery, vaulting and other mouldings have been recovered from the excavations. All these supply a firm basis for reconstruction, added to which is the evidence of analogues provided by buildings elsewhere.

While the previous Lady Chapel abutted the plain east wall of the early Gothic cloister, by the time of Stillington's rebuild an upper range containing the cathedral library had been added (in the 1420s; see p. 246). Since the two chapels did not abut the cloister at the same point, some disruption to the library fenestration was involved and at least one light was blocked.

External

It is convenient to begin at ground level and work up. The foundations were capped by an ashlar footing-course of Chilcote stone, upon which a slate damp-proof course was laid (p. 204). Within a fairly close tolerance, the outline at this level corresponded to the ground plan of the chapel's superstructure; in places, the footing was two or three centimetres broader than the walls it supported. The walls themselves were faced with fine Doulting ashlar both externally

Fig. 233 The remaining stub of the south wall of Stillington's nave abutting the cloister. This fragment includes the west splay of one window, and it blocks the original entrance to the Early English Lady Chapel. The lead water-pipe of c. *1451–53 is seen below, set into a protective duct. Scale of 2 m*

Fig. 234 View west along the north wall of Stillington's chapel where it abuts the cloister. Above the 2 m ranging-pole is the splay of the westernmost window of the chapel. Between the wall and the arched entrance to the Holy Cross chapel (right) is one of the early Gothic cloister buttresses (E6?)

and internally, although mixed rubble was used in the wall-cores. There is no evidence for the decorative use of other stone types in the fabric of the chapel, as had commonly been employed in earlier work at Wells. Nor have any masons' marks been noted on stones associated with Stillington's chapel.

Externally, the chapel was boldly buttressed and girdled by a high plinth. The latter comprised a simple hollow-chamfered moulding at ground level, supporting a plain ashlar band, capped by a heavy string-course moulding (Fig. 238). Above this, the main wall face was set back slightly. Each bay of the north and south elevations of the nave and chancel would have been dominated by a substantial window, all doubtless identical. The damaged reveal of the westernmost window (south) survives in the stub of masonry which still abuts the cloister. Buckle produced a convincing reconstruction of the plan of a lateral window, showing that it had four lights, paired to either side of a king-mullion (Fig. 240). There would have been two tiers of lights, and the transom line of each window was marked by a string-course which would have continued around the buttresses and stair-turrets, emphasizing a horizontal division in the building at about mid-height (Fig. 238). The window-heads were undoubtedly two-centred, and reflected the arcature of the internal vaulting. The evidence of the tracery suggests that the lateral windows may have been generally similar to that in the south transept at Dunster, or those in the aisles at Crewkerne, Somerset (Dunning 1996, 69; 14).

The east window of the chancel would have been grander and divided into a greater number of lights, but no certain evidence survives upon which to base a secure reconstruction. It may, however, be that the extant wall-panelling at the west end of the chapel provides the clue for a five-light east window in two registers, with the central light flanked by king-mullions. Since the ends of the transepts were of the same dimensions as the chancel, and had the same vault profile, it is highly likely that they too were fitted with five-light windows. Whether the tracery pattern was varied is a matter for speculation.

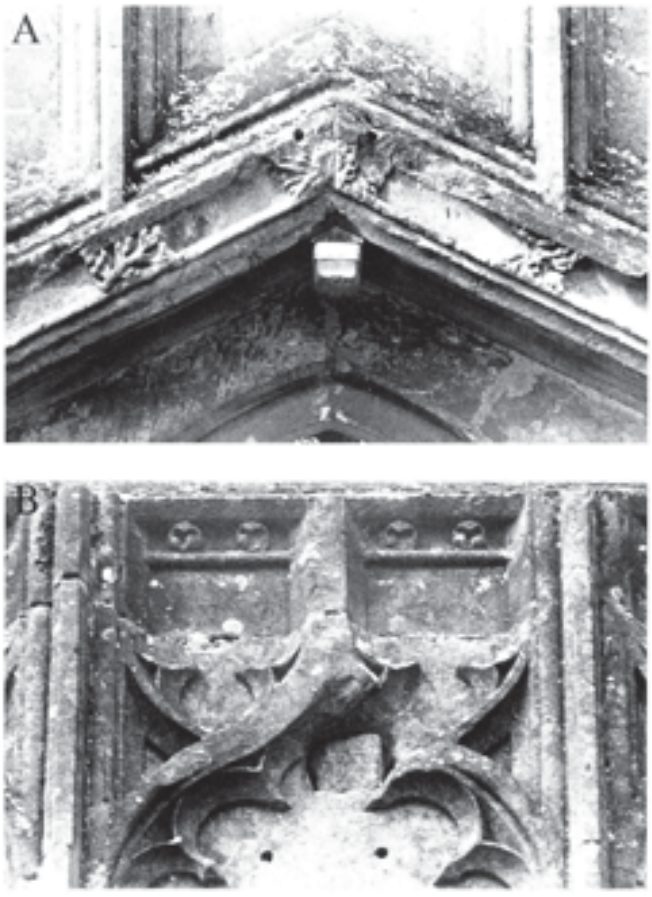


Fig. 235 Stillington's chapel. A Detail of the enriched string-course over the entrance; B One of the sections of ball-flower string-course, inserted between the super-mullions of the truncated arcading in the west wall

Greater uncertainty attaches to the question of windows in the east and west walls of the transepts. The Perpendicular tradition in Somerset placed great emphasis on large windows in the ends of transepts, the side walls often having small-scale fenestration, or none at all. Thus, William Wynford's sumptuous new church at Yeovil (1380s) had no lateral windows in the transepts (Harvey 1978, pl. 6), and St Cuthbert's, Wells, has only a diminutive one. In the case of the latter, this allowed massive reredoses to be erected behind the altars in the transeptal chapels (Serel 1875). A similar situation could have obtained in Stillington's chapel (p. 239).

Almost certainly, there was no west window in the chapel. It would have been diminutive and could only have corresponded to the uppermost traceried portion of the side windows, on account of the library blocking almost the entire west end of the building. There is a moulded string-course that superficially appears to be a window sill, set at the same level as the parapet coping of the east cloister wall. However, this cannot have been a window sill for two reasons. First, it cuts across the Perpendicular tracery in an arbitrary fashion. Second, the string-course carries ornament akin to ball-flower (Figs. 197 and 235), which would be difficult to explain in a late fifteenth-century context. Ball-flower occurs rarely at Wells, and is virtually confined to the early fourteenth-century chapter house.

By the time Stillington's chapel was built such decoration was anachronistic; moreover, no ball-flower ornament has been found amongst the excavated fragments from the Camery. Close scrutiny has demonstrated that the ball-flower 'sill' was never part of the chapel at all, but was a late introduction when the demolition scars were being tidied up and a continuous coping fitted to the library parapet. A likely time for the unashamed addition of an archaic feature would be the seventeenth century. Perhaps this was another element of the library renovation of 1686 onwards (p. 307). Alternatively, it could have been a late eighteenth-century conceit. Where the fragments of ball-flower string-course came from can only be speculation.

The new chapel had to be knitted into the existing fabric of the two-storey cloister. On the south side, the median string-course was returned for a short distance along the cloister elevation, from the face of which it was slightly corbelled out, providing evidence for the buttressing of Stillington's west gable from the cloister parapet (Fig. 233). This arrangement was not, however, mirrored on the north side of the chapel, where there was only a very slight return of the string along the face of the cloister. A buttress on the north-west angle of the chapel would have been virtually invisible from ground level, which doubtless excused its omission. The north wall of Stillington's nave abutted the cloister alongside one of the early Gothic buttresses, and the narrow gap between the two elements was infilled with ashlar (Fig. 234).

It is unlikely that there was a string-course around the chapel at the springing level of the window heads, linking their hood-mouldings. This would have lain a little below library parapet level, and there is no evidence for the presence of such a string. The hood-mouldings would simply have been stopped.

The tops of the chapel walls would have been defined by a substantial moulded string-course, which is likely to have included an elaborately carved cornice with foliate motifs (*cf.* the cornice above the entrance door to the chapel). The cornice would have been punctuated at intervals by stone water-shutes, or gargoyles, discharging rainwater from the parapet gutters. Buckle (1894, 47) recorded finding fragments of a pierced quatrefoil parapet, but no details are known, and they may not have belonged to the chapel anyway. The buttress tops were undoubtedly crowned by crocketed finials.

The four arms of the chapel probably terminated in low, parapeted gables which reflected the pitch of the lead roof. An angle of *c.* 20–25° is likely. Assuming that the parapets stood *c.* 1.0 m high, the total elevation of the lateral walls would have been 13.5–14.0 m, with the gable ends rising to 15 m, or a little more. The gable height was thus twice the internal width of the chapel; for a reconstructed section through the building, see Figure 237. The structural form of the roof

Fig. 236 Artist's reconstruction of Bishop Stillington's Lady Chapel-by-the-Cloister, from the south-east. Drawn by Alan Rome

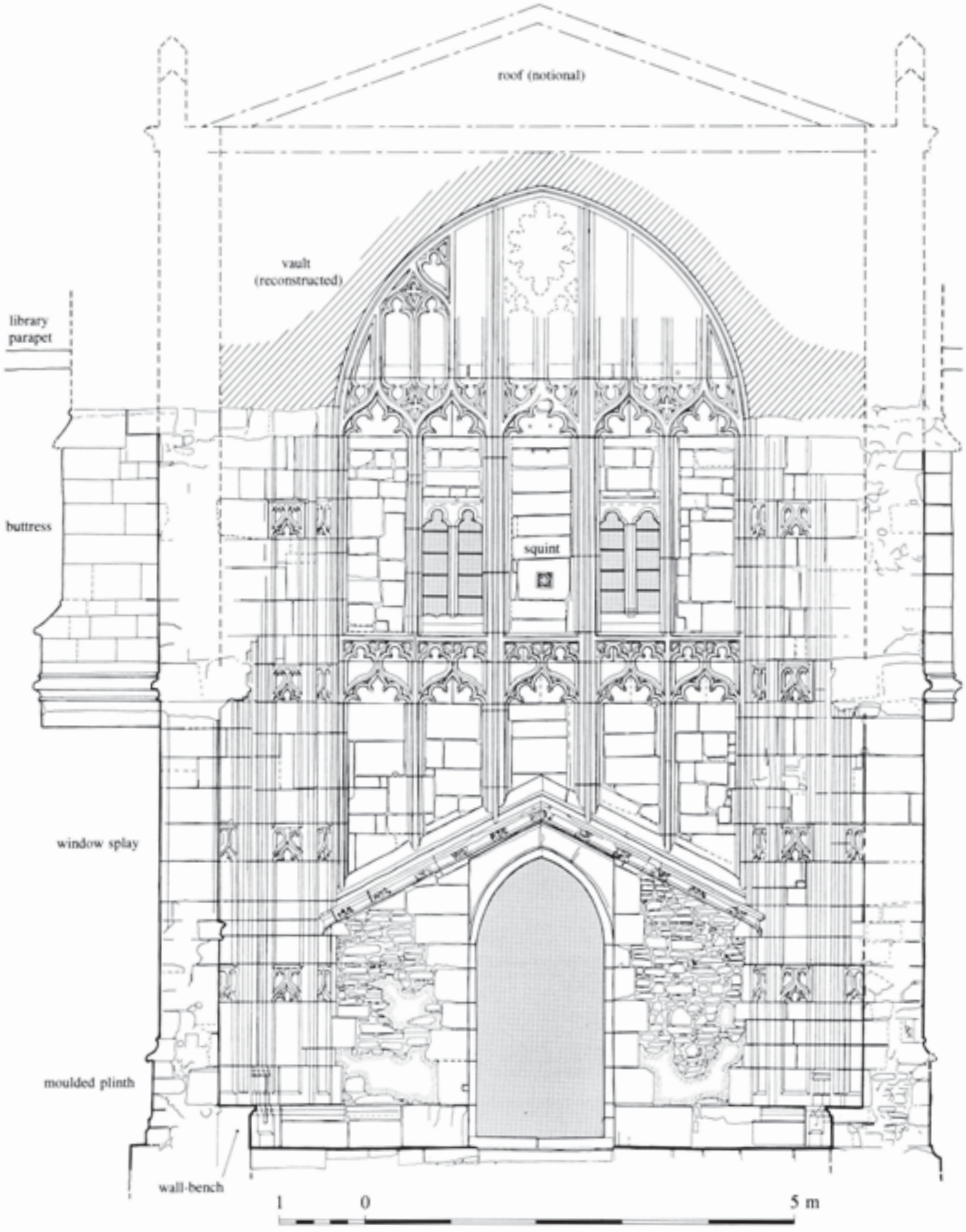


Fig. 237 Reconstructed elevation of the panelled west wall of Stillington's chapel, based on photogrammetry. There is no evidence for the form of the tracery in the central 'lights'. The profile of the vault is indicated, together with a notional outline of the roof and parapets. The asymmetrical pair of high-level buttresses are corbelled out of the east cloister wall. Scale 1:60

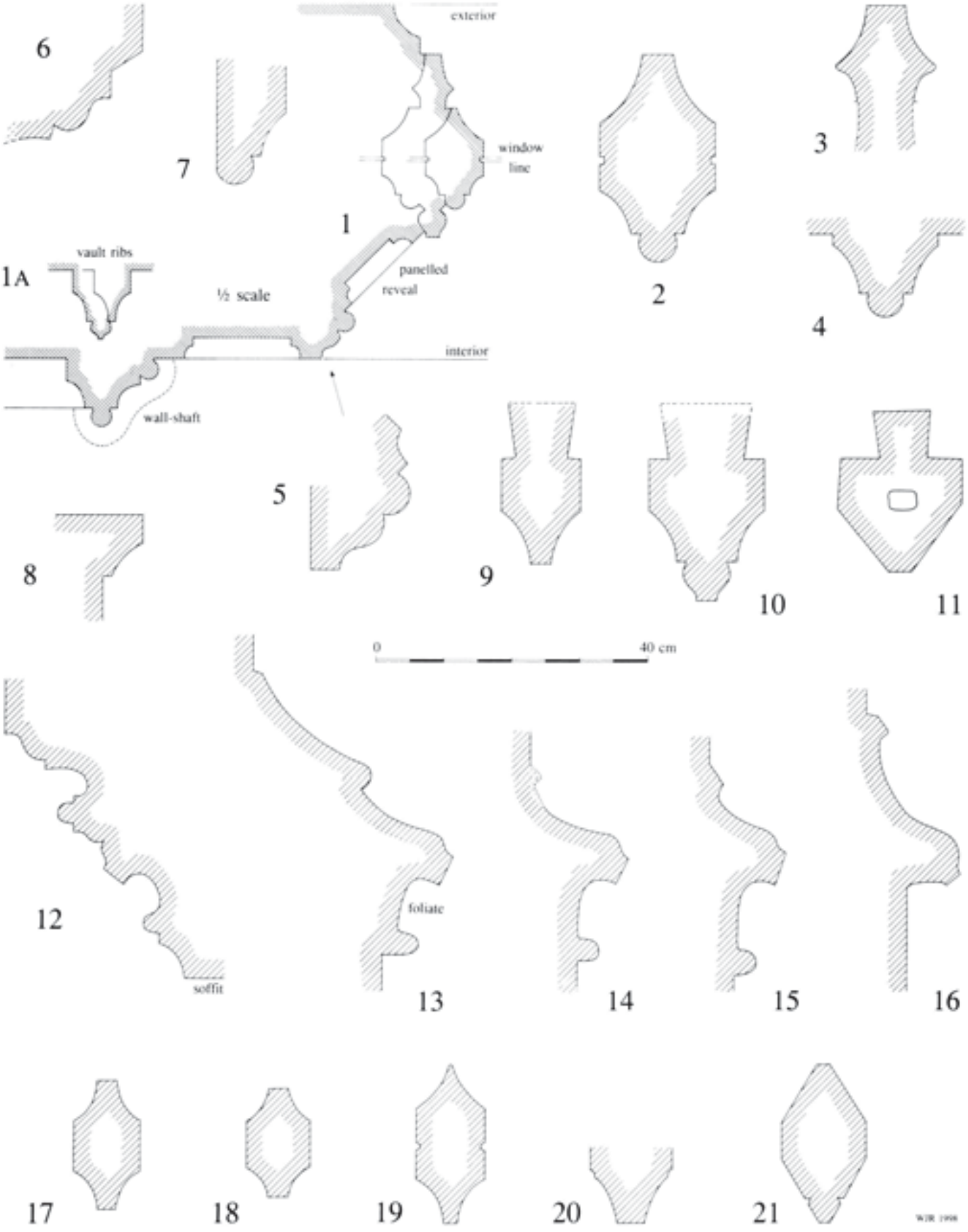


Fig. 238 Profiles of Doulting stone mouldings associated with Stillington's chapel. 1, Reconstructed suite of mouldings for window jambs, panelled reveals and wall-shafts (after Buckle 1894); 1A, Reconstructed profiles of vault ribs (after Buckle 1894); 2, Window mullion (F336 and F1257); 3, Fragment of king-mullion (F1204); 4, Panel mullion (west wall); 5, Panelled-reveal moulding (F1218); 6, Respond or wall-shaft (unstrat.); 7, Respond? (F423); 8, Wall-bench (west end); 9, Vault rib (F430); 10, Vault rib (F38); 11, Unmoulded vault rib (boss no. 19); 12, External door-arch (in east cloister walk); 13, Enriched string-course above west doorway (west wall); 14, High-level internal string-course (west wall); 15, High-level buttress string-course (exterior, south nave wall); 16, Main external plinth (south nave); 17, Screen mullion (unstrat.); 18, Screen mullion (F420); 19, Window mullion, possibly from sacristy (F1206); 20, Mullion or vault rib (F391); 21, Large screen mullion, probably from cloister (unstrat.). Scale 1:8 (except 1 and 1A, 1:16)

cannot be guessed. Since the trusses were not visible (except in the space above the vaulting), they would have been utilitarian rather than decorative. The nave roof at Sherborne Abbey would have provided a contemporary parallel but, according to Hewett (1985, 67), the present queen-post structure is not original.

It seems unlikely that either the buttresses or the stair-turrets were elaborately panelled or otherwise ornamented, and that the exterior of Stillington's chapel was comparatively plain. Buckle reached a similar conclusion (1894, 47). The turrets would have risen above parapet level and been crowned by battlements. The general form of the exterior can be reconstructed with some confidence (Fig. 236).

There is no specific evidence for an external door leading from the chapel into the Camery, although one might be expected for access to the cemetery.[5] Perhaps the most likely place for a doorway was in the south wall of the transept, beneath the window (but that could not have been tall enough for procession). However, if there had been a doorway in this position, it seems unlikely that the slightly later masons' workshop (Structure 16) would have been built hard against the transept (p. 363).

Internal

Entrance and floor

The floor of the chapel was paved with Doulting stone, laid on a thin bed of lime mortar, over a preparation of rubble and stone-dust. On the north side of the nave, the floor stood *c.* 15 cm above external ground level, while on the south the differential was greater. The interior of the chapel lay 18 cm above fifteenth-century floor level in the east cloister; passage between the two was effected by two shallow steps up to the doorway, and one step down again into the chapel. This last step, along with a rebate in the arched opening, formed a stop against which the door closed. The tall, two-centred doorway is of simple form, set asymmetrically within the plastered wall of the tenth cloister bay. Following demolition in the mid-sixteenth century, this doorway was blocked, but it was opened up again in the mid-nineteenth century and is now used as the principal access to the Camery. When the doorway was broken through the side of the cloister, Bekynton's fifteenth-century wall-bench was severed. A return was formed to the edge-moulding.

At the west end of the chapel the floor was laid prior to the construction of the wall-bench, and the first line of paving here was consequently preserved *in situ* when the floor was generally robbed. There are remains of the wall-bench, including the edge-moulded seat, to either side of the door (Fig. 238.8). The bench doubled as a plinth upon which the wall-shafts and blind panelling rested, the arrangement at the two western angles of the nave being fully preserved (Fig. 239). Above the bench on the west, the wall all around the doorway was of plain plastered rubble, framed under a gabled head (Fig. 237). In part, the rubble work represents the outer face of the Early English cloister, but also includes much infilling associated with the creation of Stillington's doorway. Some of the fifteenth-century white wallplaster is still adhering. The gabled head of this panel, which rather resembles a Tudor arch, carries a heavy moulding with spaced-out foliate decoration set in a broad hollow (Figs. 235A and 237).

Fig. 239 The north-west corner of Stillington's nave. The 75 cm scale rests on the remaining original Doulting stone paving, upon which there was formerly a wall-bench

Walls and windows

Above the entrance, the early medieval wall face has been cut back and two tiers of traceried panelling inserted, each divided into five bays (Fig. 197). Two sizes of mullion were employed, defining two paired panels, and a single one in the centre. The lower register of panelling contains a graduated series of cinquefoiled, ogee-headed arches, each crowned by a pair of *mouchettes*. Above these is an interrupted transom supporting the upper register, a regular set of ogee-headed arches, cusped within and above. The two king-mullions, along with five super-mullions, rise a little further before being truncated by the false 'sill' with its strange ball-flower ornament (Fig. 235B). The springing of the ceiling vault survives, and there is sufficient to determine the arcature.

Although there was no west window *per se* to the chapel, it would not have been impossible for the apical tracery lights to be glazed. Alternatively, the blind panelling may have continued to the crown of the vault.

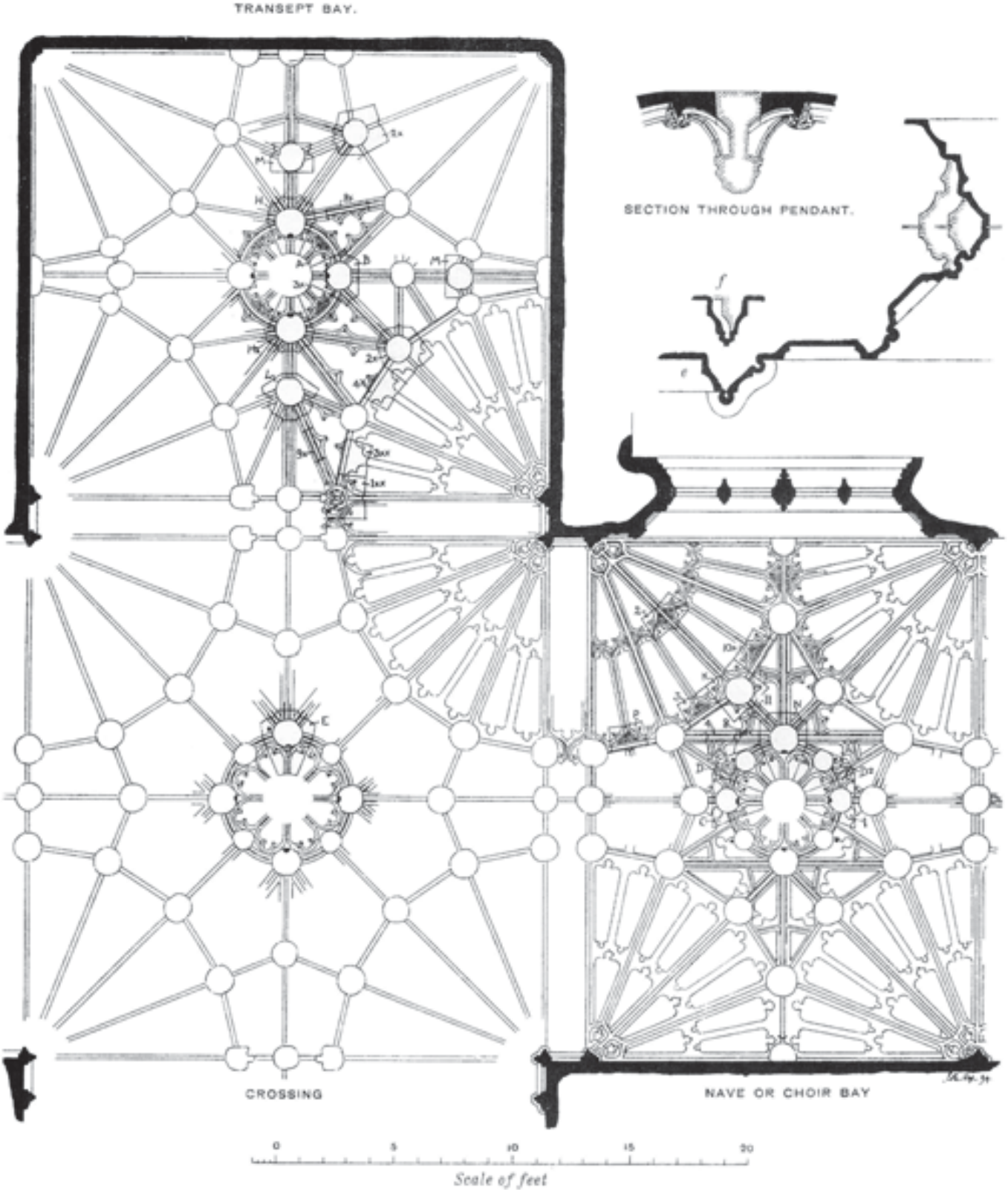


Fig. 240 Reconstructed plan of the three vault designs in Stillington's chapel, based on excavated fragments. After Buckle 1894

A tiny quatrefoiled opening in a square frame, set in the central panel of the upper tier of arcading, provided an important view along the axis of the chapel from within the library. The latter may have served as a watching-loft in the late fifteenth century. The two-light windows that presently occupy the flanking panels are insertions of the first half of the sixteenth century (p. 306).

The internal angles of the chapel were all finished with narrow, vertical panels set at 45°, a feature associated with the support of the vaulting. Again the evidence is fully preserved in the western corners. The margins were defined by vertical mouldings, and the faces were relieved by five tiers of ogee-headed panelling. Although of similar design to the panels of the west wall, these were smaller in scale and not in the same register. The vaulting-shafts defining the main structural bays were similarly panelled, as would have been the responds and soffits of the major arches of the crossing. These latter being wider were probably twin panelled on their inward-looking faces, and the panelling is likely to have continued around the soffits of the arches.

The window reveals too were panelled with cinquefoil-headed tracery. There was a continuous string-course at sill level, 2.6 m above the floor. It is probable that the complete interior of the chapel, above the string, was ornamented with a unified scheme of panelling, either solid or glazed. The roof was no exception, since the fan vaulting was essentially a modified overhead continuation of the same scheme.

The walls were plastered below the string-course at sill level, and the various doorways were contained within this section. These comprised the processional west door, the entrance to the sacristy and, in the transepts, the small doorways giving access to the stair-turrets. The foundation projections on the west side of the transepts indicate the presence of short passages leading into the bases of the turrets. Whether the chapel had an external door, leading out to the Camery, cannot be established.

Vaulting

The entire ceiling of Stillington's chapel was fan-vaulted in stone, a total of eight bays. Except for the crossing, these were all rectangular in plan. The vaulting was probably the most ornately carved element of the chapel's architectural frame and, by chance, a significant number of its components have been preserved. It has been briefly discussed by Leedy (1980, 15–16, 212–14). The crown of the vault stood *c.* 11.25 m (37 ft) above floor level.

As a consequence of the method of demolition employed in 1552 (p. 243), much of the vaulting fell vertically to the ground, and many fragments — including more than a dozen carved bosses — lay face-down in the soil for three or four centuries before being recovered (the floor paving was robbed before the vaults were dropped). A well-preserved boss was found

Fig. 241 Reconstructed central vault-ring representing one of the chancel bays in Stillington's chapel; the chain-holes are arrowed. Display constructed in the east cloister in 1894 (boss nos. 3–7). Two other vault fragments from the chapel are affixed to the wall above (nos. 1–2)

Fig. 242 Reconstructed central vault-ring representing the north transept bay in Stillington's chapel; chain-holes are arrowed. Display constructed in the east cloister in 1894 (boss and segment nos. 8–12)

Fig. 243 Carved fragment from a vault-boss (no. 2) in Stillington's chapel, showing an angel hold a shield bearing St Andrew's Cross. See also Fig. 454 (Jerry Sampson)

Fig. 244 Carved fragment (no. 1) from Stillington's chapel, probably from a vault-springer, showing a Tudor Rose in Splendour. *See also Fig. 454*

sometime before *c.* 1790, and was reused as a central ornament in the gable of the west cloister porch (Fig. 245). This reuse may be as early as the Tudor period (p. 336).[6] Other bosses were found 'when the ground was levelled some years ago' (Buckle 1894, 51), which was *c.* 1851. Three more were recovered during the excavations of 1894, two in the north transept, and one in the chancel, and Buckle referred to a total of eleven bosses then in existence, but showed sixteen on his reconstruction diagram (Buckle 1894, 50, pl. 5). Finally, a single boss was found in 1980 (Fig. 260).

Fig. 245 Vault-boss (no. 19) from Stillington's chapel, reused as a decorative feature and set in a recessed panel over the doorway to the west cloister porch. It was possibly placed there in the sixteenth century. See also Fig. 462

Fig. 246 Detail of one of the smaller bosses (no. 6) from Stillington's chapel, showing two encurled figures of lions. See also Fig. 456 (Jerry Sampson)

Buckle devoted a good deal of effort to analyzing the assemblage of fragments and reconstructing the three different vaulting designs that he believed were employed in the chapel. He found fallen bosses *in situ* in the middle of the chancel and in the north transept: these indicated different vaulting patterns in separate parts of the building. Amongst the *ex situ* finds he identified bosses relating to a third vaulting pattern, almost certainly the crossing. He thereupon argued that there was one design for the nave and chancel, another for the crossing, and a third for the transepts (Buckle 1894, 50, pls. 5, 6). His reconstruction of the chancel and transept vaults seems sound, but that of crossing is more tentative, being based on a single stone from the central ring (Fig. 240).

Fig. 247 Detail of one of the smaller bosses (no. 12) from Stillington's chapel, showing convoluted leaves. See also Fig. 457 (Jerry Sampson)

Parts of the composite central rings, representing a transept bay, and a chancel bay, respectively, were physically reconstructed from the fragments recovered, and are still exhibited on the wall-bench in the east cloister walk, beside the doorway to the former chapel (Figs. 241 and 242). Two other vault fragments are exhibited in the same place, affixed to the wall: these are part of a boss depicting an angel holding a shield bearing St Andrew's Cross, and a springer displaying a Tudor *Rose in Splendour* (Figs. 243 and 244). The former may have come from the junction between a rib and the panelled soffit of the north transept arch, where it is shown by Buckle (see Fig. 240, lxx).

In plan, the fans were polygonal, rather than quarter-circles. The ribs were moulded with a roll-and-fillet, and there was a plethora of trefoil cusping bordering the panels. Profusely carved bosses adorned all the rib intersections: most were foliate, but some included animal representations. There appear to have been two sizes of boss, corresponding to major and lesser rib intersections. A full catalogue of the recovered vault bosses is given in chapter 12 (pp. 439–48). The state of preservation of some of the sculptured detail is remarkable, considering the height from which the bosses fell when the vaults were dropped (Figs. 245–7). The quality of the carving ranks amongst the finest in the West Country in the late Middle Ages.

The bosses and ribs were of Doulting stone, rebated to receive the webs, which were apparently made from tufa. Much of this lightweight filling material was found in the excavations. The four principal bosses belonging to each central ring have a single rectangular socket cut into the side of the ornament. These were evidently mortices to receive the ends of four small flying-ribs attached to pendentives. Buckle made a reconstruction (Fig. 240). Several stones belonging to the central rings also had holes 3.7 cm (1½ in) in diameter drilled right through them, immediately outside the ring-moulding. The original arrangement seems to have comprised a set of four equally spaced holes which, in the case of the chancel and crossing bays were drilled through the plain webs, but in the transepts the holes passed through the cusps. These holes were not constructional features, and nor were they fixings for metal eyes. Internal wear suggests that something passed vertically through the holes, presumably chains for the attachment of a *corona lucis*, with an arrangement for raising and lowering.

Loose architectural fragments

Hundreds of fragments of Doulting stone mouldings were recovered during excavation which, upon analysis, were shown to be derived from a very restricted range of feature types, all with related detailing (Fig. 238). Basically, windows, wall panelling and vaulting are represented. A catalogue of mouldings is contained in the site archive.

In addition to mouldings assignable to the main structure of the chapel, other fragments have been noted amongst the demolition débris which are more delicate and smaller in scale, and these must derive from screens and other internal features. None can be confidently identified, reliably placed within the chapel, or reconstructed. Some of the mouldings bear a family resemblance to those of the chantry chapel built for Canon Hugh Sugar inside the cathedral (Figs. 248 and 249; Anon 1846). This chapel, which occupies the second arcade bay on the south side of the nave, was erected in 1489, at the same time as screens and internal details were being finished in Stillington's Lady Chapel, and the same master mason was involved. However, the screens of the Sugar chantry may not provide a valid clue to the style of fenestration in the chapel.[7]

No evidence for polychromy has been noted, and it is clear that the interior of Stillington's chapel was merely limewashed. A good deal of limewashing remained on the mouldings and vault fragments but, as might be expected, few coats were present. It is unlikely that the higher parts of the chapel were ever redecorated after completion.

Coloured window glass provided a contrast to the white walls and ceiling. Unfortunately, very little stained glass was recovered during excavation, and the few pieces assignable to Stillington's chapel were of high quality, and included Tudor Roses and fragments of heraldry (p. 481). The glass for the chapel would have been made in *c.* 1485.

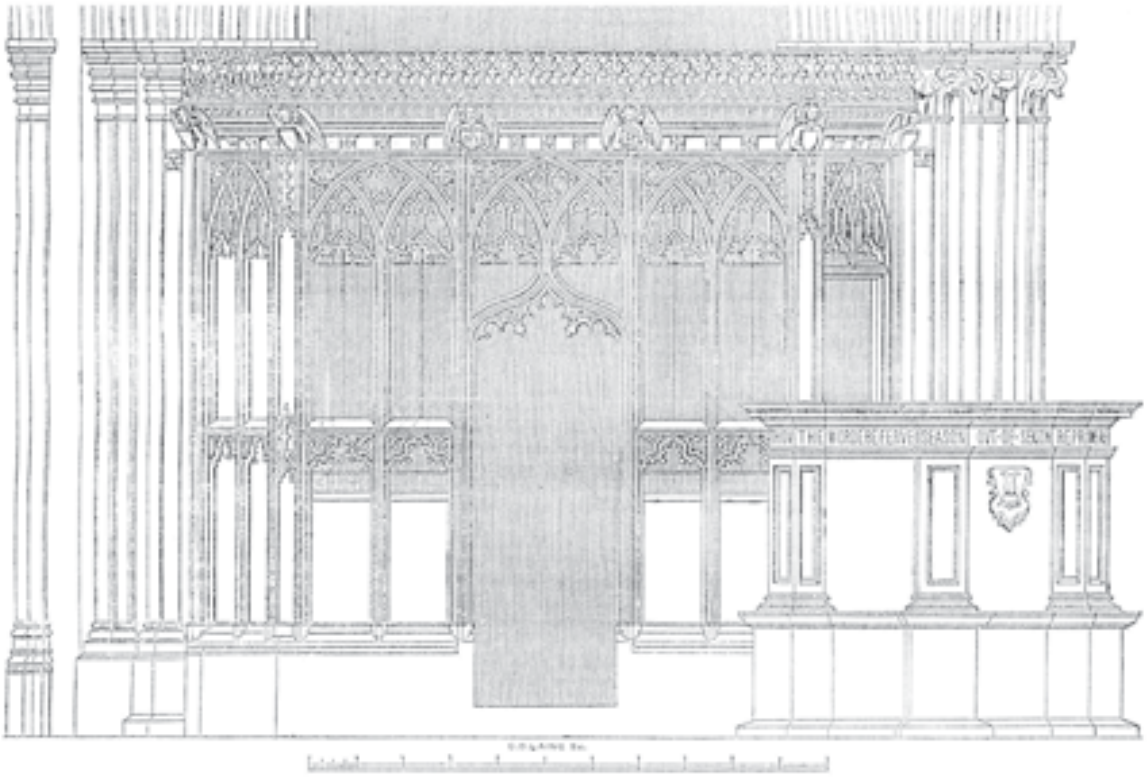


Fig. 248 North elevation of Hugh Sugar's chantry chapel (1489) and Bishop Knight's pulpit (1540s), drawn by F.T. Dollman. After The Builder, *1846.* Cf. *Bubwith's chantry chapel (*ante-*1424), Pl. VII*

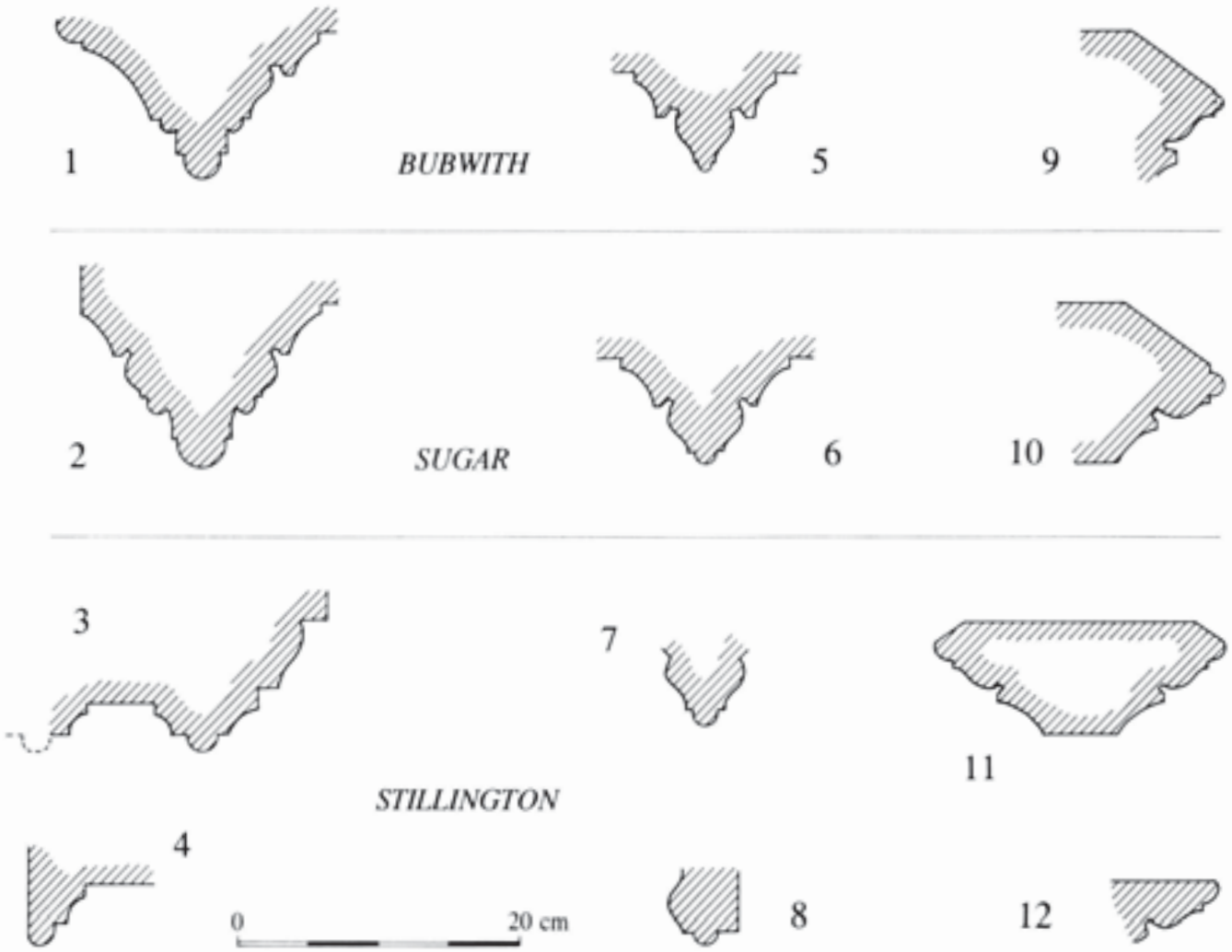


*Fig. 249 Profiles of stone mouldings in the Bubwith chantry (*ante*-1424), Sugar chantry (1489), and from excavations on the site of Stillington's chapel (1480s). 1–4, responds (3, 4: F16); 5–7, panel-mullions (7: F1236); 8, uncertain (F1174); 9–10, sills; 11–12, jambs? (F1236). See also Pl. VII. Scale 1:5*

The architectural significance of Stillington's Lady Chapel-by-the-Cloister

We have seen that the early Gothic Lady Chapel was both a remarkable building and an odd appendage to a cathedral cloister. Although utterly different, its Perpendicular successor was even more remarkable, and no less curious in its situation. It is extremely difficult to cite a convincing analogue for this structure, and hence to suggest its origin. What could Stillington have seen in the mid-1470s that inspired him to commission such an edifice?

There were plenty of buildings of cruciform plan to choose from, but most of the large, vaulted ones were also aisled. Those which were aisleless tended to be parish churches of twelfth- or thirteenth-century origin, albeit often much altered: the great majority of fifteenth-century transeptal buildings owed their plan to an immediate predecessor. Moderate-sized, cruciform churches erected *de novo* at this period were few and far between: St Mary, Melbury Sampford, Dorset, is a small and humble example of the type (Fig. 251; RCHME 1952, 161). Moreover, the crossing was commonly surmounted by a tower, which seems not to have been the case at Wells. But Stillington was presumably not seeking to emulate parish church architecture as a setting for his chantry. Instead, he presumably looked to contemporary buildings of the first rank, and scaled down the proportions accordingly.

The provision of a symmetrical pair of stair-turrets on the salient angles of transepts was a particularly uncommon feature, but it has a West Country antecedent in the late Saxon church at Wimborne Minster, Dorset (RCHME 1975, 80). Although closely similar in layout to the Lady Chapel, the plan of Anglo-Saxon Wimborne could not have been known to Stillington (Fig. 251). Temporally, a closer analogue is found at St John's, Yeovil, where the transepts have boldly projecting turrets on their salient eastern corners (Goodchild 1942, pl. 4; Harvey 1978, 6; McGarvie 1994, 397). But these were already a century old by the time Stillington's chapel was erected.

The only practical purpose served by the turrets at Wells was to give access to the roof leads, it being highly unlikely that they served any galleries or wall-passages. Nor were they suitably positioned to access a rood-loft.

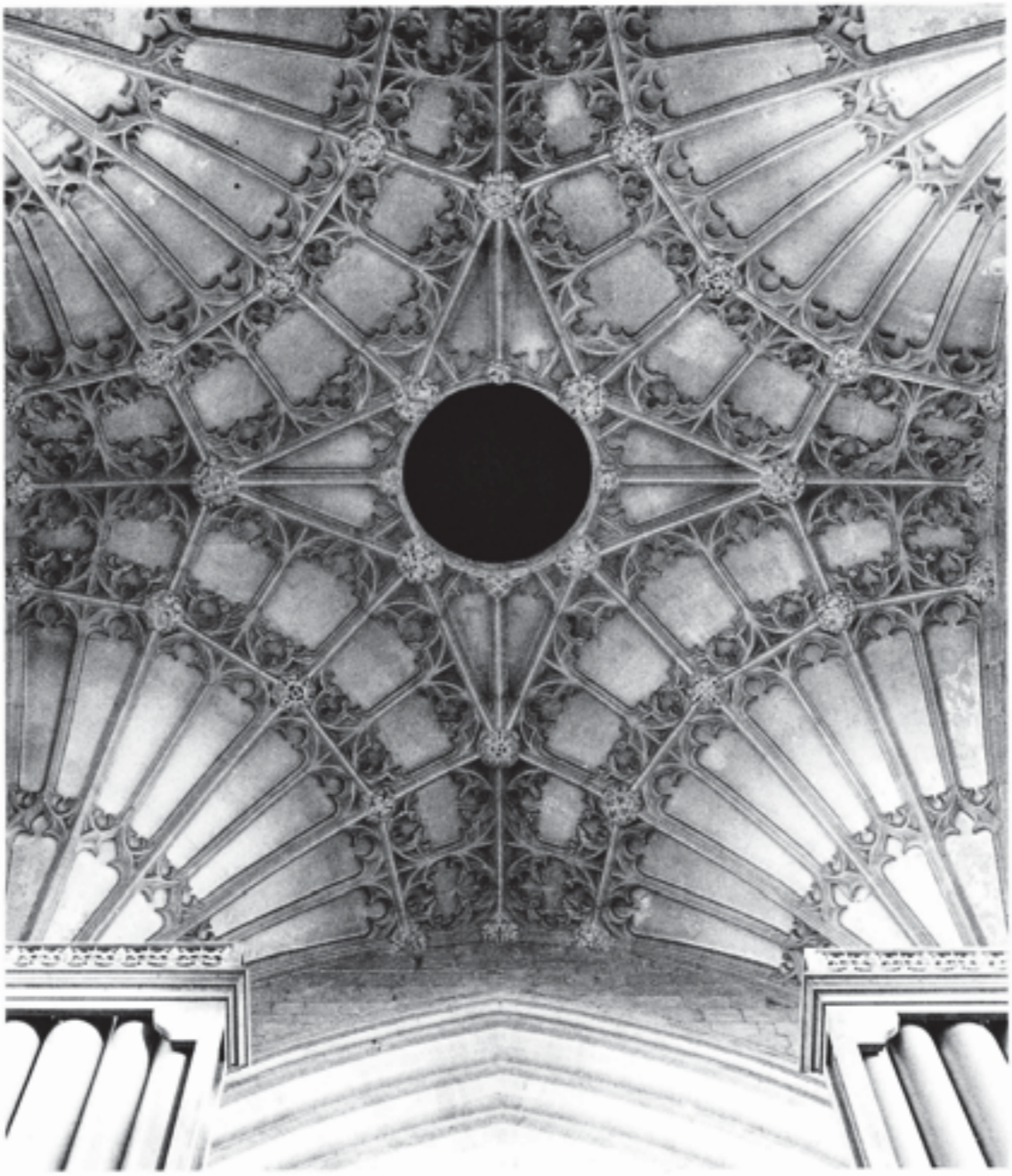


Fig. 250 Fan vault, probably erected by William Smyth in the 1480s, over the crossing in Wells Cathedral. East is at the bottom (Jerry Sampson)

Most parish churches made do with one stair to the roof, and that was frequently combined with the rood access. Not only was a second turret superfluous but, in the case of the northern one, it would have been invisible from virtually all viewpoints.

Pairs of boldly projecting octagonal corner-turrets certainly became popular from the late fourteenth century onwards (*cf.* Yeovil), but were almost invariably part of a west front, as at Crewkerne church; King's College Chapel, Cambridge; St George's Chapel, Windsor; and, eventually, in a less prominent form at Bath Abbey. Additionally, they might appear on an east front too (*cf.* King's College Chapel). In Somerset, angle-turrets also appear on the western corners of aisles, as at St John's, Keynsham; and in the unusual case of Yatton the mid-fifteenth-century west front has a line of four octagonal turrets (Wickham 1952, pl. 15b). Additionally, paired turrets could be incorporated in a lateral adjunct, such as the south porch at St John's, Cirencester (first phase, *c.* 1490).[8] It is, of course, possible that the desire to include octagonal turrets in the architectural composition at Wells was bolstered by their earlier presence at the Bishop's Palace: Burnell's great hall of the 1280s had impressive turrets at all four corners, and Bekynton's Palace Gate of the 1450s was also crowned by a quartet of castellated turrets.

Edmund Buckle seems to have been the first antiquarian architect to appreciate and comment on the wider significance of Bishop Stillington's chapel.

He devoted a good deal of his excavation report to a discussion of the architectural form and embellishment of the building. He recognized that it belonged to the West Country Perpendicular school, and that it must have been the work of an architect who was closely familiar with buildings such as St Mary Redcliffe, Bristol, and Sherborne Abbey, Dorset: he repeatedly drew analogies with the latter, and also drew comparisons with Bath Abbey, although that is later in date (Buckle 1894, 48–9, 52, 56). Buckle concluded, 'so far as we can judge from the remains it seems probable that this chapel was actually the *chef d'oeuvre* of the school, and that it surpassed even Sherborne and Redcliff churches in beauty, or at any rate in elaboration.' (*ibid.*, 56).

The late Dr John Harvey succeeded in putting a name to the medieval architect responsible for the work, and for defining more closely his individualistic style. The Wells master mason at the time was William Smyth, who is believed to have acquired the freedom of the city in 1475, and therefore arrived on the scene just in time to take the lead in Stillington's cloister chapel project. In 1480–81 Smyth is recorded as receiving an annual fee of £1 6s 8d, and a house as master mason. He died in 1490 (Harvey 1984, 277).

In addition to Stillington's chapel, Smyth's identifiable work at Wells includes the fan vault over the cathedral crossing (Fig. 250), Sugar's chantry chapel of 1489, and Dean Gunthorpe's additions to the Deanery, also in the 1480s. Before coming to Wells, Smyth was at work on St John's, Glastonbury, in *c.* 1465. His style has been recognized in the nave and west front of Crewkerne church, Somerset, *c.* 1475–90, in the nave and transept vaulting at Sherborne Abbey, Dorset, *c.* 1486–93 (Pl. VIII), and in the crossing vault at Milton Abbey, Dorset, *post*-1481 (Harvey 1978, 277–8). The layout of the crossing vaults at Wells Cathedral and Milton Abbey is almost identical (*cf.* Leedy 1980, pls. 29 and 31) and, in so far as the evidence goes, it seems clear that Stillington's crossing belonged to the same *genus*. The reconstruction of Sherborne Abbey church, following a disastrous fire in 1437, has been discussed by Gibb (1985), and workshop connections between Sherborne and Wells have been explored by Leedy (1977).

Until the end of the nineteenth century, Smyth's tracing floor for laying out one of the fan vaults at Wells survived intact. Knowledge of it is due entirely to Irvine's remarkable powers of observation. He noted that the Doulting-paved floor of the chapter house was covered with scratched lines, and that these were being rapidly obliterated by the tramp of tourists' feet.[9] Irvine studied the floor and realized that it enshrined the design layout for a fan vault, and since the only example of such a vault was in the crossing of the cathedral, he equated the two. At the time, it was not known that Stillington's chapel was fan vaulted. Hence, we cannot now be certain to which vault the tracing floor related. Today, only two tiny patches of the incised surface remain, to the east of the central pillar, where items of furniture have protected the floor from wear.[10]

It has been suggested that Stillington commissioned the fan vaulting for his chapel at a time when this was scarce, if not unknown, in Somerset (Leedy 1980, 15–16). He would have been familiar with the latest developments in vaulting, through his close involvement in court circles. A rash of fan vaults, related to those at Wells, appeared in Somerset in the last two decades of the fifteenth century. Amongst them is the west tower of St John's, Glastonbury, and the crossing of St Mary Magdalene, Ditcheat.[11]

The close resemblance of many of the excavated fragments from Stillington's chapel — especially vaulting — to Smyth's extant works contributes greatly to an understanding of what has been lost at Wells, and to its reconstruction as an academic exercise. By the 1470s the original purpose and ancient importance of the Lady Chapel-by-the-Cloister seems to be have been largely forgotten: it was now a chantry chapel. As such, the form of the rebuilt structure was truly remarkable and far removed from the single-celled Perpendicular appendages that were not infrequently added to other great churches, as chantries. Architecturally, Stillington's chapel was a scaled-down model of a 'great church'. The fact that it was fully transeptal and had clasping octagonal stair-turrets marked it as being *sui generis*. Even without a low tower over the crossing, the chapel must have overshadowed the cloister, as well as visually obstructing the lower half of the cathedral transept. It is also worth noting that churches of minor collegiate foundations — such as that at Shottesbrooke, Berkshire, established in 1337 (Pevsner 1975, 216) — often adopted the transeptal plan and long chancel, albeit on a relatively small scale.

If it is accepted that the blind panelling of the west wall closely reflects the design of the fenestration — especially of the east window — comparisons may readily be drawn with the windows of other late Perpendicular churches in the west of England. The chancel of the collegiate church of Holy Trinity, Stratford-on-Avon, Warwickshire, has a remarkably similar east window. The composition is the same as at Wells, although there are seven lights instead of five, and the head is four-centred (Harvey 1978, pl. 187).

The stair-turrets on the transepts must have borne a resemblance to the twin-turreted west front of Crewkerne church (Wickham 1952, pl. 17b; Dunning 1996, 15). Its plain embattled parapets may be considered as a better alternative to the pierced quatrefoils envisaged by Buckle. The nave and south porch at Curry Rivel, Somerset, could be another work by Smyth, and the detailing of the windows, plinth and buttresses is closely similar to the remaining evidence at Wells. This church also has embattled parapets. The blind quatrefoil parapets around much of the church at Sherborne Abbey may be Smyth's, and provide a third reconstruction option (RCHME 1952, pl. 162).

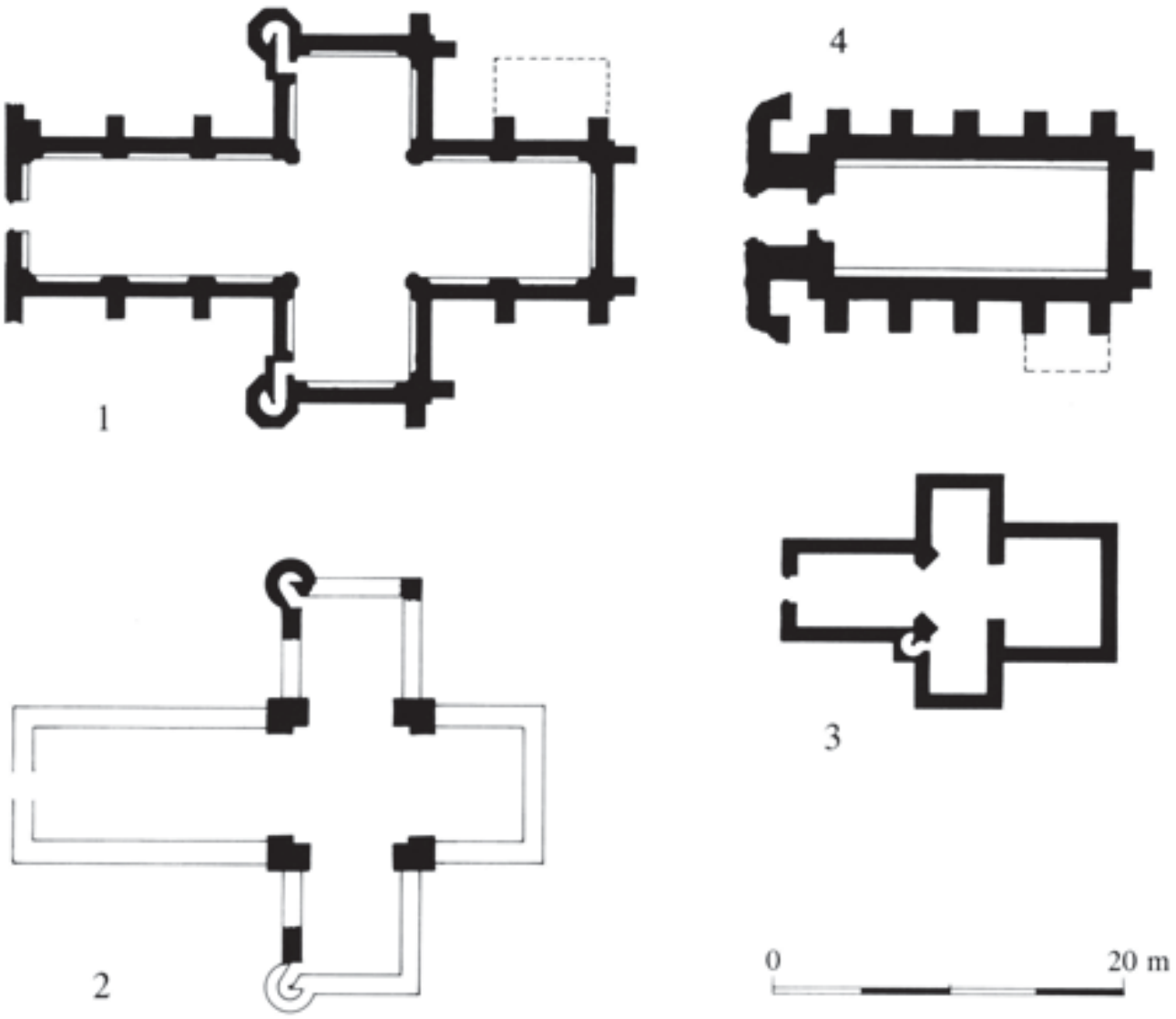


Fig. 251 Comparisons between the ground plan of Stillington's chapel and some other buildings. 1 Lady Chapel-by-the-Cloister, Wells; 2 Wimborne Minster; 3 St Mary, Melbury Sampford; 4 Edgar chapel, Glastonbury Abbey. Scale 1:400

Finally, one wonders to what extent this remarkable chapel, albeit short-lived, influenced other architectural developments in Somerset. One potential candidate is the Edgar chapel at Glastonbury, which projected from the east end of the abbey church, and was built by Abbot Bere (1494–1524). This vaulted and heavily buttressed, single-celled chapel, was almost the same size as Stillington's nave (Fig. 251). It is also worth noting that amongst the many *ex situ* fragments of vaulting at Glastonbury are examples which compare closely with Stillington's chapel (Bond 1909, pl. 3).

Furnishing and the use of the chapel

Much of the evidence for the internal division and use of space is derived from a study of burial dispositions. It is therefore appropriate to begin with the sepulchral archaeology.

Burials within the chapel

Unlike its predecessor, Stillington's chapel was not sufficiently long-lived to attract a prodigious number of burials beneath its floors. The total appears to have been only twenty, which may indicate that interment in the new chapel was a more selective process than it had been hitherto. Although the full complement of burials was undoubtedly found and excavated, several were in fragmentary condition owing to the activities of despoilers in the mid-sixteenth century, and Victorian trenching. In one instance it will be argued that an entire burial had been removed.

Records of burials

Although it is possible to identify with certainty only the tomb of Stillington himself, records of other contemporary burials in the chapel have been preserved, indicating the sex and status of some of the deceased. The list comprises:

1. Richard Swan's will, dated 26th December 1486, states 'I bequeath my body to be buried in the Chapel of the Blessed Mary next the Cloister... before the altar of St Katherine in the said chapel' (SRS 1901, 261). The date of interment, however, is not known, but the will was proved on 30th January following.
2. John Lascy's (Lacy) will, dated 17th January 1492, states 'I bequeath my body to be buried in the Chapel of the Blessed Mary next the Cloister near the tomb where lies buried the body of John Lascy my nephew' (SRS 1901, 301). An entry in the accounts for 1492–93 duly records that John Lacye was buried in the chapel for a fee of 20s 0d (HMC 1914, 131).
3. Thomas Overey, precentor of the cathedral, in his will dated 18th July 1493, bequeathed his body 'to be buried in the new chapel of the Blessed Mary next the Cloister ... before the door of the entry into the chancel of the said chapel, at the back of (*retro*) the grave of my lord of good memory, Robert [Stillington], late Bishop of Bath and Wells' (SRS 1901, 307). An entry in the cathedral accounts for 1492–93 records that the burial duly took place in the chapel, for a fee of 20s 0d (HMC 1914, 131).
4. John Moyn, Archdeacon of Taunton, willed on 3rd April 1525, 'My body to be buried in the chapel of the Blessed Mary next the Cloister ... before the cross' (SRS 1903, 237). The date and place of burial are not known. The presumption is that he was interred axially in front of the rood screen.

Various other burial dues were recorded in the accounts for 1492–93, under bequests and collations of the Fraternity of St Andrew (HMC 1914, 131; Colchester 1983, 22). The following certainly relate to the Lady Chapel-by-the-Cloister, others possibly.

5. George Stillington,[12] 3s 4d.
6. John Lefemen, 20s 0d

There are thus explicit records of eight male burials in Stillington's chapel, with an indication that the bishop himself was buried in the chancel.

Burials in the nave (Fig. 203)

Just inside the west entrance lay two groups of burials, one on either hand. In the north-west corner were three interments: burials 16 and 18 lay side-by-side in separate graves, and there was also a fragment of burial 17. The first was damaged by a nineteenth-century excavation trench (F339). It was an earth-cut grave (F463), large enough to have held a wooden coffin, although no trace of this remained except for a few stray nails. Copper staining on the sixth and seventh vertebrae was potentially caused by a shroud pin.

Burial 18 was superior: the corpse had been laid in a heavily nailed wooden coffin (F531; Fig. 524), placed in a stone-lined cist (F485). The walls of the cist were formed with roughly shaped slabs of red sandstone and lias, and these were attached to the sides of the grave-cut with rough patches of white mortar. In part, the masonry of the south side belonged to an earlier cist. The grave was covered by three slabs of sandstone, broken and sunken, doubtless by the fall of masonry from the roof vault.

Between and partly overlying these two graves lay a shallower burial, B17, of which the skull alone was *in situ*. The remainder of the grave had been thoroughly disturbed by later trenching, and there was no evidence of a cist. This is likely to have been a family group, marked either by ledger slabs or even possibly associated with a free-standing monumental tomb (see further below). However, two of the burials were certainly, and the third probably, adult males.

On the south side of the nave, almost directly opposite this group, lay another pair of graves, defined by a rectangular pit (F459). Although only one burial was found, it can hardly be doubted that there had been another alongside it on the north; this had been so cleanly robbed that the removal of a lead or stone coffin may be suspected. The surviving burial (B19) was not on the alignment of Stillington's chapel, but followed that of the earlier chapel beneath, although the grave was clearly cut through the make-up levels for the later building. The deflecting influence of the early cist-graves on Stillington-period burials was a recurring feature.

The sequence of events was made clear upon excavation: the grave-digger had encountered an earlier stone-lined cist, F490 (p. 183; Fig. 168), which he emptied. In order to open and reuse the cist without disrupting a larger area of floor within the chapel, it was necessary to undercut the paving, principally on the east, but also to a small extent on the south. The old cist was partly reconstructed, and lengthened: the east and west ends were plastered directly onto the earth wall. A mortar spread in the base of the grave contained both footprints and an impression of the wooden coffin (F520). Few nails were used in the coffin, the basic construction of which was clearly outlined (p. 540; B19, Fig. 524). After the interment had been made, the cist was covered by three rough slabs of red sandstone, all later fractured.

Burial 19 was of a male, aged up to 50 years, and once again a family pair seems likely. A third grave on the south side of the nave may have been associated too, but lay closer to the west door. This burial (B29), a woman up to 45 years old, had been fortuitously cut into the core of an earlier wall foundation, which was not lined to form a cist. The corpse was contained within a nailed timber coffin (F580), the outline of which was exceptionally well preserved as a grey stain in the pale, mortary fill of the grave, F557 (Fig. 252).

The siting of these burials, not in direct association with obvious altar positions, would superficially appear to militate against their having been provided with

Fig. 252 Coffin silhouette seen above the level of the skeleton (B29), in the south-west corner of Stillington's nave. This grave had been cut into the foundation of the earlier Lady Chapel. Scale of 75 cm

chantry endowments. But this was not necessarily the case, and the disposition of the graves hints at the likelihood of there being two private chapels in the western corners of the nave. There were no interments in the first bay and only one in the second, and hence the occurrence of six in this third bay indicates that it was separately defined by timber screens and was reserved for a particular sepulchral or liturgical function. It may be observed that the burials in the north-west corner were so placed that they would have lain directly in front of an altar set against a screen at the bay division here (for a suggested reconstruction, see Fig. 256).

A different situation obtained in the south-west corner, where two of the burials would have been partly overlain by any altar here. Their feet extended right up to the screen. It was surely the presence of such a screen that explained the undercutting of the floor at the east end of burial 19: excavation commonly reveals undermining of screens, steps and altars in order to tuck coffins partially under such fixtures. The position of burial 29, projecting slightly into the central aisle, could be explained by the obstructing presence of a great tomb set into the south-west corner of the chapel. There could have been a correspondingly-placed tomb in the north-west corner, between burials 16–18 and the west wall. It may be no more than coincidence, but it is interesting to observe that these western burial groups mirror the arrangement in the previous chapel.

Alongside the south wall in bay 2 was a crudely built cist-grave, F594. The grave-cut was lined along its north and south sides with vertical slabs of conglomerate, to provide support for other slabs that were used as capstones. The corpse, B36, which was contained in a nailed wooden coffin, was of a male aged 40–50 years (Fig. 524). A small piece of bronze sheet, found by the right knee, did not seem purposeful and may have entered the grave along with later filling material. The grave was deep, and it cut away part of the south side of a shallower cist (F593) in the earlier Lady Chapel (p. 189; Fig. 168). After the burial had taken place in F594, and the capstones laid, slabs and pieces of stone were piled on top of them to underpin the unsupported remains of the cover of F593. The position of burial 36 is consistent with there having been a screen or tomb attached to the south wall, at the bay division (Fig. 256).

At the east end of the nave, centrally beneath the crossing arch, lay a cist-grave, this time on the chapel's long axis. Its position would have been determined in relation to the opening through the screen that separated the nave from the crossing (see also Fig. 225). The grave was presumably marked by a floor slab. The burial (B266), an unsexed adult, was in poor condition, having been disturbed both by rodents and by sixteenth-century robbers (Fig. 257, F1266), and possibly by nineteenth-century trenching as well. A few nails indicated the former presence of a wooden coffin. The grave was entirely lined with masonry which included sandstone, conglomerate, white lias and blue lias rubble; the west end and adjacent corners were markedly different, having been carefully built with large blocks of Doulting ashlar (F1267). The reason for what must surely have been a deliberate use of different materials is not apparent. The lining of the east end was expeditiously created by reversing ashlars that had previously formed part of an adjoining earlier grave to the east (F1255). The interior of the cist was roughly rendered with white lime-plaster, and the burial had been covered by capstones of greenish conglomerate set in white mortar.

Burials in the crossing (Fig. 225)

Immediately east of the last grave (F1267) was another which was stratigraphically earlier. The burial itself (B264) seems to have been partly destroyed during sixteenth-century robbing (F1197), and further damaged when the grave was rediscovered and opened during the 1894 excavations. It fell at the intersection of trenches F1175 and F1194 (Fig. 12; Buckle 1894, 57, pl. 3, N). Interment had been in a nailed wooden coffin, placed in a mortared stone cist (F1255). The walls were roughly built of Doulting ashlar, conglomerate, white lias, and a blue lias nodule; the mortar was

white, with a little admixture of charcoal. The cist was slabbed over with green conglomerate, part of which remained intact. Most of the missing bones from the skeleton were found on top of the grave filling, but under the capstones: this proves that the grave had been opened, disturbed and then slabbed over again. Burial 264 was a male aged 50–65 years.

The positioning of this grave is interesting, having its 'foot' end just west of the centre of the crossing. It was not, therefore a centrally placed burial, which prompts the suggestion that there may have been a central chantry enclosure or an altar under the crossing, in front of which burial 264 was made, with burial 266 being added in axial succession. A pair of related graves, associated with a chantry altar, may be implied, and the focal position within the chapel as a whole testifies to the importance of the persons concerned.

Just east of the posited altar, between it and the chancel screen, lay another fragmentary adult male burial (B270), in a rebuilt pre-Stillington cist (F1296). The cist, which was influenced by the earlier Lady Chapel alignment, was built of mortared rubble, and was constructed on top of the mortar floor and other slight remains in the pit that had been dug for a previous cist (F1297). The whole was severely damaged by post-medieval activity, principally the robbing pit F1206 (Fig. 257), and drain F37.

In the north-west corner of the crossing lay another group of three graves: two were mature males (aged 21–25, and up to 45 years, respectively), and the other an unsexed young adult. Burial 267 had been placed in the very corner, against a presumed screen into the north transept, but had been totally destroyed by a sixteenth-century robbing pit (F1238). It was impossible to recover the true outline of the grave, and the disarticulated remains of the skeleton were found in the bottom of the pit.

Immediately to the south of this lay a complete and well-preserved earth-cut grave (F1270). The burial (B269) was contained in a nailed timber coffin which was clearly outlined by a soil-stain (Fig. 524). There was also an observable discolouration of the mortary infill around the margins of the skeleton, having the appearance of a body silhouette. Such a stain is unlikely to have been caused by decaying flesh alone, and was more likely generated by the materials in which the corpse was wrapped. Bone preservation was exceptionally good. An atypical micro-environment must therefore have existed in this grave. No fibres or other tangible remains were detected. The burial posture — particularly the outward pointing elbows — suggests that the hands were placed on the stomach in an attitude of prayer.

The last of the burials (B268) within the crossing lay centrally against the north side, at the foot of burial 267, and was placed at the threshold of the screen-doorway leading into the north transept. More than half of the grave (F1264) had been cut away by nineteenth-century trenching (F1194). The burial had evidently been contained in a nailed wooden coffin (there were some displaced nails in the grave filling), set into a rubble-built cist.

Burials in the north transept (Fig. 212)

North of the screen between the crossing and transept lay a block of four graves, effectively filling the interior of the north transept, and centred on its axis. The graves were in two pairs. The ends of the coffins were in such close alignment as to raise the presumption that the interments were marked by a set of floor slabs. A family group occupying the entire transept, as a private chapel, is implied (Fig. 253). If we are correct in identifying this as the chapel of St Katherine (p. 199), the interments should belong to Richard Swan and his family.

The graves had all been disturbed to some extent, probably in the sixteenth century, and a large robbing pit extended over them all (Fig. 257, F1269). The second grave from the north, burial 272, was almost certainly the primary interment in the group (Richard Swan, 1486?): it had the largest grave-pit, it was virtually central to the internal space, and it was axially aligned on the altar and reredos which occupied much of the east wall of the transept (p. 239).

Burial 272 was contained in an exceptionally large grave-pit (F1312) from which a stone lining had been robbed, leaving only a ledge and the remains of some of the mortar bedding (F1306). There had been a nailed wooden coffin. The upper part of the skeleton had been disturbed, and although the remains were certainly adult they could not be sexed. Stratigraphically later was the adjacent grave on the north, burial 271, a male aged 30–50 years. Here, a cist built of red sandstone rubble (F1305) had not only lost its capstones, but had also been robbed down to a low level on three sides. Pieces of grey roofing slate had been used to pack the joints between masonry courses, and the whole cist was finished internally with plaster. The burial, still largely intact, had been contained in a nailed wooden coffin (Fig. 524). A fragment of metal of copper-alloy was found in the filling.

South of B272 lay another cist-grave, built of small mixed rubble and internally plastered (F1307). The cover-stones had been robbed but their level, 40 cm above the floor of the grave, was discernible on the west, where a single, upright white lias slab had been used to form the end. The burial, an adult male (B273), was heavily disturbed, and there were some coffin nails at the west end. Stratigraphically later was the next grave to the south, containing burial 274. This had been cut into, and partly reused, the foundation masonry of the older Lady Chapel: a cist had been formed of large, mixed rubble set in mortar (F1308). The grave had been almost totally robbed out, so that only two leg bones and some coffin nails remained *in situ*. The bones were adult, unsexed.

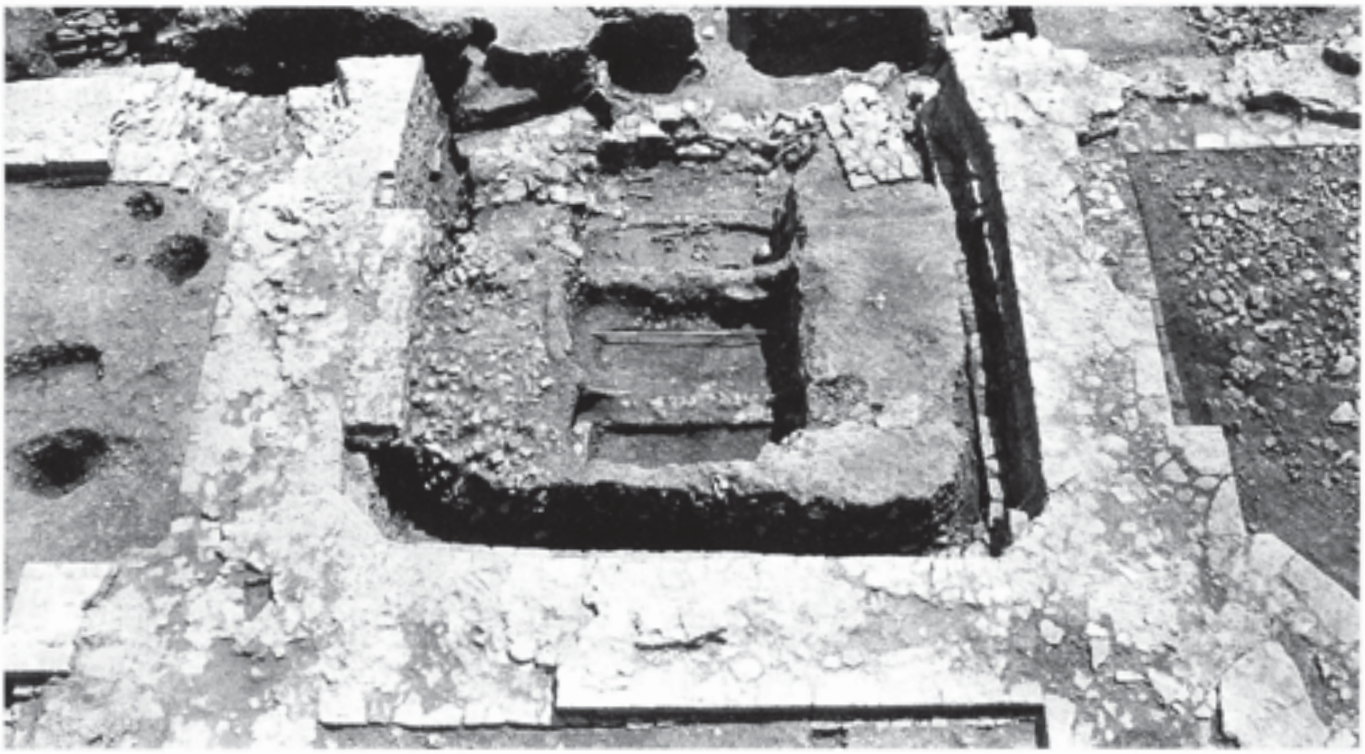


Fig. 253 View south across the north transept of Stillington's chapel during the excavation of the damaged central group of four graves. The altar, or its reredos, would have been sited on the narrow projecting foundation (left). Scale of 2 m

Burials in the south transept (Fig. 216)

A pair of graves in the centre of the transept, with their east ends aligned, had presumably been placed in front of an altar (St Nicholas?). The primary burial was probably B279, an adult. This was a relatively simple grave with slight ledges to the sides, upon which cover-slabs had been bedded in mortar; these had been robbed out, when a very large pit was dug over the grave (Fig. 257, F1317). The grave was not lined with masonry to form a conventional cist, but the earth sides were simply plastered (F1463), a technique already seen in some of the earliest medieval graves (p. 65). The outline of a wooden coffin was well defined by nails (Fig. 524); the upper part of the skeleton had been slightly disturbed when the robbing of the cover-slabs took place, probably in the sixteenth century. One slab had been thrown back into the grave during refilling.

The second grave, immediately to the south, was a well-constructed stone cist (F1273), comprising two courses of dressed and mortared masonry. A variety of stone types was used. Slabs of red sandstone formed the covers, but these had been removed, and were roughly replaced when the grave was opened in 1894 (Buckle 1894, pl. 1, N; see also Fig. 12, F1251). The skeleton, another adult (B265), was badly disturbed, but many coffin nails remained around the edges of the cist.

Fig. 254 The robbed remains of Bishop Stillington's cist-grave (F1478) in the centre of the chancel. View west. Scale of 75 cm

Burials in the chancel (Fig. 220)

There was only one contemporary interment in the eastern arm of the chapel, burial 275, placed at the centre of the chancel. This was a massive grave, the pit

Fig. 255 Cluster of foot bones and a fibula in articulation in Stillington's grave. The separate bone fragment (left) is part of a radius. Scale of 25 cm

for its construction measuring 3.2 m by 2.0 m (F1477). Inside, had been a stone-lined cist (F1478), built with hard, white lime mortar similar to that used in the construction of the chapel itself. The masonry had been largely robbed out, leaving only impressions in the base of the grave of the lowest course, and the loose rubble packing behind the cist structure on the north side (Fig. 254). The robbing pit (Fig. 257, F1262) was almost coterminous with the construction pit. The cist had been built of limestone ashlar, and was plastered internally. It was amply proportioned, being 2.45 m long and tapering from *c.* 1.25 m to 1.15 m in width: it had contained a burial in a nailed wooden coffin. Destruction had been so severe that only the right foot and fibula, and part of the left foot, were *in situ*, together with a few nails (Fig. 255). The remains were those of an adult, probably aged up to 50 years. The backfill after robbing contained many pieces of a fine, painted and gilded Bath stone monument. Almost inevitably, these must have been the remains of Bishop Stillington's burial and tomb.

Summary of burial types

Leaving aside the totally wrecked burial 267, the solitary skull (B17), and the empty pit from which another interment may have been lost (F459), seventeen graves yielded data that can be compared and discussed. Since they are all datable to the period *c.* 1490–1550, the graves collectively form a useful closed-group. First, there were no monolithic stone coffins, and no certain evidence for lead coffins. On the contrary, every grave yielded nails indicative of timber coffins; perhaps surprisingly, there were no traces of lead linings or shells. Coffins were of simple form, and most appear to have tapered slightly towards the foot-end. Burials 18, 19 and 29 provided reliable measurements. The coffin of B269 was almost certainly parallel sided, or the taper was so slight that it was imperceptible. Burial 36, and potentially several others, were of similar form.

Four graves were earth-cut, and the three near-destroyed graves mentioned above must have been in the same category. Burial 279 showed the use of cover-stones over an earth-cut grave. Otherwise, each coffin was placed in a stone-built cist. These differed from the cists in the earlier Lady Chapel in that they were almost entirely constructed of mixed rubble, as opposed to large slabs, or ashlars. Most of the cists were built with parallel or near-parallel sides: only in the instance of burial 264 was there a conspicuous taper. All the cists were set well below floor level and had their own cover-stones: none of the graves in the chapel was sufficiently shallow for a floor slab to double as a grave-cover. There was thus a modest earth-seal over every inhumation.

The most noticeable feature about the human remains is the fact that they were all adult, with no hint that children had been represented in the chapel. Only one skeleton was positively identifiable as belonging to a woman; the others were all male, although poor condition prevented the sexing of several. The palaeopathology accords with the historical evidence. There are records of eight burials taking place in Stillington's chapel (p. 234), all of them being males of substance. Clearly full family burial in the chapel was not countenanced. Although the recorded interments included three clerics — a bishop, an archdeacon and a precentor — no mortuary chalices, or even fragments thereof, were found in any of the grave-fills. This must surely indicate that the provision of mortuary furnishings of base metal had, by the end of the fifteenth century, become obsolescent.

Bishop Stillington's tomb and monument

One of Bishop Stillington's aims in rebuilding the Lady Chapel-by-the-Cloister was to provide himself with a sumptuous chantry and setting for his own tomb. The identity of his place of sepulture as the centre of the chancel is not in doubt, even without the explicit mention contained in Thomas Overey's will of 1493 (p. 234). This was the most prestigious setting in the chapel, and here lay the most massively constructed grave, which seems to have been built as an integral component of the chapel. It was not uncommon for a bishop or an influential benefactor to cause his tomb to be constructed some years prior his death, especially if it could be construed as part of a building or refurbishment campaign.[13]

The construction of the tomb would have been one of the last acts of fitting out the chancel, probably in 1487. That was the year of Stillington's political downfall: after fleeing to Oxford for asylum, he was arrested and taken to Windsor Castle, where he remained imprisoned for the rest of his life. As far as is known, Stillington never set eyes on the chapel or tomb for which he had paid. He died in May 1491, and his body was returned to Wells and interred in its appointed place. Godwin described the event: *Obit 1491: apud Ecclesiam Wellensem sepultus in Capella, quam juxta claustra construxerat, pulcherrima* (Godwin 1601, 437).[14]

The surviving fragments of Stillington's monument show that it had tabernacle work (Fig. 508), but provide no clue as to its overall form. There could have been an effigy resting on a panelled chest, with a crocketed canopy above, as was common in the fourteenth and fifteenth centuries. Alternatively, a two-tiered arrangement of effigies — the lower being a cadaver, a *memento mori* — was popular in the middle and later years of the fifteenth century. Thomas Bekynton, Stillington's immediate predecessor, provided himself with such a monument in *c.* 1450 (although he did not die until 1465). Bekynton's tomb is in the south quire aisle of the cathedral, and his chantry enclosure is formed by a wrought iron railing. The tomb stands at the west end of the enclosure, with the chantry altar and carved stone reredos at the east end (Paul 1891; Malden 1955, pl. opp. 64; Reid 1973, 80f. pl.). In the absence of specific evidence, it can only be claimed that an arrangement of this type would have fitted comfortably in the chancel of Stillington's chapel.

Internal furnishings

The only internal furnishing to leave archaeological evidence *in situ* was the long, narrow masonry base (F1188) against the east wall of the north transept (Figs. 212 and 215). Measuring 2.65 m by 0.6 m (8¾ ft by 2 ft), this was an addition, and no evidence was seen for a corresponding feature in the south transept, or for one in the chancel. Shallow foundations could have been lost, owing to the greater degradation of these areas of the chapel; the base in the north transept was not shallowly founded. The attenuated proportions are uncommon for an altar, but not unparalleled. Elongated altars have been discussed by Bond (1916, 7–8), who cites examples ranging between 2.5 m and over 4.0 m in length.

Alternatively, it is possible that this was the foundation for an elaborate stone reredos of the type that became popular in sumptuous chantry chapels in the fifteenth century. The battered remains of one survive in the north quire aisle at Bristol Cathedral, and there are two in the transepts of St Cuthbert's Church, Wells, although on a somewhat larger scale. It would not be surprising if fine reredoses were provided, as part of the primary architectural composition, against the east walls of the chancel and both transepts in Stillington's chapel. Indeed, St Cuthbert's Church provided a local example of outstanding quality, which would have been known to Smyth. The reredos for the Lady Altar there was made in 1470 by a Wells master mason, John Stowell (Serel 1875, 20–1). It comprised three tiers of tabernacle work and was 5.4 m wide by 7.3 m high. Stowell had previously been consultant master mason at Wells Cathedral (Harvey 1984, 286). Reredoses in Stillington's chapel are likely to have been lodged on the foundation offsets in the chancel and transepts, and thus did not need projecting footings of their own.[15]

The crossing was undoubtedly screened from the arms of the chapel, but not, it seems, by substantial masonry structures requiring foundations, since none was discovered. Timber screens may be inferred, and the chancel screen at Dunster illustrates the kind of detailing that Smyth is likely to have used at Wells (Dunning 1996, 67). Had foundations for stone screens ever been present, they would have been at least partially preserved in the archaeological record. The burial pattern within the north transept and crossing plainly reflected the screening arrangements in these areas. Oblique reference to the eastern screen is contained in Thomas Overey's will of 1493: he wished to be buried 'before the door of the entry into the chancel' (p. 234).

Burial dispositions also point to two other screens. First, in the chancel, it is interesting to note that Stillington's tomb was not centred under the first bay, but its eastern end fell exactly where a screen across the chancel — if there was one — would have lain. This prompts the suggestion that the chancel was spatially divided into two chapels, the eastern bay housing the Lady Altar alone, while the western one was devoted to Stillington's own tomb and chantry altar.

The other screen site suggested by burials is at the west end of the nave. Here, as already noted (p. 234), the two groups of graves just inside the west door point either to a screen across the nave at the junction of the second and third bays, or to a symmetrical pair of enclosed chapels built in the north-west and south-west angles, or a combination of both. The Garstang chantry, created in a corner of the south aisle at St John's Church, Cirencester, provides a close parallel. The chapel, dating from *c.* 1464, was enclosed by a two-sided oak screen of considerable sumptuousness.

In sum, the burials appear to supply a remarkable amount of evidence for the internal layout and altar dispositions of Stillington's chapel, and a tentative reconstruction is offered on Figure 256. Seven likely altar positions, and six potential chantry chapels can be identified. Some of these would have been re-establishments of those that had been displaced from the old Lady Chapel-by-the-Cloister, while others were doubtless added to the complement including, of course, Stillington's own chantry. Burials from the old chapel were not, however, translated, and many were torn asunder during the building works.

In December 1486 Richard Swan willed his body to be buried in Stillington's chapel, and his death occurred shortly afterwards. Hence, Swan's was almost certainly the earliest interment in the new chapel, and there may have been others before Stillington's in 1491. There is an oblique reference to a burial having taken place sometime before January 1492 (the nephew of John Lascy, p. 234). The last recorded reference to interment in the chapel is in Archdeacon John Moyn's will of 1525 (p. 234), and his grave was presumably one of those on the axis of the crossing. It is unlikely that fresh chantries would have been founded

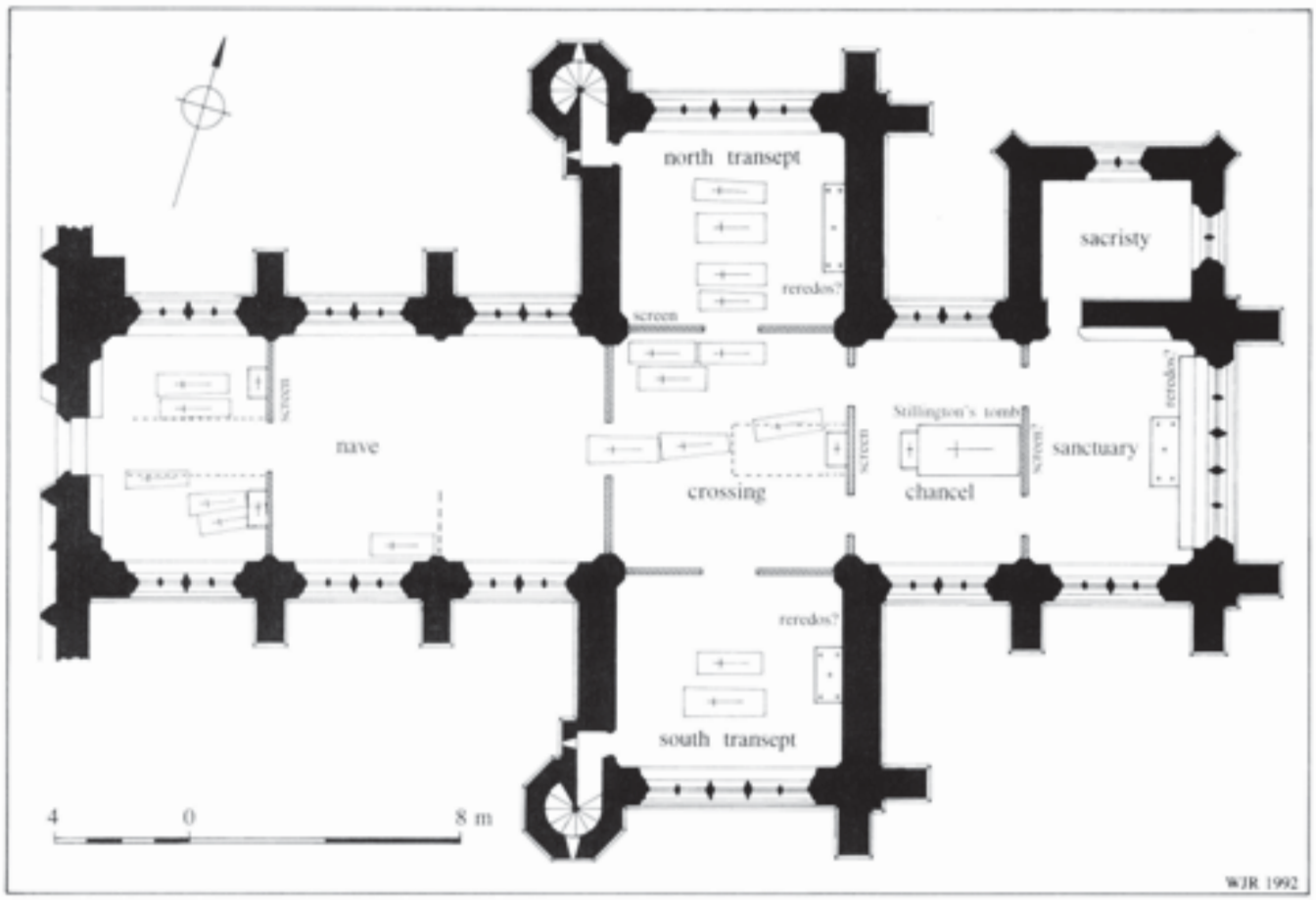


Fig. 256 Reconstructed plan of Stillington's chapel in c. *1550, showing suggested arrangement of screens and altars, and the disposition of their associated graves*

after the 1530s, at the latest, and thus the liturgical and sepulchral plan revealed here must be dated to the half-century *c.* 1485–1535.

Burials also provide incidental information concerning the positions of internal doorways. As might be expected, there were central openings through the screens leading out of the crossing to north, south and west, but almost certainly not to the east. Notwithstanding the reference in Thomas Overey's will (1493) to his wish 'to be buried before the door of the entry into the chancel', there were probably two doors here. First, a central doorway would have been impossible if there had been a chantry enclosure and monumental tomb on the eastward axis of the crossing. Logically, there were paired doorways through the chancel and Lady altar screens, one of which perhaps primarily served Stillington's chantry, and the other may have been used for direct access to the east end. Potentially, Overey's grave was burial 270.

Liturgical desiderata

It finally remains to consider the implications of the two relatively small changes that were wrought to the fabric of the chapel, probably by Bishop King in *c.* 1500. The addition of the sacristy at the north-east corner presumably implies that the chapel was receiving so much use that it was deemed necessary to provide non-liturgical space for robing and for the storage of vessels, linen, etc., on the spot. It is unfortunate that the evidence regarding a possible upper storey is ambivalent. The bulk of foundation masonry at the south-east corner of the sacristy would certainly have been adequate to house a small vice, leading to an upper chamber. In a parish church, such a chamber might have provided living accommodation for a chantry priest, but that is improbable in a cathedral context. A watching-loft for the Lady Altar and Stillington's tomb is a more likely interpretation.

Watching of some kind also took place at the west end of the chapel, where the library wall is pierced by an interesting group of features. The tiny quatrefoiled opening at the centre, already mentioned, is primary to Stillington's construction. It is a squint, and its only purpose can have been to provide a view along the main axis of the Lady Chapel. Two interpretations are possible. First, the library may have served as a watching-loft for one of the altars in the chapel. It was somewhat remote for the Lady Altar, although that may have been visible over the screens. The second option is that the library housed a minor chapel (presumably one of the many chantries that were established in and around the cloister), and the squint was provided so that the officiating priest could synchronize with the liturgy performed at the Lady Altar.

The squint is flanked by two windows, each of two trefoil-headed lights. These are insertions of the early sixteenth century, and they could well relate to improvements under Bishop King. The two windows were consciously integrated with the screenwork of the chapel and, therefore, formed part of its internal architecture. It is suggested that they related to the creation of a small chapel within the library (see also p. 306).

The second significant modification to the Lady Chapel in the early sixteenth century was the construction of the high-level link (the 'bridge') between the northern stair-turret and the vice in the cathedral transept. This connection can hardly have been created as a convenient means of general access for the clergy between one building and the other: it must have had a special purpose, relating to activity which took place at a high level in either the chapel or the cathedral. In this connection, it may be relevant to note that there are some unusual structural features in the triforium, including a tiny chamber within the south-west buttress. Original to the early Gothic build, this has the appearance of a designedly secure place, and it is tempting to interpret it as a relic chamber, or other special-purpose store.

Relics were certainly displayed in the south transept in the early fourteenth century, in conjunction with the attempted canonization of William de Marchia (d. 1302). It may be no coincidence that his tomb lies beneath the little chamber in the triforium. It is also of interest to note that the communar recorded sums of money which were paid 'for bringing down the relics'. Thus 8d was expended on this task in 1327–28, and again in 1343–44 (HMC 1914, 2, 6). Also, the escheator's accounts of 1372–73 include a payment of 4d to the 'keeper of relics' (HMC 1914, 13). It is not, therefore, implausible to suggest that relics or other treasures were brought down to Stillington's chapel from the chamber in the cathedral triforium, via the specially created link-structure.

Destruction of the chapel

Documentary evidence for the chapel's demise

The suppression of the chantries by Act of Edward VI, 1547, forbad the holding of masses for the souls of the deceased, and caused all endowments for the support of chantries to be appropriated to the Crown. Thus chantry priests and their chapels, at a stroke, became redundant. The Lady Chapel-by-the-Cloister was the scene of several such chantries, the most important being Stillington's. Deprived of much of their income in consequence of the Reformation, deans and chapters generally in the mid-sixteenth century were hard-pressed to maintain the fabric of their cathedrals. Redundant appendages, such as chantry chapels and sacristies, were usually the first casualties of programmes of building rationalization. Stillington's chapel fell into this class, and the dean and chapter resolved to be rid of it. They entered into a demolition contract with Sir John Gate (or Gates), who had recently acquired the Bishop's Palace, stripping the lead roof from its great hall, and thus setting in train its ruination (Dunning 1982, 239). The contract, which survives amongst the chapter muniments (HMC 1914, 705) was drawn up in the following terms:[16]

> This indenture made between the ryght reverend father in God, Wyllyam, by the grace of God Byshopp of Bath and Wells, and the Dean and Chapter of the Cathedral Church of the same in the county of Somerset of the one partie, and Sir John Gate, Knyght, vycechamberlayne to the Kinges Majestie and capytaine of hys graces garde of the other partie Wytnesseth, that the said Byshopp, Dean and Chapter, at the contemplacion of our Soverayne lorde the Kinges Majestie most gracious, letters to us dyrected and for the good mynde we bear to the said John Gate have gyven and granted and by this presente, for us and our successors, do give and grante to the saide Sir John Gate the chapple, sett, lying and beynge by the cloyster on the south syde of the said Cathedral Church of Wells, commonly called the Ladye Chapple with all the stones and stone work, ledde, glasse, tymbre, and iron of what sorte, nature, kynde or quality soever the same byn belonging or appertayning to the sayd chapple at the daye and date of this presente (the soyle that the said chapple standeth upon only excepted).
>
> In consideration whereof the said Sir John Gate covenanteth and granteth with and to the said Byshopp, Deane and Chapter by hym, hys heirs, executors or assyngs, to the rydde the grounde that the saide chapple standeth on not only of such ledde, iron, tymbre, glasse and stone that standeth thereupon but also of all such rabble that shall syse and come of the waste of the sayd chapple, and so to make the ground fayre and playn wythin the space of fouer years and a quarter next ensuynge the date of this presente. And also that yt ys covenanted and agreed between the said partyes that the sayd Sir John Gate, hys heyres, executors, or assyngs, shall at his proper coste charge, repayr and amende the condyt pypes lying by the syde of the said chapple yf any shall be hurted in the default of hym or any of hys assyns, and that the said Sir John Gate hys heyres, executors or assyngs shall always durynge the said terme of fouer years and a quarter keep the severall pytte of the sayd condyte fayr, clene and open, and so to leve them at the ende of the sayde terme in sych like case as they now byn.
>
> Furthermore, yt ys covenanted and agreed between the sayd partyes that the sayd Byshopp,

> Dean and Chapter and theyr successors shall permytt and suffer the sayd Sir John Gate, hys heyres, executors and assyngs to have free ingresse and egresse wyth all manner of carryge for the takynge, pullyng down and carying awaye the said chappell and other the premyses, and to make ryddance of the sayd grounde durynge the sayd terme of fouer years and a quarter by the great gate in the palace syde, commonly caller the cammerys gate, without any interruption of the sayd Byshopp, Deane and Chapter or of theyr successors or of any other by theyr meanes, procurements, consent or agreement.
>
> In witness whereof the partyes aforesaid to this indenture interchangeably have sett theyr seals given on the xxth day of June in the syxth year of the reyne of our Sovereign lord Edward the Syxth by the grace of God of England, France and Irelande Kynge, defender of the fayth and of the Church of England and also of Irelande, in earth the Supreme Hedd.
>
> [signed] Jn. Gattes

The charter containing this indenture bears the endorsement '20 Junii, A.D. 6 Ed. 6. Towards the Rubbish of the ladies chapel stood in the cloisters.'

This thoroughgoing agreement makes it plain that a professional demolition gang would be engaged to tackle the structure, and calls to mind the graphic account of the destruction of Lewes Priory, Sussex, in 1537. There, an Italian engineer, John Portinari, was employed to bring down the vaults, the rapid progress of which work he described in a letter to Thomas Cromwell. Portinari brought a team from London which included ten labourers, three carpenters, two smiths, and a man to 'keep the furnace' (Hope 1884, 5–6).

A generous amount of time was allowed for the demolition of the Lady Chapel at Wells. Work could have started by the end of June 1552, and should have been completed by September 1556, leaving the site completely clear ('fayre and playn'). Gates, however, was executed before the expiry of the contract term, and it is not recorded how far the work had progressed during his lifetime. Godwin, writing within half a century of the event, recorded that Stillington 'built that goodly Lady Chappell in the Cloysters that was pulled down by him [Gates] which destroyed also the great hall of the palace.'

Bishop Godwin continued:

> He [Stillington] died a prisoner in the Castle of Windsor, whither he was committed for four yeeres before his death (for what cause I know not), in the moneth of October, 1487, and was intombed in the said Chappell, but rested not long there; for it is reported that divers olde men, who in their youth had not onely seene the celebration of his funerals, but also the building of his tombe, Chappell and all, did also see tomb and chappell destroyed, and the bones of the Bishop that built them turned out of the lead in which they were interred. (Godwin 1615, 378)

Clearly, demolition was not complete by 1556, and the Chapter Act Book records giving away ten waggon loads of freestone out of the Camery in 1582 (HMC 1914, 303). However, it may be deduced from Godwin's personal account that by the time he ascended the episcopacy, in 1584, the chapel had effectively gone. This is confirmed two years later by a Chapter Act ordering that no more stones be given or sold out of the Camery, and that the remaining materials should be used only for repairs to the cathedral and canonical houses (HMC 1914, 309).

In 1606, Canon Powell was given permission to remove stone from the Camery for building his house in Mountroy Lane, but the supply was nearly exhausted and, in the following year, Canon Deane was given priority to take stone for repairing his house, after which Powell was again allowed to quarry the site (HMC 1914, 351–2). The final record of robbing comes in 1607–08, when it was ordered 'that Mr Powell shall have so many stones out of the ruynes and foundacions of the ruinated chapple in the church cambry, towards the building of his house, as shall be allowed hym by the M[aste]r. of the Fabric or his deputy' (HMC 1914, 355). The need to dig into the foundations for stone indicates that the superstructure of the chapel had now entirely gone.

Powell's house, now the Dean's Lodging (25, The Liberty), was not newly built in 1606–08, but was merely extended, and it still contains fifteenth-century fabric. Various moulded fragments of uncertain origin are visible in the structure today, although it seems certain that at least some of these are relict from the late medieval house.[17]

Archaeological evidence for demolition and robbing

It is clear that demolition began in a systematic manner. The lead would have been removed from the roof, and the glass and ferramenta from the windows. Very few fragments of late fifteenth-century glazing materials have been recovered through excavation (p. 481). The interior of the chapel was also stripped of saleable materials, and the floors taken up before demolition of the superstructure commenced (Fig. 257). All stone paving was removed, with the exception of a handful of slabs at the west end that were integral with the construction of the wall-bench. The glazed tile floor was also removed from the sacristy, leaving only the narrow tile slips that bordered the north wall.

Salvageable materials from tombs and furnishings were removed, leaving behind only useless fragments such as slender canopy work. The graves themselves were also robbed, presumably in the spirit of a treasure

Fig. 258 Crater in the foundation of the east wall of Stillington's chapel caused by the use of an explosive charge during demolition. Scale of 2 m, centred on the east wall

Fig. 259 Crater in the foundation of the north-east crossing pier of Stillington's chapel, caused by the use of an explosive charge during the demolition. Scale of 75 cm

hunt for lead coffins, rings and episcopal regalia. With the exception of B269, in the crossing, and B29 in the nave, all graves had suffered disturbance, and in no case were the cover-slabs of the cists found *in situ*. Some of the disturbance was certainly nineteenth century, and B265, for example, might previously have been intact. But it is nevertheless apparent that the majority of the robbing took place in the sixteenth century.

Godwin expressly confirms the looting of Stillington's grave (p. 199), although there appears to be an element of conflation here. He says that the bishop had been buried in lead, which would not be unreasonable, given the large grave-chamber and overt sumptuousness of the tomb. Against this must be weighed the evidence of the articulated feet and several coffin nails on the very bottom of the grave. These items could not have occurred where they did if they had merely been tipped out of a lead coffin. More likely, Stillington was in a wooden coffin, and that one or more graves elsewhere in the chapel contained lead coffins. Attention has been drawn to the possibility of one at the west end (in F459; p. 234).

Demolition of the masonry superstructure would not have been an easy task: it was solidly built, using good lime mortar. The first need was to drop the vaulted ceiling, but this was both high and massively constructed. The means of achieving its downfall was discovered in excavation: gunpowder had been employed. Whether localized charges were used to dislodge parts of the superstructure is, of course, unknown, but the chapel had been sapped at foundation level by three substantial charges.

Pits had been excavated against the foundations in three places, and charges laid well below ground level. One was on the site of the principal altar, against the east wall; this explosion blew out the entire central section of the foundation (Fig. 258). The other two charges were laid in the crossing, and were embedded

Fig. 260 Vault-boss (no. 13) under excavation in the chancel of Stillington's chapel; it had been buried in a shallow pit (F1219). Scale of 25 cm

in the foundations of the north-east and south-east piers, where substantial craters were generated (Fig. 259). These charges would certainly have brought down the vaults in the crossing, transepts and chancel, but whether they had any material effect on the nave is unassessable. The craters left in the foundations by these explosions were plainly visible: F1348, F1236 and F1539 (Fig. 257).

Blowing up the eastern half of the chapel was not too difficult, and did not involve significant risk to the fabric of the rest of the cathedral. Charges were not laid under the western crossing piers, doubtless in the full knowledge that shock waves from the explosion would have been directly transmitted through the connecting masonry into the east cloister and library.

When the vaulting fell, the bosses plummeted to the ground and became embedded in the then-exposed soil and stone-dust layers that had supported the paving in the chapel. On account of this relatively soft landing, many of the bosses did not sustain serious damage to their carved decoration. In total, sixteen have been recovered at various times, the last being in 1980. This survived because it had been rolled into a pit, dug specially for the purpose of burying it, in the chancel (Fig. 257, F1219); hence the boss was found face-up. It had incurred damage to its decoration at the time of the original fall (Fig. 260).

There are a significant number of records of the controlled use of gunpowder in the demolition and restoration(!) of ecclesiastical structures. For example, the tower of St John's Priory, Clerkenwell (London), was blown up in the reign of Edward VI, and the stone taken to build Protector Somerset's house (Old Somerset House) in the Strand (Cook 1961, 203). There may even have been a connection between this event and Wells, in the form of the personnel involved. In 1832 gunpowder was used to blow up the Romanesque north-west tower of Canterbury Cathedral as a first stage of 'restoration' (Cox 1897, 241). Less spectacularly, when the restoration of St Brelade's Church, Jersey, was commenced in 1895, it was found necessary to use gunpowder charges to dislodge intransigent stones (Balleine 1932, 9).

8 The Cloister Complex, I: General Development, and the South and East Ranges

Introduction

Despite being a non-monastic foundation, the provision of a cloister at Wells has been deemed a necessity since the late Anglo-Saxon period. In all, the cloister has occupied three successive sites. The first reference to one occurs in the *Historiola*, where it is reported that Giso built a cloister soon after the middle of the eleventh century (p. 110). Nothing is certainly known of this structure, and it could have lain either to the south, or north, of the Anglo-Saxon cathedral. Greater confidence obtains in the identification of the potential remains of the mid-twelfth-century cloister, built by Bishop Robert of Lewes, and this, it is argued, lay to the north of the Romanesque church (p. 99). That being so, it would have been the first casualty in the phased demolition programme preceding the erection of Bishop Reginald's entirely new church in the mid-1170s.

Reginald's grandiose plan for the rebuilding of the cathedral provided for the erection of a cloister to the south of the nave, where it still is today. There can be little doubt that it was an original feature of the design, as evidenced by the form and positioning of the south transept doorway, which was constructed in the mid-1180s. Although the doorway is relatively elaborate, it was never conceived as a 'display' portal, like those in the north and south transepts at Lichfield, or the Angel Choir at Lincoln. The asymmetrical situation of the Wells door (in the western aisle), its attenuated proportions, and the lack of a substantial hood-moulding or other form of embellished weathering, all point to its intended integration with a cloister. That being so, it is perhaps slightly curious that no structural provision seems to have been made on the transept buttresses, especially at plinth level, for the attachment of the masonry of the east walk.[1] It has been argued that the east cloister must have been under construction by 1196 at the latest (p. 144), but the south and west ranges belong essentially to the first quarter of the following century.

The original intention was apparently to build four ranges with narrower walks than at present, on a near-square plan with overall dimensions of *c.* 51 m (135 ft), the whole being related to the 22.80 m (75 ft) design grid of the nave (p. 261). Several tactical modifications to the design occurred, however, before the cloister was finally completed, towards the middle of the thirteenth century. The most fundamental of these was the abandoning of the north walk. The existence of a late twelfth- or early thirteenth-century north cloister cannot be certainly established without excavation, since no fabric remains above ground, but it seems clear that one was both intended and at least partly erected. The case will be argued in due course. The west front — the last component of the new church to be constructed — was certainly not built according to the original design, and its modification seems to have been responsible for the abandonment of the north cloister. Moreover, the west front may have precipitated a design change in the width of the cloister walks. This too will be considered in detail.

Thus, with various compromises, the east, south and west walks were constructed more-or-less according to plan, and included the addition of a porch mid-way along the west side and another at the south-east angle. The restored Lady Chapel-by-the-Cloister was linked to the east walk, not far from the mid-point, but no other ancillary buildings were envisaged. The abandonment of the north walk left the cloister alleys forming three sides of a square, but the garth they enclosed was markedly rectangular in plan, owing to the fact that it extended into the recessed area between the transept and the south-west tower. This gave Wells a unique cloister plan among English greater churches. Hereford Cathedral provides the closest analogue, where the north walk was also omitted, designedly so on account of space restrictions (discussed further on p. 345). The Wells anomaly has been remarked upon from time to time but, curiously, no attempt has ever been made to explain its *raison d'être*.

The early Gothic arrangement largely survived until the fifteenth century, when the ranges were rebuilt piecemeal between *c.* 1420 and 1508. During these works, upper storeys were added to the east and west walks, and various ancillary structures — all minor — were introduced, both within the garth and around the outer periphery of the cloister. Some of these additions have since been deleted, leaving a small and motley collection of excrescences (Fig. 261).

Substantial parts of the early Gothic cloister were incorporated into the fifteenth-century fabric. The surviving early masonry is restricted to the outer wall on three sides and the very lowest parts of the inner, or screen, wall of the south and west walks. Since however the fifteenth-century reconstruction was a long drawn-out process, temporary connections between the old and the new parts of the cloister had to be effected, and residual evidence for the cross-section of the original structure survives as fossilized roof-lines. Further evidence, relating to the plan of the early Gothic east cloister, and its adjuncts, was recovered from the 1978–80 excavations in the Camery and from a detailed study of the south and east walls, in 1993. The east wall, in particular, is a remarkable palimpsest, which encapsulates the entire history of the Wells cloister (Fig. 262).

The information recorded between 1978 and 1993, together with unpublished observations by Irvine in the 1870s, and an examination of various *ex situ* fragments of thirteenth-century stone carving, enables some firm

conclusions to be drawn regarding the appearance of the earlier cloisters at Wells Cathedral. The evidence is complex and it is therefore appropriate to consider the development of the cloister and its appendages *in toto*. There is considerable scope for further study, and only a summary appraisal is given here.

For ease of reference, a sequential bay-numbering system, running clockwise around the cloister, is used in this report wherever possible. It is based on the existing late Gothic layout of the walks, comprising 39 bays in all (Fig. 261). This system cannot, however, accommodate the entirely different arrangement of bays and buttresses around the outer perimeter of the cloister, these being relict from the early Gothic arrangement. To avoid confusion, a separate referencing system has been devised for the external bay structure, based on cardinal directions (E_1, E_2, S_1, W_1, etc.; for key, see Figs. 264, 268 and 272). A further complication arises in respect of the reconstructed plans of the earlier cloister phases: they have, perforce, been assigned their own bay numbering systems (for which, see Figs. 277 and 279).[2]

The fifteenth-century reconstruction: a summary

In order to interpret the ephemeral evidence for the several early cloister phases, it is necessary first to comprehend the extant later fabric and the sequence of its construction.[3] To this end, it is easier to analyze and interpret the sequence by working chronologically backwards, rather than forwards.

By examining the relevant fabric accounts and the integral heraldry of the vaulting, Colchester and Harvey were able to document the progress of the late medieval reconstruction (Colchester and Harvey 1974, 209–14). They demonstrated that the east walk was the first to be rebuilt, followed by the west, and the south coming last. In each case the solid outer wall of the early medieval cloister was retained. The process was begun by Bishop Bubwith before 1424, continued by Bekynton and Stillington, and completed by their successors down to *c.* 1508. Secondary to the reconstruction was the addition, or modification, of sundry adjuncts on the east and west sides of the cloister: principal amongst these was the rebuilding of the Lady Chapel-by-the-Cloister (chapters 6 and 7).

When William Worcestre visited Wells in 1480 he noted the dimensions of the cloister and of the adjoining new chapel, describing the former thus: 'Three arched and vaulted cloister walks lie near the church, with 12 large windows in each walk, each window containing [6] small lights' (Harvey 1969, 289). In fact, there are only eleven in the south walk.

Structurally, however, the cloister comprises 39 bays: thirteen on the south side and fourteen apiece on the east and west, plus the two window-less corner-bays (south-east and south-west). Essentially, the bays are square and average 3.6 m (just under 12 ft) per side.[4] There is one short bay abutting the transept (bay 1), and narrow spacing-arches adjacent to the corner-bays (14 and 26), compensating for the thickness of the traceried screen walls.

Naturally the corner bays set the pitch, and while the south walk divided moderately well into thirteen severies, and the west into fourteen (by running the vault into the deep recess between the buttresses of the south-west tower, bay 39), the same was not achievable in the east walk. Here, bay 1 is only two-thirds of the 'standard' length, which suggests that re-spacing began at the south-east corner and worked northwards. Furthermore, there is evidence to indicate that Bubwith was not responsible for the re-spacing in the east walk, but followed a thirteenth-century alteration.[5]

The late Gothic cloister owed little to its predecessor, apart from the curtilage plan. Thus the extant twelfth- and thirteenth-century buttressing of the outer walls bears no relation to the present bay structure, and the several original doorways were not respected when the Perpendicular vaulting was erected: some were blocked and others were impinged upon. Even the relationships between the cloister walks and the major doorways leading into the cathedral are aesthetically uncomfortable, in both plan and elevation.

East cloister

The east walk was the first to be rebuilt (Figs. 263–7), and it provided a means of access for several distinct purposes. First, it was both the ceremonial and the everyday route to the cathedral from the Bishop's Palace. Secondly, it was the link between the cathedral and the Lady Chapel-by-the-Cloister, the Camery churchyard, and the masons' yard. Thirdly, it was the principal communication between the cathedral and the cloister garth (otherwise known as the Palm Churchyard), where lay the dipping-well and the canons' cemetery. It has been assumed hitherto that the east cloister did not possess an upper floor before the fifteenth century, but irrefutable evidence for an earlier one — probably of the mid or later thirteenth century — will be examined in due course.

Bishop Nicholas Bubwith, in his will dated 5th October 1424 — the same month in which he died — left money for building works at Wells, including the completion of the east cloister with the library over it (Jacob 1937, **2**, 299). His bequest of one thousand marks 'for the construction and new building of a certain library to be newly erected upon the eastern space of the cloister of the church of Wells, situate between the southern door of the church next the chamber of the escheator of the church, and the gate which leads directly from the church by the cloister into the palace of the bishop.'[6]

Work had evidently begun in the bishop's lifetime, although how far it had progressed is uncertain. Colchester and Harvey (1974, 210, n. 73) suggested that the eastern walk was built in four stages:

Fig. 263 The east cloister walk, looking south, in 1980, prior to the traceried screen being reglazed

(i) The cloister alley, from the transept as far as the double-width buttress on the garth side; here the vault design changes (at the junction of bays 8 and 9).
(ii) The library above to the same point.
(iii) The extension of the cloister to the south-east corner (*i.e.* fourteen bays in all).
(iv) The extension of the library to the same point.

Subsequently, Colchester conceded that the southern half of the cloister walk and the library above must have been constructed together, 'since the relieving arch covering the last two bays of the cloister walk rises from the lower level well into the library wall above. Moreover, the same masons' marks occur both on the bottom and the upper parts' (Colchester 1987, 76).

It is altogether more likely that the new east cloister was constructed in only two stages, the break falling at the end of the eighth bay (Fig. 266). The first phase would appear to have been well underway during the last years of Bubwith's episcopate, and was probably begun by *c.* 1420. Regardless of how it was physically implemented, the reconstruction of the entire east range was conceived as a single scheme, as evidenced both by Bubwith's will, and by the planning of the structure. As already noted, the bay layout originated at the southern end (because the corner bay had to be square), even though construction began at the north. Whether Bubwith himself originally intended to continue the library over the entire east walk is questionable.

Upon completion of the northern eight bays of the east walk, building work probably ceased, and the labour force may have been transferred to the north-west tower of the cathedral, for which Bubwith also bequeathed funds. How long it was before work on the cloister resumed is uncertain. Colchester and Harvey (1974, 210) argued that the whole of the east walk and the library extension were complete by 1433, but this is doubtful. Not only are there numerous differences of detail in the construction of the two parts — indicating the involvement of separate teams of masons and carpenters — but also the walk was not paved until 1457–58. Various building works were certainly in progress in 1433, but upon which parts of the cathedral is not specified (HMC 1907, 465–6). Paving and glazing would normally have taken place at the end of the cloister construction work; the walk would hardly have been left unpaved for a quarter-century after completion in all other respects.

The paving, which was of Doulting stone,[7] was laid by John Turpyn, who was paid three farthings per square foot for his work in 1457–58 (HMC 1914, 87). This was for the east walk only, and at the same time nine loads of red soil were purchased for repairing the floors of the west and south walks. Colchester (1974, 210) took this to imply that the cloisters were earth floored, which is highly unlikely. The nine loads were required for make-up, on account of the new floor to the east walk having been laid at a higher level than hitherto.

The principal entry to the cloister garth was, and still is, off the east cloister. A broad doorway with an incipient four-centred head was integrated with the screenwork in bay 1. For a fuller description of the east cloister and library, see pp. 295–308.

West cloister

The west walk was the second most important arm of the cloister (Figs. 267 and 268). It constituted the main public access from the market place to the cathedral, where entry to the latter was via the monumental doorway in the base of the south-west tower (Fig. 270). The west cloister was originally entered through a porch (Structure 23) half-way along its length, in bay 32. In the mid-fifteenth century a new entrance and porch were created three bays further north (bay 35, Structure 25), and other additions were made at about the same time.

Two openings leading into the garth were embodied in the fifteenth-century screen wall. One is an elegant ogee-headed doorway in bay 32, opposite the primary porch. The other, in bay 39, is a wider opening with a low, four-centred head. Both are likely to

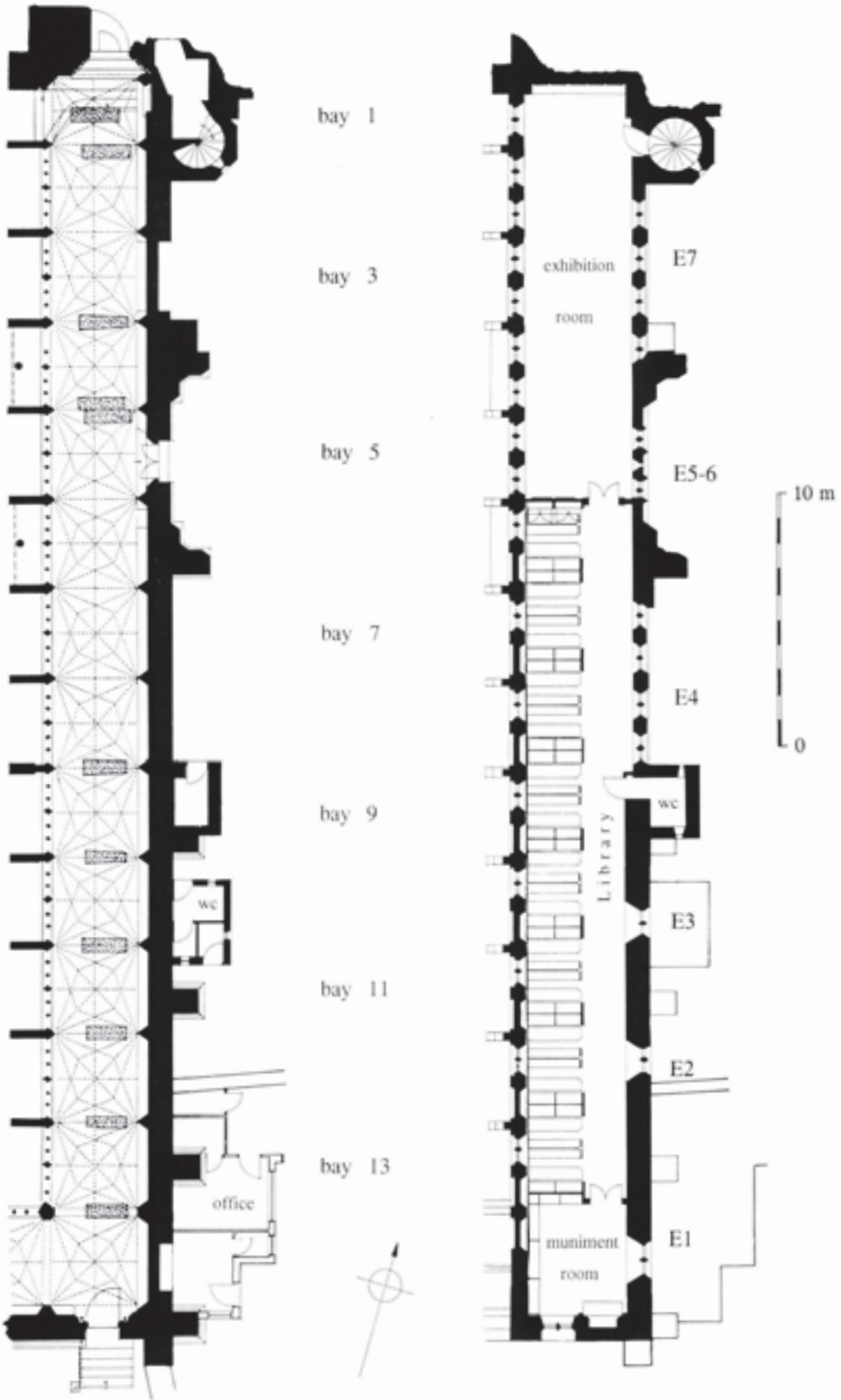


Fig. 264 Plans of the east cloister at ground and first-floor levels (1978). The positions of graves marked on Carter's plan of c. 1795 are indicated. The bay divisions of the external wall elevation are numbered E_1 to E_7

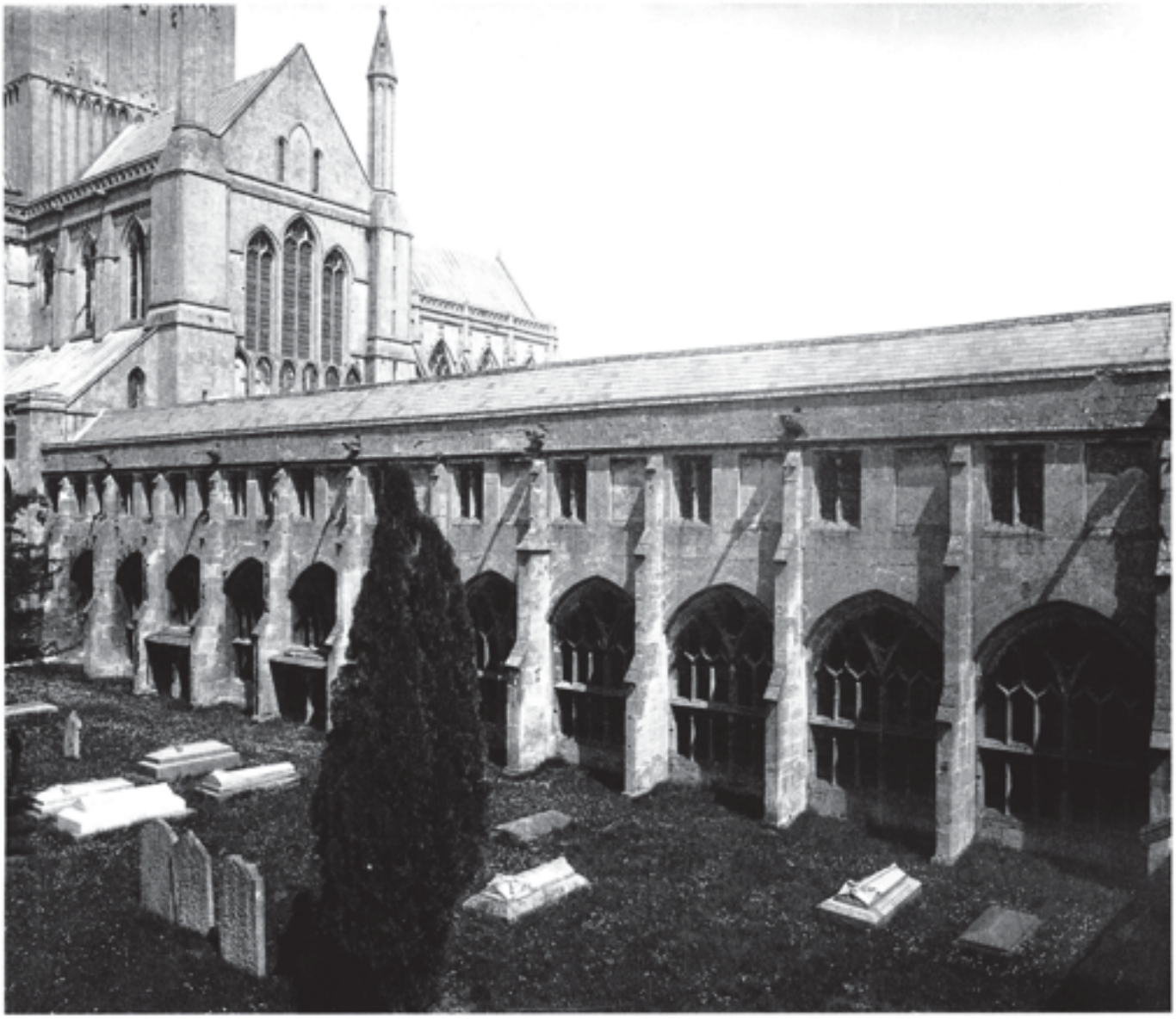


Fig. 266 Bubwith's library over the east cloister, taken from the roof of the south cloister by Thomas Phillips between 1895 and 1900. Note the fresh, recumbent grave-slabs (left of the yew tree), encroaching on the site of the dipping-well (then infilled). The stone-roofed pentices (Structures 19A–B) can be seen between the buttresses of bays 4 and 6 (Wells Cathedral Library)

have perpetuated features of the earlier cloister plan, but they are now disused and blocked. Finally, sometime after the secondary porch was built and public entry transferred to bay 35, a small, Tudor-headed doorway was opened through the screen in that bay.

The west cloister was reconstructed with an upper storey mirroring the east range, and Bubwith's fenestration and screen design were maintained (Fig. 271). Colchester and Harvey (1974, 211–12) considered the documentary and armorial evidence relevant to the history of the west walk, concluding that it was begun by Bishop Bekynton in his last years, but was not completed until the 1490s. More recently, however, they revised this timescale and settled on a date of *c.* 1460 for the start and *c.* 1480 for the completion of the west walk (Harvey 1982, 94; Colchester 1987, 72–3).

In 1480, the west cloister was mentioned by William Worcestre, who recorded it as having been built by Bekynton (Harvey 1969, 294), and John Leland, in his Itinerary (1542), noted that the upper storey housed 'a goodly Schole with the Schole Master logging and an Escheker over it having 25 Wyndowes toward the Area side' (Toulmin Smith 1964, 291). That there was already an upper chamber over the porch, prior to the fifteenth-century rebuilding, is made clear from a reference to the exchequer there in 1372 (HMC 1907, 273). There is no evidence to suggest that the main body of the west range had an upper storey prior to Bekynton.

Bekynton's work in the cloister is readily identifiable by his initials and rebus, of which five examples were illustrated by Gough (1786, **2**, pl. XXXIII, 12–16), who called them 'sigles'. For further consideration of the west cloister, see p. 326–37.

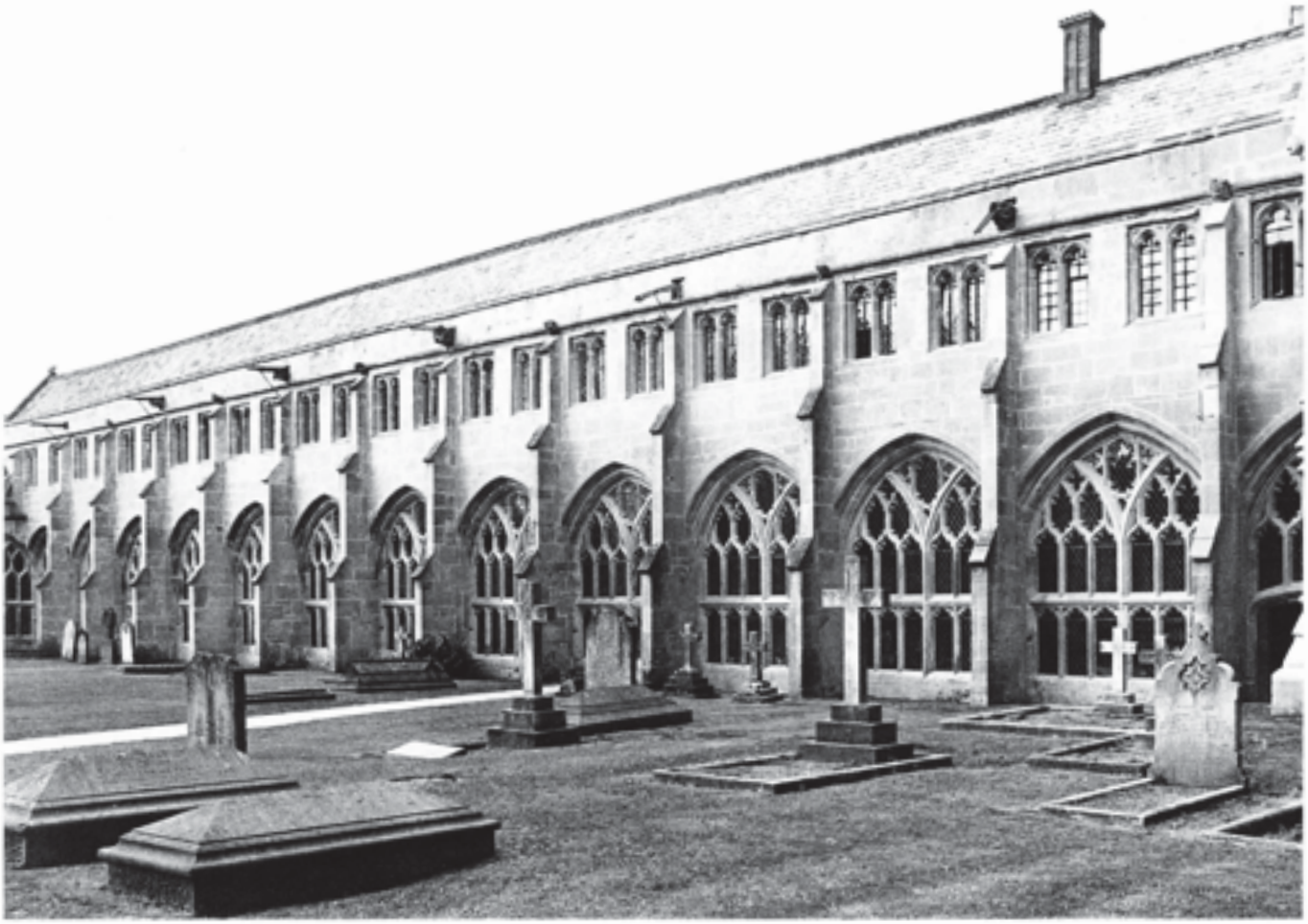


Fig. 267 The full extent of the west cloister with the twenty-five upper windows mentioned by Leland in 1542. Seen here in 1980, prior to reglazing the screen wall (George Hall)

South cloister

The south walk, which remained a single-storey structure with no appendages, was the last to be rebuilt, although the vaulting of its end-bays, had apparently been constructed with the east and west cloister walks, respectively[8] (Figs. 272–4). The erection of the remainder seems to have taken place between *c.* 1490 and 1508. In bay 24 is a ceiling boss bearing the initials of Thomas Harris, the cathedral treasurer, together with the date 1508 in arabic numerals, suggesting that construction proceeded from east to west.

It is clear from the fenestration in the upper range of the east walk — particularly the provision of a window in bay 14 — that raising the south range was not then envisaged. The evidence from the west range is more equivocal: although there are no windows in the terminal bay (26), the continuity of string-courses and the provision of a complex southern gable with canted corners, demonstrates that it was meant to rise above the south walk.

The south cloister never was raised, and a new roof was constructed over the newly vaulted range around the turn of the sixteenth century.[9] There are no openings connecting the south walk with the garth.

The process of reconstruction

In each range, the builders of the fifteenth-century cloisters retained the solid outer wall of the twelfth/thirteenth-century structure, though only on the south is its full height preserved, complete with the original coping. The outer south wall is of semi-coursed rubble (mostly of local red Triassic sandstone, but including some conglomerate and freestone), and rises to an ashlar coping consisting of four sloping weathering courses (Fig. 274). The last remnants of a similar arrangement are preserved at the northernmost end of the west walk where, at the junction with the west front of the cathedral, two weathering courses survive: they run into the head of a niche on the south-western buttress[10] (Figs. 282 and 283).

Bubwith's east walk, the first to be rebuilt, was the most thorough in its destruction of the previous cloister, and although the outer wall (less the coping) stands to its full height in some bays and has been only slightly reduced in others, no trace survives of the inner (screen) wall, facing the garth. Until recently, it has been assumed that the same also obtains in respect of the other walks, and numerous writers have asserted that the thirteenth-century alleys were significantly narrower than their fifteenth-century successors.

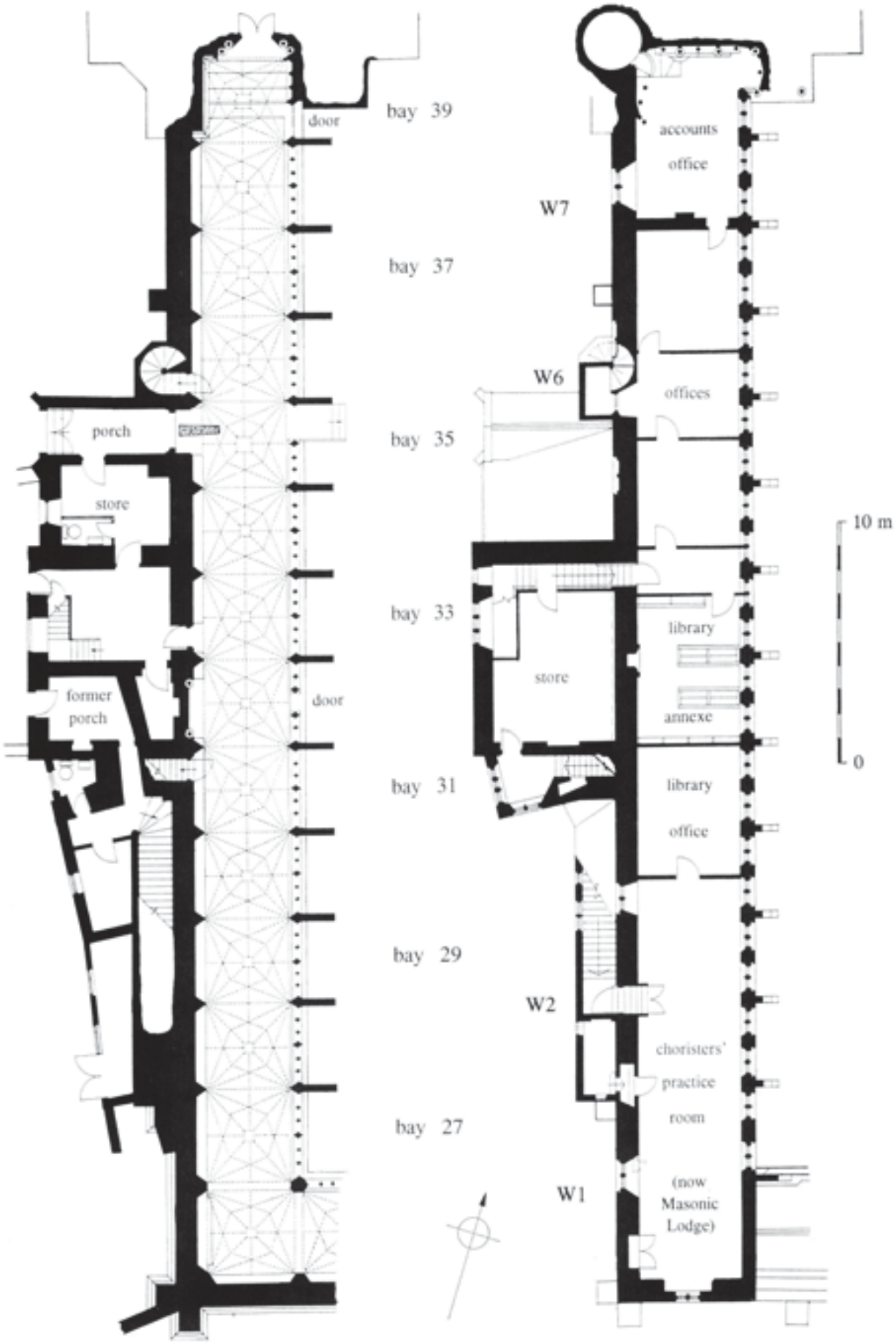


Fig. 268 Plans of the west cloister at ground and first-floor levels (1978). Considerable alterations have since been made at both levels. The bay divisions of the external wall elevations are numbered W_1 to W_7

Fig. 269 West cloister, bay 35. Detail of the exterior of the early thirteenth-century bench-top beneath the later screen wall (cf. Fig. 276E). Scale of 75 cm

Freeman argued that the asymmetrical position of the door leading out of the transept (Fig. 119) implied a substantially narrower thirteenth-century cloister walk, and he went on to suggest that 'the roof and whatever there may have been in the way of tracery or arcading, was of wood' (Freeman 1870, 84). Harvey (1982, 75, n. 37) saw 'no reason for dissent from Freeman's view of 1870', and argued that Bubwith's reconstruction of the east cloister initially took in only half the length of the east side, leaving the southern half in the earlier style; hence, for a time there would have been an awkward offset in the width of the walk. Freeman's often-repeated insistence that the screen wall was of timber is insupportable: the solidly buttressed outer wall demonstrates the substantial nature of the primary cloister.

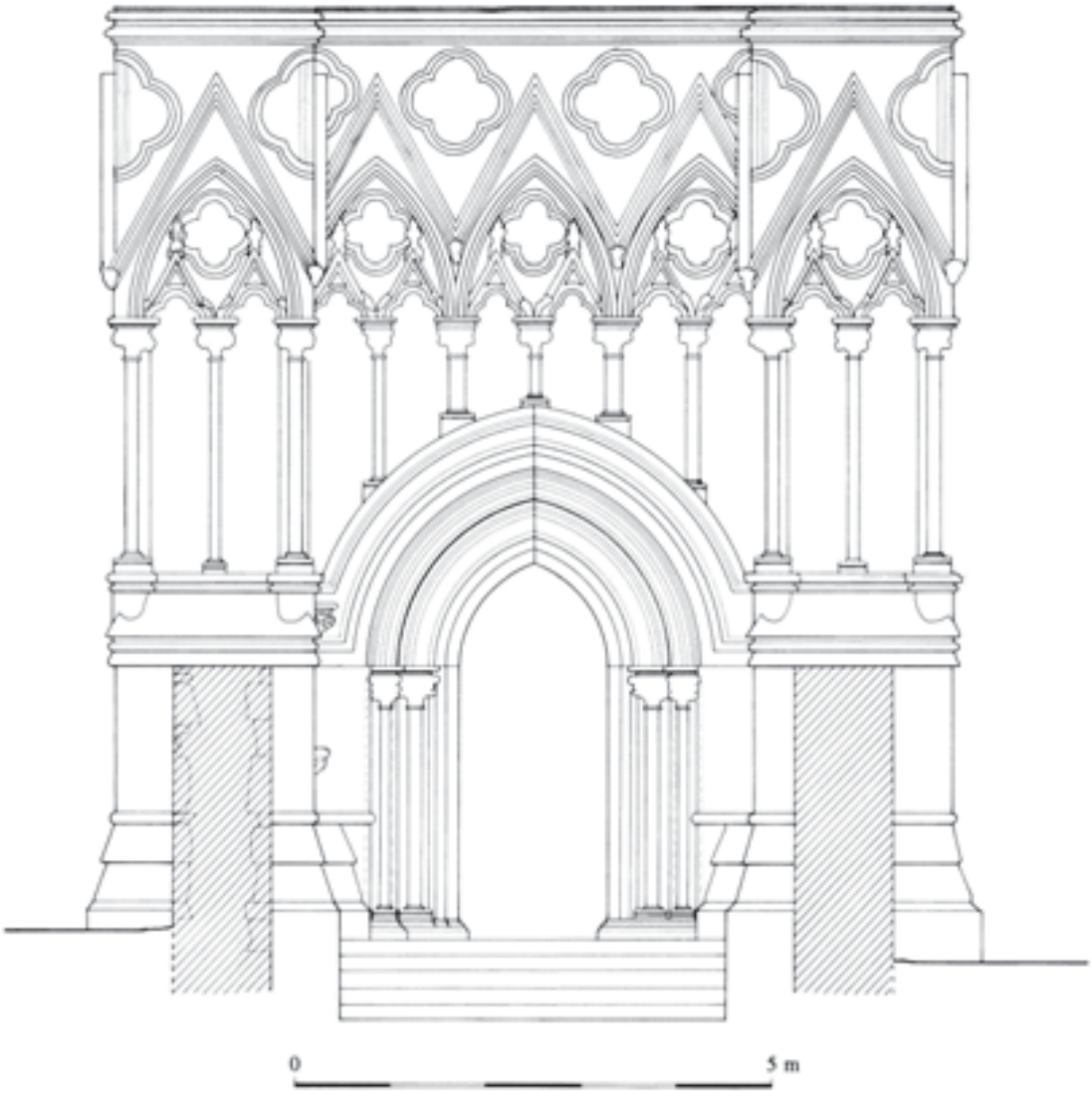


Fig. 270 Reconstruction of the south portal of the west front, prior to the abutment of the cloister. After Sampson 1998. Scale 1:80

Fig. 271 A typical traceried cloister bay, seen here in 1980 before reglazing. The design dates from c. *1420, but this example, in the west cloister (bay 36), is later in the series (*c. *1460–70). Within the walk can be glimpsed the doorway and window of the stair-turret adjoining the cloister porch (Structure 25A). (Jerry Sampson)*

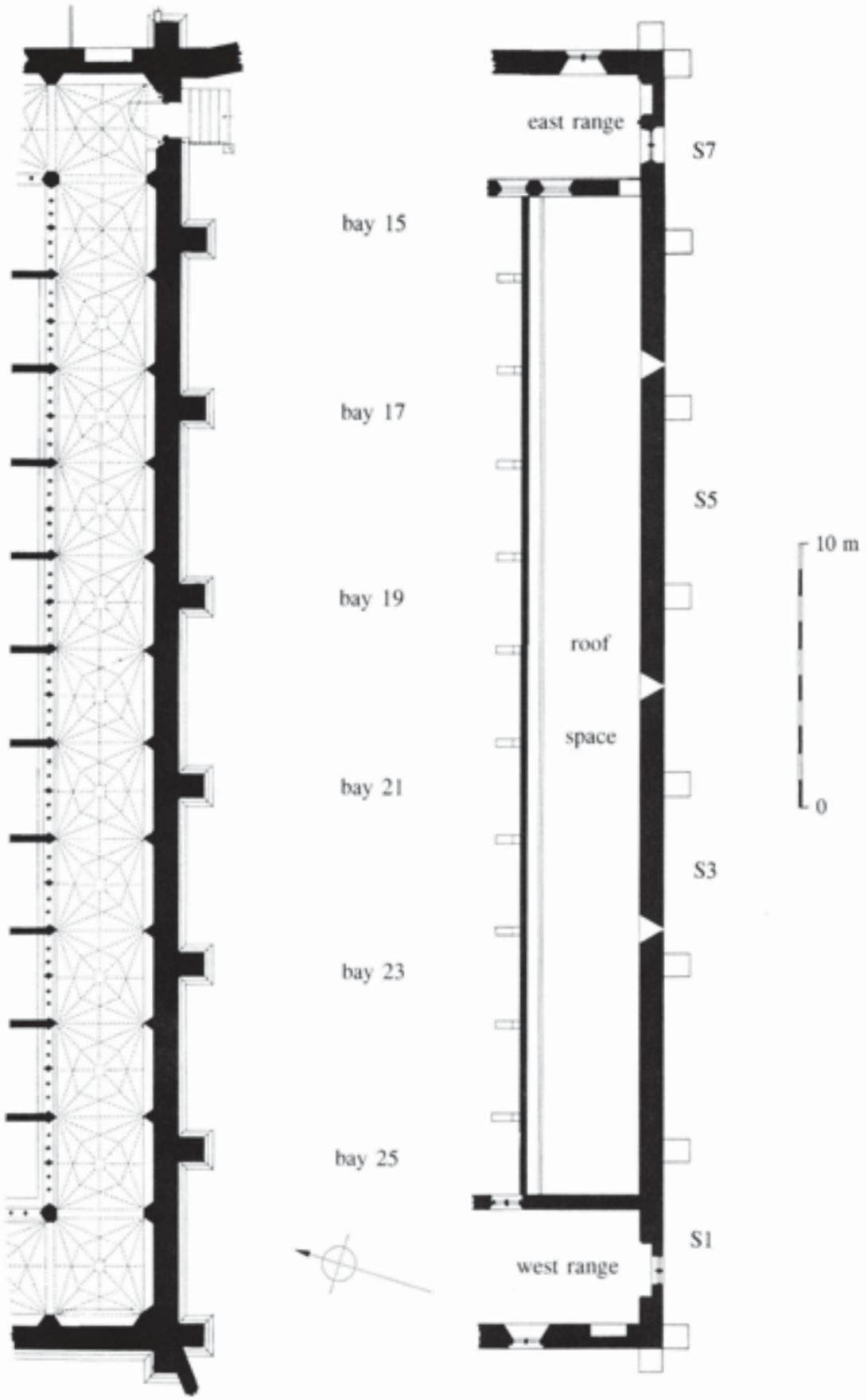


Fig. 272 Plans of the south cloister at ground and roof-space levels (1978). The bay divisions of the external wall elevation are numbered S_1 to S_7

Fig. 273 South cloister walk, looking east, showing the medieval paving and later grave slabs. Note how the late medieval screen wall (left) is built on top of the earlier bench, which has a projecting roll-moulding. Taken by Thomas Phillips, around the turn of the twentieth century (Dean and Chapter of Wells)

The fact that the early thirteenth-century doorway leading south from the cloister to the Bishop's Palace is also asymmetrically placed in relation to the width of the present east walk (Fig. 275) lends further support to the argument for the initial cloister being narrower. The processional doorway leading eastwards into the masons' yard, from the south-east corner-bay (14), is placed slightly asymmetrically in relation to the axis of the south walk, and it could be seen as giving credence to the notion of an original narrow range there too.

While the general proposition of a narrow walk is supportable for the east cloister, and perhaps for the south, serious difficulties arise when the west range is considered. Once again, the walk is not centred on the monumental entrance to the south-west tower of the cathedral, but the situation is more curious: in this instance the offsetting is in the opposite direction to that seen in the east walk. The door is closer to the screen than to the outer cloister wall and, if logic is followed, this should argue for a wider west range, not a narrower one. But that is improbable. Two important points emerge: first, the thirteenth-century west walk was no narrower than the existing one and, second, it was not laid out in relation to the present west front. The evidence will be examined further in chapter 9, but it now seems inescapable that the primary west cloister was planned in relation to the intended west front of the late twelfth century, and that the unsatisfactory connection with the present structure was made several decades later.

Returning to the issue of alley width, there is unequivocal evidence to demonstrate that in both the south and west walks the thirteenth-century cloister was as wide as its fifteenth-century successor, since the base-courses of the original inner walls still survive up to bench level. The lower parts of the inner walls were simply reused as the foundation and plinth for the fifteenth-century tracery screens (Rodwell 1980a, 18).[11] Unlike the later work in the cloister, the low walls beneath the screens are constructed of red Triassic rubble, bonded with orange mortar. This is the same building technique as seen in the external walls of the thirteenth-century cloister.

Massive ashlar base-blocks were laid at each bay division of the fifteenth-century cloister, at floor level, and these were set into the earlier rubble wall. White mortar was used for these insertions, of the same type as in all the fifteenth-century work. The contrast between the two periods of construction was plainly revealed when the masonry joints in the west walk were raked out for repointing in 1980.

On top of the rubble base — and now trapped beneath the fifteenth-century masonry screen — is a continuous bench-top made of Doulting stone. On its

Fig. 274 The outer wall of the south cloister, with its unaltered early thirteenth-century buttressing and coping (George H. Hall)

inner edge (*i.e.* facing towards the alley) is a roll-moulding of simple type, 12.5 cm (5 in) in diameter (Fig. 276A), which is similar to but slightly larger than that used on the wall-benches around the aisles in the late twelfth- and thirteenth-century cathedral church. Those bench mouldings are 10 cm (4 in) in diameter (Fig. 276B).

The cloister bench-top passes under the fifteenth-century screen, and projects into the garth where, in places, it can be glimpsed at modern ground level. Mostly, however, the bench is buried, owing to a considerable rise in the level within the garth. In 1995, drainage works were carried out alongside the screen in bay 35, revealing the outer face of the early bench and its foundation (Fig. 269). The wall was 80 cm wide and built of flattish pieces of red sandstone, well coursed. The bench-top did not have a moulding or project beyond the outer face of the garth wall, but was finished with a 45° chamfer (Fig. 276E).

The thirteenth-century cloister thus had a continuous bench on the garth side, forming the base from which an unknown arrangement of shafts rose to support its Early English traceried screen. Such an arrangement, dating from the mid-thirteenth century, still exists in its entirety at Salisbury (Cocke and Kidson 1993, pl. 60). It is from this relict bench-top that the Perpendicular screen at Wells now rises. Nevertheless, Harvey (1982, 75, n. 37) chose to ignore the archaeological evidence for the survival of early thirteenth-century masonry beneath two of the screen walls, and hence for the width of the south and west walks.[12]

The loss of the early screen-bench from the east walk could be attributed to Bubwith's initial rebuilding campaign having been more thorough than those that followed. His work is entirely in ashlar, and there is a chamfered plinth at ground level on the garth side, which the other walks do not have.

The early Gothic cloister was also furnished with a continuous bench around the base of its solid outer wall, and there still is an ashlar-faced bench in this position (Figs. 263 and 273). Much of it is undoubtedly original, although partly rebuilt in the fifteenth century, when the bench had to be modified to accommodate the base-blocks of the wall-shafts supporting the new vaulting. The Doulting stone slabs forming the bench-top are mainly original, and their leading edge is finished with a weak triple-roll which matches the bench moulding in the north porch, datable to

Fig. 275 The southern end of the east cloister walk, showing the asymmetrical siting of the Early English doorway leading to the Bishop's Palace (Jerry Sampson)

c. 1200 (Fig. 276C, D).[13] The fifteenth-century masons working in the cloisters evidently retained as much of the existing bench as possible, and made the base-blocks for their new bay divisions conform to the old bench-top mouldings.

It is also noteworthy that Bubwith's bay design for the east cloister determined the form of the later walks which, despite minor variations of detail, adhere closely to the plan and elevations of *c.* 1420 (Figs. 263 and 271). It might therefore be argued that the reconstruction did not diverge greatly from the general form of the thirteenth-century cloister arcade, and in particular that the width of the walk was unchanged. If so, the asymmetrical placing of the doorways at the two ends of the east walk would have to be explained by other circumstances. The construction of the south transept door was, of course, earlier than the cloister, and its position was determined by the design of the cathedral church itself, and in particular the western aisle of the transept. It could be argued that when the cloister was added it was deemed more convenient — for some reason that now eludes us — not to centre it on the transept doorway. By extension, it may be argued that the south doorway leading out of the cloister was sited so as to be in a direct processional line from the transept. But this would be special pleading: one aesthetic misfit hardly justifies another. Moreover, the proposition does nothing to explain the curious relation-ship between the west walk and the south-west tower doorway, where the asymmetry is opposite-handed.

The argument that the three walks have always been of their present width, if not wholly satisfactory, at least allows for a smooth transition from a single-storied thirteenth-century cloister to its largely two-storied successor. But this economy-of-hypothesis approach is undoubtedly too simplistic, and fails to take account of other anomalies in the fabric. First, the tacit supposition that there have been only two periods of cloister construction must be challenged. A tentative suggestion that there was a third phase — involving a narrow walk only on the east — has previously been advanced to explain the discrepant widths (Rodwell 1980a, 17–18); and Irvine, who held the same view, confidently spoke of the three successive cloisters of Wells. He, like Freeman, believed the first to have been entirely of timber.[14] Second, it can now be demonstrated that there was a pre-fifteenth-century upper

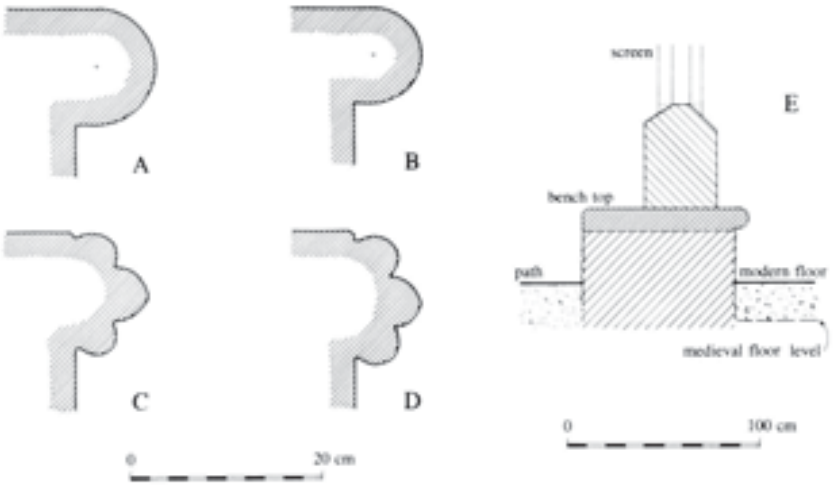


Fig. 276 Profiles of bench-top mouldings. A West and south cloisters, screen-wall; B North and south quire aisles; C Cloisters, all outer walls; D North porch. E Section through the garth wall and bench in the west cloister (bay 35). Scales (A–D) 1:8, (E) 1:40

storey to part of the east walk, which introduces a new element into the equation. Third, attempts to understand the design and function of the Early English cloister have exposed numerous minor anomalies, all militating against a simple interpretation. A series of detailed enquiries into the nature of these anomalies must now be tackled.

The Early Gothic cloister[15]

No archaeological excavation has taken place in the cloister walks or garth, and thus the reconstruction of the early Gothic arrangement has necessarily to be based on relict evidence in the extant fabric, supplemented by casual discoveries in the past, and *ex situ* architectural fragments. We shall concentrate initially on recovering the form of the cloister that existed between the early thirteenth and early fifteenth centuries, but tackling also the problems relating to the late twelfth century and to the potential narrow east walk.

The width of the three cloister ranges immediately prior to the fifteenth-century rebuild has been established, the full height and parapet coping of the south walk are preserved, and there are compatible traces in the west cloister. The inner and outer bench arrangements have also been noted. The problems of the early bay structure and roof provision have yet to be discussed. On account of the piecemeal rebuilding of the cloister, it is almost inevitable that clues relating to these and other aspects of the superstructure will have been immured in the present fabric. Some have now been found, and others doubtless await recognition.

The thirteenth-century plan

So far, no consideration has been given to the overall plan of the cloister, other than noting that it comprised a square of *c.* 51 m (135 ft), externally. While the buttress system within the garth everywhere relates to the fifteenth-century bay divisions, that around the external walls bears no correspondence to them whatever. The external buttresses are very substantial, and there are clasping pairs at the southern corners. The plainness and massiveness of the whole construction is no less reminiscent of Romanesque work than it is anticipatory of early Gothic (Fig. 274). All the buttresses and Early English doorways are contemporary and integral with the construction of the outer walls with which they are associated. They must therefore bespeak the thirteenth-century bay arrangement.

There are, however, sufficient differences between the three walks to indicate that they do not represent a unitary construction. Slight variations in the spacing of the buttresses provide telling clues, reinforced by the use of markedly different arrangements for their weatherings. Dissimilar block sizes are also apparent in the ashlar work.

As well as subtle differences, there are explicit contradictions to be embraced. It has already been argued that a cloister was planned, and perhaps begun, in the late 1180s, and that by 1196 the east walk was in existence in some form (p. 161). The west walk, on the other hand, has its outer wall securely bonded to the modified west front of the cathedral, the superstructure of which cannot have begun before *c.* 1215–20. *Ipso facto*, what we have so far loosely referred to as the early Gothic, or thirteenth-century, cloister must be an amalgam of at least two phases of construction; and the variant buttress types might suggest four. The total evidence for the plan of the early Gothic cloister (as built) is assembled on Figure 277.

The buttresses around the outer walls define uncommonly long bays for a cloister, being roughly twice the pitch of the fifteenth-century bays, but not synchronized with them. Basically, the buttresses define seven full bays per side, although on the east there is an extra quarter-bay (E_8) against the transept. The buttressing system is preserved intact on the south side (Figs. 274 and 277), but on the east and west sides it is now fragmentary, owing to successive building operations that have masked or removed individual components. Nonetheless, the complete arrangement is reconstructible with some confidence. It is inconceivable that a robust buttressing system such as this was not designed to provide lateral support either for a vaulted ceiling or for the principal trusses of a substantial timber roof. In this case, the latter is perhaps more likely, but the intention possibly to provide the former should not be discounted. The internal bay structure of the early cloister should therefore be recoverable from the surviving evidence around the exterior. It is easiest to begin on the south.

South walk

The apparent integrity of the south wall may belie its true architectural history, and close inspection reveals subtle differences. First, the buttress spacing is irregular (Fig. 272). The wall is of seven bays and has eight buttresses, including the corners: the five westerly bays (S_1 to S_5) have pitches of between 7.0 m and 7.25 m, while the two easterly bays (S_6 and S_7) are 6.4 m and 6.8 m, respectively. This is odd, and cannot be excused on the grounds that pre-existing structures had to be respected, as with the east and west walks.

Secondly, the clasping buttresses at the south-east angle have weatherings of a type akin to those found on the east cloister, but not otherwise on the south. Thirdly, the south-facing buttress at the same corner incorporates the remains of a low, coped wall of red sandstone that continued south towards the Bishop's Palace, before being cut off by the 1433 gateway to the masons' yard (Fig. 278; p. 363). Greater significance attaches to this point when it is recalled that the south doorway, which now leads into the cloister from Palace Green, has been modified: when it was built, the door opened outwards from the cloister, into a

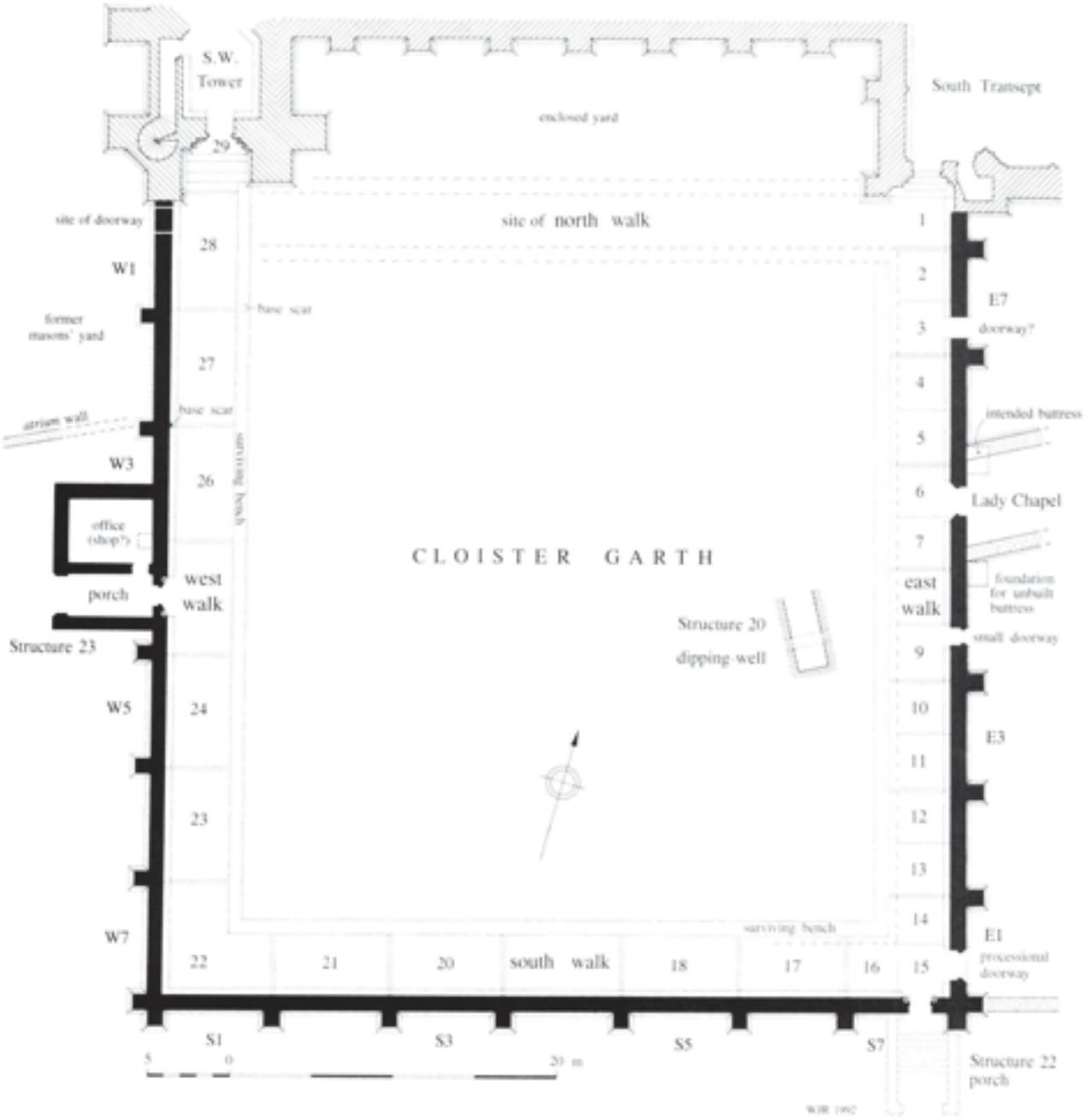


Fig. 277 Reconstructed plan of the cloisters in the mid-thirteenth century, showing the single bays of the east walk, and the double-bay units of the south and west walks. Several constructional phases are represented here. Scale 1:400

structure beyond. The jamb-stones have been recut, and the medieval door itself has been reversed and rehung, so that it now opens into the cloister (Fig. 275). It is thus likely that the buttress spacing on the south wall — particularly at the east end — was influenced by a contemporary adjunct that no longer exists. That adjunct was evidently a porch (Fig. 277, Structure 22).

Floor level

The thirteenth-century cloister floor was *c.* 20 cm below the existing level. It is suggested that the original paving was of lias, on the basis of observations when a sump-hole was dug into the floor of the south walk in 1983. This operation exposed the wall foundation under the thirteenth-century inner bench where, 22 cm below the present paving level, a series of lias slabs (7 cm thick) was found to be trapped in the construction. These slabs, which lay at the interface between the coursed rubble wall supporting the bench, and the rough foundation beneath, had been roughly broken off. The adjoining ground was much disturbed, presumably by later burials. An original floor level 22 cm below the present paving would restore the correct proportions to the colonnette bases of the south doorway. Presently, the tops of the blue lias bases are level with the floor slabs.

Fig. 278 Early thirteenth-century south doorway (with original door) to the cloister, and the arched entrance of 1433 leading into the masons' yard beyond. Taken c. 1865. After Parker 1866b

East walk

Turning to the east cloister wall, a wholly different picture emerges (Figs. 262, 264 and 277). Five external buttresses remain here. The stump of a sixth is embedded in the base of the library stair-turret, the foundation of a seventh (unbuilt above ground level) was encountered during excavation (Fig. 281), and the north wall of the Lady Chapel-by-the-Cloister occupied the site where, according to measurement, there should have been an eighth buttress. Indeed, evidence was recovered to suggest that the foundation was laid, but the buttress was not built (p. 265). There were thus theoretically eight bays externally to the east cloister, although the northernmost was so narrow that it constituted little more than a gap between the buttress and the transept (E_8).

Since the east cloister was laid out first, on a freshly cleared site, the buttress positions must have been deliberately planned, and cannot be dismissed as an involuntary compromise. The spacing of the seven full bays varied slightly, the pitch falling between 6.5 m and 6.8 m. This corresponds to the narrower pitch of the two easternmost bays of the south walk (S_6 and S_7). Arguably, the foundations of the east walk and the southern return were laid out as a single operation, but the superstructure was not of one build throughout.

West walk

Examination of the west cloister indicates that it too was divided externally into seven bays (W_1 to W_7), and that there may have been up to seven buttresses, but the position is complicated by the uncertain history of the west porch (Structure 23; Figs. 268 and 277). The northern end of the walk terminated against the west front of the cathedral (Fig. 282). Three buttresses remain fully visible today, the fourth and fifth are embedded in the walls of late medieval adjuncts (north and south of the cloister porch), the sixth was largely cut away in the fifteenth century in order to accommodate the external stone staircase leading to the school on the upper floor of the range (Structure 24), and the seventh remains hypothetical. Its potential site lies within the northern chamber of the porch. The plan clearly presupposes the existence of the seventh buttress, but whether it was abandoned at an early stage — or later removed — cannot be established without excavation. If the buttress existed, it was entirely cut away in, or by, the fifteenth century.

The spacing of the buttresses conflicts with the plan and position of the porch, strongly suggesting that the latter was not designed as a two-celled unit, a form which it perhaps only acquired in the fourteenth or fifteenth century. Initially, the porch may not have been envisaged at all (p. 331). The pitch of the five middle bays was 7.0 m, but the two ends were longer, each having a pitch of 7.5 m.

Dimensionally, the arrangement of the buttressing to the west cloister relates to that in the adjoining part of the south cloister, suggesting that the two ranges may have been laid out together. However, they were certainly not built as one. Two types of buttress weatherings were employed on the west cloister, separated by the porch, and the second type continues around the south cloister. Plainly, the superstructure was erected in at least three stages.

Although several large ashlars bond the rubble of the west cloister wall to the south-west tower, details of the union are unconventional: there is no connection at plinth level, and indications of a carefully infilled opening in the cloister wall can be seen adjacent to the tower. The evidence, unnoticed hitherto, bespeaks modification, rather than contemporary construction. The sequence would appear to have been as follows:

(i) The lower part of the cloister wall is almost certainly older than the south-west tower, and it may initially have been bonded to an earlier structure here (*i.e.* the lowest stage of a west front begun according to the original, twelfth-century design: see p. 264).

(ii) The northern half of the west cloister (and perhaps the porch?) was built early in the west front campaign and served as a covered entrance to the south nave aisle while work continued overhead. The early completion and use of low-level parts of

the building to provide temporary access during construction was not unusual; this is the fourth point of entry on the south side of the cathedral to fall into that category (for the others, see pp. 137–43).

(iii) The southern half of the west walk was completed, as far as the clasping buttresses at the south-west corner.

(iv) Finally, came the erection of the remainder of the south cloister.

Conclusion

In sum, there seems little doubt that the early Gothic cloister at Wells was laid out in not less than three phases, and constructed in several stages over an extended period. On the evidence of the external buttressing system, the complete (three-sided) cloister should theoretically have comprised nineteen bays, each of oblong plan, based on two distinct modules. However, the bays falling at the southern corners would have been L-shaped in plan. This arrangement is not as implausible as it at first appears, and roofing was achievable with a diagonal valley-truss. What the evidence bespeaks is a design based on double-bay units, with the major internal divisions (screen wall and roof) corresponding to the buttresses on the outer wall, with subsidiary trusses in between these.

Viewed this way, the east walk divides into seven-and-a-half double bays, while the south and west walks have only seven apiece, the bay pitch having been adjusted in the second-phase construction. The close juxtaposition of the northernmost buttress of the east range ($E_{7/8}$) to the transept is now readily explained, since the 'half-bay' extended into a recessed portion of the transept elevation.

What the plan clearly tells us is that the design for the east walk was based on fifteen identical bays, alternately buttressed. Hence, the original concept for the Wells cloister must have been fifteen equal bays per walk. However, by the time the south and west walks were constructed the design had been transmuted into a double-bay arrangement, and that necessitated subdivision into fourteen units. It is suggested that the total number of bays actually constructed in the three walks was twenty-nine (as designated on Fig. 277). The first sixteen conformed to the original twelfth-century design.

Confirmation of the conceptual change from the single to the double bay is seen in the west walk: there the entrance arch was axial to a double bay, and not centred within a single unit. The screen wall too must have reflected this rhythm. Relict evidence of the bay divisions inside the west walk was found in two places by Irvine. First, he noted the remains of a lias base on the wall-bench opposite the second buttress from the north ($W_{2/3}$). The base, which unfortunately is no longer extant, would have carried the wall-shaft defining the division between bays 26 and 27.[16] A shallow housing remains on the surface of the bench, confirming the location of the base. Secondly, Irvine also reported finding an emplacement scar on the bench-top of the screen wall, where one of the bases of the arcade had rested; this defined the junction of bays 27 and 28.[17]

Although the various bay lengths can be determined with reasonable precision, and the width of the west and south walks in the thirteenth century is known, the width of the pre-fifteenth-century east walk has not been archaeologically established. We must therefore return to the problem of whether the east cloister was initially of similar width, or narrower.

The twelfth-century plan

East walk

Given that the south transept doorway was designed to be a ceremonial entrance to the church from the cloister and bishop's palace — and was not something adapted for that purpose — it is difficult to excuse what is transparently an uncomfortable, asymmetrical relationship. A rational explanation must exist. Furthermore, this problem could easily have been avoided if the longitudinal axis of the east walk had been shifted 50 cm towards the east. The argument, sometimes advanced, that the door leading from the south end of the walk to the Bishop's Palace was deliberately sited off-centre to echo the misfit of the transept door is very weak. If, however, the transept doorway — and that leading to the Bishop's Palace — were originally axial to a narrow east walk, several elements of the plan immediately assume meaningful inter-relationships.

The internal width of a walk centred on the terminal doorways would be 3.32 m, including the outer wall-bench. The average pitch of the external buttresses is twice that, at *c.* 6.65 m. Hence the east cloister was surely conceived on the basis of fifteen identical bays, each 3.32 m (almost 11 ft) square.[18] This also neatly resolves the problem of the corner bays. If it was intended to construct a ceiling, or a vault, there had to be a square compartment at the corners: an L-shaped area could not be satisfactorily ceiled without subdivision. Hence, if the cloister had been 3.8 m (12½ ft) wide, as now, each corner bay would have been a square of similar size. While there is ample precedent for cloisters with larger corner bays and smaller rectangular ones along the walks, the buttress pitch would not allow this at Wells. The only way it will work is by positing the existence of narrow, rectangular bays either side of each corner, followed by square bays along the remainder of each walk. This would have introduced three bay sizes, which is plainly nonsensical, especially when the arrangement was required to articulate with the screen wall.

We may, therefore, reasonably conclude that the first phase of cloister layout, dating from between *c.* 1185 and 1190, comprised the east walk, south-east corner and one further bay (16) of the south walk, all

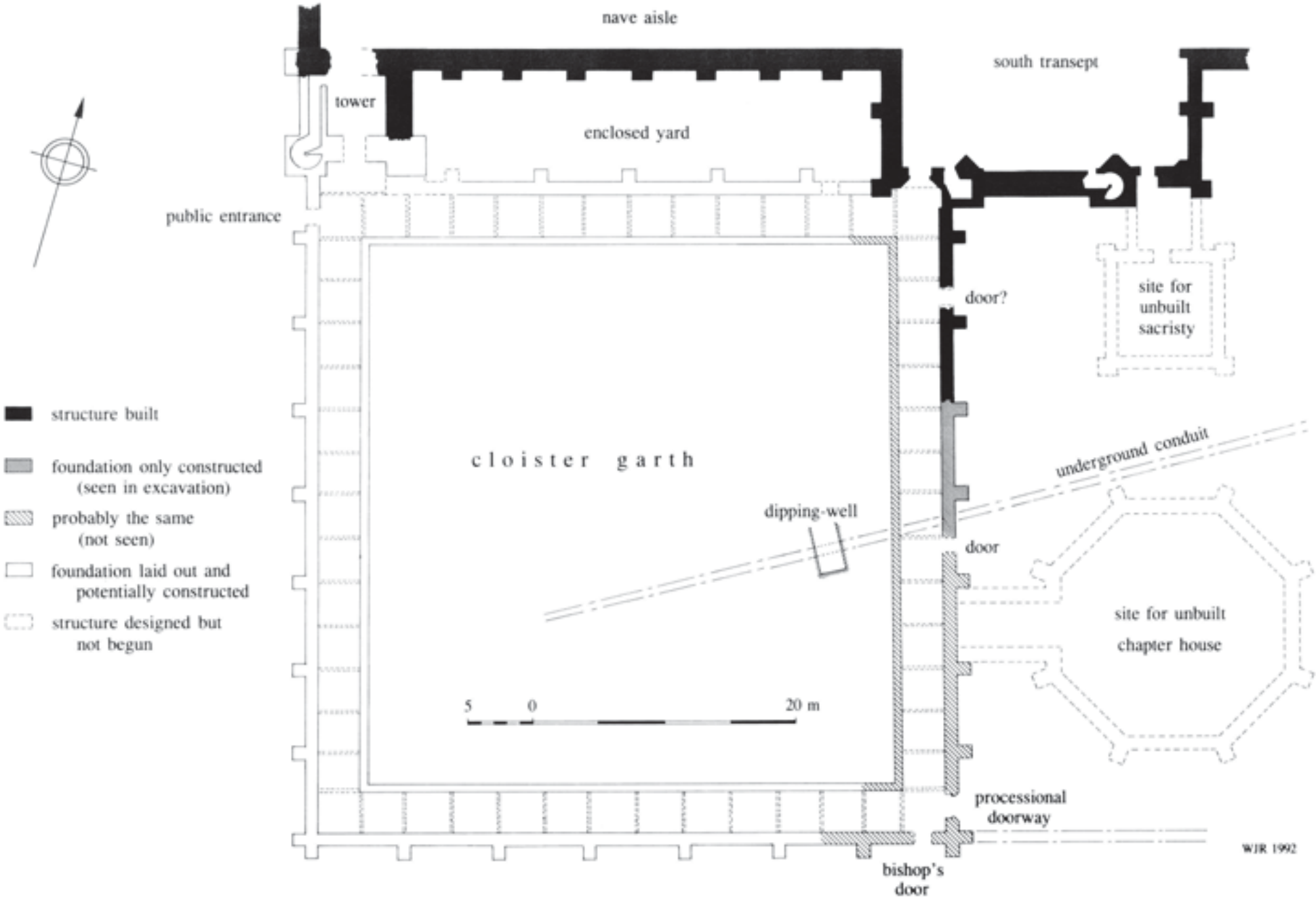


Fig. 279 Hypothetical reconstruction of the intended late twelfth-century ground plan of the cloister, chapter house, south-west tower, and south transept sacristy. The extent to which construction is known, or likely, to have occurred is indicated. Scale 1:400

based on a square module of 3.32 m (Fig. 277, bays 1–16). The small doorway in bay 9 integrates well with this module, and the east-facing processional door at the end of the south walk (bay 15) also fits comfortably as an original feature of the plan. The presence of a later opening in bay 3 suggests that there may have been an original doorway here too (p. 295).

The circumstantial evidence for narrow walks and small bays is thus compelling. It cannot be seriously doubted that a full complement of walks, of equal width, would have been envisaged in the twelfth-century design, and a suggested reconstruction of the architect's intended cloister plan is given in Figure 279. However, changes in the superstructure show that only the northernmost one-third of the east walk was actually built above plinth level in the initial phase (5 bays). The rest followed in one, or two, subsequent campaigns. The progressive construction of the east cloister at Salisbury provides a parallel.

South-west tower and the west front generally

The second-phase layout comprised the west walk and the remaining five bays of the south walk. That they were built at the present internal width of 3.8 m is almost beyond doubt, and the same applies to the slightly increased bay pitch. Moreover, the outer west wall of the cloister is bonded, after a fashion, to the west front. Plainly, a change of plan had occurred, and that was linked to the redesigning of the west front, which must now be briefly considered.

Sampson (1998) has convincingly demonstrated that the cathedral was built in a series of pre-determined stages, advancing on a diagonal line from east to west, and that horizontal layering is apparent within each constructional stage. Thus he argues that while the middle bays of the nave were being erected in the first decade of the thirteenth century, the foundations and plinth for the west front and towers were laid in preparation for the next stage. There has long been general agreement that the deeply buttressed screen-façade of Wells represents a conceptual change, and cannot have been designed in the 1170s or 1180s. Moreover, excavation has shown that the foundation arrangement at the west end differs markedly from that elsewhere in the cathedral (Sampson 1998, 25). Although work on the superstructure may not have begun until *c.* 1220, the plan had to be conceived soon after 1200.

Three fundamental questions arise. What was the original (1170s) concept for the west front? Were its foundations ever laid out, or their construction even begun? How did the cloister relate to that west front? Unfortunately, no clear-cut answers can be offered, although the evidence to supply them may well exist deep within the foundations themselves. Nevertheless, there are some clues, and certain inferences may be drawn. Sampson (1998, 139) has shown that the plan of the west front is integrated with that of the nave, and it cannot be viewed as a separately conceived 'addition'. Most notably, the nave grid extends into the western towers, suggesting that they were part of the original design. It is only the buttressing and stair arrangements that are conspicuous by their non-conformity with the overall plan.

There can be little doubt that early Gothic Wells was intended to have an impressively wide façade with towers flanking the aisles, in the mode of some late Romanesque churches, but its elevation would have been 'flat', not deeply buttressed. In England, the vogue for the screen-façade with flanking towers seems to have been started in the mid-twelfth century at St Botolph's Priory, Colchester, and Colne Priory, both in Essex (McAleer 1988). These were modestly sized structures. In terms of scale, however, Wells was closer to St Albans Abbey, where a west front of the same type was begun in *c.* 1195, and abandoned shortly afterwards. Although aisleless, Ripon Minster has flanking towers of similar size, for which a design date in the 1170s seems likely.

Presumably the towers at Wells were intended to have shallow pilaster-buttresses wrapped around their external corners, mirroring the treatment accorded to every other salient angle of the primary Gothic building. The extreme north-west and south-west buttresses would have been slightly larger, and housed the vices. It is easy to see how the design for a flat screen-façade was transmuted into a deeply buttressed one, without changing the basic ground plan of the west front, of even altering the positions of the newel stairs. The problem is to determine whether that change took place only on parchment in the master mason's office, or whether it also involved physical alterations to work that had already been started on the ground. It all depends upon whether the new design dated from *c.* 1200, or *c.* 1215.

If of the earlier date, the post-Interdict master mason who took over the Wells project would have inherited foundations that had already been prepared for the redesigned, heavily buttressed west front. Alternatively, he could have been presented with the foundations for a flat screen-façade, which would have been overtly anachronistic by the time it had been fully built. The present west front design could be post-Interdict and, theoretically, there is no reason why existing foundations (if already laid) could not have been enlarged to accommodate the new buttressing arrangements. Indeed, that could explain why there are such massive offsets between foundation and superstructure. Offsets of up to 1.45 m have been recorded (Sampson 1998, 25). This is entirely uncharacteristic of both Wells, and early thirteenth-century construction in general. Simply to have added individual buttress foundations to an existing layout would have been highly unsatisfactory in engineering terms, and certainly did not happen. But to incorporate those buttresses in a new girdle that wrapped around, and totally encapsulated, the primary masonry would have been a practical solution to the problem of inheriting a foundation that was of the wrong plan.

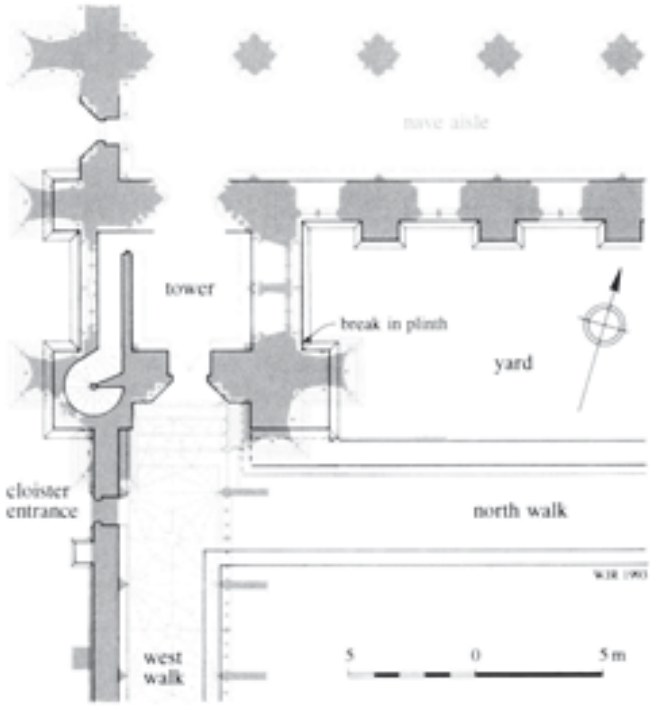


Fig. 280 Plan of the south-west tower and cloister abutment, showing the existing thirteenth-century and later structure (grey), relative to the likely intended late twelfth-century arrangement (black). Scale 1:300

A suggested reconstruction of the original west-end plan is given in Figure 280. The twelfth-century proportions of Wells Cathedral show extreme regularity and an almost slavish adherence to a basic set of design precepts. In attempting to reconstruct the lost west end, details such as wall thickness, plinth arrangements and buttress proportions can be adduced with some confidence. In this connection, a further observation may be made concerning the east face of the southern tower: this is bonded with the south aisle, but not with its own clasping buttresses. There is a clear discontinuity in coursing where the plinth masonry of the tower meets that of the east-facing buttress. The implication is that the tower plinth was laid out with the west nave, but the clasping buttresses came later.[19]

West cloister

If our reconstruction of the south-west tower is correct, the problems surrounding the west cloister begin to resolve. The outer west wall to the walk would have abutted the south-west angle-buttress, and a doorway in the south face of the tower could have been sited to be axial with a narrow cloister walk (*i.e.* mirroring the arrangement in the east walk). The fifteen bays of the east walk would have been repeated on the west, but a short linking structure, equivalent to half a bay, would have been required because the tower and transept did not project by equal amounts from the aisle (Fig. 279).

The theoretical layout of the late twelfth-century cloister, and its articulation with the body of the church, is thus readily comprehended. The difficulty comes with interpreting the developing and obviously complex relationship between the west front and the west cloister during the period *c.* 1220–50. Excavations and structural investigations are needed to reveal the hidden evidence.

It has already been remarked that the longitudinal axis of the west cloister does not coincide with the monumental doorway in the south-west tower. In this instance the door jamb is hard against the screen wall, demonstrating that the walk (as built) could never have been any narrower than it now is (Fig. 277). Hence it is pertinent to ask why, if the doorway and the walk were contemporary, were they not axially aligned? They could so easily have been, by positioning the cloister a little further to the east. Moreover, such an adjustment would have improved the aesthetics of the west walk by aligning its outer wall on the inner edge of the south-west buttress of the tower, rather than on its centre. As it is, a large and ungainly portion of buttress plinth is encased within the cloister, which serves only to accentuate the asymmetry of the portal (Fig. 280).

Hence, if both the west front and the cloister were redesigned in the early thirteenth century, why are they so badly out of unison? Perhaps the ground plan of the west cloister, like that of the west front itself, was set out (and foundations laid), *c.* 1200, according to the original plan. The thirteenth-century redesigning of the western towers, and introduction of deep buttresses, inevitably resulted in shifting the axis of the doorway to the cloister. This in turn led directly to the decision to widen the walks, there being little alternative if the foundation of the outer west wall was already in place.

Even so, the situation is not straightforward, and there is another conflict to resolve. Sampson has recorded all the surviving evidence for the south elevation of the south-west tower and, for the first time, it is now possible to appreciate the magnificence of the portal and its setting (Fig. 270). There can be no doubt that it was designed to be seen in the open, and not to be abutted by a cloister at all. The door is centred between the buttresses, the string-courses at the base of the first tier of statue niches rise to form a double hood-moulding. Above, the niches, gablets and quatrefoils are all continuous. The portal was designed to be seen amidst an array of statuary, and there is no hint of the intended abutment of a cloister.

Nevertheless, the west walk was eventually built up to the face of the tower.

South and north walks

It is doubtful whether any part of the south cloister was built in the twelfth century, and that only the foundations of the south-east corner were laid out by *c.* 1200.

Nevertheless, the design must have existed as a drawing. Equally, it is contended that a north cloister was an integral part of the original design, and that at least its foundations and the lower parts of its walls were constructed. The problem of the north cloister is considered in depth on pp. 266–9.

The north and south walks could not have been of identical length to the east and west walks. The discrepancies were caused by the slight extension of the north-east corner bay into the re-entrant angle between the transept buttresses, and by the need for a short link between the north-west corner and the tower. The overall east–west dimension of the cloister, which was fixed by the length of the nave, or, more particularly, the distance between the south transept door and the south-west tower door, worked out at slightly less than that of the fifteen bays of the east cloister. There were two options: either the north and south walks could have been divided into fifteen slightly narrower bays (3.2 m), or fourteen wider ones (3.5 m).

It is difficult to determine which course of action the master mason is likely to have adopted. The differences were so small as to be imperceptible from within the walks.[20] Externally, however, the expression of the bays in terms of buttresses raised serious issues. The natural desire would probably have been to adhere to fifteen bays per walk. While this could have been fitted into the north walk, an odd number of bays was impossible in the south walk, unless overtly asymmetrical buttressing was contemplated. It is not impossible that an intention existed to buttress every bay on the south, in view of the falling away of the ground towards St Andrew's stream, and the need to support the south walk at a somewhat higher level. Closely spaced buttresses are not uncommon on other early cloisters. The reconstruction offered in Figure 279 shows a suggested fourteen bays in the north and south walks and fifteen in the others, giving a total of fifty-four bays for the complete cloister. This does not include the half-bay link with the south-west tower.

Compromises in construction

Laying out the foundations according to a pre-determined plan was one task: erecting the superstructure was another. Failure to construct the south and west cloisters to a narrow gauge was linked to a revision of the bay structure and buttressing, and included the introduction of double-unit bays. The cloister, like the west front, was updated whilst under construction.

Excavation in the Camery has shown additional ways in which the erection of the superstructure did not follow the intentions implied by the foundations. Thus although the foundation for the buttress between bays E_4 and E_5 was constructed (Fig. 277), it was abandoned before the chamfered plinth at the base of the wall was laid (Fig. 281). Almost certainly the same occurred in the case of the buttress between bays E_5 and E_6, although the evidence is less well preserved.

Fig. 281 Robbed foundation for the unbuilt buttress at the junction of bays E_4 and E_5 on the east cloister. Note how the chamfered plinth at the base of the main wall was carried across the intended site of the buttress, and returned along the south wall of the Lady Chapel (right). The 75 cm scale rests on the front edge of the buttress foundation

The reason for the abandonment of these buttresses is linked to the decision, made in or by 1196, to retain and restore the ancient chapel of St Mary (Structure 6), and to link it physically to the emergent east cloister (p. 87). The two buttresses were no longer needed, and when the cloister plinth was laid it was apparently returned along the north and south walls of the restored chapel.

It is likely that a similar scenario obtained when the west cloister was erected. There, the present buttress spacing does not mirror that of the east cloister and cannot be made to articulate with the posited fifteen-bay walk. It only works with the wide, double-bays, and it is suggested that re-spacing took place in the early thirteenth century. Excavation alone can show whether an earlier buttress arrangement was ever laid out. Also, it may be noted that bay W_7 is anomalous, being wider than any other in the entire cloister.

It may be suspected, too, that the projecting west porch or gatehouse (Structure 23) was a secondary addition. The porch was originally a single-celled, oblong structure, centred on bay W_4,[21] where it was closely and symmetrically flanked by buttresses: the southern one remains, but its northern counterpart was lost when a second chamber was added. The buttresses are so close to the porch as to be rendered structurally superfluous; the latter may therefore be an early addition to the cloister (see further p. 330).

The west and south cloister walks were likely built in three stages, with the junction at the south-east corner being the last task (p. 261). Since the plan of the easternmost bay (S_7) of the south range articulated with the narrow east cloister, some localized adjustment must

have been made to effect a satisfactory union between the new wide walk and the old narrow one. The general character of the external masonry of the whole cloister is superficially uniform, but detailed inspection reveals subtle differences in the plinths and the buttress weatherings, demonstrating that the basic design of the external shell did not change.

Apart from the modified bay pitch, another significant development in the second major constructional phase was the introduction of blue lias, in place of oolitic limestone, for freestanding shafts, bases and abaci. The first appearance of this material in architectural detailing at Wells occurs on the portals of the west front, and must therefore be dated no earlier than *c.* 1215. Not only are shafts flanking the porch doorway in the west cloister of blue lias, but so too are those of the south cloister door, leading to the Bishop's Palace. This further detail reinforces the argument that, although the south-east corner was probably begun in the last decade of the twelfth century, its superstructure came a little later. It may further be noted that the clasping buttresses at the south-east angle, though related to those of the east wall, are *sui generis*.

Also associated with this corner, and enclosing the south cloister door, was another porch, or covered way (Structure 22) which has long since been demolished. Scarring on the wall suggests that it was a single-storey projection, of the same width as the west porch. Indeed, it may have been identical. In both cases, the door from the cloister opened outwards, into the porch. Part of the south porch's east wall still remains alongside the gateway of the masons' yard (Fig. 278); and there must have been a flight of steps, as now, connecting the cloister walk with the lower ground level of Palace Green.

Finally, it may be noted that yet another opening, presumably a doorway, formerly existed at the northern end of the west cloister, in bay W_1, but was carefully infilled at an early stage. This feature has not hitherto been noticed. Plausibly, that doorway was the precursor of the enporched west cloister entrance, and was expunged when the west front was redesigned (p. 263).

The enigma of the north cloister

The concept of a north walk

The existing cloister at Wells is unique amongst English cathedrals, in having a markedly rectangular garth bordered by only three walks, when the proportions clearly demand also a fourth. Three-sided cloisters are occasionally found in English monastic houses, as at St Frideswide's Priory, Oxford, which does not have a north walk either (Halsey 1988). The unconventional arrangement at Wells seems not to have been seriously questioned until recently (Rodwell 1980a, 16–17). Superficially, there is little evidence for the former existence of a north walk, and it is obvious from the arrangement of buttresses and the lack of serious disturbances to the masonry of the south nave aisle that there never was a walk intended, or built, in the conventional monastic position, hard against the side of the church.

If there was a full cloister, with a square garth, the north range had to be detached from the nave in the same way that is seen at Salisbury or, less regularly, at Lincoln (Fig. 354). Possible analogues between Salisbury and Wells deserve consideration, since the plans of the two cathedrals have much in common. The Salisbury cloister is attached on the one hand to the south-west corner of the transept, and on the other to the southern tower of the west front. Like Wells, the western towers not only flank the façade, but also stand outside the aisles; the scale, though, is smaller. The north cloister at Salisbury is therefore a freestanding range, to the north of which a long, narrow space, known as the Plumbery, served essentially as a light-well for the nave aisle. The plan of Wells would admit an exactly similar arrangement (Fig. 279).

The problem of the existence of a north walk to the early Gothic cloister can only be finally settled through excavation. The fifteenth-century rebuilding programme certainly did not include a walk in this position, and the first phase of the work, under Bubwith in the early 1420s, exhibits nothing suggestive of a relationship to an existing north walk. Whereas at the southern end of both the east and the west cloisters physical evidence remains to show how they embraced the old south walk, no comparable indications exist at their northern ends. It must therefore be concluded that if a north walk was ever built, it had gone by 1420. It is, nevertheless, interesting that Bubwith's northernmost bay (1) included a wide doorway in the screen wall, where it could have reflected the line of the north walk.

The lack of physical indications for an upstanding north cloister in the early fifteenth century does not disprove its existence at an earlier date. Nor does it deny the possibility that the line of an abandoned north range was still a relict feature within the garth. On the contrary, attention has just been drawn to the suggestively placed wide doorway in the east cloister, and no less fortuitous is the provision of a similar doorway in the fifteenth-century screen of the west range, directly opposite (bay 39). A path connecting the two doors is even marked on Carter's plan of *c.* 1795 (Fig. 5). The simplest explanation for the two opposed doorways and connecting path is that they ghosted the former north walk.

Moreover, an oblique reference to relict evidence of a north cloister may be preserved in William Worcestre's description of the cathedral in 1480. This contains an interesting paradox. He begins with the unambiguous statement, 'The cloister is 53 yards long on all four sides', and then goes on to refer to the 'Three arched and vaulted cloister walks' (Harvey

1969, 289). Wording such as this would only have been appropriate if clear evidence of the fourth walk remained, even though the superstructure was by then ruined or absent.[22]

Structural evidence

Any north cloister might be expected to have left evidence in the fabric at its two extremities, where the walk would have abutted the south transept on the one hand, and the south-west tower on the other. Both the south-west buttress of the transept and the south-east clasping buttresses of the tower show signs of disruption to their masonry, where there clearly have been serious alterations at some time. These must next be examined.

South transept abutment

On the south wall of the transept, at a relatively high level between the cloister door and the abutment of Bubwith's screen wall, there are indications that the masonry has been dressed back. The re-tooling has been roughly done and is restricted to discrete areas, suggesting that architectural features were hacked off the face of the transept in the fifteenth century, in order to clear the area through which the new vaulting was being built (Fig. 297). The lowest re-tooled area is at the level of the capitals on the transept doorway, and the scar indicates that a large foliate capital, with a bell-profile and volutes, has been eradicated; above this is another scar, evidently a lost abacus which aligned with the abaci of the doorway itself; yet further above, at the level of the label-stop over the doorway, the re-tooling defines an area up to 20 cm wide and 16.5 cm high (interpretation is uncertain, but this is perhaps where a head-stop has been removed); and, finally, a horizontal scar 10 cm high shows that the hood-moulding of the transept doorway was returned and ran westwards uniting with one of the main string-courses around the transept.

Thus in the late twelfth century there appears to have been a string-course, abacus and capital on the face of the transept, each corresponding to the height of its respective component in the transept door arch. All the retooled stones are of Chilcote, showing that they are not subsequent insertions. The lost features can only relate to a former structural abutment onto the transept. This evidence is most plausibly interpreted as the junction of the east and north cloister walks. Even if the observed features do not prove that a north walk was built in the late twelfth century, they nevertheless demonstrate the intention of integrating the transept doorway with a cloister corner *ab initio*. Their position also points to a narrower east walk than the present one.

The masonry of the south-west buttress of the transept has suffered substantial disruption, indicating that there have been structural attachments, probably of more than one period (Fig. 334). The disturbance most likely to have been caused by the abutment of a north cloister is seen on the lower part of the buttress, on its west face, and is precisely where the outer wall of the putative north walk would have engaged (Fig. 277). The lowest string-course on the buttress has been slighted, and much of the masonry below it has been renewed in Doulting stone, whereas the buttress itself was constructed at the height of the Chilcote-stone phase. On the west face of the buttress the plinth has been rebuilt, while on the south face it is entirely missing and the sloped weathering above has been cut back, and rebuilt in the vertical plane, arguably so that it would be flush with the inner face of the north walk. There is no reason for this flattening of the wall-face to be associated with the fifteenth-century rebuild of the east cloister.

Several sockets for housing timbers have been cut into the south face of the buttress, some of which are evidently connected with a lean-to building that stood against the west face of the transept, and which seems to have wrapped around the buttress (Structure 21: see p. 321). The largest socket is, however, high up on the wall, and is at exactly the right level to have held a ceiling joist for the north cloister walk (Fig. 297). Moreover, a short distance above this is a line of medieval iron nails driven into a bed-joint in the ashlar of the transept face. Two of the nails still retain their large flat heads, trapped behind which is a fragment of lead flashing (Fig. 302). The early date of this flashing-line is proved by the easternmost nail lying behind the stone water-spout associated with Bubwith's library of the 1420s. Although visible, the nail could not have been driven into the wall after the spout was erected.

South-west tower abutment

The features just described imply the existence of detailed plans for a cloister with a north walk in the late 1180s, and hence its intended junction with the west front would have been anticipated and suitably detailed by the architect. When the west front was redesigned, no provision was made for its engagement with either a north or a west cloister. The plan to complete the cloister was abandoned, and when it was reinstated the two elements simply collided (Figs. 282 and 283).

As elsewhere around the cloister, the early Gothic arrangement is largely obscured by fifteenth-century fabric, but it seems certain that something wider than the present west walk was constructed against the south face of the tower. The south-east buttresses both bear scars of former structural attachments. In the case of the south-facing buttress, extensive patching masks the position where a structure once adjoined (Fig. 270). Its position in relation to the portal balances that of the existing west cloister wall. Hence, there was either a porch here or a special corner bay to the cloister.

With the latter in mind, it is a remarkable coincidence that there is a fifteenth-century doorway leading into the garth, at the junction of the west walk with the

Fig. 282 Union of the outer wall of the west cloister with the buttress of the south-west tower. The remains of the thirteenth-century cloister coping can be seen disappearing under a gablet intended as a statue canopy. The vertical joint and misalignment in the fifteenth-century upper storey of the cloister suggests that it initially stopped just short of the tower

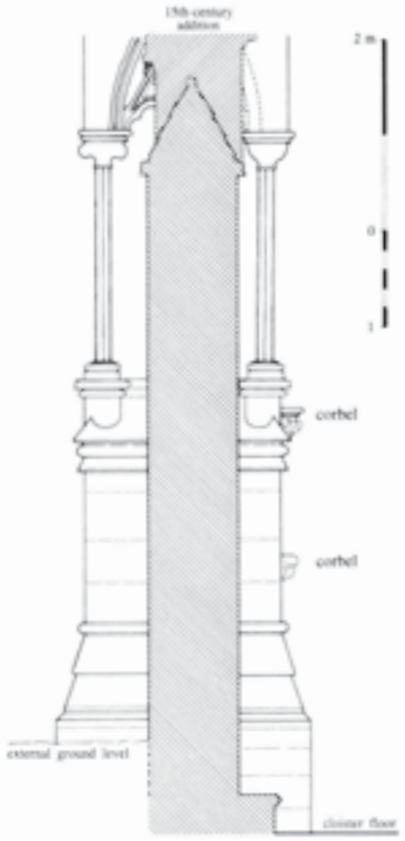


Fig. 283 South elevation of the buttress at the south-west corner of the west front, illustrating the abutment of the outer wall of the west cloister. The relationship between the added storey and the earlier parapet coping is based on fragmentary evidence surviving within the niche; elsewhere, the coping was removed before raising the wall (see also Fig. 282). Scale 1:80. After Sampson 1998

west front. As previously observed, this opening is on the line of the north walk and is directly opposite the larger doorway in the east cloister. Even more pertinent, is the ephemeral evidence for a short-lived, early doorway in the outer wall of the west cloister, also directly on the line of the putative north walk (p. 266).

Summary

When all the evidence is weighed, a possible sequence of events surrounding the construction of the cloister (and particularly the north-west corner) begins to emerge.

(i) It cannot seriously be doubted that a four-square cloister was an integral part of the late twelfth-century design, and that the east walk was partly constructed before 1196.
(ii) Circumstantial evidence suggests that the west front and west walk was also laid on the ground, according to the original plan, and that construction may have started soon after 1200.
(iii) The Interdict and other disruptions led to delays, during which time the design for the west front was reworked. When construction started again, *c.* 1220, a grand south portal was constructed, and the intention to complete the cloister (or at least to link it to the west front) was abandoned.
(iv) The ambitious scheme for the west front ran into serious difficulties, and was never completed. The sculptures which should have adorned the setting of the south portal were never installed or even commissioned. Instead, the old plan to link the cloister to the west front was revived.
(v) When cloister construction resumed, probably in the 1230s, the west walk was modified to accommodate the redesigned west front, and a special bay had to be contrived to accommodate the portal in the south tower. What happened to the projected north walk is uncertain, but scars and later door positions suggest that something was built.

It has been demonstrated that the surviving footings and bench of the inner wall of the west and south walks are relict from the thirteenth-century cloister. It would therefore be expected that the bench would have stopped short of the north end of the west walk, and

there turned eastwards into the north walk. However, both the rubble footing and the bench top continue throughout the length of the west cloister, stopping 1.0 m short of the tower buttress, which left sufficient space for a small doorway, but not for a true cloister return. Hence there cannot have been conventional access from the west cloister into a putative north cloister at this point; but the narrow doorway, as already noted, still exists.

Thirteenth-century roof arrangements

When the present south cloister (Fig. 272) was built between *c.* 1490 and 1508 the last vestiges of the internal design of the thirteenth-century cloister walks were finally swept away. Since, however, the old south range stood for a time as a link between the fifteenth-century east and west walks, and since those walks had been physically joined onto the earlier fabric, it is feasible that some sign of the thirteenth-century roof line, or vaulting, might have become encapsulated in the present south cloister roof. Failing that, an indication of the original roof form might be expected to survive on the inner face of the thirteenth-century south wall. These areas have been carefully examined.

The extant early nineteenth-century slated roof of the south cloister has a nominal pitch of 45°: it has a longer and slightly steeper slope on the north (*i.e.* towards the garth) than on the south.[23] At both ends, the ridge corresponds to the level of the string-course below the parapet of the adjoining two-storey east and west ranges.

Junction of the east and south cloisters

The nineteenth-century roof-line is disruptive in that it blocks the southernmost window of the east cloister, on the garth side. However, beneath the roof the face of the east cloister bears a sloping moulding which is the weathering associated with an earlier roof abutment (Fig. 284). This moulding, 11.5 cm in height, projects from, and is carved out of, the ashlar blocks forming the wall of Bubwith's library. Several of these blocks bear masons' marks of this period proving beyond doubt that they are not later insertions. At both its upper and lower ends the projecting moulding has been cut away to accommodate the timbers of the existing roof. The weathering slopes downwards from south to north at an angle of 16°, the sill of the now-blocked library window being placed just above it.

If the line of the weathering is projected, it coincides with the similarly chamfered moulding at the base of the thirteenth-century parapet of the south wall. This perfect correspondence renders it almost certain that the original monopitched arrangement of the roof of the south cloister is here preserved, at the junction created in the mid-fifteenth century between the old south walk, and the new east walk and library.

Fig. 284 Sectional elevation of the east end of the south cloister, above vault level, showing relict evidence for the abutment of the thirteenth-century roof against the east cloister. The wallplate of the early sixteenth-century roof probably rested on the ledge at 'A'. The position of one of the large sockets running through the outer wall is marked 'S'. Scale 1:80. After Sampson 1998

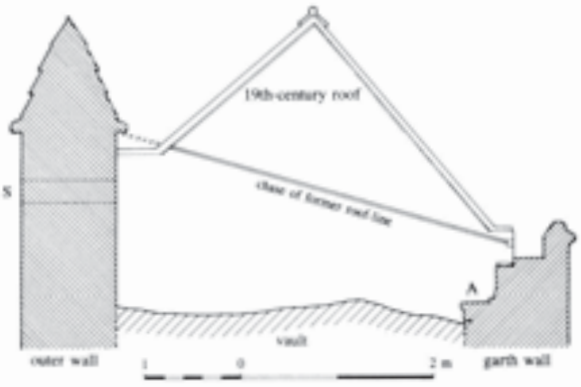


Fig. 285 Sectional elevation of the west end of the south cloister, above vault level, showing relict evidence for the abutment of the thirteenth-century roof against the west cloister. Key as in Fig. 284. Scale 1:80. After Sampson 1998

Junction of the west and south cloisters

The foregoing deduction is also confirmed by the corresponding junction between the west walk of *c.* 1480 and the old south walk. The roughly coursed ashlar of the garth face of the west cloister, which is concealed in the roof space above the south walk, does not bear a moulded weathering, but an incised groove (Fig. 285). This runs from the string-course at the base of the thirteenth-century parapet on the south, down to just below the top of the parapet facing into the garth. The feature follows the line and angle of the moulding on the east cloister with sufficient precision as to leave no doubt that it too ghosts the old south cloister roof. The different technique used to accommodate the abutment of the former pentice roof to the new works reinforces the point that we are not dealing here with a fifteenth-century, or later, re-roofing of the south range. Had that been the case, the junctions between the ranges would have been treated similarly.

It therefore seems certain that when the east and west walks of the cloister were rebuilt the roof-line of the thirteenth-century south walk remained intact. The two junction lines are now preserved as relict weatherings.

The form of the roof

It has thus been established that the early thirteenth-century south cloister was covered by a pentice roof with a 16° pitch, sloping in towards the cloister garth, and originating from the string-course beneath the coping on the outer wall. Since there is a return onto the east cloister at the south corner, and a similar coping survives at the north end of the west cloister, it seems reasonable to infer that a common roof type was employed throughout the cloister. Such a roof either ran down to a gutter behind a low parapet, or simply shed water from overhanging eaves into the garth. In view of the general lack of parapets on the cathedral until the fourteenth century, the latter is more likely.

The lower ends of the thirteenth-century weathering-lines are now concealed by the later medieval parapet and roof, so that their exact extent can no longer be ascertained, but given the known positions of the thirteenth-century benches below (in the west and south cloisters at least), we may assume that the inner walls of the walks were not only on the site of the existing fifteenth-century ones, but also stood to approximately the same height. When the south cloister was rebuilt, still as a single-storied structure, it was given a new ridged roof similar to those covering the other ranges. Thus the pentices were finally expunged.

The string-course at the base of the copings on the outer cloister walls defines the top of the roof-slope. On the west walk it meets the west front of the cathedral just below the capitals of the lowest tier of statuary niches (Figs. 282 and 283). There was no attempt to achieve architectural integration, and it is plain that the height of the early cloister was determined by something other than the west front.

If the level of the west cloister parapet string-course is projected on to the body of the cathedral, ignoring the west front, it is found to lie *c.* 15 cm below the major string-course that aligns with the springing of the hood-moulding of the aisle windows. The correspondence is close enough to hint that a visual connection was intended.

It therefore seems likely that the original architect integrated his cloisters into the design of the twelfth-century church by choosing a roof and string-course height that corresponded to a major horizontal line in the cathedral's south elevation. Unfortunately, a direct abutment is no longer preserved, and it is impossible to determine whether a true union of string-courses was achieved in the east cloister; by the time the west cloister parapet was constructed the level was irrelevant, the new west front having intervened. For a further consideration of the evidence in the east cloister, see p. 284 and Figure 297.

Thirteenth-century ceilings

There was no necessity for the cloisters to have been ceiled: the walks could have been open to the underside of the roof timbers, but this seems less likely at Wells, where the cloister was essentially a showpiece and not a utilitarian structure. No trace of vaulting to the early thirteenth-century cloister has been noted in the roof-space above the south walk, and there are no obvious sockets for beams or supporting corbels that could be associated with an inner structure. There are, however, several subtle clues which provide evidence of a ceiling over the south walk, and at the same time give an approximate indication of the internal height of the cloister.

In the east range, at the southern end of the library, Bubwith's builders provided a small doorway into what can only have been an enclosed space over the south walk. The access probably represented part of a walkway beneath the thirteenth-century roofs of all three cloister ranges, providing for a continuous circuit beneath the pentice for maintenance and repair. The doorway is hard against the south wall, where the height of the roof space was greatest; it is 1.34 m high, and 78 cm wide (Fig. 284). The threshold is a maximum of 1.77 m below the roof-line, giving reasonable headroom. Although the first full bay of the south walk (bay 15) was modified when the library range was built in the 1450s, it is nevertheless likely that the threshold of the doorway corresponds approximately to the top of the ceiling of the thirteenth-century south walk.

Another, equally definitive, piece of evidence for there having been a ceiling over the south cloister is the presence high up in the outer wall of three slit windows (Figs. 272 and 274). These were ideally placed to light the roof void, a deduction also made by Irvine.

Bubwith's will (p. 246) gives no hint of any proposal to rebuild the cloister beyond the door at the south-east corner (bay 14), so it is likely that all the fifteenth-century features at the junction with the old work were intended to integrate as smoothly as possible with the earlier fabric.

Below present vault level no traces of the earlier ceiling have hitherto been noted. In 1983, during the conservation of the monument to Bishop Hooper in the south-west bay (26) of the cloisters, the plaster was stripped from the west wall, but at that time nothing which could certainly be ascribed to an earlier ceiling or vaulting was found. Near the apex of the wall-arch of the vaulting, traces of two or three irregularly spaced, square sockets were noted: the two southern ones contained white lime mortar in their infilling which could have been of fifteenth-century date. There were no signs of an earlier vault profile on the wall, or of a continuous slot for a substantial ceiling. It is

improbable that the observed sockets were putlog holes blocked during the fifteenth-century refurbishing, since they were too closely spaced.[24] More likely the sockets once housed the joists for a lath-and-plaster or boarded ceiling.

In the west walk, a thirteenth-century doorway survives at the mid-point along the outer wall, where a porch or small gatehouse (Structure 23) provided the main entry to the cloisters. The tall opening is flanked by freestanding lias shafts, supporting stiff-leaf volute capitals and lias abaci of the developed form found on the west front of the cathedral; the arch moulding above is segmental and severely flattened, and just fits beneath the present vaulting. This flattened arch was not interfered with in the fifteenth century, and therefore the top of it must be at or below the level of the lost thirteenth-century ceiling. Indeed, the unusual flatness of the arch (compared to others around the cloisters) suggests that it was contrived to fit beneath a pre-determined horizontal, while at the same time maintaining as spacious an entrance as possible.

Another feature which may indicate a height for the original cloister ceiling close to that of the present vaulting is the survival of a small stiff-leaf corbel at the top of the west front plinth within the northernmost bay (39) of the west cloister (Fig. 283). This corbel, 4.42 m above the cloister floor, is somewhat below the level of Bekynton's vaulting, and is likely to have supported a tie-beam immediately beneath the main span of the ceiling. A second corbel, 1.52 m lower than the first, but not directly under it, could perhaps have supported a wall-post or brace. It must, however, be admitted, that the function of these corbels remains uncertain, as does much else about the treatment of this corner of the cloister.

If, on the one hand, the flattened west entrance arch shows that the early cloister ceiling could not have been lower than the present vault-line and, on the other hand, the access doorway from the east walk to the roof space over the south walk shows that it could not have been much above it, we can only deduce that the thirteenth-century ceiling was more-or-less coincident with the apex of the later vaulting. This deduction is reinforced by other coincidences between the early and late Gothic cloisters, such as the width of the walks, and the height of the parapet of the screen wall on the south. Moreover, it has been suggested that a conscious effort was made to reflect the proportions of the old work in the new, when the first walk was rebuilt in the fifteenth century, since it had to coexist with the remainder of the thirteenth-century cloister.

In summary, all the available evidence points to a ceiling in the early cloister, roughly corresponding to the apex level of the extant vaulting. But this would not work in the east cloister, where any such ceiling would have intercepted the head of the south transept doorway, cutting off a substantial part of the apex of the elaborately moulded arch. One solution would have been to omit the first bay of ceiling, but this would have been visually disastrous: the doorway would still appear truncated when viewed from a distance. Alternatively, the east cloister may have been differently treated, or at least the northern half of it: the evidence that that was indeed so will be examined shortly.

It is now fairly certain that the early thirteenth-century cloister was not stone-vaulted, since that would have left some tell-tale traces on the rubble walling visible in the roof space over the south walk, or in the masonry below which was exposed and examined in 1983. One might also question the need for taking down a full set of Early English vaults and replacing them to the same plan. That would have been an immense extravagance with no practical gain, and uncharacteristic of Wells. That it took about ninety years and at least three major campaigns to achieve the late medieval refurbishment of the cloisters, demonstrates that funds were not freely available for unnecessary work.

However, the possibility of timber vaulting in the cloisters should not be overlooked. It is well known that some of the most prestigious buildings of the thirteenth century had timber ribbed-vaults: St George's Chapel, Windsor, and Lichfield Cathedral spring to mind. Recent research has demonstrated that there is much more evidence for lost timber vaults than has hitherto been supposed (Hearn and Thurlby 1997). The fifteenth-century stone vaulting at Wells may therefore have superseded either a flat wooden ceiling or a timber ribbed vault. An intermediate, vaulted phase is however proposed for the northern half of the east walk, where a different kind of evidence is found (p. 284).

Union of the cloister and the west front

The abutment of the thirteenth-century cloister to the west front can be studied in the audit office (latterly known as the 'accounts office'), which is situated on the upper floor at the north end of Bekynton's west cloister, (Fig. 268). Here, and on the roof above, much of the original fabric of the first tier of statuary niches on the west front is preserved, although the capitals have been shorn of their foliage, projecting mouldings have been hacked off, and other details have been blocked or obscured by the fifteenth-century heightening.

The northernmost bay of the early cloister was fully contained within the re-entrant angles of the buttresses of the south-west tower (Fig. 277, bay 29). Despite the late medieval intrusions, clear signs of the earlier arrangement of roofs in this awkward corner are preserved.

The outer wall of the west cloister abuts the south-west buttress of the tower, and the inner face of that buttress forms part of the interior of the accounts office. It bears the weathering scar of a pentice roof, spanning the gap between the tower buttresses. The roof sloped down from north to south and had a pitch

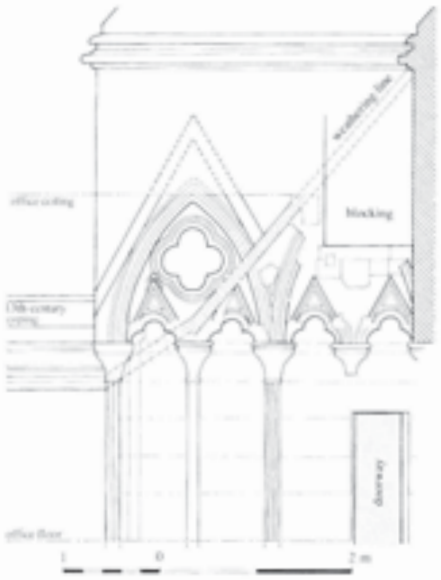


Fig. 286 South-west tower. The east face of the south-west corner buttress, showing the chase of a pentice roof that closed the north end of the west cloister. This is now preserved inside a first-floor office. The thirteenth-century coping to the cloister abutment is shown partly restored; later medieval work is omitted for clarity. Scale 1:80. After Sampson 1998

Fig. 287 South-west tower. Quatrefoil niches and hacked-off gablets, above the west cloister roof. A (upper) South face of tower, with south-east buttress on the right; B (lower) West face of the south-east buttress

of 50° (Fig. 286). If this roof-line is notionally extended, through the now inaccessible space above the office ceiling, it meets the face of the south tower at the base of the great median string-course. This would have provided the weathering along the top of the roof slope. Just below this, the position of the wall-plate that carried the upper ends of the rafters can be defined by reference to a scar on the south face of the tower, and the surviving socket in which the east end of the timber was housed. These features can be seen outside, above the present roof of the accounts office.

A valley gutter lies between the east-facing roof slope and the inner flank of the south-east buttress (Fig. 287A). The gabled heads of the first tier of statue niches of the tower, with their projecting mouldings hacked off, are visible in this valley (Fig. 287B). Also preserved, are three of the small quatrefoil niches which run around the west front, below the median string-course:

(i) On the south face of the tower. Infilled with stone set in medieval pink mortar, consistent with a thirteenth-century date.
(ii) In the internal angle between the tower and the south-east buttress. Mutilated, but restored in the nineteenth century, the niche is still open. In the back of it is a socket, 22 cm by 18 cm, evidently to house the one end of the top plate carrying the inserted thirteenth-century roof.
(iii) In the south-west salient angle of the buttress. Mutilated, but restored in the nineteenth century, the niche is still open. In the back is ghosted the outline of a sloping mortar fillet that formed part of the weathering of the Early English cloister roof.

Inside the accounts office, the lower end of the pentice roof scar on the west wall appears to terminate just above the abacus level of the first tier of statue niches, fractionally over one metre back from the south face of the buttress (Fig. 286). Remarkably, this accords with the position where the outer wall-plate of the predicted north cloister roof would have met the south-west buttress. Halfway up the line of the same roof scar is a rectangular socket that held the purlin.

The weathering-line, and sundry other roof fixings, are all hacked into the once-complete architectural embellishment of the southern aspect of the tower and its buttresses. The master mason who, in *c.* 1220, created the sculpture niches in the re-entrant between the buttresses clearly did not envisage the abutment of a cloister roof. The evident chaos that is now visible bespeaks changes and counter-changes of plan.

It has been argued that a change of mind in the 1230s led to the decision to retain and complete the west cloister walk, linking it in an *ad hoc* fashion to the tower. Logically, we should expect the monopitched roof to have continued straight into the space between the tower buttresses, ending with a 16° weathering-line

on the south face of the tower (cutting, of course, across the statue niches, which would have been infilled). Demonstrably, that did not happen, and a more complex roof was constructed.

The evidence points to the formation of a mitred roof and valley at the north-west corner of the cloister, and that in turn suggests the inclusion of a north walk. The upper wall-plate for the roof of the north cloister was carried across the face of the south-east buttress of the tower, and its end was anchored in the east side of the south-west buttress. This left an awkward re-entrant space between the buttresses, which was then bridged with a steeply pitched pentice roof running down from the base of the median string-course on the tower, discharging its water onto the valley between the north and west cloister roofs below.[25]

That the roof arrangement just described was actually built is beyond doubt. The essence of its design was to form a union between three separate slopes: west cloister, north cloister and the inter-buttress pentice. Had there been no north cloister, the construction would not have taken the form it did. A somewhat similar roofing problem was encountered at Salisbury, where the link-structure at the north-west corner of the cloister joined the nave between buttresses: again, the awkward re-entrant was roofed with a steeply pitched pentice.[26] The thirteenth-century roofs survived until the late fifteenth century, when the present ridged structure was erected. There is no hint of a north cloister being incorporated in the rebuild at that stage, and hence the roof arrangements were simplified.

Finally, contemporary access to the space above the ceilings of the west and north(?) cloister walks was provided by a doorway that was cut through the back of one of the statue niches of the south-west buttress, facilitating a connection with the vice at the south-west corner of the tower (Fig. 286). The doorway is on the same level as that which accessed the roof space at the south-east corner of the cloister (p. 270).

The structure of the south cloister

With the exception of the roof carpentry, the south cloister has survived entirely in its late medieval form, the result of a partial rebuilding between *c.* 1490 and 1508. That in turn incorporated a substantial amount of the early thirteenth-century fabric. Evidence for the form of the early Gothic roof has also been recovered (p. 270). Until recent years, very little restoration had been carried out on the fabric: consequently, patches of medieval rendering remained on the outer wall, a rare survival.

The south walk is still a simple, single-storey alley with no adjuncts or secondary openings (Figs. 272 and 274). The essential components of the early Gothic

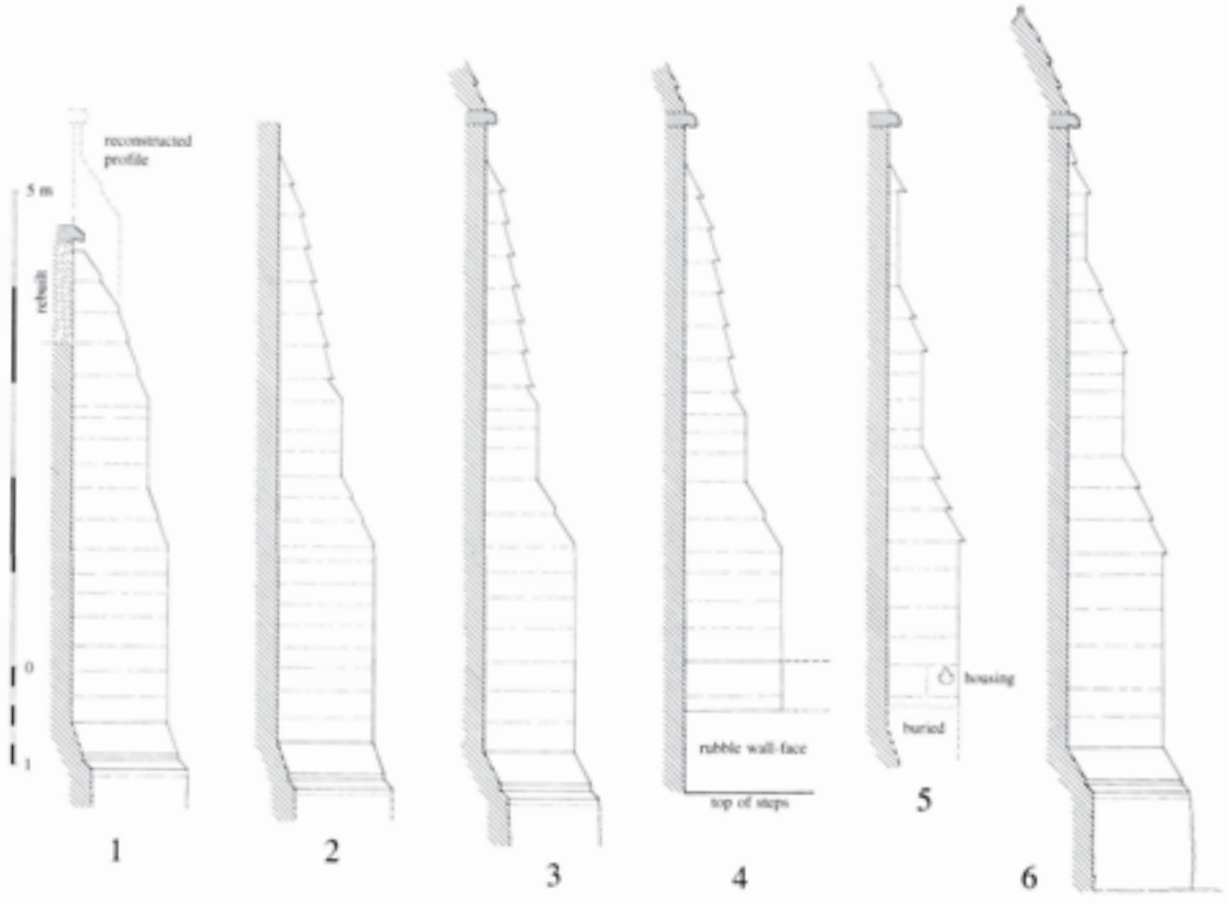


Fig. 288 Comparative profiles of late twelfth- and early thirteenth-century buttresses around the outer cloister walls. 1 Bay $E_{6/7}$ (top later reduced); 2 Bay $E_{3/4}$; 3 South end of bay E_1; 4 East end of bay S_7; 5 Bay $W_{1/2}$; 6 Bay $S_{2/3}$. Scale 1:80

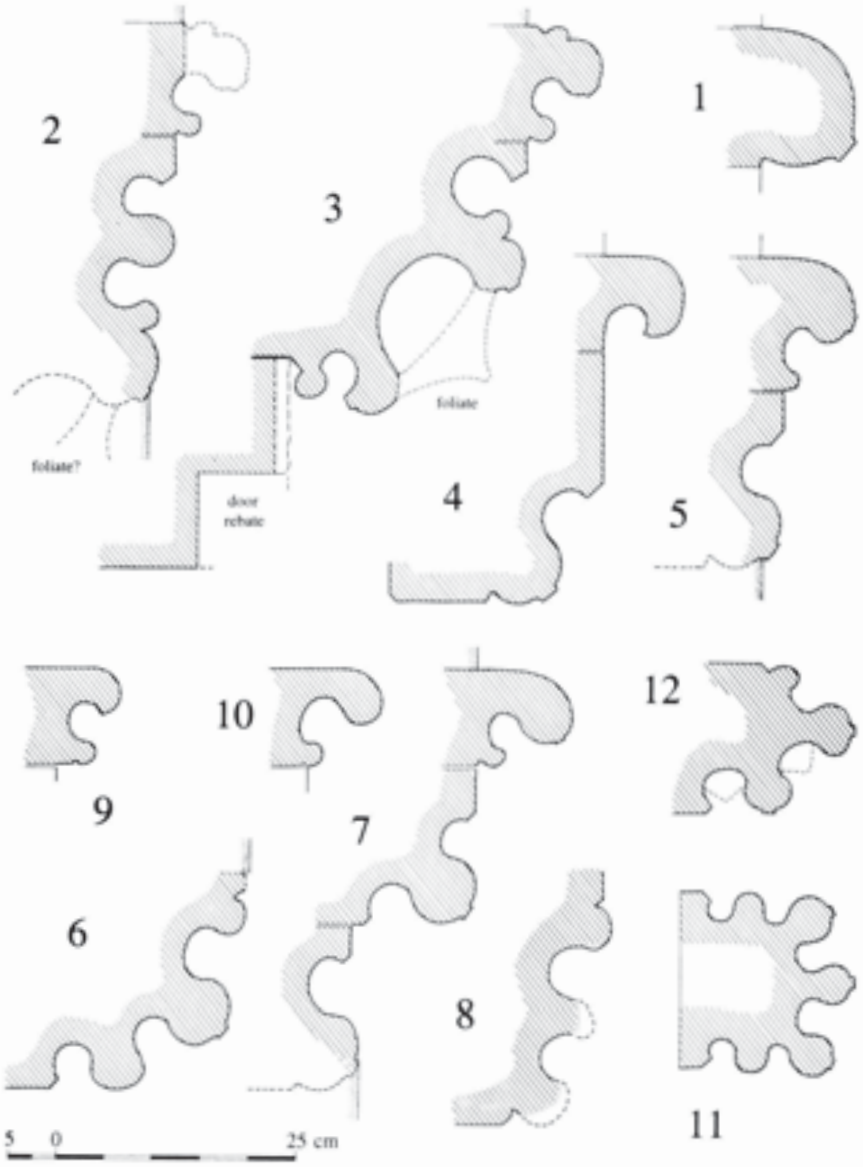


Fig. 289 Profiles of the surviving twelfth- and thirteenth-century arch, string-course and abacus mouldings in the cloisters. 1 String-course at the base of the south parapet; 2 Lady Chapel door arch (west face, partly concealed by wallplaster); 3 South door arch (north face); 4 South-east door arch (outer face); 5 West porch door, outer arch; 6 West door rear-arch; 7 West door outer arch; 8 Dipping-well entrance arch (damaged); 9 West door abacus supporting rear-arch; 10 South door abacus supporting main arch; 11 Ex situ *voussoirs, reused in the blocking of the west porch outer doorway; 12 Unprovenanced voussoirs with dog-tooth ornament, in the cathedral lapidary collection. Scale 1:8*

fabric have been described (p. 258), and here it is necessary only to provide additional details of construction. The opportunity to study this at close quarters came in 1993, when the two western bays of the outer wall (S_1 and S_2) were scaffolded, and the masonry joints were raked out and repointed.[27] A full set of rectified photographs of the south wall, prepared by English Heritage in 1992, was used as the recording base.

Outer wall

The two end bays, S_1 and S_7, are more complex than the intermediate bays, owing to their carrying superincumbent parts of the upper west and east cloister ranges, respectively. The construction is mixed rubble throughout, although the plinth is almost entirely of Triassic sandstone, capped by two chamfered courses of Doulting limestone. The buttresses are wholly of limestone ashlar, keyed into the faces of the intervening bays. The wall is capped with a Doulting stone coping of triangular section, surmounting a string-course.

The plinth runs continuously around the bases of the buttresses, and is broken only by the south doorway. The buttresses form an identical set, apart from the clasping pair at the south-east angle, which stylistically relate to the east cloister. Each buttress has three chamfered stages, comprising three, three, and two weatherings, respectively (Fig. 288.6). The buttresses

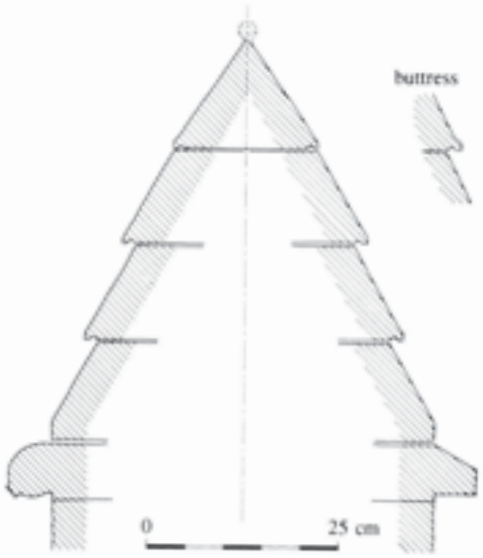


Fig. 290 Section through the early thirteenth-century coping and string-course of the south cloister wall. The inset shows the kicked weathering-groove found on the copings of the south cloister buttresses. Scale 1:10

die into the wall face immediately below the parapet string-course, which comprises a large roll with a downward-angled fillet (Fig. 289.1). The coping consists of four weathering courses (Fig. 290): the lowest is plain, while the other three all have drips. The top stone formerly had a small roll along the crest, but this has entirely gone, leaving, in a few places, only the necking. For the most part, the weathering-groove under one or both edges of the top stone is concealed by the second course, and is therefore ineffective. This arises as a result of the lower courses all being too broadly spread. The several elements of the coping could only be correctly juxtaposed if surmounting a wall 91 cm (3 ft) in thickness, whereas the existing wall is 99 cm (3¼ ft).

Although the dressings are essentially of Doulting stone, a few occurrences of Chilcote are to be found, including a run of blocks in the lower chamfered plinth-course in bay S_2 and the adjoining buttress on the west ($S_{1/2}$). The wall panels are of roughly coursed rubble, mixed both in type and size. Triassic sandstone and conglomerate from a variety of beds are represented; there are occasional fragments of dressed freestone, lias and other materials, but without any obvious reuse of architectural fragments. A striking feature of the elevation is the more weathered appearance of the rubble masonry in the upper half of each panel, especially in bays S_2 to S_6. The change is distinct and occurs in line with the top of the first stage of the buttresses (Fig. 291). This is demonstrably not differential *in situ* weathering, but is a building break. The stone supply changed from crisp to battered material. In all other respects — dressings, putlog positions, mortar, etc. — continuity is indicated. The wall is not therefore of two constructional periods, and the demarcation in the rubblework is likely to represent only a seasonal break, followed by a change of stone supply. A similar phenomenon, but more emphatic, is apparent in the south cloister at Salisbury.

A relict feature

A striking anomaly in the masonry of bay S_1 deserves comment. It is the line of large Doulting ashlars that runs level with the top of the second weathering of the buttresses. This extends eastwards for 3.0 m from the corner buttress, and stops abruptly, next to a putlog hole (Fig. 291). The line is without doubt an original feature of the construction, and must have been purposeful. Doulting stone was not used randomly in the wall, other than the occasional small fragment mixed in with the rubble. This line of ashlars would therefore appear to be either the relic of an abandoned feature in the construction or, more likely, a bed upon which something rested during a pause in building.

The level is significant, since it coincides with the calculated height of the thirteenth-century wall-plate carrying the roof on the inner cloister (garth) wall. For discussion of the inner wall height, see p. 271. The ashlar line may therefore be interpreted as the seating for a temporary timber gable closing the southern end of the west cloister. The structure would have been taken away as the south walk neared completion. The 'eroded' masonry referred to above is found in bay S_1, but only in the upper right-hand quarter: it does not extend into the area of the ashlar course described here. This provides further confirmation that the angle of the south cloister was raised to support the end of the completed west walk.

One further observation may be made. If the initial width of the west cloister was the same as that represented by the surviving inner bench beneath the screen wall — that is 3.8 m (12½ ft) — the seating for the temporary gable on the south wall should have been of similar length. However, not only is it significantly shorter, but its length is a near-match for the postulated original cloister design with a bay pitch of 3.2 m (p. 265; Fig. 279).

Windows

Three slit windows are provided in the outer wall at a high level, their purpose being to light the roof space above the ceiling of the south walk (p. 270). The windows, which are of Doulting stone and occur in bays S_3, S_4 and S_6, are oddly spaced. While that in S_4 is at the mid-point of the walk, and of its bay, the others are both close to buttresses, but not symmetrically so (plan, Fig. 272). The window in S_6 is a quarter of the distance along the wall, perhaps suggesting that the architect's intention was to light the roof space by windows at four equally spaced points. That being so, the window just east of buttress $S_{2/3}$ should have been just west of it (*i.e.* in bay S_2). A mason's setting-out error is the simplest explanation.

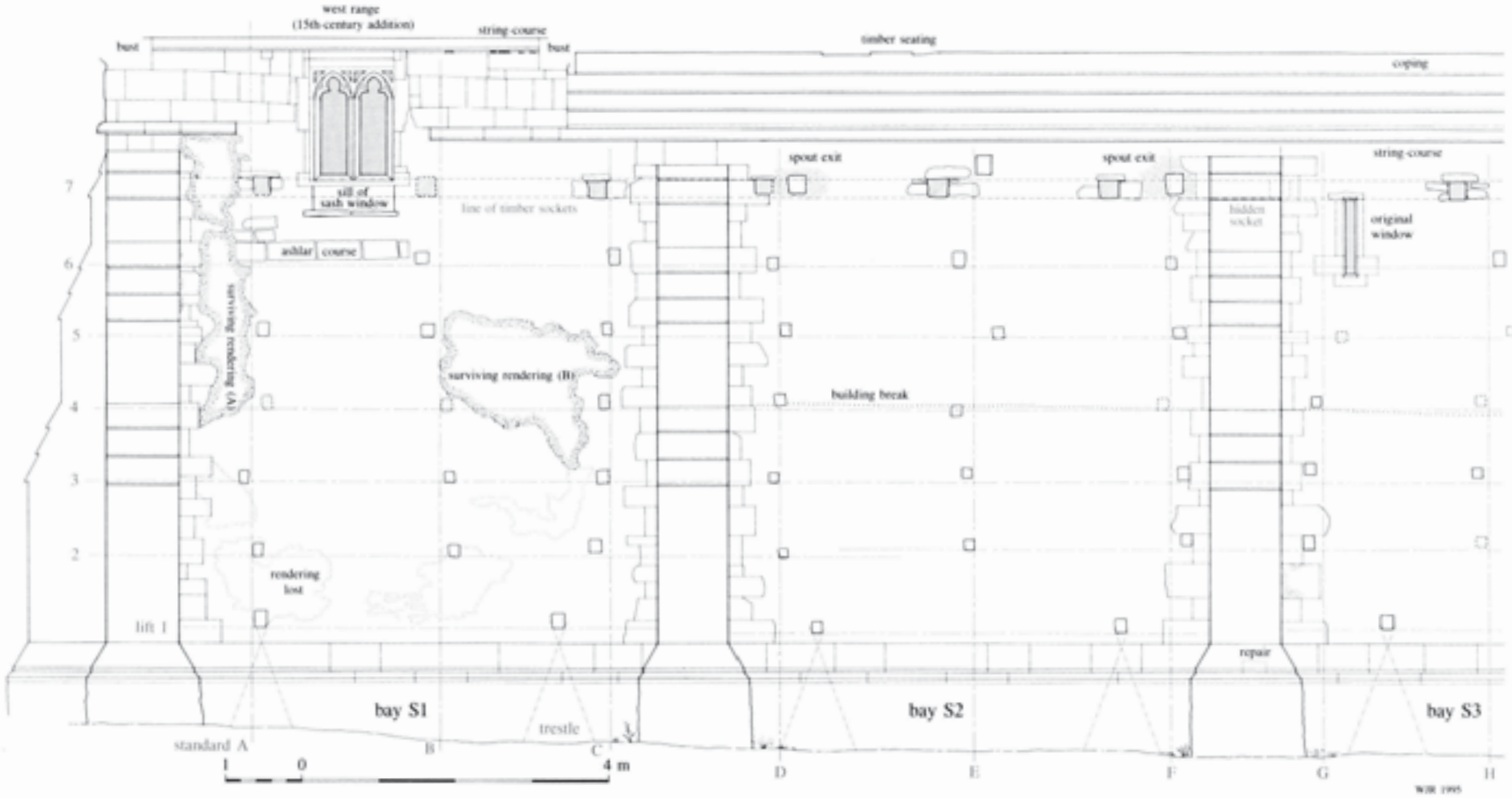


*Fig. 291 Outline elevation of the south cloister wall, showing the principal features of bays S_1, S_2 and part of S_3 (*cf. *Fig. 294). The notional grid of the original construction scaffold is indicated in red, together with the series of high-level sockets which contained through-timbers associated with the support of the original roof or ceiling. Scale 1:80*

South doorway and porch (Structure 22)

The only major architectural feature of the south cloister is the doorway in corner-bay 14 (externally, bay S_7) leading to the Bishop's Palace (Figs. 275, 278, 289.3 and 292–4). Its interpretation is problematic. Most obvious is the fact that, although the door now opens inwards, it originally did the opposite. Hence it cannot be doubted that there was formerly an adjunct to the south-east corner of the cloister; and it has been argued that this was a porch or gatehouse akin to that adjoining the west walk (p. 330).

The northern, or technically 'outer', arch of the doorway is two-centred and has two richly decorated orders of voussoirs, encompassing a cinquefoiled head with foils of rounded form. The whole is surmounted by a hood-moulding, the head-stops of which have been lost. The jambs are flanked by pairs of colonnettes. These comprise water-holding bases and free-standing shafts of blue lias, supporting stiff-leaf capitals in Doulting stone, which in turn are surmounted by circular lias abaci. These are all in the west-front style of *c.* 1220.

The foliage on the two arched orders is of high quality, and in the case of the outer order it is continuously undercut, so that the decoration appears as a raised fret; each voussoir carries an independent motif. Unfortunately, only two voussoirs survive intact. The decorative style is not closely related to that of the sculptured order of the south transept door, although there too the carving is fretted (Fig. 120). The cloister door style is, however, closely matched by the central doorway of the west front (*cf.* Tudor-Craig 1977, pls. 156 and 158).

Most of the stiff-leaf sculpture which formed a continuous band on the flat, inner order has been destroyed by the secondary rebate, cut to house the door when its hanging was reversed.

The southern, or rear-arch, comprises a simple, continuous moulding in the form of a filleted roll and hollow. The head is of flattened trefoil form, again with

Fig. 292 Cloister bay S_1, with the fifteenth-century crenellated parapet (1992). A glimpse of the recessed gable of the west range can be seen through the central embrasure of the parapet. For a key to structural features, see Fig. 291 (English Heritage)

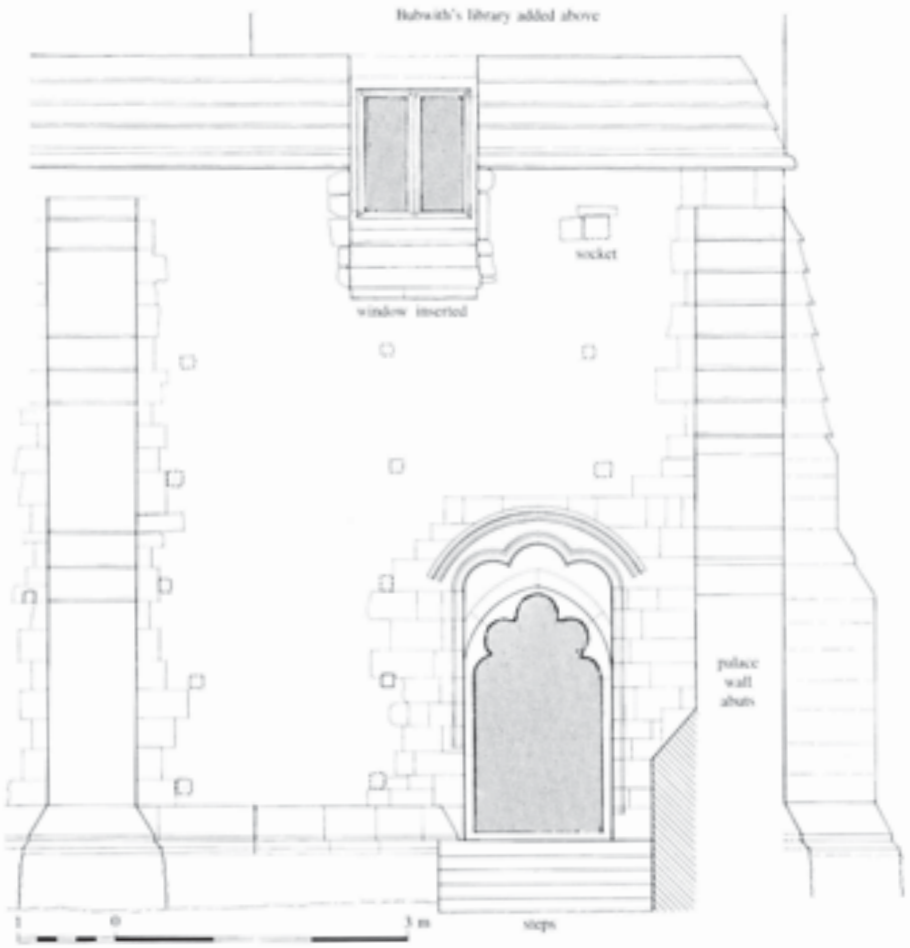


Fig. 293 Outline elevation of bay S_7 of the south cloister wall, showing the rear-arch of the doorway, and other features. Scale 1:80

Fig. 294 Early English cloister bay S_7, with inserted window and fifteenth-century library parapet above. The entrance to the masons' yard is on the right. For a key to structural features, see Fig. 293 (English Heritage)

rounded foils, under a segmental hood-moulding. The bulk of the rear-arch masonry was renewed *c.* 1970, but the original work is seen in Figure 278. A flight of five medieval steps, with modern capping to the treads, leads down to the level of Palace Green.

Nothing now remains above ground of the former medieval porch, except perhaps the attachment of its east wall to the corner buttress. This buttress is asymmetrical in plan and elevation: it has a 48 cm wide single-chamfered plinth on its west face, set 95 cm higher than the general level of the cloister plinth (Figs. 288.4 and 293). This feature evidently continued south beyond the face of the buttress, there merging with the coping of the boundary wall between Palace Green and the grounds of the Bishop's Palace. The boundary still exists on this line, punctured in 1433 by the new gateway to the masons' yard. When the south-east corner of the cloister was laid out the boundary junction was anticipated, but possibly not the porch (see below).

If the porch was symmetrical about the doorway, and its east wall aligned with the corner buttress, an external width of *c.* 4 m is implied, which is the same as the west cloister porch (Structure 23). Little, if any, evidence can now be seen of the attachment scars for the side walls or roof of the porch, though their positions would probably have been detectable prior to repointing. The use of ashlar facing, in stepped formation around the doorway, emphasizes the intention of its enclosure within a porch. Old photographs show that a length of the cloister plinth, just west of the doorway, was damaged; it was renewed in the 1970s. Certainly, attachment was of an ephemeral nature, perhaps indicating that the porch was added after the body of the south cloister had been erected.

It is interesting that the east cloister was described in the early fifteenth century as having a 'gate' (*porta*) at the south end, and a door (*ostia*) at the north leading into the transept (Jacob 1937, 298). The contradistinction helps to reinforce the point that there was a recognizable entrance structure here, facing the palace. Indeed, there may have been more than just a porch: a bridge is by no means improbable. Not only did the ground fall away rapidly south of the cloister, but St Andrew's Stream and the leat for the Palace Mill both flowed past the door, prior to the formation of the palace moat. Hence there was a zone of low-lying, wet ground, and running water, to be negotiated by the bishop when crossing from his palace to the cathedral. An elevated walkway might well have been provided.

It may be suspected that the original cloister design did not envisage a south doorway here at all, there being already a larger one in the same bay, facing east. The latter communicated with the Church Camery, which was under the control of the dean and chapter: the wall dividing the capitular and episcopal properties abutted the south-east corner of the cloister. A single doorway at this corner could not therefore serve the needs of the two separate jurisdictions. The south door may have been an embellishment associated with the early thirteenth-century, and may not be unrelated to Jocelyn's rebuilding of the palace. Support for this is gained from two sources, apart from the topographic. First, the use of blue lias demonstrates that this doorway is later than its larger but plainer neighbour. Second, the evidence of the buttresses is relevant: while those at the south-east angle are stylistically affiliated with the east walk, they are slightly different in design, demonstrating that they belong to a separate phase of work (Fig. 288.2, 3).

Fig. 295 Possible recycled thirteenth-century doorway from the south cloister porch, now used as a gateway in the late medieval wall separating Palace Green from the bishop's garden

It might be argued that the south porch, although undeniably intended by the early thirteenth-century builders, was never constructed. If that were the case, it would be difficult to explain the initially outward-opening door. Mention should be made of the survival of what was plausibly the outer doorway to the porch. Only a few metres to the south, in the wall dividing the bishop's outer garden from Palace Green, is an early thirteenth-century doorway that is *en suite* with the cloister entrance (Fig. 295). In its present position, functioning only as a garden gate, this elaborate Doulting stone doorway is anomalous. Although some of the stone is undoubtedly Victorian, it is not entirely a post-medieval fabrication, and it appears in one of Carter's sketches of *c.* 1795. If this doorway is not derived from the porch it is difficult to suggest another source. The arch has a depressed trefoil head with a plain chamfer on the outer arris; and the foils, once again, are of rounded form. Rebated on the east side, the opening has a late nineteenth-century door hanging in it. Apart from this south entrance, there are no

trefoil-headed arches in the cloister, and they are rare in the cathedral church;[28] by contrast, such arches are numerous in the Bishop's Palace.[29]

The south cloister porch could well have been demolished in 1433, to make way for the large new gate into the masons' yard. That might also have been the time when the trefoil-headed arch was set into the adjacent garden wall. The alternative would be to posit the resiting of the arch sometime in the nineteenth century, from an unknown location in the palace.

The oak door into the cloister dates from the early thirteenth-century: it comprises five planks clench-nailed onto a jointed frame. The door has been illustrated in outline by Hewett (1985, fig. 159). The applied stripwork ghosting the cinquefoil head of the masonry arch seems to be an original feature (*cf.* the similar head detail at Abbey Dore, Herefordshire: Hewett 1985, fig. 165). Some of the other cover-strips are modern replacements. A wicket was cut through the Wells door in the sixteenth-century, probably at the time when it was rehung.

Construction scaffolding

Owing to its being an unaltered, single-build structure, the south wall retains a cohesive series of putlog holes, from which the early thirteenth-century scaffolding scheme can be reconstructed (Fig. 291). This is interesting because it reveals the use of two types of scaffold. The evidence is seen in the difference between the number, and positioning, of the putlog holes in the first lift, compared to those in subsequent lifts.

In lift 1 there are only two putlog holes per bay, instead of the ubiquitous three elsewhere. With one fortuitous exception, the lowest series of holes does not align with those above. It is therefore clear that the putlogs of lift 1 were not lashed to the standards that were erected to support lifts 2 and above. The arrangement points to the use of a very temporary scaffold for the initial stages of construction: almost certainly, the outer ends of the putlogs were supported by trestles.[30]

Once the second lift was reached, a conventional scaffold of standards, ledgers and putlogs was erected. There were three standards per cloister bay, and the lifts evidently projected far enough to take in the buttresses, since no special arrangements were made to scaffold around them individually. The depth of the scaffold (*i.e.* putlog projection) would have been *c.* 1.5 m (5 ft), spacing averaged 2.4 m (8 ft), and the height of the lifts was a constant 0.95 m (3 ft). Six lifts are represented by the putlog evidence, and a seventh would have coincided with a line of beam sockets, described below. The occasional putlog passed through a window, or the doorway.

The putlog holes have not been investigated, but they appear to be shallow, and were blocked when the timbers were withdrawn. No attempt was made to build neatly squared pockets to receive through-putlogs. The pattern of holes is not therefore a pronounced feature of the wall surface.

The grid representing the positions of standards and ledgers, overlaid on the cloister elevation (Fig. 291), is only notional and cannot take account of the natural irregularities in the scaffold poles. Nevertheless, it is evident that the majority of the putlogs would have been lashed to the ledger-standard junctions: some to left and some to right, thus increasing stability. In a few instances, *e.g.* hole E5, the putlog was either markedly bent or was simply lashed to the ledger and not to a standard. In at least one place, a small but decisive step in the level of the putlog holes can be seen — on the second lift, between standards D and E — and provides tell-tale evidence for the lashed overlap between ledgers. It suggests that poles 10–11 m long were in use.

Indications of roofs

Unambiguous evidence for a thirteenth-century monopitched roof over the south walk has been discussed (p. 269). It had a 16° pitch, and sloped down from an angular weathering-course at the base of the parapet coping (Fig. 290). The covering must have been of lead. Presumably, a plate carrying the rafter ends was affixed to the wall face, at a level now obscured by the nineteenth-century lead gutter (Figs. 284 and 285).

Only 50 cm below the string-course is a regular series of sockets passing through the full thickness of the cloister wall, and these are an original feature of the construction. The sockets were carefully formed with cheeks and capstones showing prominently on both wall faces, and the whole series was accurately levelled. The apertures average 24 cm square, and the spacing between them is a remarkably regular 2.20–2.25 m. There is a space of 1.05 m at either end of the walk (*cf.* Fig. 293).

While these sockets are at an appropriate level to have carried the seventh lift of scaffolding — and may briefly have done so — they were certainly not constructed for that sole purpose. Their function was to receive beams *c.* 22 cm square, with up to one metre of the length being housed in the wall. Their soffit faces were level with the heads of the three slit windows. The implication must be that the beams were cantilevered, and subject to considerable downward thrust. They beams could not have related to a platform or other structure on the outer side of the cloister, since the southern ends of three of the sockets fall behind buttresses. Therefore, the timbers can only have related to an original roof, floor, or ceiling structure over the cloister walk itself.

The position is too high for the timbers to have been tie-beams integral with a monopitched roof, and moreover they would not synchronize with the bay structure of the south cloister. It might be hypothesized that the sockets held timber corbels to support the wall-plate for the roof, but this too lacks conviction. First, the corbels would have been too low, requiring a series of short wall-posts to carry the plate; secondly, there was no

medieval tradition of using timber corbels at Wells and, thirdly, there would have been no necessity for corbels to be so deeply anchored. It is, of course, possible that the sockets were associated with a roof form that was either never built, or that preceded the wide one for which the evidence remains. Thus, for example, the sockets could have housed a series of beams that projected halfway across a narrow cloister, supporting both a mid-purlin for the roof and a suspended ceiling or timber vault. For the time being at least, the enigma remains. The sockets presently house softwood timbers carrying the nineteenth-century ridged roof.

The original lead roof was replaced at the beginning of the sixteenth century with a ridged one, which would have been slated to match the recently-built east and west ranges. The late medieval roof had the same pitch as its Victorian successor; this is shown by the remains of the white mortar weathering fillet still adhering to the face of the west cloister at the point of abutment. The new roof drained into parapet gutters on both sides. The southern gutter discharged its contents onto Palace Green via a series of six lead shutes. These emerged from rectangular apertures, cut through the thirteenth-century wall; they are still in use. White lime mortar of late medieval type was used to make good the damage caused by breaking through the earlier masonry: two of these features are indicated on Figure 291.

Late medieval alterations

The vaulting of bays 16–24 of the south walk, completed in 1508, followed the same general arrangement as in the other walks, but the junctions were ineptly handled. In both the east and west walks the new vaulting had been returned by one bay into the south walk (15 and 25, respectively), where it stopped at a clearly defined line. From the outset, the intention was obviously to complete the scheme around the entire cloister. It seems likely that the crown of the vault was level with the soffit of the thirteenth-century ceiling, and a temporary butt-joint was effected at both ends. However, when the south walk came to be vaulted the level of the ridge-rib was not carried through, from end to end, as would be expected. Instead, the south vault was constructed some 10–15 cm higher (the discrepancy varies between the two ends), with the result that the ridge and other ribs all had to be variously canted in the vicinity of the junction.

The mid-fifteenth-century completion of Bubwith's library (p. 303) involved truncating the south cloister roof and the construction of a simple crenellated wall on top of the parapet coping of bay S_7 (Fig. 293). Attached to that wall is a square, crenellated chimney stack of late medieval type (Fig. 294). It rises from a seventeenth-century fireplace inside the south end of the library. There was presumably a fifteenth-century hearth here. When the library was refenestrated in the late seventeenth century a two-light window was cut through the upper part of the south wall. Sections of the displaced coping were used to form the weathering of the sill. The library window is part of the set seen in the southerly bays of the east cloister wall (p. 307).

Bekynton's reconstruction of the west cloister in the late fifteenth century included the erection of a parapet and gable-end on top of the old south wall (Fig. 292). No attempt was made to replicate the southern termination of the east cloister. Instead, the original coping of the south wall was removed, leaving the string-course in place. The Doulting ashlars used to raise the wall were remarkably irregular, and badly laid. A two-light window was provided as a feature of the new work, set flush with the south wall face; its sill was cut into the top of the thirteenth-century wall.[31]

Above the window is a string-course, which returns along the east and west walls of the range, marking the base of the crenellated parapet. The two southern corners are canted, and from these project brackets in the form of human busts, gargoyle-fashion. The figures were never water-spouts, and instead each carried a small pedestal for a statue, together with canopy-work associated with a niche. The niches and any statuary they contained have been destroyed: everything above pedestal level was removed and replaced with a simple canted merlon during a substantial rebuilding of the parapet in the nineteenth century.

Set back behind the crenellated parapet, facing south, is the stone gable of the west cloister roof, complete with a Tudor two-light window. This window is an insertion, and relates to the formation of an attic room over the main chamber in the upper west cloister. It also seems clear, from a number of surviving scars, that a garret was built out from this roof, over the west end of the south cloister. It had a pitched roof running east–west. One of the coping stones of the south wall, in bay S_2, has had its top reduced to form a level seating, presumably as part of the support for the superincumbent structure (Fig. 291). Nothing is recorded of these attic rooms, but they may well have been associated with the schoolmaster's lodging, which is known to have been in the upper part of the west cloister, along with the school itself. Possibly other rooms were built into the roof space above the south cloister, causing its early sixteenth-century roof to be mutilated. That would provide a ready explanation for its complete removal, and replacement with the existing softwood construction in the early nineteenth century.

The present trefoil-headed, two-light window in the south wall is a nineteenth-century restoration: only the outer margin is medieval, the sill, head, mullion and jamb-linings all having been inserted. The medieval window must have been destroyed in the eighteenth century, when a tall wooden sash was introduced in its place. The inserted sill for the sash window lies 45 cm below the medieval level (Fig. 291).

Finally, it remains to comment on the survival of rendering on the south cloister elevation. Prior to repointing it was clear that the whole of the elevation,

between the buttresses, was rendered with white lime mortar in the late fifteenth century. This layer, *c.* 5–8 mm in thickness, covered the putlog holes, the ashlars in the angles adjacent to the buttresses (which, incidentally, were not hacked for better keying), and the poor quality ashlar of the raised end of the west cloister. Vestigial remains of this rendering survived extensively in the joints between the rubblework, and several intact patches of the full thickness remained on the face of bay S_1. These latter areas were retained and conserved as far as possible in 1993.

Also on the wall, particularly of bays S_1 and S_2, were extensive traces of surface patching of eighteenth-century date. A creamish-grey, roughcast lime render was applied, in conjunction with fragments of broken clay pantile, which were used to pack-out hollow areas. This repair lacked the adhesion of the earlier rendering, and none of it now remains. A single reference to the repair of the south cloister in 1669–70 is preserved in chapter minutes, without specifying the nature or magnitude of the work (SRS 1973, fo. 123).

Structure and function in the east cloister

It has been argued that the east cloister, begun in the late twelfth century, was built to a narrow gauge and was divided structurally into fifteen square bays. With the exception of the outer wall, the evidence for the plan is largely circumstantial, since the garth wall was entirely removed by the thorough rebuild begun *c.* 1420 by Bubwith. It has so far been assumed that the east walk, like the west and the south, was single storied and had a pentice roof sloping in towards the garth. This is eminently plausible, and may at first have obtained. There are, however, residual features in the fabric — particularly in the northern bays — which are not wholly embraced by such a simplistic, two-stage interpretation, and it seems clear that the east range had a more complicated structural history than the remainder of the cloister. This is hardly surprising, given its relationship to the Lady Chapel and other important structures such as the library. Several issues are therefore worth examining in detail.

Relict evidence relating to the primary east range

At the northern end of the east walk all trace of the primary roof abutment against the transept is obscured, externally by the library stair-turret and Bubwith's garth wall, and internally by the seventeenth-century panelling which adorns the north wall of the library. However, the arrangement of the fenestration in the south transept firmly indicates that the east cloister began life as a single-storeyed building throughout its length. The body of the transept is lit at ground level by three principal windows in its

Fig. 296 The south front of the south transept, showing the abutment of the east cloister and stair-turret. The library roof and parapet enter from the bottom of the picture. Note the broad, shallow parapet gutter

south elevation (Fig. 296). These are flanked in turn by a pair of windows lighting the aisles, which are set higher than those in the centre bay. In both aisles the positioning of the windows was conditioned by doors beneath them: in the eastern aisle is the door to the intended 'sacristy' (p. 138), and in the western aisle is the great door to the cloister. The visual integration of the raised windows with the design of the elevation was maintained as far as possible, by stilting the connection between their hood-mouldings and the median string-course to which all windows at this level related (Fig. 116).

Like the window above the sacristy door, that above the cloister door was also built with its aperture partially blocked, although the detailing differs. Internally, the lower 1.07 m of the window consists of a series of sloped masonry courses, similar to the weatherings on the thirteenth-century cloister parapets. Externally, additional ashlar facing courses of the wall are likely to have continued across the false lower part of the window, raising the sill up to only just below the level of

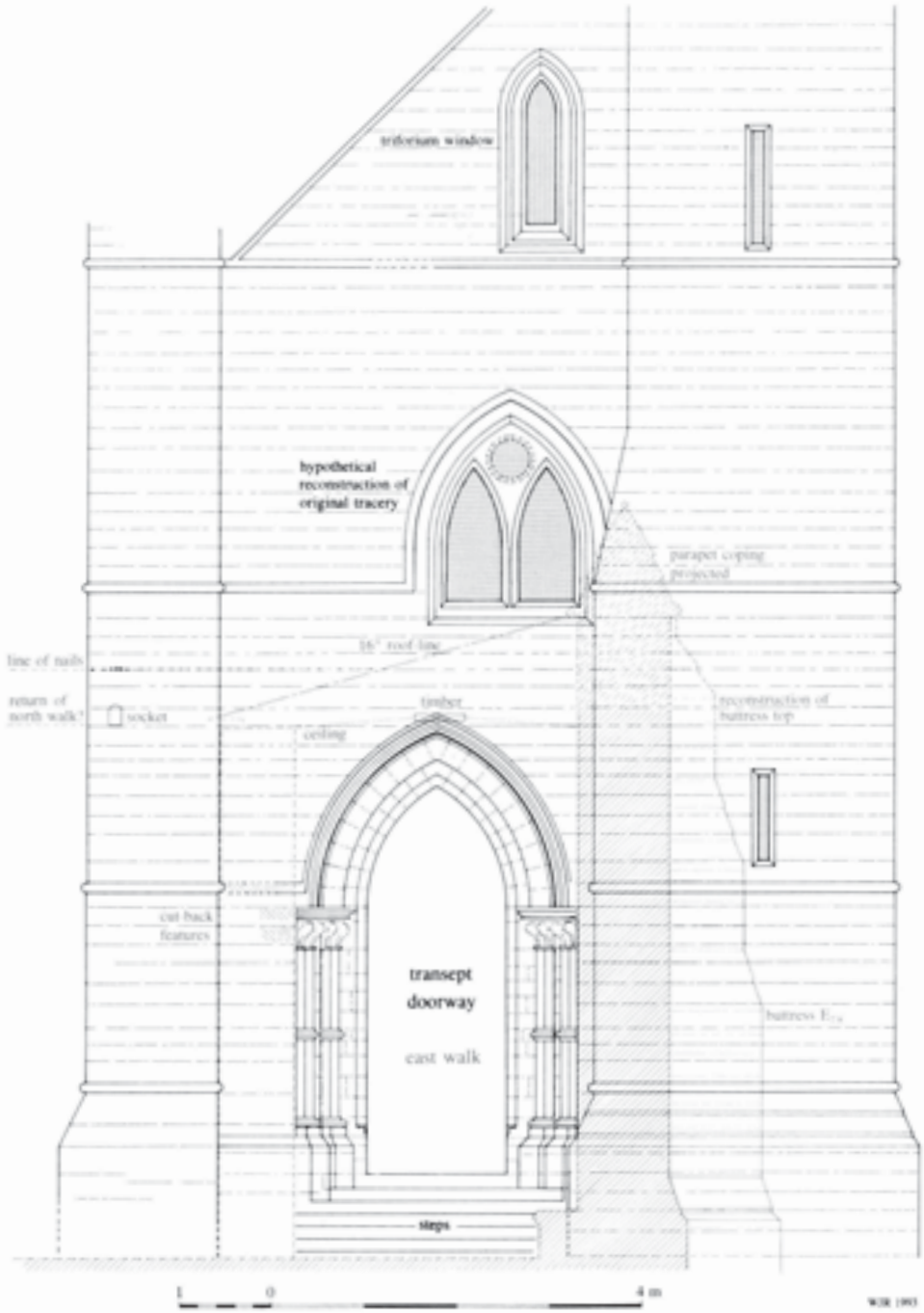


Fig. 297 South elevation of the west aisle of the transept, with original features reconstructed. Overlaid in red is a sectional elevation illustrating the abutment of the first east cloister and associated features, all late twelfth century. Scale 1:80

the string-course to which the window hood-moulding connects. These formerly external details are presently concealed behind the library panelling. A reconstruction of the late twelfth-century elevation of the aisle wall is given in Figure 297.

The blocking courses are not secondary insertions into a full-length aperture, but are bonded with the jambs and the surrounding ashlar, establishing that the window in the west aisle was built complete with its partial blocking in the campaign of *c.* 1185–90. This was shortly after the enforced change from Doulting to Chilcote stone, and thus probably dates from *c.* 1185. Internally, the window head was also treated differently from the corresponding one in the eastern aisle of the transept: it lacks the mouldings that would normally frame the aperture. Instead, there is a simple chamfer below the springing level of the vaulting, with delicate stiff-leaf bunches at the angle with the window jambs. It seems that the builders raised the window head in the western aisle as high as possible in an attempt to compensate for blocking of the lower half.

The special circumstances obtaining in respect of this aisle window can only have been conditioned by

the requirements of the exterior elevation, since there is nothing within the cathedral which would call for such a reduction of the glazed area: indeed the total loss of this window to Bubwith's library in the 1420s has rendered the western aisle moderately dark. The original architect's intention was clearly to erect a single-storey cloister against the lower part of the aisle, embracing the transept doorway. Arguably, that was a narrow cloister walk, within which the end doorways were centred.

The height of the early thirteenth-century outer cloister wall, and its coping, have been established for the south and west walks (p. 268), but Bubwith's rebuilding of the east walk was more thorough than the others, and no traces of the original parapet and string-course survive here, except at the south-east corner where the return is preserved (Fig. 265A). Logically, it would be expected that the same parapet height would be maintained throughout the length of the east cloister. The two-stage chamfered plinth, however, was not continuous: somewhere near the mid- point of the east walk — probably in bay E_3 — there was a step of 44 cm (17½ in), and another step, or perhaps subsidence, of 10 cm seems to have occurred between bays E_1 and E_4. Unfortunately, much of the plinth has been destroyed or obscured by later work, but the major step seems to have occurred at the point of union between the cloister and the Lady Chapel.

If the basal string-course of the coping at the south-east angle of the cloister is projected onto the transept, it falls 25 cm below the cathedral's main string-course at window-head level, as shown in Figure 297.[32] Surely the architect's intention was that the two string-courses should be coincident, and in reality they may well have been. The calculated difference, embracing as it does the full length of the cloister, may be insignificant, given that the primary east walk was not built in a single campaign, and subsidence has visibly occurred.

The top of the cloister pentice would have come level with the sill of the transept aisle window. Moreover, a narrow (3.2 m) cloister walk with a 16° monopitched roof would have fitted snugly between the window sill and the head of the transept door, with just enough room for a flat wooden ceiling. The stump of a longitudinal beam of flat section can still be seen projecting from the transept wall at the apex of the door arch. This is precisely where the central ceiling beam would be expected.

Albeit partly circumstantial, the evidence which can be wrung out of the transept elevation and east walk accords well with the roof arrangements independently reconstructed for the south and west walks. A suggested reconstruction of the late twelfth-century cloister abutment to the transept is given in Figure 297. This was disrupted at an early stage, when an upper range was seemingly added to the northern end of the walk.

A thirteenth-century upper storey

Roofs and roof-lines

Bubwith's library abuts the south face of the transept aisle immediately above the cloister doorway, the arch mouldings of which are overlapped by the new vault. Significant archaeological evidence appears to have become trapped at the interface. The most obvious feature is the window just described in the upper part of the aisle, which was wholly blocked by the library. While that part of the transept elevation encompassed within the body of the library is concealed behind panelling, it is unencumbered in the roof space above, and the wall can of course be studied externally, above the library parapet and roof. There is no reason to doubt that the existing oak-framed roof is part of the works of the 1420s. The pitch is 50° and the roof is slated, with lead flashings chased into the ashlar facing of the transept.[33]

However, there are traces of another, plainly earlier, roof-line, also cut into the late twelfth-century ashlar of the transept, some 25 cm above the fifteenth-century roof (Fig. 298). The pitch is slightly less (45°). At the bottom of the west side, the chase defining this earlier roof-line becomes horizontal, and evidently marks the position of a former parapet gutter, 40 cm above the present gutter level. The flashing line disappears into the side of the transept's south-west buttress, but does not return around its south face, demonstrating that the inner face of the earlier parapet was aligned on the east side of the buttress (Fig. 299).

There is no corresponding sign of a parapet flashing-groove at the base of the eastern side of the cloister: here the roof-line simply dies out, 42 cm above the present parapet gutter level. The chases of the old roof-line intercept the transept's fourth, or aisle-top, string-course; and then they flatten out, turning into a horizontal chase 90 cm long. There was thus no true apex at the point where the roof met the transept: the flat top was doubtless a lead-covered platform on which to stand while a ladder was passed from one pitch to the other. Such features were not uncommonly incorporated as aids to roof maintenance. The chase relating to this relict roof-line is filled with white lime mortar which could be of fifteenth-century date.

Within the roof-space of Bubwith's library a second chased line is visible in the masonry of the transept, the position of which suggests that it may represent a ceiling associated with the lost roof just described. The earlier ceiling was positioned 28 to 35 cm above Bubwith's, and it was almost flat, there being only a slight uplift at the centre. Bubwith's ceiling, on the other hand, is distinctly canted. At the centre of this earlier ceiling chase is a deep, rectangular socket which housed the longitudinal beam supporting the ceiling joists. The central axis of the room, as defined by that beam, lay slightly to the west of the existing ceiling axis.

Fig. 298 Detail of the abutment of the present east cloister roof to the west aisle of the south transept. An earlier roof-line is emphasized by the white mortar filling of the flashing chase. The roof of the 1420s stair-turret (Structure 13) is seen on the right, partly blocking an original window to a chamber in the triforium

Unlike Bubwith's, this earlier ceiling would have allowed the window in the transept to function as an internal light, since it just clipped the outer hood-moulding but did not interfere with the tracery, the head of which is intersected by Bubwith's ceiling and now sealed in its roof-space. This window, although original to the transept, was — like the rest of the church — re-traceried in the Perpendicular style in the late fourteenth century. This demonstrates that the window still had a light transmitting function in *c.* 1390; it was not blocked until the 1420s, when the present library was built.

There is a third redundant chase, representing a former roof line, in the face of the transept buttress immediately to the east of the library (Fig. 299). The feature is largely obscured by the fifteenth-century stair-turret (Structure 13), but can be seen partly within and partly outside it. Being sealed behind the extant turret, the chase must pre-date the 1420s cloister reconstruction. The roof represented by the chase had but a slight slope, only about 8°, and was seemingly related to the eaves level of the early pitched roof just described. Hence, there was a tall structure in the angle between the transept and cloister, arguably a precursor of the present stair-turret.

The relict roof and ceiling lines cannot be related to the Bubwith library. Indeed there is good evidence to show that, at first, the slopes of the new library roof ran down a little further than they do now. At the base of the existing east and west parapets, marked in each case by a string-course, are the remains of a series of fifteenth-century water shutes which must have drained a lower parapet gutter on the library (p. 298). The earlier roof line described could not have functioned with these water shutes, in any configuration. It therefore demonstrably relates to a first-floor range of pre-Bubwith date.

Thus, at some unspecified time in the thirteenth, or fourteenth, century a second storey with a pitched roof was added to the east cloister. In fact a date of *c.* 1260 can be advanced on account of the fortuitous survival (*ex situ*) of a set of thirteen (out of fourteen?) decorated corbels which almost certainly supported the roof trusses; these are discussed below (p. 288; Figs. 301–2). The upper chamber had a slightly canted wooden ceiling supported by a central beam, set just above the head of the transept window. The latter now served solely as an internal light. Access to the chamber was via an external stair-turret, situated in the angle between the cloister and transept. Further evidence relating to this, and to Structure 12, of which the stair formed part, is considered below (p. 292). A reconstructed cross-section of the new range, where it abutted the transept, is given on Figure 299.

The width of what may be termed the 'second' east cloister was certainly the same as it is today, proving that the original narrow walk did not survive into the fifteenth century. Thus the raising of the cloister was part of a comprehensive rebuild of the east walk. The new width chosen was, not unnaturally, the same as that already obtaining in the west and south walks. As we have seen, these were fixed by considerations relating to the new west front of the cathedral in the early thirteenth century.

How far south the rebuilt east range, with its upper storey, extended is less easy to determine. Did it run the full length of the east cloister, or only part of it? The construction of Bubwith's library and the rebuilding

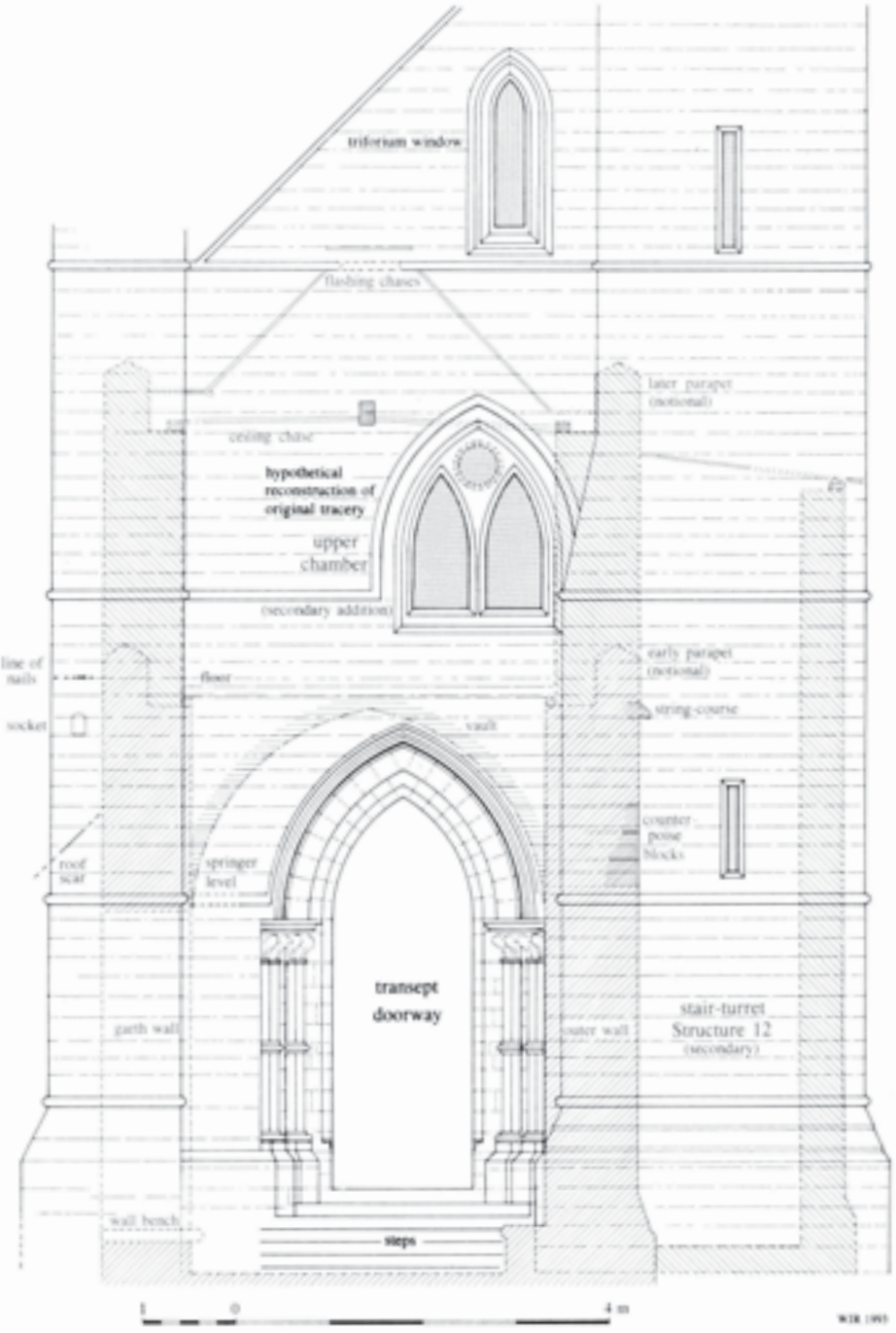


Fig. 299 Sectional elevation illustrating relict evidence (in red) for the abutment of the later thirteenth-century east cloister walk to the transept. This reconstruction shows the vaulted lower stage as primary, with the upper chamber and its associated stair-turret (right) as potentially secondary. Scale 1:80

of the Lady Chapel-by-the-Cloister have removed any obvious evidence from the outer wall of the east walk; and nothing earlier than the 1420s survives in the garth wall. It may however be speculated that, for aesthetic and logistic reasons, the upper range extended at least as far south as the west gable of the Lady Chapel, which it would have buttressed. It is further suggested that the extent of the new range may have been identical to that of Bubwith's first phase of library (*i.e.* somewhat over half the length of the east walk, to the junction between bays 8 and 9 on the present plan). The linear extent of Bubwith's initial library would be easiest explained if it supplanted a structure of similar length.

The problem of dating the second east range may next be addressed. This has to be approached indirectly, since there is no *in situ* detail.

The library corbels

Within the northern section of Bubwith's library is a series of fifteen stone corbels, and one of timber.

Fig. 300 The interior of Bubwith's library. A (upper) The outer room in c. *1900, looking south from bay 2 towards the panelled screen of 1686, through the open doors of which the chained library can be seen. The cracked floor is of lime-ash or gypsum. Note the medieval hanging pyx-cover, and sections of dismantled screen. B (lower) The chained library in 1982, looking south from bay 6; the muniment room is glimpsed through the open door at the far end. The head-corbel on the left is no. 12, and the pine book-presses date from 1686 (A, Dean and Chapter of Wells. B, George H. Hall)*

Twelve of the former are medieval and are carved in the form of human heads which support moulded abaci (Fig. 301). They are all carved in Doulting stone, and the blocks appear to have been of uniform size, 20 cm wide by 25 cm high, and the projection averages 16 cm. The three remaining corbels are modern replacements in various limestones.

The corbels support curved timber knees which form part of the anchoring arrangement for the trusses of the fifteenth-century roof (Fig. 300B). One additional medieval corbel, clearly belonging to the same series, and also bearing stiff-leaf foliage, supports a (now) non-functional water spout on the exterior of the garth wall at the junction with the south transept (Fig. 302).

The full complement of corbels may be listed as follows, and their locations are shown on the plan of the library, Figure 308. An asterisk (*) indicates that the head is illustrated on Figs. 301–2.

1.* Clean-shaven bishop, wearing a mitre.
2. Modern oak corbel over door to stair-turret.
3. Modern corbel carved with a head representing F.W.J. (Bill) Bray, a former master mason at the cathedral. He is shown in medieval guise, with a flowing hair-style and wearing a mason's cap (*cf.* Adam Lock: Harvey 1982, pl. 25). Carved by W.A. Wheeler in the 1950s.
4. Modern corbel depicting a bishop wearing a mitre. Carved by W.A. Wheeler in the 1950s. There was previously a timber corbel here (seen in Church 1901, pl. 26).
5.* Clean-shaven bishop, wearing a mitre. Sprigs of stiff-leaf foliage on the angles of the abacus, instead of a moulding.
6.* Lightly bearded face with short, tightly curled hair.
7. Modern, plain stone corbel.
8.* Bearded head, wearing a hood which is tied under the chin. Abacus nearly all broken away. Facial features emphasized by dark lines (Victorian?).
9. Crowned and bearded head of a king with flowing, curled hair (features closely similar to no. 14). Sprigs of stiff-leaf foliage on the angles of the abacus. This corbel is largely concealed by a seventeenth-century timber partition; only the dexter side of the face is visible, inside a cupboard.
10. It is known that a head-corbel is concealed here, within the panelled partition, but no details are recorded.
11.* Face with stubbly chin and a fringe of short, tightly curled hair. Abacus almost entirely broken away.
12.* Clean-shaven face, with receding hair-line. Abacus largely broken away.
13.* King with a clean-shaven face and flowing hair-style, wearing a crown (missing at the front). Abacus and top of the head badly broken, and both sides of the head have been trimmed back, removing part of the hair (more so on the dexter side).
14.* Bearded face with flowing hair-style. The head is wearing a tightly fitting cap, which is entirely plain (*i.e.* no raised bands or hem on it); a fringe of hair is exposed on the forehead. Possibly a mason's cap? Sprigs of stiff-leaf foliage on the angles of the abacus, which has modern damage on the front. Some of the facial features have been emphasized in pencil, and the cap has been painted turquoise blue, presumably in the nineteenth century.
15.* Bearded face with flowing hair-style. Remains of dark-coloured wash over much of the corbel.
16.* Clean-shaven face with fringe of tightly curled hair; head possibly tonsured. The dexter side of the abacus is broken and the ear below has been partly cut away.
17.* Head-corbel supporting a water-shute on the exterior of the library, where it adjoins the transept (see p. 300; Fig. 302). Clean-shaven face. Sprigs of stiff-leaf foliage on the angles of the abacus.

The library corbels, which are mid-thirteenth-century in date, are all life-like male heads of about two-thirds natural size. There are no animal or grotesque components, but sprigs of stiff-leaf foliage are included in four instances. Two bishops are recognizable by their mitres, and two kings by their crowns. One man possibly wears a mason's skull-cap, and another is hooded; the rest have no distinguishing head-dress. Six, including the bishops, are clean shaven, while the remainder have beards of various forms. Hair-styles also vary, and one may be tonsured.

Each corbel includes an integral square abacus (20 cm), indicating that the series was originally intended to support timbers.[34] The corbels, which are embedded in fifteenth-century masonry, cannot be in their primary positions, and it must be presumed that these pieces were rescued from the fabric of the earlier cloister that Bubwith was rebuilding. Originally, they probably served as supports for wall-posts beneath roof trusses. Why the trouble was taken to refix these old corbels in a prestigious new building scheme is beyond discovery. So unusual is the recycling of medieval sculpture at Wells that a special reason must have obtained. The corbels were both useful and ready to hand, and they were, moreover, sculptures of very high quality.

Several of the corbels now have badly damaged abaci, and they have all been heavily coated with limewash, although in some cases this has been partly scrubbed off. There are numerous remains of medieval polychromy, including pink, deep red, ochre and green. This paint is likely to be associated with the corbels' original use: in the fifteenth century they were almost certainly limewashed along with the walls of the library. Several exhibit remains of nineteenth-century

Fig. 301 Thirteenth-century corbels reused as roof supports in Bubwith's library. Top row nos. 13, 5, 1; Middle row nos. 11, 8, 14; Bottom row nos. 16, 12, 6. The average width across the abacus is 20 cm (Jerry Sampson)

Fig. 302 Thirteenth-century corbels recycled in Bubwith's library. Left: no. 15, used as an internal roof support. Right no. 17, used to support a fifteenth-century water-shute on the west face of the library, at the junction with the transept. The arrow points to two medieval nail heads with a fragment of lead flashing trapped behind them (Left, Jerry Sampson)

colouring, crudely executed. The serious damage all appears to be post-medieval, and in some cases it can clearly be linked to library fixtures. The absence of medieval corbels at position nos. 3 and 4 relates to a former partition here. However, it cannot be determined with certainty whether there ever were stone corbels in these locations: the timber one which is seen in a photograph of *c.* 1900 (Church 1901, pl. 26) may have been medieval and associated with an oak screen across the library at this point.[35] Corbel nos. 9 and 10 are now encased within a seventeenth-century panelled division.

Professor Pamela Tudor-Craig, who has studied the corbels, suggests that they date from *c.* 1260, and could be the work of Simon of Wells, who went to Westminster in 1257. The quality of their execution is high, and they have been compared to an almost identical series of corbels in the Song School at Lincoln, and to heads at Westminster Abbey (Tudor-Craig 1982, 122).

Hitherto, no explanation has been forthcoming as to why the corbels are in the east cloister at all, since their dating fits no other known work there. Now, however, with the recognition that there was a pre-fifteenth-century upper range to part of the east cloister, a potential context for the corbels emerges (Rodwell 1980a, 14). Their style accords with the dating proposed on archaeological grounds for Structure 12, the building which housed the stair giving access to the first-floor range (p. 293).

Evidence of vaulting

Further elements in the complicated vertical stratigraphy of the east cloister have still to be explained. The existence of a wide walk with an upper storey has been established, and it was probably constructed in the mid-thirteenth century. There was adequate height to insert an upper floor which would clear the head of the transept doorway, but a continuous flat ceiling at this elevated level would have been aesthetically unsatisfactory, when viewed from the walk. The attenuated proportions of the space call for a vaulted ceiling and, almost certainly, there was one.

Evidence for the former existence of a pre-fifteenth-century stone vault in the northern half of the east cloister has long been visible, but never fully recognized or explained. On the outer face of the east walk (bays E_4 to E_7), some four metres above ground level, is a series of large, roughly squared blocks of Doulting stone, spaced at regular intervals: three blocks, grouped vertically above one another, occur at each position (Figs. 265B and 303). Six such settings survive, and the spacing suggests that another has been lost where the

Fig. 303 Two groups of large ashlars in the east wall of the cloister, bay E_7, apparently counterpoise blocks associated with an inserted stone vault of mid-thirteenth-century date. Below is the late fifteenth-century arched entrance to the Holy Cross chapel (English Heritage)

screenwork of Stillington's chapel now masks the face of the cloister wall. The blocks were demonstrably inserted into the early Gothic cloister wall, after its coping and a few courses of rubble-work had been removed; the wall top was then built up again. Some of the inserted stone triplets form neat compositions (*e.g.* bay E_7), while others are more casually placed (*e.g.* bay E_4). The spacing of the blocks is coincident with bays 2 to 8 of the extant vaulting: *i.e.* it is coterminous with Bubwith's first-period reconstruction.

There is, however, no possible connection between these externally visible blocks and the fifteenth-century vaulting: the latter springs from a much lower level. Also, the *tas de charges* of Bubwith's vaulting rest on complex wall-shafts standing inside the line of the east wall, which itself is a metre in thickness. Buckle recognized this, and groped for another explanation: he described the blocks as 'large corbel stones', claiming that they were inserted into the cloister wall to support an external penthouse roof. He concluded that 'these stones have since been hacked back flush with the wall face' (Buckle 1894, 42).

Such an interpretation is plainly impossible on several counts. First, there is no evidence from the excavations of any fifteenth-century lean-to building lying parallel to the east cloister, and extending for more than half its length. Secondly, throughout the Middle Ages, most of the site in question was encumbered by the Lady Chapel, proving that a long building could never have lain parallel to the east walk. Thirdly, the stones are not corbel-shaped, and have demonstrably not been dressed back. Instead, they are crudely shaped blocks with no dressed edges showing at the wall surface, and they retain a variety of original tooling on the exposed faces. Fourthly, one of the groups is partly concealed behind a thirteenth-century buttress weathering, and another is partly behind the library latrine tower.[36]

The inescapable conclusion is that the stone triplets are relict from some earlier vaulting arrangement within the east walk, the bay structure of which presaged that of Bubwith's reconstruction. The simplest explanation is that the blocks were built into the outer face of the wall as counterpoises for the *tas de charges* of a vault. Presumably the lowest stone in each group was a long block which ran through the full thickness of the wall, and either rested directly on the tail of the *tas de charges* or, more likely, was part of the springer-corbel carrying the inserted vault. When studied in section (Fig. 299), it is readily apparent how the arrangement would have worked. The perceived need for careful counterpoising of the vault structure was related to the fact that it was being introduced into an existing wall and hence the masonry bond would be weak. The relevance of this counterpoising provision is seen, *a fortiori*, if there was at first no intended upper storey to provide substantial downward thrust.

The inserted vault may be datable on circumstantial evidence to the middle of the thirteenth century. It has been shown that a small chamber, or south-west side chapel, was added to the Lady Chapel-by-the-Cloister *c.* 1250 (p. 164). A slot for its roof weathering was chased into the wall of the east walk, in bay E_4 (Figs. 149 and 265B). That chase was truncated by the subsequent rebuilding of the upper part of the wall,

Fig. 304 Vault springer with small ribs and dog-tooth ornament, from a thirteenth-century structure associated with the cloister, possibly the well-house. For the moulding profile, see Fig. 289 (Jerry Sampson)

associated with the insertion of the counterpoise blocks. A *terminus post quem* is thus established. If the argument is accepted that an upper storey was first added to the east cloister in *c.* 1260 — on the evidence of the corbel-heads — that must supply a *terminus ante quem* for dating the vault.

It is thus concluded that, prior to the erection of the first upper range over the east cloister, there was potentially a short-lived phase involving a widened, single-storey walk with a stone vault.[37] The upper storey, if secondary, was added *c.* 1260. It should perhaps be mentioned here that the redundant water-spout on the west face of the library (Fig. 302) is at about the correct level for draining a parapet gutter to a single-storied range, and might therefore appear to give added support to the idea just promulgated. Unfortunately, there can be no serious doubt that the siting of the spout is purely fortuitous, and that it is part of the fifteenth-century work (for discussion, see p. 300).

The vaulted structure extended more than halfway along the east cloister, setting the pitch for the square-plan bays of Bubwith's much later cloister (bays 1 to 8). The early vaulting would appear to date from the middle of the thirteenth century, if the argument for relating the thirteen/fourteen corbel-heads is accepted (seven roof trusses would, incidentally, have required fourteen head-corbels to support them). The vault cannot have been an insertion from below, since the counterpoise blocks are integral with a continuous band of surviving masonry, representing a reconstruction of the wall-top. At the same time, the east wall was reduced in thickness above this level.

It finally remains to record the existence amongst the cathedral's lapidary collection of various fragments of dog-toothed vaulting, dating from the second or third quarter of the thirteenth century (Figs. 289 and 304). The origin of these pieces is unknown, there being no extant dog-tooth work anywhere in Wells Cathedral. Some of the stones were found by Irvine, built into adjuncts to the west cloister, suggesting that, like the Lady Chapel spandrels, they were derived from structures in the vicinity. He regarded the vault fragments as belonging to the thirteenth-century cloisters, and it is tempting to see them as originating in the east walk. The dating would dovetail neatly. There is, however, a problem in that the scale of the surviving springers and ribs is too small for the vaulting of a full cloister bay, 3.8 m square. Other options for their provenance are, however, very few.

No dog-toothed masonry was recovered during the excavations in the Camery, and there is nothing to suggest that the vaulting could have been derived from a structure lying to the east of the cloister. Only two plausible sources, appropriate in scale, can be suggested. One is the demolished south cloister porch (too early), and the other is the lost superstructure of the dipping-well within the garth (Structure 20, p. 323).

Building adjoining the east cloister: office? (Structure 12)

The foundation of a small, rectangular building was discovered during excavation in the angle between the east cloister and the cathedral transept, with its axis lying parallel to the cloister walk. This structure was hitherto unknown, although a tiny fragment of a wall-bench within it was encountered by Buckle in 1894, and assumed to be fifteenth century (Buckle 1894, pl. 3, T). Full excavation in 1979 revealed not only the extent of the building, and its abutment to the late twelfth-century cloister, but also demonstrated that it antedated the erection of both the library stair-turret and the chapel of the Holy Cross-by-the-Cloister (p. 309). It was therefore undoubtedly pre-fifteenth century.

It was further demonstrated that Structure 12 was of two phases, the earlier antedating the addition of the north aisle to the Lady Chapel. Hence, the building could only be of thirteenth-century date. It seems likely that the structure was in some way associated with the addition of an upper storey to the east cloister, since it had a small adjunct at the north end which is interpreted as a stair-well.

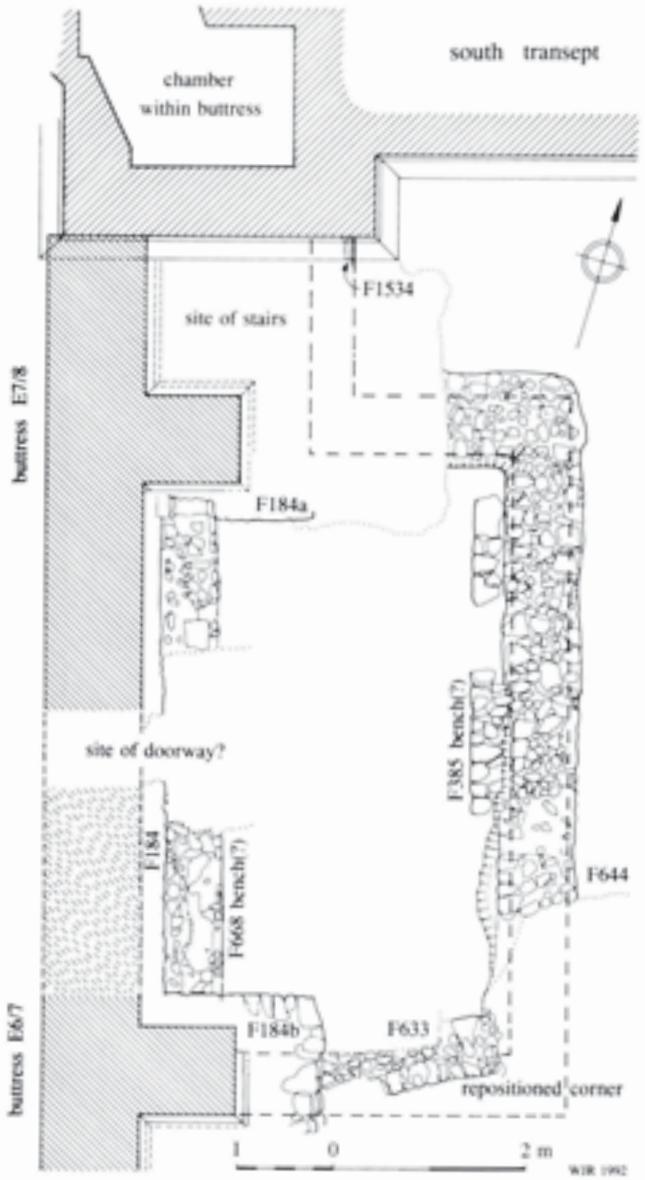


Fig. 305 Foundation plan of Structure 12 (office?) in Area 7, adjoining cloister bay E7. The heavy broken line indicates the position of the primary superstructure. The canting of the south wall (F633) is secondary. Scale 1:80

The building had been butted onto bay E_7 of the Early English cloister, using two of the existing buttresses as parts of its north and south walls (Figs. 305 and 306). The majority of the east wall and the north-east corner survived, but for the most part the north wall had been removed by the foundations of Bubwith's library stair-turret. The south wall and south-east corner were fragmentary, having been partly cut away by Stillington's chapel foundations, and further degraded by the construction of the Holy Cross chapel.

The foundation on the north and east (F644) was of well-laid rubble in a trench 80–90 cm wide (Fig. 307). At one point a trace of the footing-course for the wall survived, indicating that the above-ground thickness of the masonry had been 60 cm. The internal width of the building was 3.85 m (12½ ft). The position of the north foundation indicates that the wall here was intended to align with one face of the northernmost cloister buttress ($E_{7/8}$). The south-east salient angle of the buttress must therefore have intruded into the building.

The foundation arrangement on the south evidently began as a mirror image of that on the north, with the salient angle of the adjacent buttress ($E_{6/7}$) also intruding into the building, which had an internal length of 6.3 m (21 ft). But the arrangement on the south was modified, and the very fragmentary foundation remaining here (F633) was found not only to be much thinner, at *c.* 62 cm, but was also canted. Moreover, its southern face appeared to have been built freestanding. There is little doubt that the south-east corner of the building was repositioned in a secondary phase, for which the whole foundation was dug out and reconstructed. The only plausible reason for canting the corner in this way would have been to provide clearance for the construction of the north aisle of the Lady Chapel-by-the-Cloister, which probably took place before *c.* 1250 (p. 163).

The height of the building against the cloister may have corresponded to the angular weathering course directly below the window sill of the later library.[38] This implies that the building had a monopitched roof, sloping away from the cloister. The roof must have oversailed the tops of the two buttresses incorporated in the new building. The northern buttress was largely removed in the fifteenth century, but the southern one still exhibits a curiously truncated top, which may approximately reflect the angle of slope of the lean-to roof (Fig. 288). The top stages of both buttresses were dismantled when the east wall was temporarily reduced in height during the insertion of the first cloister vault; they were not restored to their previous form.

No floor levels remained within the building, but along the east and west sides were shallow strip-foundations abutting the respective walls. On the west, the foundation (F668) was 60 cm wide, and constructed against the twelfth-century cloister foundation (F184): the two-stage chamfered plinth at the base of the cloister wall had been cut back. The same had been done to the southern buttress, where this was exposed within the building, but in the case of the northern buttress only the lower plinth section had been cut away. The foundation ledge thus created against the cloister was 80 cm wide. This would have been excessive for a normal wall-bench, and a more substantial construction extending along the west side of the building, from buttress to buttress, is implied. A two-tier wall-bench — as in the chapter house — would have been possible, as would a series of recesses or cupboards built in masonry. The central one-third of the foundation was destroyed by a wall and cist-grave associated with the Holy Cross chapel (p. 311), and therefore continuity of the foundation is not certain; also, there may have been a doorway in this side.

Fig. 306 View from the cloister roof, showing the fragmentary foundations and possible wall-benches of Structure 12, with the later Holy Cross chapel superimposed (the smaller, squarish building). The library stair-turret (Structure 13) rises on the left, and one of the early cloister buttresses is glimpsed on the lower right. East is at the top. Scales of 2 m

The added foundation against the east wall (F385), on the other hand, was a much slighter construction: here the width was only 40 cm, a suitable dimension for a wall-bench, or even a sleeper wall for the support of a raised timber floor (Fig. 307). The latter is less likely in a medieval context. The east foundation was badly robbed, but the two surviving sections probably represented a once-continuous feature. No evidence remained to establish whether the internal foundation returned along either the north or the south wall; if it did it must have abutted the salient angles of the buttresses.

In the tiny re-entrant space between this building and the cathedral transept a further component of Structure 12 has been detected. The site in question is now fully occupied by the fifteenth-century library stair-turret, but sandwiched between it and the transept buttress to which the turret is attached is a stub of older walling (F1534), the external face of which is visible above plinth level (Fig. 312). This chance survival represents the block-bonding of a north–south wall, a secondary addition to the transept. The wall fragment is also directly beneath a chase which, as already noted, represents the weathering-line for a high-level roof alongside the thirteenth-century raised cloister (p. 285; Fig. 299). It can hardly be doubted that here lay an early stair-turret. The plan may be reconstructed as a chamber 1.7 m square internally, a size that could accommodate a small newel stair, probably of timber rather than stone. Entry to the stair would have been from the north end of Structure 12, as reconstructed in Figure 314A.

Fig. 307 Structure 12: section through the foundation of the east wall, showing also the shallow setting (right) for a presumed internal bench. Scale of 75 cm

There is no specific evidence for a means of access to Structure 12: theoretically, it could have been from the east, the west, or possibly the south. Since the building was evidently related to the cloister, entry from a remote corner of the Camery (*i.e.* from the east) seems unlikely, and a southern access would have been debarred when the Lady Chapel was aisled. Entry from the west — that is from the cloister walk — would have been easy, and it is by no means unlikely that a small doorway for access to the Camery was provided here in the original cloister design (p. 263; and *cf.* Salisbury). Also, the site was later occupied by the entrance screen to the Holy Cross chapel (p. 310), and that has removed all evidence for any early doorway.

Determining the purpose of Structure 12 is difficult. Interpretation as a chapel is unconvincing, since the axis of the building was north–south. It could conceivably have functioned as a double chapel with a central west doorway leading into a pair of chantries, lying side by side in the manner of transeptal chapels. The closest analogue for such an arrangement is the early fourteenth-century Berkeley chapel in Bristol Cathedral; but that is an altogether grander structure. A tiny double chantry chapel of mid-thirteenth-century date is an unlikely phenomenon at Wells, and no identification can be suggested from the documentary evidence. The only pre-fifteenth-century references to cloister chapels, apart from the Lady Chapel itself, concern the chapel of All Saints-by-the-Cloister. That was, however, still extant in the sixteenth century and cannot possibly be equated with Structure 12 (p. 320). Against the interpretation as one or more chapels is the unconventional plan, the wall-bench footings, the posited stair-well at the north end, and the absence of any associated internal burials.

A function of an entirely different order — almost certainly non-liturgical — is more plausible. If the internal strip foundations supported benches, single on the east and tiered on the west, then the building's possible function as a meeting room receives support. A consistory court chamber is one possibility worth considering: there were two courts at Wells in the Middle Ages, one presided over by the bishop, the other by the dean. Traditionally the bishop's court seems to have met in the cloister, as it did at Salisbury.[39]

In the fifteenth century the Lady Chapel-by-the-Cloister was the regular meeting place of the bishop's consistory court (p. 161). After the chapel's destruction at the Reformation, the court moved to the former Holy Cross chapel in the base of the north-west tower.

Less is known about the dean's consistory court which, in the sixteenth century, met at an unspecified place near the dipping-well.[40] The reference is imprecise, but presumably it means that the court was held in or adjacent to the east cloister walk. Prior to its being aisled and extended eastwards in the mid-thirteenth century, the Lady Chapel may have been too cramped to accommodate the consistory court, as well as its other functions, and it is therefore possible that Structure 12 could have been created as a court room. If so, it was very small for the purpose, and was superseded before *c.* 1420, when it was demolished.

A third option for the use of Structure 12 would have been as an office, store or vestry. In that case the internal foundations could have supported wall cupboards or a raised timber floor. The building is perhaps less likely to have been a muniment room, but could perhaps have been the vestibule, or outer office, to one which was situated on the upper floor of the east cloister. Arrangements for the storage of records at Wells in the Middle Ages are not well documented, but the chapter house undercroft was certainly used for the purpose (Church 1901). While the first floor of the cloister would have been relatively secure, access via a small newel stair imposed restrictions on its use, and in particular on the size of furniture that could be taken up.

Following demolition, the foundations of Structure 12 were robbed to varying depths; no floors or occupation levels remained.

Bubwith's cloister and library

A detailed account of the library, by Canon Church, concentrated mainly on its history and collections, although a general description of the building itself was also given (Church 1901). The article was illustrated with photographs showing the library and its furnishings, as they were at the turn of the twentieth century: little had altered in the two hundred years since the restoration of 1686.[41]

Early siting of the Wells library

Since the 1420s, the cathedral library has been housed in a purpose-built range on the upper floor above the east cloister walk. The date of construction of the new library, by Bishop Bubwith and his executors has been discussed (pp. 246–7). The physical development of the library range has a significant bearing on the history of the east cloister generally, especially since it has now been demonstrated (see above) that there was an upper floor over part of the east cloister at an earlier date. It is therefore relevant to enquire into the history of the library as a physical component of the cathedral.

Medieval references to the library are few, and the earliest noted by Church was in 1297–98, in a chapter act concerned with the security of doors. There, the door at the east end of the north nave aisle was referred to as *ostium versus librarium* (HMC 1907, 162). In 1298 a further reference to the library implied its presence in the north transept, along with the chapter meeting room (HMC 1907, 259; Church 1901, 202). From this, Church deduced that the library remained in the transept until the early fifteenth century.

Two reasons were given in 1297–98 for keeping the north aisle screen door closed. First, that visitors were otherwise able to gain unrestricted access to the library: they were reported to be handling the books, and thereby damaging them. Secondly, the general public could overhear chapter deliberations (Church 1901, 202). This situation did not continue for long: when the *domus capitularis* was completed, probably before 1307 (Colchester and Harvey 1974, 205), the chapter moved out of the north transept, releasing it for other activities. The presence of the library would, however, have continued to cause problems, and there must have been pressure for its removal to a more convenient and secure place in the cathedral. Moreover, in the early fifteenth century it was growing; thus in 1414–15 four additional oak boxes were made to contain newly acquired books (HMC 1914, 51).

The need for a move is even more obvious when it is recalled that great works were in hand at the east end of the cathedral in the early years of the fourteenth century: the new eastern Lady Chapel was built by 1319, and the retroquire, with its intended shrine for William de Marchia, was under construction in the 1320s. The chapter was attempting to obtain the canonization of de Marchia, and thereby substantially increase the flow of pilgrim traffic. With all this happening, access along the northern aisles of the cathedral could not conveniently be debarred: indeed, it was essential to circulation.

The library must have been securely screened in the western aisle of the transept (where the vestries now are); it might even have been relocated elsewhere in the early 1300s. Having demonstrated that by this time an upper storey had appeared over part of the east cloister, it is pertinent to enquire whether the library might have been moved well before Bubwith's time. The upper cloister was a secure place, with restricted access, and it was therefore a suitable location for a library or muniment room. Traditionally, these were amongst the functions of upper cloister ranges, but no explicit evidence has been found to indicate the use of this space at Wells.

Nevertheless, it seems clear that the library — or at least a substantial part of it — continued to occupy its old site in the north transept until the 1420s, or possibly later. Bubwith's will expressly referred to the tomb that he had created beneath his chantry chapel (which is on the north side of the nave), and wished to be buried before 'the image of the Holy Saviour, near the library'. There is a reference to the same image, 'near the library' in 1340 (Church 1901, 204), and to the pyx of St Saviour 'before the library' in 1390–91 (Colchester 1983, 5). Bubwith's bequest of one thousand marks 'for the construction and new building of a certain library to be newly erected upon the eastern space of the cloister' seems to make it clear that this was an entirely new library, and not the rebuilding of an existing one. Indeed, the wording contains no intimation that there was already an upper storey to part of the east cloister. That is, however, potentially explicable on the grounds that there was none at the time Bubwith made his will, since he must already have pulled down the earlier superstructure in order to erect the vaulted walk of the new cloister.

While it has generally been assumed that the library was moved to its new, permanent home in the 1420s, there is no specific record of this having taken place, and there is good evidence — hitherto unnoticed — to the contrary. The reference as late as 1457–58 to offerings at the pyx of St Saviour 'before the library' would appear to confirm that it had not moved by that date (Colchester 1983, 9). Moreover, in the same year the east cloister was paved, and it has been argued that this marked the completion of the library range (p. 247). It is of further interest to note that the entry in the fabric accounts relating to offerings at the pyx of St Saviour was annotated 'nothing this year', but that was subsequently erased and '1d' inserted (*ibid.*, 9). Plausibly, the moving of the library took place in 1457–58, disrupting the pyx of St Saviour. The next year for which fabric accounts survive, 1480–81, makes no mention of the library, but records the pyx as being 'in the corner of the quire' (*ibid.*, 16). This novel description of the pyx's location must refer to the north-west corner of the liturgical quire which, prior to the Reformation, extended into the eastern bays of the nave.

Four general accounts of the Wells library have been published, concentrating on the collections, but also including some references to the fabric and furnishings (Williams 1897; Church 1901; Colchester 1974; Birley 1982). A major revision of Colchester 1974 is in preparation.

Description of Bubwith's work: first phase (bays 1–8)

Cloister walk (Fig. 308A)

Bubwith's design for the cloister screen, the vaulting of the east walk, and the form of the library range above, conditioned the protracted reconstruction of the Wells cloisters, a process that lasted for about ninety years. The initial phase of construction of the east walk comprised eight bays, of which the first was only two-thirds of a full bay, and contained a wide doorway opening into the garth. Situated adjacent to the transept door, this provided the principal connection between the cloister walks and the garth (it was also the point where the former north walk would have met the east walk).

The delicate vaulting has a continuous ridge-rib and liernes defining a central compartment of octagonal form in each bay (Figs. 119 and 275). The first and last bays are punctuated by armorial shields in the central compartment, emphasizing the finite nature of this building project. The wall-shafts and wall-arches rise from the bench top, a form of construction that avoided the need to cut significantly into the old outer wall

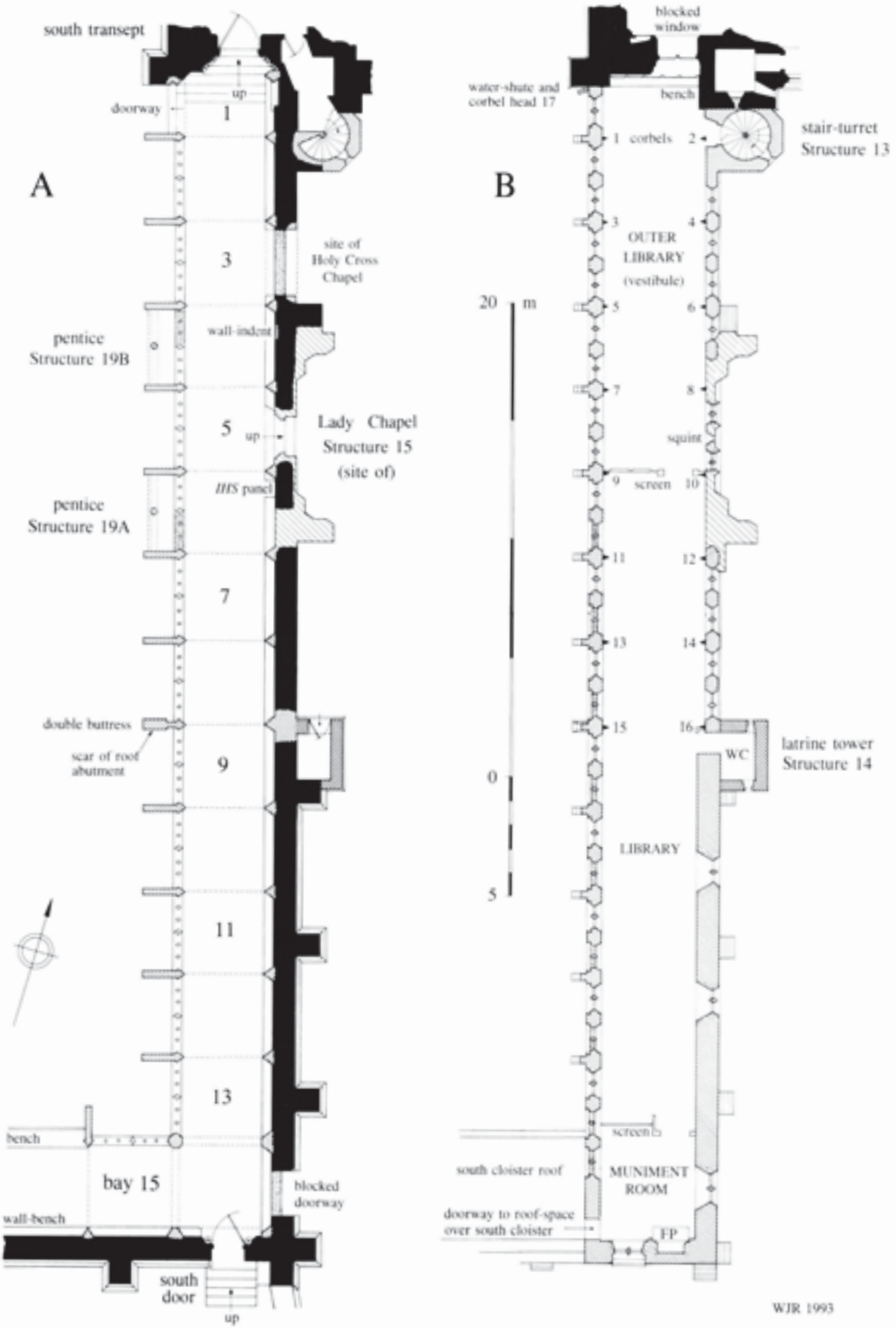


Fig. 308 Plans of the east cloister, differentiated according to period of construction. A Ground level; B The library above. The positions of the corbel-heads (nos. 1–17) are indicated. For a key to the shading, see Fig. 338

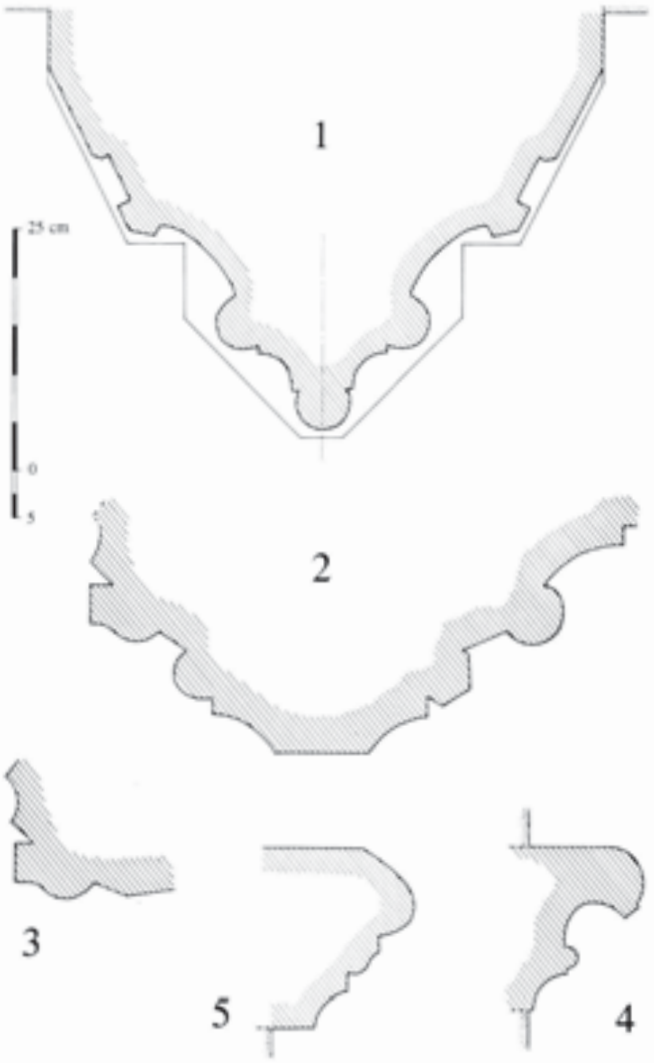


Fig. 309 Profiles of fifteenth-century mouldings associated with the cloisters. 1 Wall-shaft for vaulting; 2 Arch fragment(?), from excavation (F95); 3 Similar fragment (unlocated); 4 Shelf in bay 6, below IHS monogram; 5 Frame moulding of IHS monogram in bay 6. Scale 1:8

of the cloister (Fig. 309). The springer level is well below that of the earlier vaulting, but the previously established bay pitch was maintained.

The screen or garth wall, which was totally new, comprises an arcade of two-centred arches, each divided by a major mullion into two sub-arches (Fig. 271). These are transomed and further sub-divided to form six lights apiece. The traceried heads define a predominantly reticulated pattern of elongated hexagons, with cinquefoil cusping throughout. The bays are punctuated towards the garth by deep, but narrow buttresses, each having three weathered stages and a ground-level plinth.

The tracery of the screen, which is derivative from the cloister of Gloucester Cathedral (Harvey 1982, 93), and closely related to the quire aisle screens at Exeter, was originally glazed in its upper part. The pattern of glazing grooves shows that the lowest tier of lights (*i.e.* below the transom) was intended as open screenwork, and was never glazed. This arrangement protected the walks from the worst excesses of the weather, while maintaining an intimate relationship with the garth. It was usual in cases such as this to provide wooden shutters to seal the unglazed openings in bad weather. However, at Wells there are no shutter rebates in the masonry and no trace of iron crooks upon which shutters could have hinged. It therefore seems clear that the lowest register of the screen was intended to remain open at all times. For a later modification, see p. 323. All the glazing had been lost by the beginning of the nineteenth century — and probably much earlier — although occasional medieval ferramenta remained. In 1979–87, a programme of total re-glazing was carried out in the cloisters, destroying the *ambience* that accrued from the intimate connection between the walks and the garth.

Library (Figs. 300 and 308B)

The library was designed initially as a single open room, 27.2 m by 4.2 m (89½ ft by 14 ft). It was well lit, and the surviving fragments of medieval glazing include several representations of Bubwith's arms. The garth-side fenestration, which articulates with the screen below, is arranged with two square-headed windows per bay, each having two lights with simple cinquefoiled heads. Five out of the first eight bays of the library had similar windows on the east side also, although several lights have been partly obscured by later building abutments (Fig. 20). The east wall, built atop the old outer cloister wall, is considerably thinner than the masonry below (Fig. 310), as a result of the partial reuse of fabric belonging to the thirteenth-century upper range.

The southern limit of Bubwith's first building phase is marked on the garth side by a heavier buttress (bay 8/9), and on the Camery side it is obscured by the abutment of the later latrine tower (Structure 14). Presumably, there was a solid masonry wall closing the south end of the library.

Both side walls are crowned by plain parapets, punctuated by a regular series of rainwater spouts which have later been modified. As originally constructed, the parapet gutters were narrow and deep, and rainwater was discharged through stone spouts, set at about the level of the library ceiling wall-plate (section, Fig. 310). On the west, the spouts took the form of gargoyles integrated with the string-course at the base of the parapet; these were non-projecting, but short pieces of lead pipe would have emerged from the mouths. Even so, rainwater must have cascaded down alternate buttresses (Figs. 331 and 333). On the east, projecting stone spouts were integrated with the string-course over the bay divisions (Fig. 265B).

Extending the line of the existing roof to the lower level indicated by the outlets would provide a functioning parapet about one metre high and 30 cm wide, a more satisfactory arrangement than the existing 30–40 cm high parapet which threatens to trip rather than retain anyone using it (Fig. 296). Clearly, this arrangement of deep gutters and restricted outlets was

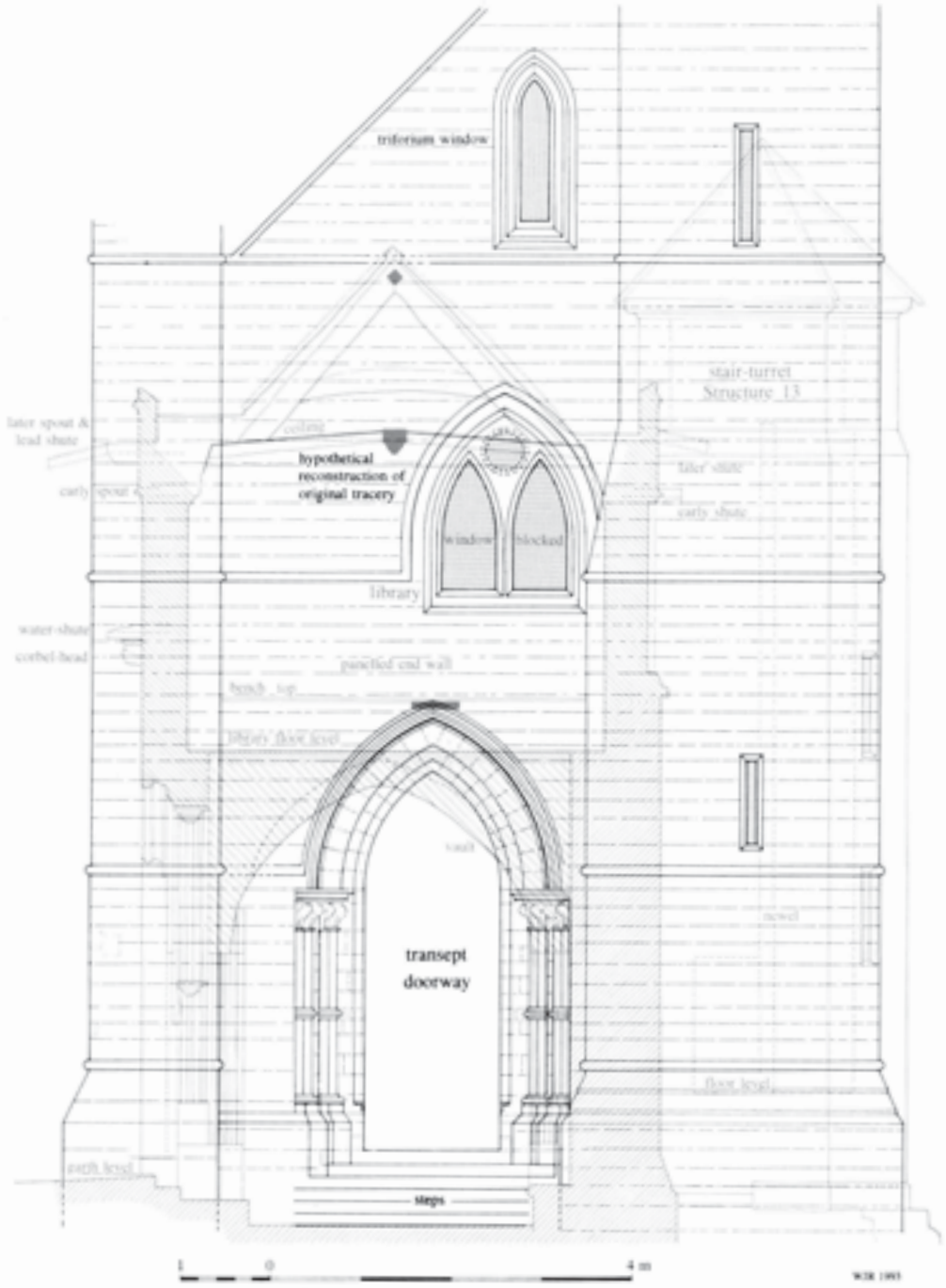


Fig. 310 Sectional elevation showing the abutment of the rebuilt east walk and library of the 1420s (in red) against the south transept. The south elevation of the associated stair-turret (Structure 13, right) is shown, the interior and stair newel being indicated with broken lines. Scale 1:80

found to be impracticable, and when the library was extended southwards, in Bubwith's second phase, a new outlet system was introduced.

The simple framed oak roof with collared trusses remains. The cambered tie-beams are supported on tightly curved knees which bear upon the reused corbel-heads described previously (p. 288; Fig. 301). The ceiling comprises plain oak joists, lodged between a wall-plate and central longitudinal beam of moulded profile. Although the Welsh slate roof is nineteenth century, this probably supersedes an earlier slate covering. A good deal of West Country slate was incorporated in the construction of the library, for levelling and packing between masonry joints, suggesting that the earlier range on this site may also have been slated. The medieval floor was probably of oak boarding throughout, although the northern half has been renewed in other materials. It appears that an 'earth' (clay-and-lime?) floor was laid in the first eight bays in 1686, but in 1728 the library vestibule was reduced in size (to 5 bays: HMC 1914, 518), and a floor of gypsum or lime-ash was substituted (Fig. 300A).[42]

A serious difficulty arises in the east wall, concerning the relationship between Bubwith's library and the

adjoining old Lady Chapel. The south wall of the chapel's nave would have stood in front of the new ashlar between the two windows in bay 7, causing one of them to fall inside the nave, while the other had its corner clipped by the aisle roof. Indeed, a short section was cut out of the string-course below the window in order to accommodate the weathering of that roof (Fig. 265B). The implication may be that Bubwith foresaw changes to the superstructure of the Lady Chapel-by-the-Cloister: it is unlikely that total removal was envisaged; more likely there was an intention to rebuild it with lower pitched roofs. The relationship of the north wall of the nave to the library windows cannot be established, on account of further alterations when Stillington rebuilt the chapel.

Nothing is known of the library's medieval furnishings and fittings; the books were probably kept in chests, and on open desks (Colchester 1974, 2).[43] Access to the library was, and still is, via a stone newel stair opening off the north-east corner.

The corbelled water-spout

It has already been noted that at the north-east corner of the garth, in the angle between the library range and the transept, is a stone shute supported by a corbel-head similar to those in the library (p. 288; Figs. 302 and 308B). Logically, this feature should be interpreted as an outlet from a parapet gutter. The Doulting stone shute is of the same size and form as others on the east face of Bubwith's library, and could easily be part of the 1420s work. Its intimate association with a reused thirteenth-century corbel is also consistent with such an interpretation. However, the intermediate siting of the feature — above the cloister arcade, yet far below fifteenth-century parapet level — demonstrates that it can neither have functioned as an outlet for the present library roof, nor for its two-storey predecessor. Moreover, medieval parapet gutters were not normally drained at the ends, but had falls to intermediate outlet points: the library roof illustrates the typical form. It is, in any case, difficult to reconcile a rainwater spout in this position with the convenient use of Bubwith's new range: the outflow would have been directed, unnecessarily, upon the heads of persons using the main doorway that connected the cloister with the garth.[44]

Is the spout therefore relict from an earlier structural phase? Its two components are now sandwiched between the *c.* 1185 masonry of the transept and Bubwith's library; both the corbel and the shute are skewed in relation to the adjoining structures, pointing west-south-west. They are bedded in the same mortar as that used for the cloister, and have slate packing alongside. It is impossible to see from whence the shute was fed, although there was until recently a cavity running into the wall beyond the throat of the shute, now blocked.

If this was an outfall from a parapet gutter, the level could only relate to a single-storey cloister with a parapet on the garth side. Superficially, it might seem that

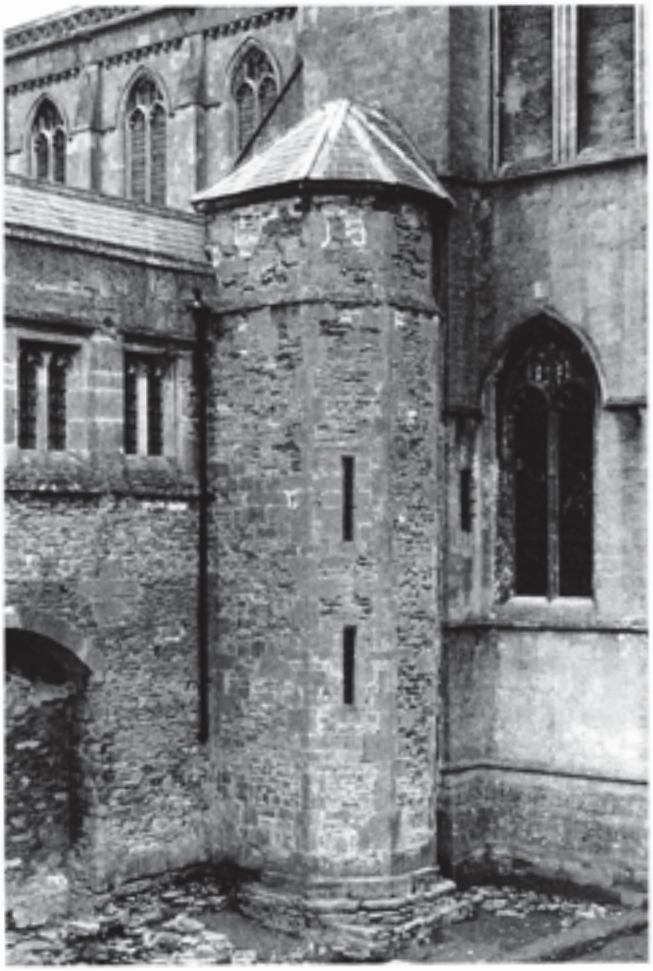


Fig. 311 The library stair-turret (Structure 13) from the south-east, with the footing-courses exposed

the shute provides corroborative evidence for the pre-Bubwith vaulted cloister being both low and parapeted, but that cannot be so. First, the feature is integral with the library build. Secondly, the shute is slightly too high to have worked with the earlier roof arrangement as reconstructed. Thirdly, the spout's components are probably too late in date. Fourthly, this conflicts with the argument already advanced for the set of corbels having come from a mid-thirteenth-century upper storey that was only demolished *c.* 1420.

The only other option is to accept — despite the obvious logistical objection to its location — that the spout is part of Bubwith's work, and that it performed a specialized drainage function, unrelated to the main roof. It may be noted that the drain channel, if projected through the library wall, would appear in the north-west corner of the room, just above window sill level. While this is wrongly sited for a piscina, it could mark the site of a lavabo. The provision of a place for hand-washing close to the entrance of the library is not unexpected. Moreover, a running water supply could easily have been achieved by collecting rainwater from the roofs, and storing it in a lead tank. Although conjectural, this is perhaps the most plausible explanation.[45]

Fig. 312 Elevations of the three principal external faces of the library stair-turret, based on a photogrammetric outline. Twelfth- and thirteenth-century masonry is shown in red. Putlog holes and the roof-lines of post-medieval pentices (Structures 28 and 29) are indicated. Scale 1:80

Stair-turret (Structure 13)

An original feature of the 1420s design is the octagonal stair-turret, sited in the angle between the east cloister and one of the principal buttresses of the cathedral transept (Figs. 311 and 312). The erection of that turret necessitated the demolition of an earlier structure on the same site — arguably a previous stair-turret — as well as the rectangular building of uncertain purpose to which it was attached (Structure 12, see above).

The foundation for the turret comprised a 2.8 m square raft of mortared rubble (Figs. 313 and 314B, F1535), filling a trench that cut through and removed the north foundation of the earlier building (Fig. 305, F644). About one quarter of the area required for the raft was already occupied by the late twelfth-century foundation of the first cloister buttress (F184a). This was evidently not grubbed out, but was incorporated in the new raft. The buttress itself was almost entirely taken down, its support function now being subsumed by the new turret. On top of the raft was constructed two courses of rough but well mortared masonry, to form an octagonal footing slightly greater in size than the intended base dimension of the turret. A simple chamfered plinth of Doulting stone comprised the first

Fig. 313 Different foundation characters revealed in the north-west corner of the Camery. Right small broken rubble and mortar filling the foundation trench of the south transept, c. 1180. Centre large boulders and ample mortar forming the foundation raft of the library stair-turret, c. 1425. Left coursed rubble of the Holy Cross chapel, c. 1495. Scales of 2 m

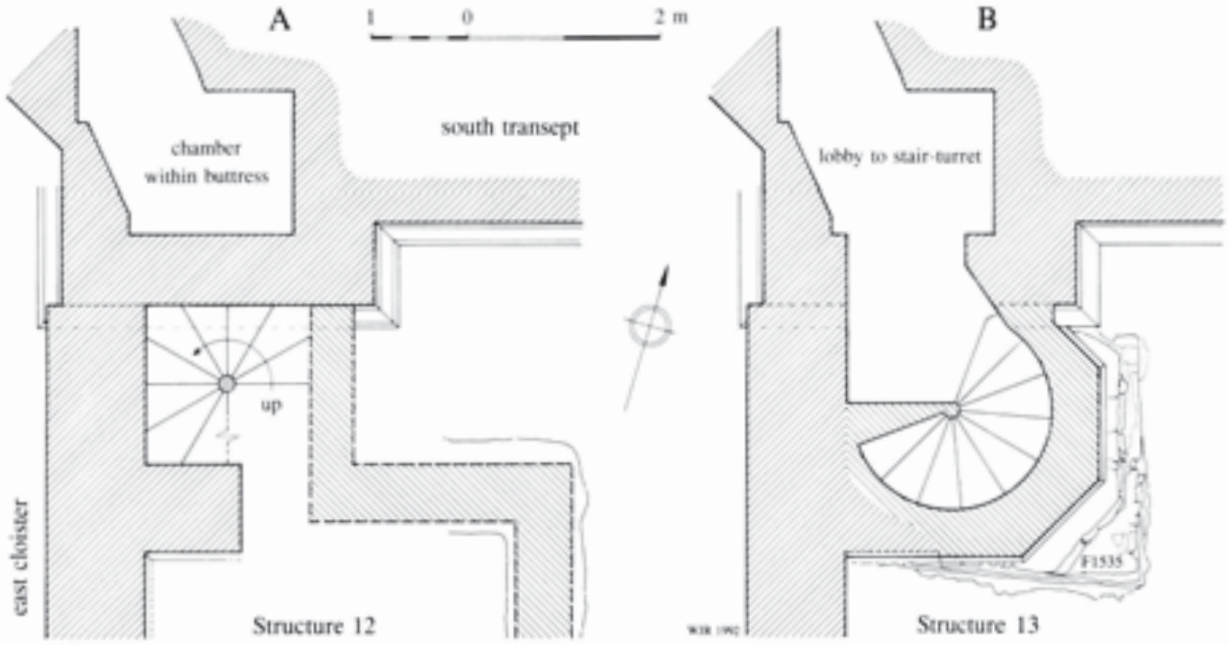


Fig. 314 A Reconstructed ground plan of the thirteenth-century stair-turret in Structure 12, adjacent to the east cloister. B Foundation and ground plan of Bubwith's library stair-turret, Structure 13, of c. 1425. Scale 1:80

visible masonry course. This rose from the same level as the twelfth-century cloister plinth, demonstrating that ground level in this corner of the Camery had either remained constant in the intervening 225 years, or was re-levelled when Structure 12 was demolished.

The ashlars that formerly bonded the south face of the buttress to the cloister were retained and acted as a key for the new turret. Also preserved in the south facet of the turret is part of the mutilated buttress plinth, and two courses of ashlar above it (Figs. 312 and 315). There are irregularities in the lowest part of the build, both where the turret was joined to the stump of the cloister buttress, and where it bridged over the substantial moulded plinth of the south transept, there encapsulating a fragment of masonry of the previous stair-turret (F1534).

The two-stage turret is built of red sandstone, coursed with the considerable number of limestone ashlars needed to dress the angles between facets. There are two rectangular slit windows in the south-east facet. Some putlog holes remain visible, and there are numerous recycled fragments in the fabric, including a thirteenth-century stone bearing a pair of small,

Fig. 315 Detail of the junction between the late twelfth-century east cloister (left) and the base of the library stair-turret (Structure 13). The turret and its foundation can be seen to override, respectively, the earlier buttress ($E_{7/8}$) and its foundation. Scale of 75 cm. For the elevation, see Fig. 312

Fig. 316 Lintel embodying the heads of two pointed and moulded arches, thirteenth century. Reused, inverted, in the north-east face of the library stair-turret (Structure 13)

pointed arches side by side (Fig. 316). The first and principal structural stage rises uninterrupted to the wall-plate level of the library roof, a height of 8.3 m. Here, a chamfered weathering-course accompanies a reduction in wall thickness; above, the second stage rises again for a further 1.25 m before reaching a hollow-chamfered eaves-course.

The date of the short second stage of the turret is not entirely certain, and Buckle (1894, pl. 4) dismissed it as post-medieval. It is difficult to evince any credible explanation as to why the turret should have been heightened: it was the only means of gaining access to the cloister roof for maintenance. Moreover, the masonry of the upper and lower stages is visually identical. It therefore seems reasonable to accept the turret as wholly dating from the later 1420s. If the upper stage should, upon detailed investigation, turn out to be an addition, the likely context for it would be Bubwith's second-phase work of the 1450s. The problems encountered with the deep parapet gutters could have resulted from the inability to gain access for maintenance.[46] The roof is a low, pyramidal structure, slated and finished with lead rolls. The present roof structure is nineteenth century.

The stone newel stair is entered from the south transept, via a small, squarish lobby that was previously a tiny chamber within the base of a transept buttress.[47] The south side of the chamber was broken through in the early fifteenth century, to gain entry to the new stair. While access to the upper cloister range had formerly been from the east walk itself, via Structure 12, the new approach from the transept was not only more direct, but offered greater security.

Description of Bubwith's work: second phase (bays 9–14)

By contrast with the complications seen in the northern eight bays, the development of the southern part of the east cloister range is easily comprehended. There is nothing to suggest that an upper storey had existed prior to Bubwith's posthumous work. Building took place in the quarter-century following the benefactor's death in 1424. A sufficient number of minor changes were, however, introduced to indicate a definite time-lapse, and that different gangs of masons and carpenters were employed. On balance, it seems likely that the bulk of the work was carried out in the years leading up to 1458.[48]

Cloister walk (Fig. 308A)

The screen wall and vaulting of the walk were continued to the south-east corner and returned into the first bay of the south walk (bay 15), all basically following Bubwith's original design, but with minor changes to the vaulting. In the interval between the completion of the first phase, and commencement of the second, a structure with a 45° pitched roof had abutted the buttress at the junction (garth side, bay 8/9). All that now remains is a lightly pecked line on its south face, beginning at a height of 2.8 m above garth level. There are no hints of the former existence of a lean-to structure against the remainder of the masonry in bay 9, and the relict roof- line undoubtedly precedes its erection altogether.

The rebuilding of bay 15 *en suite* with the east walk is interesting, and implies a clear intention to vault the south walk too in a subsequent stage. However, that intention did not extend to an upper storey, and the thirteenth-century pentice roof was retained (see the window provision, Fig. 284).

Extended library (Fig. 308B)

The use of heraldic shields in the vaulting of the cloister walk, demarcating the extremities of the first-phase library above, as well as the provision of the double-width buttress at the end of the eighth bay, might indicate that it was not Bubwith's original intention to add further to the upper range. The first design could have been for a complete new cloister walk, with an eight-bay library above the northern section. However, by the time he drafted his will in 1424, Bubwith had clearly determined that the library should extend for the full length of the east walk. In 1445 the

dean and chapter of Salisbury constructed a similar library over the east cloister there (Cocke and Kidson 1993, 14).

The addition of a further seven bays to the library did not follow precisely in the same vein as the original work, and was evidently conceived as a separate room, 21.5 m by 3.6 m (70½ ft by 11½ ft). The dividing wall was probably maintained, at least initially. Internally, the ceiling structure is generally similar to that of bays 1–8, although there are many differences in detail. There are no reused thirteenth-century corbels in the extended library.

It is highly unlikely that the medieval library ever comprised an undivided space of fourteen bays. As in later periods, it too was probably partitioned into three sections. It is suggested that there was originally a vestibule of two bays, defined by a timber screen, at the north end. In this connection, it has already been observed that the presence of simple oak corbels (instead of stone head-corbels) supporting the roof truss between bays 2 and 3, points to a structural division within the library. There is no specific evidence to indicate whether a partition was maintained at the 'break' between bays 8 and 9 (*i.e.* where there is a step in the east wall). However, it is likely that one, or two, bays at the southern end (bays 14/15) were enclosed as a heated room, because there is a fireplace in the south end wall.

While the rhythm of the fenestration on the garth side was continued, the east-facing windows were entirely omitted. This may have been an economy measure, or it could be explained in terms of a different intended use for this part of the library, with less natural light being required. Thus the extension may have been conceived primarily for muniments and library storage, rather than as a reading area. Equally, it might have incorporated a meeting room or an office: office-based administration was on the ascent in the fifteenth century. At Salisbury, a schoolroom was included in the library range, but that is unlikely at Wells since one was provided shortly afterwards over the west cloister (p. 333).

It was clearly not intended that the upper range would ever be returned over the south cloister, on account of the fenestration being carried almost to the end, stopping only at the point where the low roof of the south walk abutted. Moreover, a carefully constructed stone weathering for the old south cloister roof was incorporated in the new work, and a small doorway was provided to permit access to the attic space above the ceiling (Fig. 284).

The old outer (east) wall of the cloister was raised in plain ashlar to the new parapet level. The full thickness of the masonry below was maintained, unlike the work of the first phase in which the wall was substantially reduced (although that was a legacy of the thirteenth-century alterations to provide an upper range). The roof was continued in the same form as previously, and the south gable was concealed behind an embattled parapet, built on top of the original coping of the south walk (Fig. 294). Grotesque heads punctuate the

Fig. 317 Mid-fifteenth-century ridge finial, representing a crouching lion, on the south gable of Bubwith's library extension. To the right is the crenellated chimney stack serving the muniment room fireplace

angles, and the arms of Bubwith were carved in a centrally placed stone plaque, in posthumous commemoration of the donor of this work.[49]

The ridge of the concealed southern gable has a finial in the form of a crouching lion (Fig. 317), similar to one on Bekynton's west range and another on his well-house of 1451 in the palace grounds (Fig. 410). This animal provides an additional indication that the second phase of the library was not built until the 1450s. The system of rainwater outlets incorporated in the parapet string-course, used in the first-phase work, was abandoned and the gutters of bays 1 to 8 were completely relaid at a higher level, along with the new bays 9 to 14. Instead of being deep and narrow, the gutters were now broad and shallow, with their outlets halfway up the parapets (Fig. 296). Six large stone gargoyles carrying lead shutes were fitted to the garth face (Fig. 266), and plain lead shutes to the east face. The latter have since been replaced by downpipes.

Library latrine tower (Structure 14)

Adjoining and projecting from the east cloister at the point of union between the first and second phases of library construction is a rectangular tower, measuring 2.95 m by 1.9 m, externally. Its original purpose, still fulfilled, was to provide a latrine accessible from within the library[50] (Figs. 20, 264 and 318). The tower, which incorporates an early thirteenth-century cloister buttress in its south wall, has a plain chamfered plinth, where it was carefully made to coincide with the lower stage of the cloister plinth. The foundation was free- built and of well coursed rubble; there is a low segmental arch in its east face, which has always been below ground level (Fig. 319). The north and east walls of the superstructure are also of neatly coursed red sandstone rubble, with quoins of Doulting stone. Most of the putlog holes relating to the original construction are preserved. The south wall, by contrast, is entirely composed of small Doulting ashlars, many seemingly made from offcuts. The half-gables have been rebuilt in modern times.

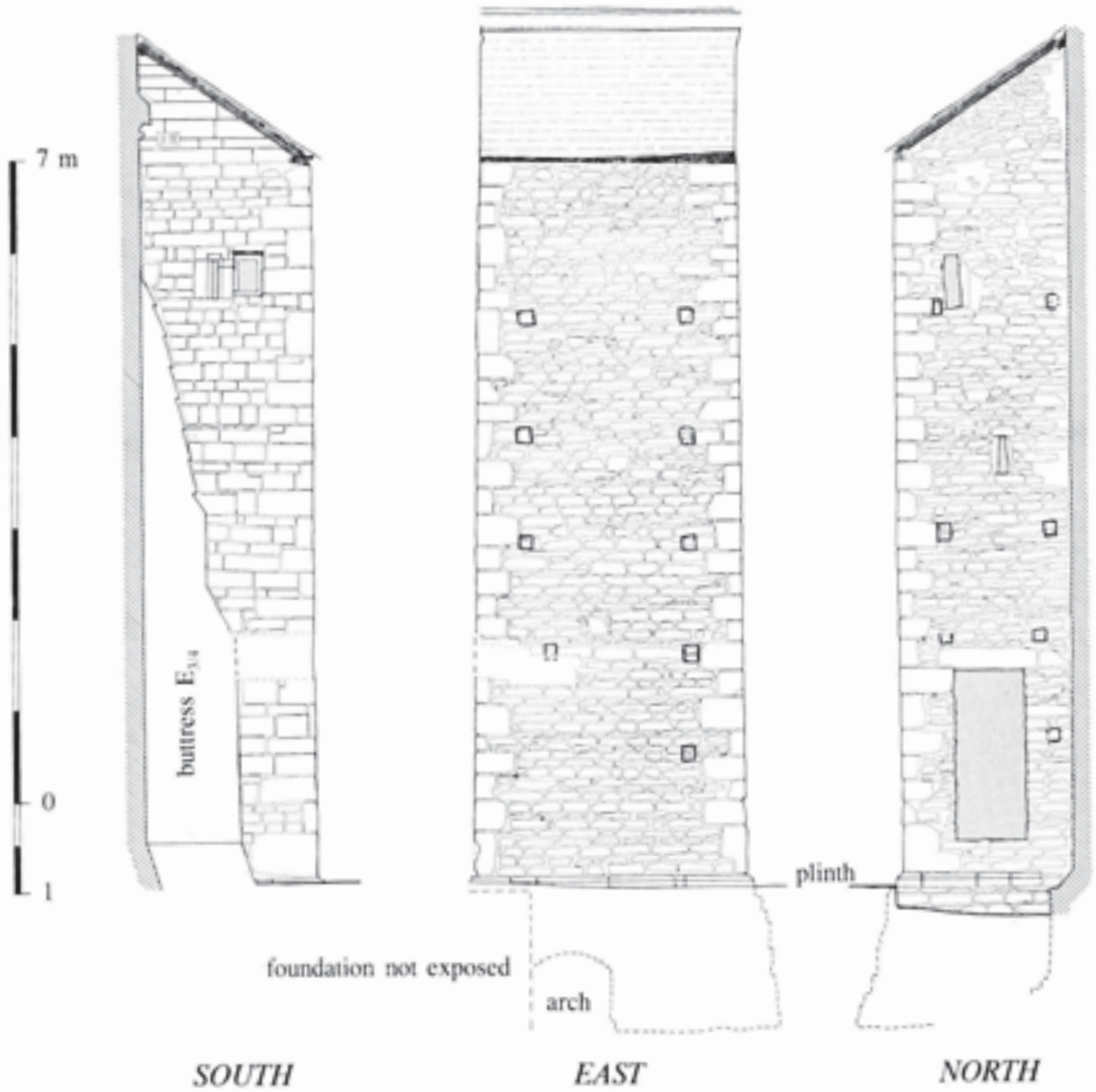


Fig. 318 Elevations of the library latrine tower (Structure 14), partly based on photogrammetry. Foundation profiles have been added from excavation. Scale 1:80

There are two original slit-windows: one in the south face formed in ashlar, and another of rougher construction in the north face. Two later window openings have also been created in those faces. Internally, there are three levels.

The latrine chamber is floored at the top level with timber, and is entered directly from the library extension; it is lit by two windows, but originally there was only the south-facing one. There was a vertical shaft in the south-east corner, now covered over. Beneath the floor is another small chamber, which is a mere 1.5 m high, and has an original slit-window facing north. This lower chamber is floored with stone flags, supported from underneath by a transverse arch. There is a rectangular projection in the south-east corner, where the stone-built shaft descends from above, and passes on below. The only way into this curious space is by lifting a trap-door in the floor of the chamber at library level.[51] The floor has been reconstructed, but it must be presumed that there has always

Fig. 319 Plinth and foundation of the north-east corner of the latrine tower revealed by excavation. The segmental arch enabled the contents of the cess pit to seep into the adjacent ground. Scale of 2 m

been a trap here: certainly no other point of entry can ever have existed.

Beneath the middle chamber is the main shaft of the latrine, occupying the full internal size of the tower (1.8 m by 1.35 m). There was no means of gaining access to this shaft until a doorway was cut into the north wall in *c.* 1948, to create a tool store for the cathedral's grave diggers. The base of the tower has been partly filled with rubble, capped by a concrete floor, but previously the shaft was empty to the bottom of the tower's foundation.

The foundation effectively defined a cesspit, the below-ground arch on the east allowing the effluent to seep away into the soil of the Camery. The arch was large enough to have admitted a man to what was other- wise a totally inaccessible space, if it became necessary to clear out the residual contents. In order to gain entry it would have been necessary to dig a hole alongside the tower, but that plainly never happened, since medieval stratigraphy and a late Saxon wall foundation remained intact immediately outside the arched opening (Fig. 319).

Dating the latrine tower is problematic. In the past it has been attributed to the late seventeenth-century, and associated with the refurbishment of the library in the time of Canon Richard Busby (p. 307). But that is by no means certain, the character of the masonry being consistent with late medieval work. Unlike the stair-turret, the latrine tower is not built of reused stone, and the two are therefore unlikely to be contemporaneous. Nor is it associated with the second-phase construction of the library, since there is a straight joint in the masonry between the two. The tower abuts both phases of the raised cloister and must therefore be secondary to them. The likelihood is that the latrine was added sometime in the sixteenth century, or possibly in the early seventeenth. If the suggestion made above that the library extension was used in part as an office or meeting room, the provision of a latrine is more easily explained.

The use of different stone types is curious, and reflects an express desire to present a wholly ashlar elevation to the south. The presumed reason for this must be that the tower was visible from the domestic apartments of the Bishop's Palace, and that a strip of naked rubble was not considered aesthetic against the backdrop of an ashlar cathedral. This may be an esoteric point, but no other explanation readily suggests itself. This tower was clearly not built with the intention of being rendered, as most of the late medieval rubble masonry of the cloister complex evidently was, but nevertheless it would doubtless have been limewashed. It is highly unlikely that any medieval rubble wall at Wells was left bare of plaster or limewash, and ashlar-work itself was generally limewashed too. From the palace windows, it would have been impossible to tell the difference between materials used on the library, when limewashed. The enigma remains.

The final, and undoubtedly major, point of interest concerns the remarkable internal structure of the tower, particularly the tiny intermediate chamber, accessible only through the floor of the library privy.[52] This chamber is unquestionably an original feature, and it is entirely separate from the latrine shaft and pit. It can only have been created for purposes of concealment and, being adjacent to the library, we might speculate that it was intended as a place to secrete valuable books and documents. But this lacks conviction: the space is cramped and not readily accessible, and in any case the cathedral had a large and impressively secure treasury in the form of the undercroft beneath the chapter house. A possible counter-argument would be that the library chamber was intended to conceal documents whose secrecy rather than intrinsic value was of paramount concern, namely papist material.

If not a place of concealment for documents or treasures, the chamber could have been a hide for religious fugitives, although that is difficult to concede in an Anglican cathedral. The presence of an inconspicuous, unglazed slit window in the north face demonstrates that both light and air had to be admitted. Creating a hide within a seemingly inaccessible latrine-turret was certainly ingenious: its existence points to the tower having been built in times of great religious uncertainty. The physical evidence is indisputable, but any explanation can only be speculative. One is reminded of the hiding-place which was discovered at the Old Deanery (Jex-Blake 1899).

Post-medieval modifications to the library

The first modification was enforced by Stillington's rebuilding of the Lady Chapel-by-the-Cloister in the 1480s. This work destroyed, or at least infilled, several of the east-facing windows of Bubwith's first-phase work. Certainly it removed the southern pair of lights in bay 4 and, assuming there was a full complement of fenestration in the wall, both pairs of windows in bays 5 and 6.[53]

Early sixteenth century

It has already been noticed that the west end of Stillington's chapel contains an interesting arrangement of openings, *viz.* a quatrefoil squint flanked by two windows (p. 226). These are all secondary to the fabric of the library[54] (Figs. 197 and 265B), and the purpose of the windows in particular is not easy to determine. They did not light the Lady Chapel. Nor could they have lit Bubwith's library (as they do today) while the chapel was still standing. The way in which the windows closely flank the squint implies that this was a group of lights with a special purpose. Two suggestions may be offered. First, there could have been a small enclosure within the library that served as a watching-loft for the altar, or for relics displayed in the Lady Chapel. Secondly, a small chapel, or chantry, could have been created here, linked to Stillington's building, but there is no documentary evidence to assist with such an identification.

Late seventeenth century

The library suffered neglect and despoliation in the seventeenth century, to the extent that the contents were totally dispersed under the Commonwealth, but some books recovered in 1661, from St Cuthbert's church (Colchester 1974, 3). In 1669–70 the chapter voted the sum of £100 for the restoration of the fabric of the library, and repair of the south cloister.[55] A few months later, the chapter ordered the removal of books and documents to the 'audit room' (over the west cloister), while the archive room (*domus archiva*) was being repaired.[56] Although the archive or muniment room is now only the small chamber at the south end of the library range, this almost certainly had not been created in its present form by 1670. More likely, the whole of the southern half of the range was being referred to here as 'the archives'. The fact that it was deemed necessary to move everything to the west cloister — a not inconsiderable task — suggests that a large part of the east range had to be cleared, not just one bay.

During the 1670s renewed interest was kindled in the library: statutes were passed and a librarian was appointed in 1679.[57] Substantial refurbishment of the fabric began in the following decade. Much of the impetus for this came from Richard Busby, treasurer of the cathedral from 1660 to 1695. He gave £100 for the library in 1672, some smaller sums in subsequent years and, finally, £200 in 1684. The accumulated total came to a little over £322, and on 7th January 1686 the chapter decreed that 'the library... shall be repaired with Dr Busby's benefaction, & beautifyed, as ye said Dr Busby doth desire'.[58] While the library does not appear to have suffered during the Monmouth Rebellion in 1685, the crisis and its aftermath certainly held up work until 1686. The progress of the work can be followed, to a limited extent, through a series of letters written to Busby by the chapter clerk and librarian, Richard Healy.[59] Prior to Busby's involvement, the library was described as 'inconvenient in arrangement and situation & almost overwhelmed by dirt'.[60]

The interior of the east range was stripped and completely refurbished, being replanned as three spaces. First came the outer library, or vestibule, occupying bays 1–8; this space served, *inter alia*, as 'a walke', where members of the chapter took indoor exercise.[61] It evidently did not house books. Second, was the library proper, in bays 9–13, with its five double book-presses ('stands'), desks and seating, all arranged end-on to the west wall.[62] This part was separated from the vestibule by an unpainted pine screen; it is panelled in two registers, with bolection mouldings, and has double doors. This screen presumably succeeded a medieval division, perhaps also a screen, that masked the offset in the thickness of the east wall. Third, at the southern end of the range, in bay 14, was a square, wainscoted room for the muniments or archives, separated from the body of the library by another screen and double doors (Figs. 264, 300A and 308B).[63]

The new arrangements necessitated substantial modification to the fenestration. The five double-sided presses were so arranged that each obstructed one two-light window, while the next lit the space between, where the reading desks lay. The obstructed windows were consequently infilled with brick, and rendered over (Fig. 266). A sixth window in the muniment room was also infilled.

To compensate for the 50% reduction in natural light entering the library, two additional windows were formed in the east wall, opposite the still-functioning lights in bays 10 and 12. Two further windows were created at the far end of the range, one in the east and one in the south wall, to light the muniment room. Each is of two rectangular lights.[64] The two larger windows in the latrine chamber may also have been formed at the same time. There is a fireplace in the south-east corner of the muniment room, and it has already been observed that a chimney of late medieval type rises above this (p. 304; Fig. 294).

The medieval oak ceilings in the library were concealed by lath-and-plaster, in accordance with the fashion of the day.[65] The carpentry was carried out by a 'man from Oxford', who had been recommended to Dean Ralph Bathurst by his friend the Bishop of Oxford (John Fell),[66] and both the cost and progress of the work were matters of dispute with Busby. On 4th September 1686, it was stated that the library was not quite finished, but another fortnight would suffice.[67] In October, mention was made of the new floor in the vestibule, which was described as 'the floore of the outward roome, which you gave mee particular order for, new-made with earth'.[68] Although not specifically linked to the library restoration, the chapter determined on 6th October that Thomas Storre, plumber and glazier of Wells, should be employed for all leading and glazing in the cathedral (HMC 1914, 461). The work was finally complete by November, when Healy reported that 'Wee have a very fine roome, & now only want books'.[69]

Early eighteenth century

Busby's arrangement of the inner library lasted until 1728, when the chapter determined to enlarge the space, having acquired additional collections of books, bequeathed by Bishops Ken and Hooper (whose sumptuous monument is in bay 27 of the cloister). The chapter decreed 'that the partition in the library room shall be taken down for enlarging the same by adding thereto three desks or places for the reception of the books given to the said library'.[70] The partition was duly moved three bays to the north, three matching presses and desks were added, and three more windows on the garth side were blocked. It was unnecessary to create fresh openings in the east wall, there being already four two-light windows of Bubwith's first-period build here. Since the gypsum floor in the vestibule, previously noted, related to the division that was only created in 1728, this would suggest its likely date.

It must have succeeded the earth floor of 1686; at the same time a new oak floor was laid in the extended library (bays 6–8).

It is in this form that the library has come down to us. The eight double book-presses, desks and benches all survive.[71] In 1885 extra book-presses were constructed for the vestibule, which was being refurbished, and became the outer library. These were in turn removed to the west cloister in 1972, and the space rearranged as an exhibition room (Colchester 1974, 6).

Summary of the development of the east cloister

The cloister was conceived in the 1180s on a square plan with four narrow walks and a total of fifty-four bays. The east walk of fifteen bays was set out and the foundations laid, and the north walk may have been treated likewise. Construction of the northern end of the east cloister was in hand before the decision to restore and integrate the adjoining Lady Chapel was made, in or by 1196. This, it is argued, superseded the original intention of erecting a chapter house in the Camery. Changes in the buttress construction and external plinth level, south of the chapel abutment, suggest that the middle part of the walk was erected in a second campaign which was associated with the Lady Chapel, that being completed by *c.* 1200. The two-stage development of the east cloister and chapter house complex at Salisbury is closely analogous, although half a century later. The south door and porch at Wells followed in a third campaign, probably not earlier than *c.* 1215–20.

Thereafter, the development of the east walk has to be considered in two parts, there being numerous differences between the northern and southern halves. Widening the east walk, re-spacing the bays, and constructing stone vaulting over the northern half took place around the middle of the thirteenth century. Presumably this change was at least partly motivated by the necessity of adopting a wide walk for the west cloister, consequent upon the redesign of the west front generally, sometime between *c.* 1200 and 1220. The vaulted section of the east walk was perhaps single storied and flat roofed initially, but it is argued that by *c.* 1260 an upper chamber was added over the first eight bays. Prior to this addition, the Wells cloister probably bore a family resemblance to that at Salisbury. The main difference was that Wells retained its old Lady Chapel as an appendage, instead of building a chapter house adjoining the east walk.

The new first-floor chamber was approached via a small building (office or court room?) with an integral stair-turret, built against the east side of the cloister. The upper chamber was evidently not the library, or a muniment room: its function remains enigmatic. At this stage, the remainder of the east walk, together with the south and west walks, was still single storied with a low-pitched roof sloping into the garth. Nothing survives to tell whether the southern part of the east walk was widened in the thirteenth century to match the rest, but on balance it seems unlikely.

Around 1420, Bubwith began the reconstruction of the east range, which was accomplished in two stages, retaining only the old outer wall and its buttressing. The northern eight bays were rebuilt, introducing tierceron vaulting and a new Perpendicular garth screen, the designs of which were to set the pattern of reconstruction in the cloister for the next ninety years. A well appointed library was constructed on the upper floor, with a new stair-turret giving access.

Some considerable time probably elapsed between the completion of the first and second phases in the east cloister. The southward extension of the library seems not to have been part of the initial concept, although by 1424 Bubwith had clearly decided to continue the range, and made provision accordingly in his will. The extension, it is argued, was primarily a muniment and storage room. The entire range was almost certainly not finished until *c.* 1458, when the library was formally moved from its old home in the cathedral church to the new upper cloister. There is nothing to suggest that there had previously been an upper storey over the southern part of the east range. The need at Wells for what has been described as 'the longest medieval library building in England' is questionable, and it is possible that more than one function was ultimately being catered for in the east range.

As in many matters, Wells's lead was quickly followed by Salisbury where, in 1445, the dean and chapter determined to erect a library and schoolroom over the full length of the east cloister. Ironically, that was reduced to only half the length of the range in 1758, when the southern section was demolished (Tatton-Brown 1995, 9).

It is suggested, on account of the curious arrangement of internal lights between the fifth bay of the library and the nave of Stillington's rebuilt Lady Chapel that a new function was introduced into the former in the early sixteenth century. This might have been the creation of a small, first-floor chapel, or a watching-loft.

It may also have been in the same century, after the Reformation, that the library latrine tower, with its ingeniously contrived hiding place, was built alongside the ninth bay. Although speculative, it is difficult to see this as anything other than a place of concealment during penal times. If so, a date around 1560 would be possible, when Wells had re-embraced the Catholic faith, or anytime over the next forty years, when the city's enthusiasm for Protestantism was sometimes equivocal (Guy 1982, 151–5).

Under the Commonwealth, the library was dispersed, and the rebuilding of the collection only began to be treated seriously in the 1670s, followed by the refurbishment of the building in the following decade. The interior of the library was completely remodelled 1685–86 and further altered in 1728.

9 The Cloister Complex, II: Ancillary Structures, Garth, and West Range

Ancillary structures and liturgical features, mainly associated with the east cloister

In addition to the basic fabric of the east cloister, there were several structures and features in and adjoining the walk which had special liturgical and sepulchral functions. The following can be identified.

The Lady Chapel-by-the-Cloister (Structures 11 and 15)

This chapel was the principal structure, opening off the east walk. It stood where other secular cathedrals had their chapter houses, and where there would almost certainly have been one at Wells, had the cloister design of the 1180s been followed in full. The chapter is recorded as having met in the chapel in 1244.[1]

Prior to 1477, the entrance to the Lady Chapel (Structure 11: see chapter 6) was off the sixth cloister bay, but during the rebuilding of 1477–87 it was removed to the fifth (Structure 15: see chapter 7).

Chapel and image of the Holy Cross-by-the-Cloister (Structure 18)

There were three chapels in the cathedral dedicated in honour of the Holy Cross, one of which bore the suffix '-by-the-Cloister', indicating that it, like the Lady Chapel-by-the-Cloister, was structurally distinct. The history of the chapel is broadly traceable from documentary evidence, while the physical remains of the building have been explored archaeologically.

There was a pyx of the Holy Cross associated with the cloister, described in 1457–58 as 'in the chapel of the Blessed Virgin by the cloister'. The fabric accounts record a donation of 10½d that year. The next record is 1492–93, when £2 0s 1d was donated. This is followed by amounts of £1 8s 7½d in 1500–01 and 16s 3d in 1505–06. Donations had ceased by the time of the next extant fabric roll, 1549–50 (Colchester 1983).

In the closing years of the fifteenth century the pyx was possibly moved to, but not eclipsed by, a separate chapel of the same dedication. The building of the chapel may be related to the considerable increase in the level of donations at the pyx recorded in 1492–93. In 1500, master Thomas Goldwege, a chantry chaplain (*annuellarius*), was granted permission to be buried in 'the new chapel of the Holy Cross-by-the-Cloister' (*nova capella Sancte Crucis iuxta claustram*), and was allowed to prepare his place of sepulture there when he pleased (HMC 1914, 158). He presumably died five years later, since a cash bequest together with two silver rings is recorded in 1505–06 (Colchester 1983, 36).[2]

Fig. 320 General view of the excavated foundations of the chapel of the Holy Cross-by-the-Cloister (Structure 18), with the segmental entrance arch and remains of the traceried screen embedded in the east cloister wall. Scales of 2 m

A related notice occurs in the will of Robert Pemberton, a chantry priest and Fellow of New College, Wells (*alias* Mountroy College, p. 4). The will was dated 13th February 1502, but was not proved until 25th October 1505. Pemberton requested burial 'in the eastern walk (*panella*) of the cloister... before the image of the Holy Rood there, or as near the said image as may be convenient' (SRS 1903, 361–2). Thomas Wade, in his will dated 3rd January 1504 (proved 1st July 1505), made a similar request. He too was a chantry chaplain of the New College of St Anne, who bequeathed his body 'to be buried in the eastern walk (*panella*) of the cloister... before the image of the Holy Crucifix, or in a place near the door of the new Chapel of the Blessed Virgin... as may be most convenient' (SRS 1903, 77).

These are clearly references to burial within the cloister walk itself, and they imply that the image of the Holy Cross was still there, evidently at no great remove from the doorway leading into the Lady Chapel. Moreover, it seems unlikely that the image of the Holy Cross and the chapel of the same dedication in the east cloister would have been significantly separated; nor were they far removed from the Lady Chapel. The likeliest explanation is that the 'Image of the Holy Crucifix' was at the entrance to the chapel of the Holy Cross.

There can be little doubt that the chapel in question is identifiable with the small square building that formerly adjoined the third bay of the east cloister walk (*i.e.* just north of the Lady Chapel-by-the-Cloister; Fig. 196). Only the segmental arch containing the head of its traceried screen remains *in situ* (Figs. 266 and 314). The foundations of the chapel itself were first uncovered by Buckle in 1894, and described as 'the late building, supposed to be an office' (Buckle 1894, 59; pl. 3). Holmes (1908, 32) described the building as 'a shop or stall for the sale of candles and objects of devotion, such as the age was wont to buy'. When its site was fully excavated in 1979, the remains were found to have been seriously damaged, both by the seventeenth-century cloister drain (F146; Fig. 380) and by nineteenth-century trenching (Figs. 12 and 15).

The foundations of the chapel were of roughly coursed, mortared rubble, and were cut through the débris of an earlier building occupying the same site (Structure 12; Fig. 306). A mixture of stone types was used, and there was a slight offset at ground level, above which the walls were 54 cm thick. The foundations and walls abutted the late twelfth-century cloister, clasping one of its buttresses (Figs. 321 and 322). Internally, the chapel measured exactly 3.0 m (10 ft) square.

The cloister wall was pierced symmetrically through the third bay, and a stone screen constructed, extending the full width of the chapel. It has been argued that there was already a small doorway here, which had previously served Structure 12. (p. 295). Doubtless this influenced the siting of the new chapel. There is nothing now visible within the cloister walk,

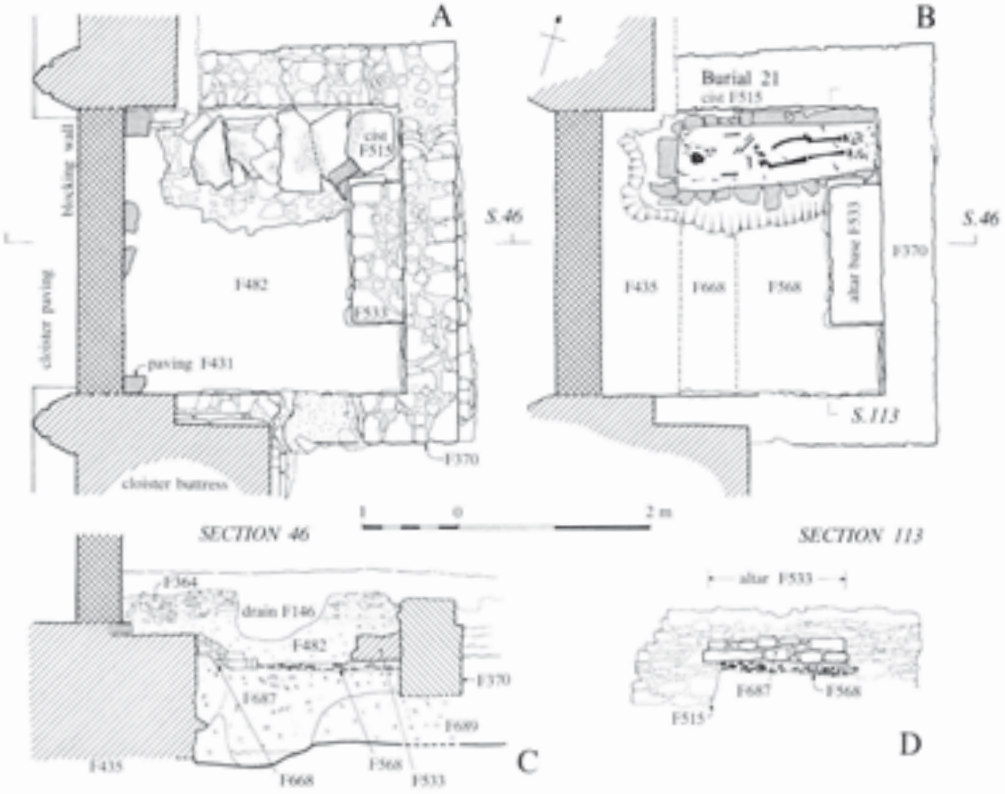


Fig. 321 Foundations of the Holy Cross chapel. A Plan showing remains of the floor (F431), altar foundation (F533), and cover-slabs over the grave (F515). B Plan of the cist-grave and burial 21, after removing the cover-slabs; underlying features are also indicated. C, D Sections. Scale 1:80

Fig. 322 View of the Holy Cross chapel from above, showing the altar foundation and cover-slabs over burial 21. East is at the top. Scale of 2 m

the masonry of which is fully plastered: only the absence of the wall-bench here betrays the former presence of the screen. Outside, in the Camery, the full outline of the opening and its segmental rear-arch are visible. The screenwork has been destroyed, except for the cusped heads of its seven bay-divisions (Fig. 323).

The rubble blocking-wall (F1511) recessed into the former opening probably dates from the later sixteenth century. The upper part of the infill seems to have been reduced in thickness in the nineteenth century, in order to display the remains of the traceried screen. Wallplaster near the base of the blocking, and a single housing for a sill beam, are remnants of the flimsy lean-to structure shown on Paul's plan (Figs. 3 and 380, Structure 28, p. 371).

The chapel floor, which was at the same level as that in the late medieval cloister walk, was paved with Doulting stone, a few pieces of which remained *in situ* (F431). Scarring on the east face of the cloister, and on the adjoining buttress, indicate a low pitched, lead-covered roof. A suggested reconstruction of the plan and a sectional elevation of the chapel are given in Figure 324.

Two contemporary features were investigated within the building which confirm its identity as a chapel: the altar foundation and a single cist-grave. A rectangular base, 1.45 m by 55 cm, built of mortared rubble was centred on the east wall and was undoubtedly the setting for the altar (F533). Alongside the north wall lay a rubble-built cist, internally plastered and capped with slabs of conglomerate (F515). Hard white mortar was used in the construction and rendering. When the cist was constructed — or at least when the burial was inserted — it was necessary to undermine the northern end of the altar foundation, so tight was the space available. Stepped underpinning was then built on top of the cover-slabs, to support the altar (Fig. 325).

The interment, in a nailed wooden coffin, was of a male aged up to 45 years (burial 21); the bone was poorly preserved, with most of the torso missing. The burial was undisturbed and the cist still voided. The dexter arm lay across the stomach and the sinister arm was on the chest; possibly the hands had originally been propped up in an attitude of prayer. There can be little doubt that these were the corporeal remains of master Thomas Goldwege.

Although not expressly recorded as such, the Holy Cross chapel is likely to have been a chantry, and would therefore have been a casualty of Edward VI's act of suppression in 1547. The fate of the little building

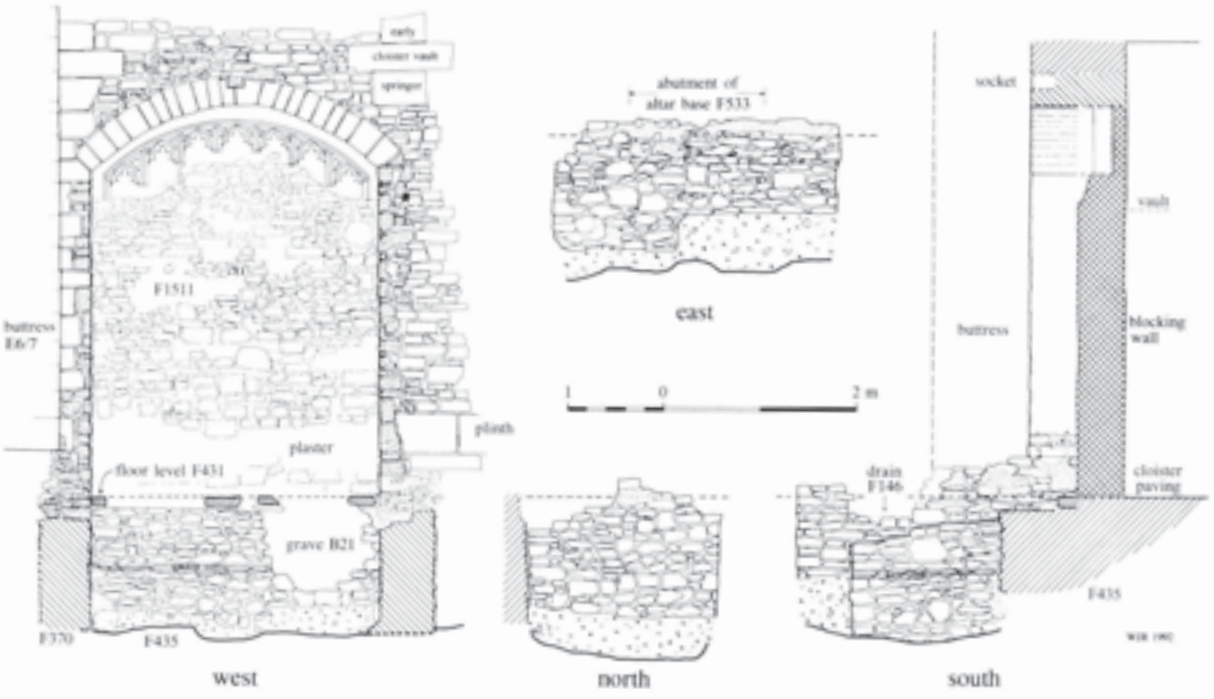


Fig. 323 Internal elevations of the masonry of the Holy Cross chapel. Scale 1:80

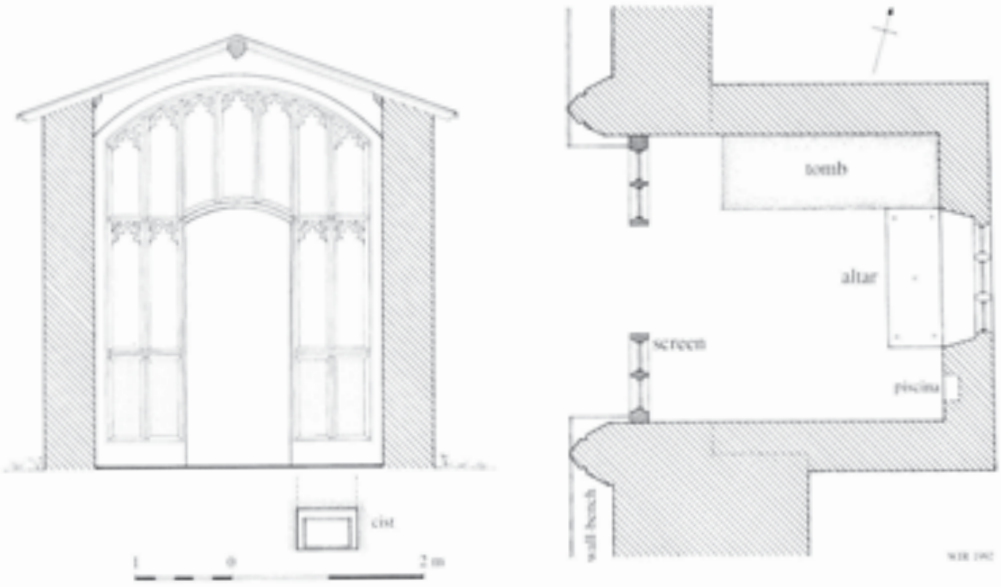


Fig. 324 Reconstructed plan of the Holy Cross chapel, together with a suggested elevation of the traceried screen in the west wall. Scale 1:80

Fig. 325 View towards the east end of the grave containing burial 21, during excavation, showing how the corner of the altar foundation (F533) was propped by stones resting on the cover-slabs of the cist. Scale of 75 cm

is not recorded, but it appears to have been demolished along with Stillington's chapel, after 1552. A lean-to structure occupied the site in the eighteenth century (Structure 28; p. 371).

Setting for an image or pyx in bay 6

An anomalous element, which is repeated nowhere else in the cloisters, occurs in the screen wall facing towards the garth in bay 6, and is sited exactly opposite the original (*i.e.* pre-1477) doorway into the Lady Chapel (Fig. 308A). Here, on an axis of ancient significance, a minor liturgical feature may have been incorporated in the screen. The two lower lights of the southern half of the bay in question are now of the same size and general appearance as the remainder, except that they are crossed by a subsidiary transom, immediately below their cinquefoiled heads. This sub-transom remains intact and is unquestionably an original feature, dating from the early 1420s. A central stooling projects down from it, under which a conventional mullion has later been inserted, but it seems likely that there was originally an unsupported feature here, perhaps a pendant. A related anomaly is the cross-sectional profile of the mullion forming the northern side of this window pair. It is asymmetrically moulded on both its east and west faces, and is unmatched elsewhere in the cloisters; it is not however complemented by the jamb forming the southern side of the window pair. Nothing can be said of the base of the feature, or indeed whether it was at general sill level, since this was cut away in the early sixteenth century by an intruded doorway associated with Structure 19A.

It is difficult to interpret the extant remains, but we presumably see here the architectural setting for a small but special feature: could this have been a placement for an image or pyx? Whatever it was, it was equally accessible both from the east walk and from the garth.

Monogrammed panel in bay 6: site of the pyx of St Saviour-in-the-Cloister?

The late twelfth-century doorway leading to the Lady Chapel-by-the-Cloister occupied two-thirds of the outer wall of the sixth cloister bay. Following the construction of the early fifteenth-century vaulting, the doorway assumed a very awkward relationship to its surroundings, on account of its southern jamb being concealed behind one of the new wall-shafts. Some effort to mask this imbalance seems to have been made, by constructing a stone frame, to form a panelled feature, in the remaining one-third of the bay. This construction, apparently contemporaneous with Bubwith's vault, concealed the moulded northern jamb of the old doorway, thus approximately restoring the balance of the entrance, but not significantly enhancing it (Fig. 326).

The feature comprises two projecting moulded stone ledges, that might almost be described as shelves: one is 1.4 m above the present cloister floor, the other 2.35 m. Their ends are supported on the north by integration with the wall-shaft between bays 5 and 6, and on the south by a specially moulded and engaged shaft rising from a small base seated on top of the wall-bench (for the moulding profiles, see Fig. 309.4, 5). The wall between the two shelves, and beneath the lower one, is now bare plaster, and a section of the wall-bench below has been roughly cut away, leaving a gap 68 cm wide.

Resting on the upper shelf, and surrounded by its own moulded frame, is a rectangular panel of Doulting stone (1.28 m by 0.87 m) sculptured with the sacred monogram, *IHS*, and the letters are adorned by representations of the instruments of the Passion (Figs. 327 and 328). The sculpture is now very eroded and much detail has been lost; it has been limewashed in the past. No trace of colour is visible, but it would undoubtedly have been enlivened with polychromy. The *IHS* monogram, accompanied by the instruments of the Passion, features in many different media including pre-Reformation wallpaintings, not only in ecclesiastical but also in secular contexts, as at Bradley Manor, Devon (Barakan 1986).

The panel is *in situ* and was illustrated by Carter, Gough and Carlos,[3] as well as by a few later antiquaries (*e.g.* Holmes 1908, 31). The southern end of the upper shelf is expanded to form a bracket, upon which a lamp might have been placed. This panel appears to

Fig. 326 Cloister bay 6, showing the outline of the original entrance arch to the Lady Chapel (centre right), Stillington's doorway to the new chapel (far left), and the probable setting of the pyx of St Saviour between the two

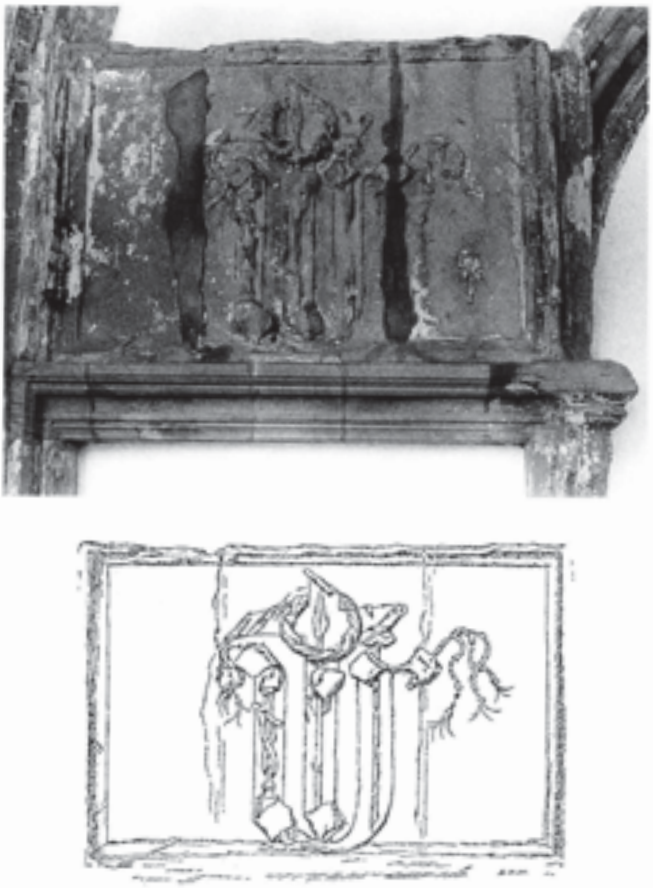


Fig. 327 Upper: The IHS *monogram panel in cloister bay 6, in 1998. Lower: Drawing by Edmund New, 1908 (after Holmes 1908). The panel probably marks the site of the pyx of St Saviour-in-the-Cloister. For its setting, see Fig. 326*

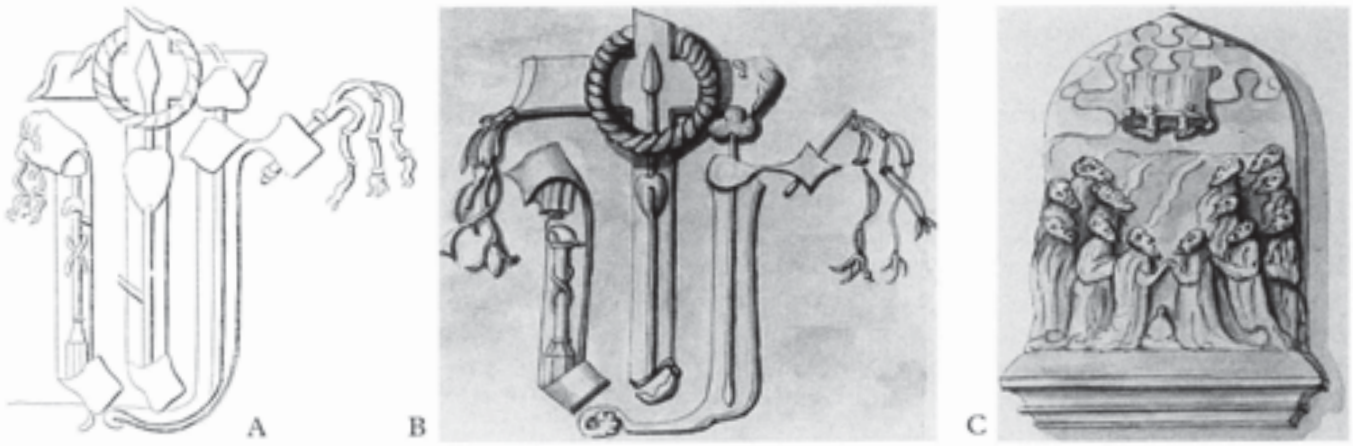


Fig. 328 Devotional artefacts in cloister bay 6. A The IHS monogram, drawn by Carter (after Gough 1786); B The same by Carlos, 1824; C The Ascension panel, illustrated by Carlos, before its removal (B, C, Richard Neale, courtesy of the Dean and Chapter of Wells)

be integral with the fifteenth-century structure below, although set rather high up. There is now no evidence as to what occupied the framed areas between the panel and the intermediate shelf, and between that and the top of the wall-bench. The position argues strongly for an important association with the act of entering the Lady Chapel: a small altar may well have stood here, and the upper framed area would have been suitable for a devotional painting, perhaps a Crucifixion.

It is tempting to suggest that this might have been the site of the pyx of St Saviour-in-the-Cloister, at which small donations were regularly collected. The earliest recorded mention of the pyx, in 1390–91, states that it was 'in the chapel of the Blessed Virgin Mary by the Cloister' (Colchester 1983, 5). The same was recorded in 1457–58 (*ibid.*, 9), but in 1480–81 the pyx was simply 'in the cloister'. The change of wording would seem to indicate that during the rebuilding of the Lady Chapel between 1477 and 1487 the pyx was moved to the cloister; and there it stayed, because references of 1492–93, 1500–01 and 1505–06 all confirm it as being in the cloister and not in the chapel (Colchester 1983).

Whatever the original (*i.e.* 1420s) liturgical arrangement and iconographic significance of the features at the entrance to the Lady Chapel, changes were effected in the late fifteenth, or, more likely, in the sixteenth century when the wall-bench was cut away. The latter act was evidently for the insertion of a feature which has subsequently been removed. The gap is too narrow to have housed an altar, but would have been appropriate to a modest chest-tomb. Moreover, four small sockets were cut into the face of the lower stone shelf, two of which still contain the sawn-off ends of iron bars, each 2.5 cm square in section. These are suitably placed to have been the tips of the longitudinal bars of an effigy cage surmounting a chest-tomb, but all this has subsequently fallen prey to iconoclasm.

The possibility that these features lay within an intra-cloister chapel should not be overlooked. Indeed, it is relevant to recall Leland's observation that Bubwith 'made the est part of the cloyster with the litle chapel beneth and the great librarie over it' (Toulmin Smith 1964, 291). It would have been tempting to identify this entry with the exiguous All Saints' Chapel, were it not for a separate reference by Leland to the site of Cokeham's Chantry which was associated with that chapel (p. 320).

The Ascension sculpture

Buckle (1894, 56) records that there was formerly a sculpture of the Ascension fixed to the cloister wall above the gap in the bench, but that it was not *in situ*, and was moved in 1864 into the north-east transept of the cathedral, where it is now set above the Corpus Christi altar (Colchester 1987, 144). Carlos illustrated the panel in 1824, commenting that it was 'now almost covered with whitewash'.[4] He showed it supported by a neat bracket with a moulding of late medieval type, being of the same profile as that upon which the *IHS* panel rests (Fig. 328C). The Ascension was fixed in the apex of the wall-arch of the cloister bay, above the monogram, but that cannot have been its original position.[5]

The Ascension panel, which is carved in Doulting stone, measures 87 cm by 62 cm and has a four-centred head. It is fifteenth century in style and retains a large of amount of original polychromy (restored in 1975). This panel is undoubtedly derived from a substantial stone reredos, and a possible context for it would be Stillington's Lady Chapel-by-the-Cloister. Although pure speculation, that could explain why the object was erected close to the chapel doorway. Whatever its origin, the sculpture was presumably saved by some pious person at the Reformation, and was erected here as a devotional object. The panel belongs to a local version of a *genus* of altarpiece which is most commonly found in alabaster (*cf.* Cheetham 1984, 288–94).

Burials and tombs in the cloister walks

Floor slabs

With the foregoing observation in mind, it is instructive to study Carter's cathedral plan of *c.* 1795 (Reynolds 1881), in which he shows a well spaced series of floor slabs, approximating to one per bay, in the east cloister (Fig. 264). It is noticeable that these were not generally centred down the walk, but were mostly ranged towards, or even set against, the east wall. A few of the slabs may have been post-medieval, but others — especially those of tapering outline — must have been earlier. It is even feasible that some of the tombs were initially not just floor slabs, but were the tops of standing structures, perhaps accompanied by chantry altars. There is no tomb shown in the sixth bay on Carter's plan, indicating that the obstacle beside the Lady Chapel doorway, noted above, had been removed before the end of the eighteenth century.

The plan gives no indication of any tombs in the south walk, and only one is shown in the west walk.[6] It is not that none existed — some post-medieval monuments certainly did, and they can be seen in Figure 273 — but that they were not of sufficient antiquity to be worthy of notice. As with the tomb-slabs inside the cathedral, Carter tended only to record them if they were sixteenth century, or earlier. Thus, the eleven slabs shown in the east walk are likely to represent the minimum number of important medieval and Tudor burials there. This serves as a poignant reminder of the traditional pre-eminence of the east cloister in liturgical and sepulchral matters. To what extent pre-Reformation tombs have been lost from the south and west walks is unclear. There are a few hints of the former presence of major monuments, especially in the west cloister where, for example, the sawn-off ends of heavy iron bars can be seen embedded in some of the fifteenth-century wall-shafts. These are most likely the remnants of tomb railings, or pricket-stands.

None of the few remaining floor monuments in the cloister walks is earlier than the seventeenth century, although some older slabs are believed to have survived down to the 1960s.[7] It was also reported that when the cloister floors were relaid, 1961–65, a great many burial shafts and vaults were discovered: these were beaten in and rammed with rubble, to provide a solid base for the new concrete paving.[8] No plans or other records were made.

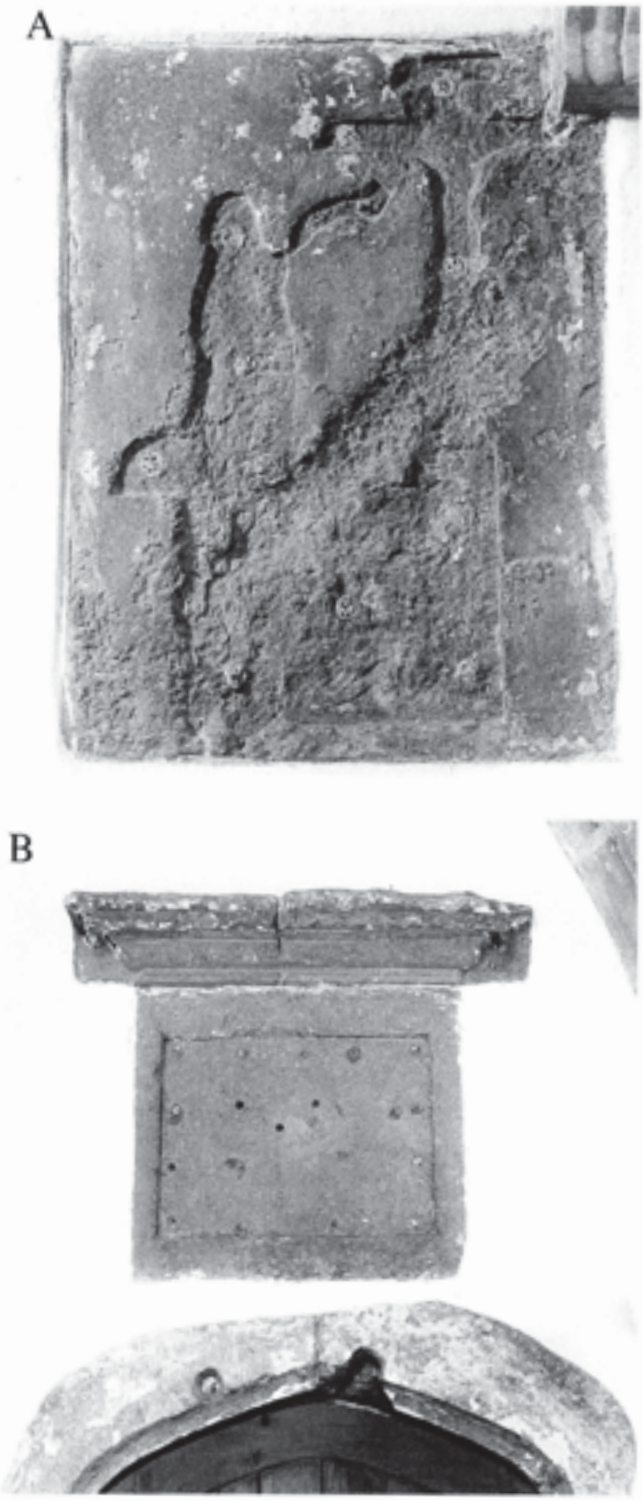


Fig. 329 Indents for brasses in the cloister walks. A Purbeck marble indent set into the outer wall of bay 4; B Doulting stone shelf and indent above the stair doorway in bay 31

Medieval wall indents in bays 4 and 31

Bay 4

Towards the northern edge of the bay is a small, rectangular Purbeck marble matrix for a brass, set into the east wall 1.7 m above floor level. The stone measures 58 cm by 77 cm high, its surface is sunk very slightly below the wallplaster, and there can be little doubt that it is *in situ*. In part, the surface of the stone has flaked, and it has been heavily limewashed since the brass was lost. Only the lead plugs and the rivets remain. The matrix, which is 4 mm deep, formerly housed a small brass depicting a priest kneeling in front of a crucifix, with a scroll issuing from his mouth (Fig. 329A). It dates from *c.* 1500, and has been described by

Connor (1936, 199–200). The composition is generally similar to that seen in one of the fourteenth-century tracery lights in the south quire aisle. There, the donor of the glass kneels before a Crucifixion, and from his mouth issues the words (in abbreviated form), *Domini Iesu Christi passio sit nostra salus et proteccio* (Colchester 1977b, 15).[9]

Stranded amidst an expanse of otherwise bare plaster, this little indent now has no contextual meaning, and its significance has hitherto been overlooked. It is, however, the end panel of an important late medieval canopied tomb that formerly stood against the outer wall of the cloister. Connor (1936, 200) compared it to the panel in the back of Bishop Cornish's tomb of 1513. While the wall-bench in bay 4 gives the appearance of being intact, it is in part a careful reconstruction. The front of the bench is made of smaller-than-usual ashlars, and the stones of the seat have been damaged and patched. An upper corner of the matrix is just overlapped by a marble wall tablet, one of those ejected from the interior of the cathedral and re-erected here in the 1840s.[10]

The evidence points to a major medieval tomb having occupied the fourth bay. Again, this had gone by the time Carter drew his plan, although floor slabs that must once have flanked the tomb are shown (Fig. 264), but they too have since been lost. The identity of the person commemorated cannot be established with confidence, but attention may be drawn to Robert Pemberton and Thomas Wade, two chantry priests who were buried in the eastern *panella* of the cloister, both in 1505 (SRS 1903, 40–1, 77–8).

Bay 31

A second indent, of Doulting stone, is similarly set flush with the wall face of the west walk, in bay 31 (Fig. 329B). It is sited directly above the Perpendicular doorway opening onto the staircase that leads to the chamber above the early porch (Structure 23). The slab contained a simple rectangular plate, 41 cm by 54 cm high, which was recessed into the matrix by 15 mm; there was a small chamfer all round the matrix. Only the lead plugs and brass rivets remain. Immediately above, and clearly associated with the indent, is a shallow stone shelf which projects *c.* 15 cm. The classical detailing of the shelf, a cyma-moulded cornice, with returned ends, indicates a post-Reformation date: the late sixteenth or the early seventeenth century is suggested. The shelf and indent appear in a view of the west cloister in 1818 (Storer 1819, **4**, pl. 7), and were noted, without comment, by Connor (1936, 201).

The indent cannot be the *in situ* end-panel of a tomb, for several reasons. First, the slab is set too high on the wall, being 3 m above cloister floor level; secondly, any related tomb could not have stood immediately in front of it, since that would have blocked access to the doorway; and thirdly, the moulded stone shelf is unlikely to have supported a piece of memorial sculpture.[11] It is perhaps worth noting that the close juxta-position of the shelf to the wall-rib of Bekynton's vault would have allowed only a small, flattish sculpture to stand on it. It is difficult to suggest a context for the lost brass (an inscription?) or function for the shelf: almost certainly they were not related to sepulchral activity. Their position indicates a direct association with the staircase or the room to which it led: perhaps the plate recorded a benefaction. The shelf is too high to have been a lamp-bracket.

The cloister garth, or Palm Churchyard

It may be inferred that the early Gothic cloister had been completed, or very nearly so, by 1243, because in that year the dean and chapter turned its mind to landscaping the cathedral precinct. Building works around the west front generally must have subsided, and the chapter designated new burial areas. It determined that henceforth residentiary canons should be buried in the cloister 'in order according to their dignity, the greater before the less (unless in their lifetime they should elect to be buried elsewhere within the church, or without), beginning at the church door towards the south, as near as might be, and extending straight to the corner of the cloister, and so again. No layman or vicar should be buried among them...' (HMC 1907, 74). Thus, burial begun by the transept door, the graves being laid out in north–south rows across the garth.

Periodic references to interment in the cloister occur and, as a consequence of frequent burial, ground level within the garth has risen by nearly one metre since the early thirteenth century. Most burials were doubtless in timber coffins, but some were more lavish, as the discovery of several monolithic stone coffins indicates. Three such coffins, unearthed in the eighteenth century, are preserved in the cloister walks (chapter 13). Small-scale structures have also been erected in the cloister at various times. Only two of them remain, the stone pentices adjoining bays 4 and 6. However, something is known of the superstructure of the dipping-well, an important feature which survived into the early nineteenth century. Several other constructions, of uncertain age and purpose, have left only scars in the masonry. These are all described below.

A major tidying up of the cloister occurred in 1731–32, when three yew trees were planted, one of which still stands at the centre of the garth (HMC 1914, 523). This action followed complaints of unseemly use. For example, on 30th April 1725, James Bacon, the junior clerk, was reprimanded for keeping horses and sheep in the Palm Churchyard, and for allowing them to come into the church and cloisters. No horses, sheep or cattle were henceforth permitted to feed in the garth (HMC 1914, 512–13).

Pentices adjoining bays 6 and 4 (Structures 19A and 19B)

Antiquaries have frequently remarked on the two roofed enclosures, in the form of little pentices, set between pairs of buttresses on the inner screen wall, and projecting into the cloister garth (Figs. 308A and 330). They were first illustrated by Carlos in 1824. The structures are plainly later fifteenth or early sixteenth century — but are not a matched or strictly contemporaneous pair — and are both secondary to Bubwith's cloister. Since these structures are set into the fourth and sixth bays, leaving the fifth as a normal traceried bay, they form in plan a flanking pair to the post-1477 entrance to the Lady Chapel-by-the-Cloister. This relationship can hardly be fortuitous, and the pentices may therefore be broadly relatable to Stillington's era. Furthermore, that in bay 6 also incorporates an original deviant feature in the design of the cloister tracery (see above, p. 312). These structures have evidently evolved through several stages, to reach their present form.

Each pentice is less than a metre in depth and comprises a westward-sloping stone roof, spanning from one buttress to the next, and attached to the cloister screen at transom level. On the garth side the roof is supported by a pair of broad, low arches springing from a central freestanding shaft of octagonal section, on a square base. The effect is that of a two-bay arcade. The arches have always been open to the garth. The way in which the arch springers have been cut into the buttresses leaves no doubt that they are secondary insertions, and hence later than *c.* 1425.

In each case, a narrow opening has been cut through the tracery and base of the screen wall, providing access from the cloister into, or through, one half of the pentice. Again, there is symmetry: the opening is in the northern half in bay 4, and in the southern in bay 6. These breaches have subsequently been infilled, reinstating the original form of the screen wall. The restoration may date from the late seventeenth century.

Pentice adjoining bay 6 (Structure 19A)

The arches of bay 6 are four-centred and have a mid-fifteenth-century appearance (Fig. 331). Their spandrels are non-matching. The northern arch had a pair of embellished initials, one in each spandrel. The left-hand one survives in a reasonable state of preservation, and is the letter 'B'. The right-hand initial is lost: it had been carved as a loose letter and fixed into

Fig. 330 The two pentices (Structures 19A, right; 19B, left) constructed between the buttresses of bays 4 and 6 of the east cloister. Photographed by T.W. Phillips between 1895 and 1901 (Dean and Chapter of Wells)

Fig. 331 Cloister bay 6, after restoration and glazing in the late 1980s. The southern pentice (Structure 19A) has a crudely infilled opening to the east walk, in the right-hand part. Successive medieval rainwater outlets from the parapet gutter can also be seen: the original spout was the lion's head embodied in the string-course. The library window was blocked in 1728

the central sinking of the spandrel by cutting four small notches as housings, around the edge (Fig. 332A). The letter has fallen out, leaving only the empty housings; while the identity of the initial cannot now be firmly established, the attachment points preclude about half of the alphabet.[12] Presumably the reason for the different treatment of the two letters is the consequence of an error on the part of the medieval letter-cutter, or accidental damage. The spandrels of the southern arch are carved with ribbons, upon which there are likely to have been painted inscriptions. The surfaces are too eroded for any trace to remain.

A doorway, 80 cm wide, was created through the cloister screen, at the southern end of the bay, on the site of the anomalous feature in the lower register of window lights (a possible pyx setting has been suggested: p. 312). The jambs of the windows here were simply extended down to floor level; and the former subsidiary transom became the head of the new doorway.

Fig. 332 Details of the arched heads of the pentices. A Left-hand head of the southern pentice (Structure 19A), showing the initial 'B', and the empty socket of a second letter (lost), in the spandrels; B Right-hand head of the northern pentice (Structure 19B), showing ribbon decoration in the spandrels

Pentice adjoining bay 4 (Structure 19B)

The pair of arches in bay 4 are of Tudor profile, and are clearly later than those in bay 6, but made with general conformity in mind (Fig. 333). The four spandrels of the arches are all carved in low relief with ribbons; the carving is much flatter than in bay 6 (Fig. 332B).

Creating an opening from the cloister walk in bay 4 involved the removal of a single window mullion in the lower register, together with the cinquefoiled heads to the flanking lights. Straight cuts were made through the sill and ashlar below, down to cloister floor level. The opening was 88 cm wide, and no attempt was made to form a rebate for hanging a door. A Tudor arched head was skilfully inserted, in three pieces of stone, below the transom, and was notched into the existing jambs on either side; the spandrels are carved on their east face with plain ribbon ornament. This opening would appear to be *en suite* with the two arches supporting the pentice roof, demonstrating that a link with the cloister walk was integral to the design of the structure, and not a fortuitous later creation.

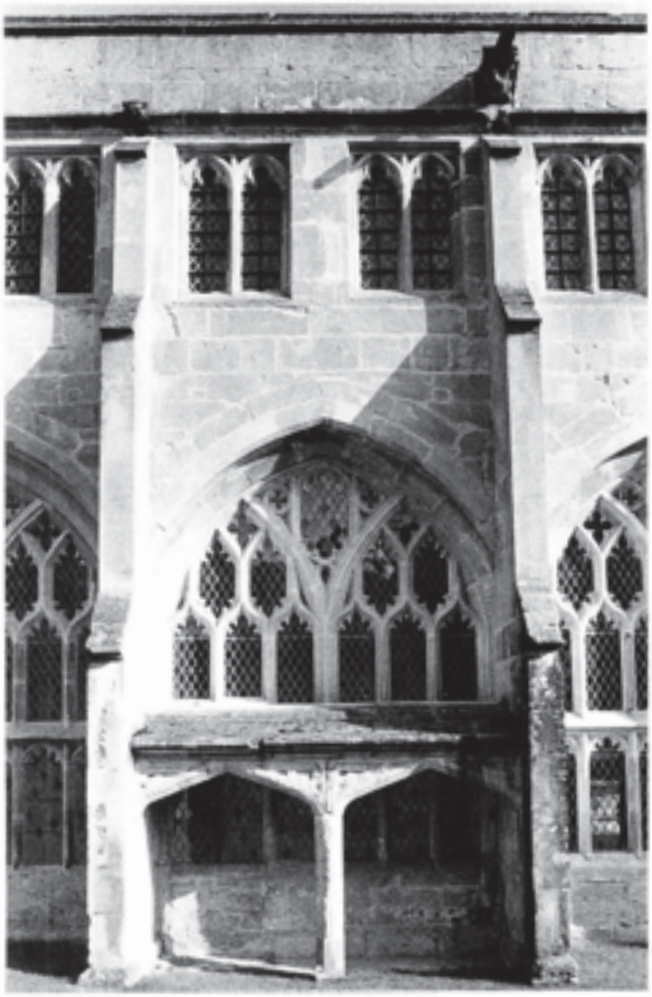


Fig. 333 Cloister bay 4, after restoration and glazing in the late 1980s, showing the northern pentice (Structure 19B)

Discussion

Various theories as to the purpose of the two pentices have been advanced. The earliest description, of *c.* 1810, is the vaguest: 'between the buttresses, a sort of covered place, and the same in the next'.[13] Carlos, illustrating Structure 19B, described it unequivocally as 'the remains of a lavatory', and continued 'the cistern has been destroyed, but there can be no doubt of the original destination of this appendage to the cloister'.[14] He was presumably confusing the structures with a monastic *lavatorium*.

Buckle (1894, 54) described the features as 'curious penthouses', observing that they flanked the entrance to the Lady Chapel 'and have rather the appearance of sentry boxes from which the chapel doorway might be watched; but they need explanation.' The pentices were discussed at some length by Reid (1973, 103–4), who failed to appreciate their constructional history. He considered the possibility of their use as carrels, or reading places, but dismissed this for the obvious reasons of there being no seats within them, and they were always open to the weather on the garth side.

Holmes (1908, 32) claimed the pentices were 'protections for stalls where the devout could purchase candles to burn before the statue of Our Lady'. Another suggestion examined by Reid was 'that the penthouses covered tombs, but there are no signs of monumental attachments to the walls, and tentative excavations recently carried out revealed no burials.' The pentices could not have covered tombs, since their axes run the wrong way: each tomb would have been half inside, and half outside. The 'excavations' referred to by Reid were carried out in 1957 at each end of both pentices, by the masons' yard staff.

In the southern pentice (19A), a large Doulting stone slab was found just below the surface, and this remains visible today. It is level with the cloister walk and evidently served as the threshold to the doorway which was cut through the screen at this point. Part of a similar slab is visible in the northern pentice, also forming the threshold. Wheeler uncovered this fully, and recorded it as a probable grave-cover, measuring 2.08 m by 0.84 m; it was 15–18 cm thick and had a rough upper surface.[15] Digging around the edges failed to reveal a stone-built grave-shaft, but it was noted that the soil under the slab had sunk. The dimensions and east–west orientation of the slab strongly suggest that it covers a grave.

Colchester (1987, 74) described the pentices as 'stone shelters', arguing that they were the place where altar linen was hung to dry, in the pre-Reformation era, after being washed at the nearby dipping-well (Structure 20, for which see p. 323). While the drying shelter theory superficially has something to commend it, on account of the proximity of the dipping-place, it seems incongruous not only that the pentices should flank the entrance to Stillington's chapel, but also that they should have had paired openings from the cloister walk. Moreover, the prominence of the pentices and the obvious importance of the east walk makes it the least likely place in the cloister for the erection of washing-lines. A better place for these would have been between the buttresses on the south side of the nave (see Structure 27, p. 322), or in the Camery.

An alternative suggestion, not previously considered, is that the pentices were shelters for chantry altars associated with distinguished canonical burials in the cloister garth, or possibly in the east walk. On casual inspection, the pentices might appear too low and cramped for such a use, but that is partly an illusion caused by the post-medieval rise in ground level within the garth. In fact, there is sufficient space for a small altar, and adequate headroom for a priest celebrating in front of it.

The earlier shelter, which lay directly opposite the old entrance to the Lady Chapel and the suggested pyx of St Saviour, may have contained an altar that related to a burial immediately alongside in the east walk. An alternative possibility is that the shelter was designed to house a pair of altars, but that only one was installed, and the adjacent opening was cut for convenient access

from the east walk. This is less plausible. The later shelter (19B), with its integral east doorway, could only have housed a single altar *ab initio*. This structure also shelters a tomb-cover which is probably *in situ*.

In view of the volume of liturgical and sepulchral evidence associated with the east cloister generally, it seems appropriate to regard the pentices as part of that panoply. On architectural grounds, the dating of these structures may be suggested during the episcopates of Bekynton (bay 6) and Stillington (bay 4). Indeed, the initial 'B' which occurs in Bekynton's west cloister vaulting is not dissimilar to that surviving in one of the pentice spandrels.[16]

The practice of tucking chantry altars and tombs into odd spaces is seen elsewhere, as for example at Exeter, where Bishop Grandisson's chantry was ingeniously contrived in the base of the west front image-screen, soon after 1369. Low-level traceried openings made in the external blind arcading, enabled a view into the structure (Kelly 1991, plan). This may be compared to the view obtainable through the cloister arcade at Wells.

Chapel of All Saints-by-the-Cloister[17]

Outside the cathedral church itself, the chapel of All Saints was the second most important liturgical focus in the later Middle Ages. Like the Lady Chapel-by-the-Cloister, it was used for ordinations and institutions by suffragan bishops (who were not permitted to use the quire for such occasions), and this implies that the structure was held in high regard. Furthermore, All Saints had a special association with the vicars choral, who both served the chapel and contributed to its funding. All trace of the building has, however, disappeared, and past attempts to determine its location have not been conspicuous by their success. The documentary evidence is confused and contradictory.

In her will dated 7th November 1348, Alice Swansee desired to be buried 'opposite the chapel of All Saints-by-the-Cloister, near to her late son Philip Swansee (HMC 1907, 215). He was a vicar choral and thus, according to provision made in 1243, should have been buried in the Camery, this having been designated as the cemetery for the vicars (pp. 358–9). The seemingly obvious conclusion to be drawn is that the chapel of All Saints was attached to the east cloister, and projected into the Camery, as the Lady Chapel did. All Saints was again mentioned in 1370, in connection with transactions carried out by two vicars choral. These and several later references confirm that the vicars had an established interest in the chapel.

In 1370, Richard Brere and John Stawill, both vicars, transferred property in Southover (Wells) to Nicholas de Pontesbury, sub-dean, for certain payments to be made in connection with commemorative services 'in the chapel of All Saints near the cloister'. De Pontesbury, in his will dated 14th August 1371, desired to be buried in canonical habit 'at the door of All Saints chapel in the churchyard of the Blessed Andrew'. A porch (*porticus*) was to be built over his tomb, and a statue of the Virgin placed over the door of the chapel (HMC 1914, 631–2). This tells us nothing about the location of the structure, except that it probably did not open off the cloister walk, on account of its having an external door, over which a porch could be erected. The cloister was often, but not exclusively, referred to as the 'churchyard'. Moreover, it seems unlikely that a sub-dean would wish to be buried in the Camery, when the canons' designated cemetery was in the cloister.

The next reference introduces William Cokeham, who was succentor from 1375, and whose name was to become inextricably linked with the chapel. Indeed, from here on All Saints' chapel acquired the alternative appellation 'Cokeham's Chantry'. On 12th August 1384, Bishop John Harewell, at the petition of William Odecumbe and William Cokham, canons, granted the church of Kingston (near Ilminster, Somerset) to the vicars choral, to relieve their poverty. An attached condition required a daily mass in commemoration of the Blessed Mary to be celebrated by a vicar, 'in the chapel of All Saints next to (*iuxta*) the Cathedral church' (HMC 1907, 381; 1914, 640). At the mass he was obliged to mention King Richard, various other named secular and ecclesiastical personages, and also Sir William Odecumbe and Sir William Cokham, and the souls of their parents and friends, 'as in a certain missal specially appointed for this purpose by the same William Odecumbe is more fully contained'.

The missal has not survived, but the deed of 1384 has, and it reveals interesting details about the timing of these chantry services (HMC 1914, 640). Why All Saints became known as Cokeham's chantry, rather than Odecumbe's, remains a mystery.

Frustratingly, none of the foregoing references pinpoints the site of the chapel, except that it was close to both the cathedral and the cloister. In this connection, attention might be drawn to the small building (Structure 12) in the Camery, which would appear to occupy the ideal site in the angle between the east cloister and the south transept, but there is no evidence for this having been a chapel (p. 292); and no medieval burials were found in or around it. Moreover, the building was superseded at the end of the fifteenth century by another, Structure 18, which has been identified as the chapel of the Holy Cross (p. 309). The continued existence of All Saints, down to the Reformation, effectively eliminates this site.

Another mention of All Saints, in 1451, introduces a fresh element into the equation, by referring to the chapel as lying 'within the cloister', as opposed to merely 'next to' it (HMC 1914, 679). The point is reinforced in 1493, when Andrew Grauntham, a vicar, desired in his will to be buried in All Saints' chapel 'within the circuit (*infra ambitum*) of the churchyard commonly called Pardonchyrcheyard' (HMC 1914, 694). This detailed description, and

especially the use of *ambitum*, points to the burial's having taken place in the cloister, and possibly within one of the walks.

Thus, in the second half of the fifteenth century a significantly different form of wording was used to describe the location of All Saints' chapel, but in 1526 it was again referred to loosely as Cokeham's chapel, lying 'in the south churchyard' (HMC 1914, 699). The final mention comes on 13th May 1538, when John Smith, vicar choral, was collated to the chantry in the chapel of All Saints in the churchyard called 'le Palme Churche yard' (HMC 1914, 248). From these later references, there can be no ambiguity that the chapel lay within the cloister garth.

The chapel's site and point of entry from the cloister are not known: Colchester (1987, 23) suggested that the structure stood at the centre of the garth, but the wording of some of the references points to a closer proximity between the chapel and the fabric of the church, and the cloister walk. There is no evidence for the former attachment of any building to the fifteenth-century screen walls surrounding the cloister, and the pentices (Structure 19) between the buttresses of bays 4 and 6 are too late to be relevant. Were it not for this negative testimony, a possibility might have been that All Saints' chapel was physically within the east cloister walk, thus bridging the divide between the canons' cemetery and the vicars' cemetery.

Although neat, the hypothesis entirely lacks physical evidence in support. More positive indications are seen in the form of scars on the south side of the nave, and on the flanking transept and south-west tower walls, confirming that several structures have been lost from the northern end of the garth. This returns us to the problem of the north cloister, and the case for its former existence has already been considered (p. 266). Moreover, when Leland visited Wells in 1542 he evidently saw All Saints' chapel hereabouts:

> There is no part of the cloystre on the north side of the area to walk yn, for it is onely hemmid with the south isle of the body of the chirch. Ther is only a chapelle yn that side of the area by one Cukeham. (Toulmin Smith 1964, 293)

Leland's observation would appear to clinch the location of the chapel: it was surely built in the north cloister walk? That certainly meets all the description criteria.

Finally, it should be noted that, although the Camery was designed in 1243 as the vicars' cemetery, it had ceased to be used as such in the later fifteenth century, almost certainly on account of the construction of Stillington's chapel there. In 1488–89 the keeper of the fabric was charged with assigning 'a convenient burial-ground for the vicars choral and all minor ministers of the church ... canons only excepted' (HMC 1914, 116). This still provides no more than a partial explanation for the presence of vicars' burials in the cloister.

Building in the north-east angle of the garth (Structure 21)

At some time, a lean-to structure has stood against the west face of the south transept (Fig. 334). A series of three sockets to receive beams has been cut at 1.6 m above the present ground level, and the median string-course around the southern bay of the transept aisle has been interrupted in three places, evidently to accommodate vertical divisions within the structure. The plinth and its string-course have also been damaged. A former roof-line, potentially associated with this building, can just be made out as a mortar line on the south-west buttress of the transept, around which it wraps. The shadow is preserved on the north, west and south faces (Fig. 299).

Evidently, the building had a monopitched roof with an angle of 45° which must have blocked the lower part of the aisle window. There is no evidence of this roof-line ever having continued south, onto the 1420s masonry of the first cloister bay, and nor are there any scars of former structural attachment. This should indicate that the lean-to preceded Bubwith's rebuilding.[18] On the other hand, if Structure 21 was a rectangular, lean-to timber building, internally partitioned, and partly blocking the transept windows, its form is more immediately suggestive of a post-medieval date.

The picture is further confused by the fact that in the south face of the south-west buttress of the transept there are at least two sockets for timbers, which cannot be related to the fifteenth-century cloister fabric. They are in a position which would have fallen within the first bay of the north walk. Whether the sockets belonged to that (p. 267), or to Structure 21, remains uncertain.[19]

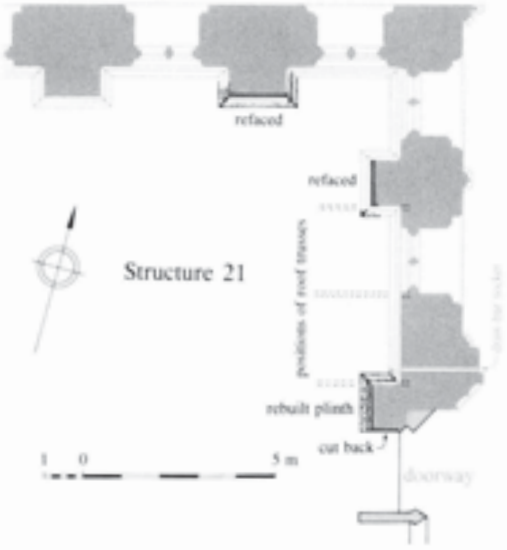


Fig. 334 Plan showing evidence relating to a lost structure in the north-east angle of the cloister garth (Structure 21), and the scars resulting from other interventions in the late twelfth-century fabric. Scale 1:200

This is, however, only part of the evidence for structures in the angle between the transept and nave: there may have been several. Evidence of a different kind comes from repairs carried out to the masonry of the easternmost buttress of the nave aisle. Nearly all of the ashlar on the south face of this buttress has been replaced, up to and including the first offset and weathering; some of the quoins have also been renewed. Several of the replacement stones bear distinctive vertical claw-tooling of the kind often found in eighteenth-century work. The implication here is that a masonry structure had been bonded into this buttress, and its removal left a major scar, which necessitated refacing.

Without excavation, nothing further can be said about Structure 21 and the north cloister, since the two appear to be inextricably linked. Moreover, if All Saints' chapel, *alias* Cokeham's Chantry, lay hereabouts it is likely that the scarring we see today is relict from several phases of activity, including post-Reformation use of the site.

Structure in the north-west angle of the garth (Structure 26)

Here also are the tell-tale scars of a masonry structure having been attached to the south-east corner of the tower (Fig. 335). Again, more than one structure may be involved.

There is evidence of masonry attachments to the two corner buttresses of the tower. The south-facing buttress has a large patch of renewed ashlar on the upper part of the plinth, more than 2 m above ground level. It also has a small amount of rubble core exposed beneath the lowest chamfer; these features, which may be associated with the loss of the north cloister walk, have already been noted (p. 267). Less likely to be connected directly with the cloister is the renewal of all the lowest register of the chamfered plinth, and most of the ashlar below that, on the east face of the same buttress, and on the south and east faces of the adjacent buttress. The latter also has rubble core exposed immediately above ground level, and what appears to be a cut-back Doulting stone bonding-block, running east.

All this evidence could be accounted for by the existence of a small building (Structure 26) in the angle between the former north cloister walk and the buttresses of the south-west tower. Nothing further can be deduced without excavation.

Pentices adjoining the south nave aisle (Structure 27)

The buttresses defining the four westernmost bays of the south nave aisle all have small pockets cut out of their salient angles, at a height of 1.6 m above modern ground level. These features are at the same level as a series of timber sockets in the main wall face, all of which are tucked into the angles with the buttresses. Also, on the east face of the south-west tower are traces of a 45° weathering-line for a roof running up to the underside of the median string-course.

The evidence bespeaks a series of four small timber pentices erected between the aisle bays (Fig. 335, Structure 27A–D). They may either have been open fronted, or enclosed timber-framed structures; there is no evidence of masonry attachment to the aisle buttresses. No indications of a likely date are forthcoming. These, it may be observed, are more likely candidates for linen-drying shelters than the east cloister pentices (p. 319).

The screen wall

The nature and detailing of the traceried screen is a matter of interest. It has already been observed that the small tracery lights were glazed, and so too it seems was the upper register of main lights, but the lower register was certainly left open (p. 298). A great deal of stone replacement has been carried out during nineteenth- and twentieth-century restorations, and redundant glazing grooves have not been

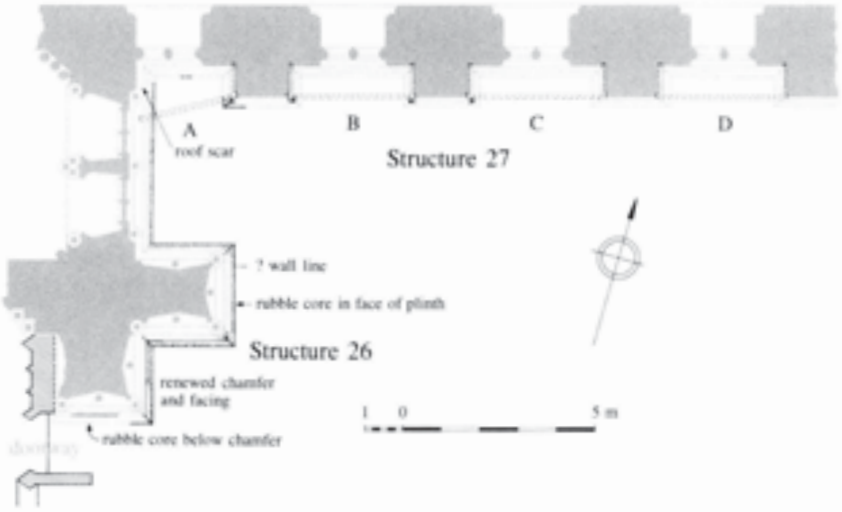


Fig. 335 Plan showing evidence relating to lost structures in the north-west angle of the cloister garth (Structures 26 and 27), and the scars resulting from other interventions in the twelfth- and early thirteenth-century fabric. Scale 1:200

replicated. Since a detailed study of the evidence was unfortunately not undertaken prior to the modern glazing programme of 1979–87, it is now impossible to be certain whether consistency obtained in the treatment of the openings in the Middle Ages, throughout the three walks.

Although the mullions and responds are internally rebated, and could thus theoretically have been fitted with shutters, not a trace of metal fixings exists, and their absence is definitive. There was thus evidently no means of blocking the lower lights in inclement weather, although the upper-level glazing would have reduced the impact of driving rain within the walks. In the thirteenth century the unprotected openings would have been even larger, as they still are at Salisbury,[20] which proves conclusively that the walks of secular cloisters were not fitted out as places of study. There is no hint of the former existence of carrels either in stone or in timber.

A detail which seems to have escaped notice hitherto suggests, however, that changes in the pattern of cloister use occurred at Wells which involved blocking all the lower lights. Every intact bay exhibits, on the garth side, a set of three small, rectangular pockets cut out of the two jambs and the central mullion, respectively. The cutting has been neatly done, and the pockets are all on a single plane halfway up the lower register, 1.2 m above present ground level. In the back face of each pocket is a drilled hole to contain a wooden plug that doubtless received a metal fixing, presumably a nail. The evidence is consistent with there having been a horizontal wooden rail, 8.5 cm high by 5 cm wide, fixed around the entire garth wall. The only places where the pockets are absent (apart from in replaced masonry) are the jambs of doorways. The rail was, however, carried across the secondary opening in bay 35 and across the backs of the pentices in bays 4 and 6.

The purpose of the rail may reasonably be deduced: it was a batten to hold wooden boards in place in the lower lights. By inserting boards in the external splays of the openings it made them substantially more weatherproof than if they had been fixed from the interior. Once in place, with the batten nailed on, the lights were securely sealed. This was an expeditious means of closing the apertures. It was done carefully and obviously with the intention of being permanent. Dating this change, and suggesting its purpose, can be little more than guesswork. It is obviously later than 1508, the completion date of the south walk, and in view of the pentices being obstructed a date after *c.* 1550 is implied (assuming that the pentices were shelters for chantry altars; p. 319). On the other hand, it is difficult to explain why the rail crossed the inserted doorway in bay 35.

In terms of the upper end of the timescale, the filling must surely be earlier than the 1640s, when the cloister glazing would have been wrecked by the Civil War disturbances, and shuttering the lower lights would have been pointless. Later in the same century, the cloister was used to house prisoners during the Monmouth Rebellion. Maltreatment of the cathedral was again a sign of the times. The only record of works on the cloister at that period is found in the Wells Receivers' Accounts for 18th August 1685: 6d was spent on beer for the smith and carpenter when they secured the 'cloyster doors'.[21] The cloister at Salisbury had been used as a prison for Dutchmen in 1653 (Tatton-Brown 1995, 8).

On balance, the modification to the lower lights is most likely to date to the second half of the sixteenth century, when the cloister served no liturgical purpose, and was perhaps made over to a secular use that required it to be weatherproof. Even though the exact use cannot be defined at present, it may also provide the context for several other minor modifications. Amongst these the following may be mentioned: the erection of pentices between the buttresses of the nave aisle (Structure 27); the cutting of a wicket in the south cloister door (p. 280); the crude widening of the inserted doorway in the screen wall in bay 35, sufficient to admit a small cart; and perhaps the loss of medieval tombs from the walks.

The dipping-well (Structure 20)

The dipping-well (or 'Dipping-Place', as it is now known), lies asymmetrically within the cloister garth, towards its east side. Today, it appears as little more

Fig. 336 View into the Dipping-Place, c. 1980. The intrusive tombs on the right are those of Bishop (Baron) Auckland (1870) and Canon Fagan (1875) (S.W. Kenyon)

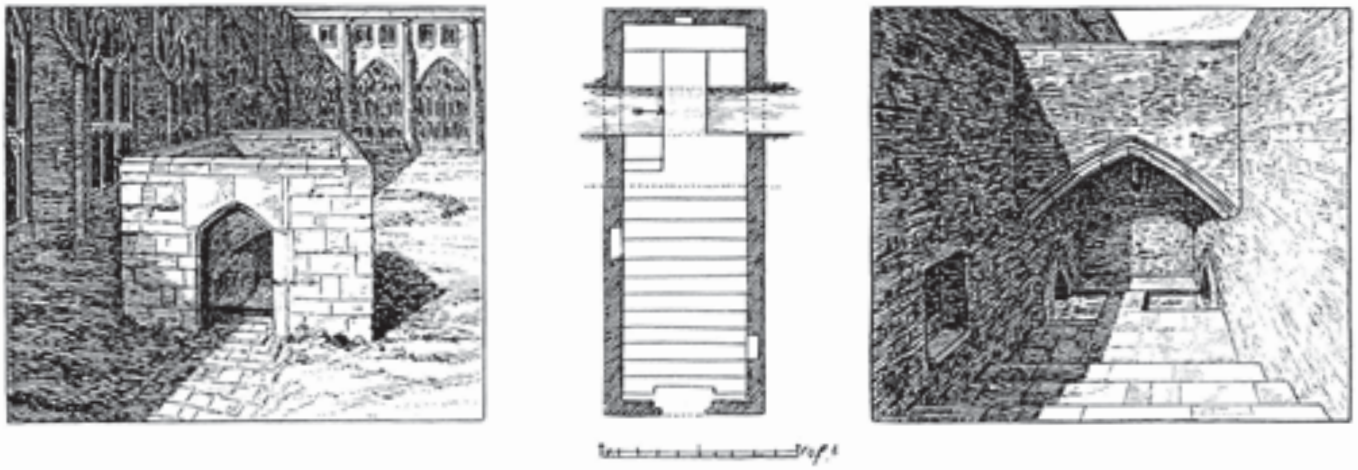


Fig. 337 Plan and perspective views of the Dipping-Place as recorded by Carter in 1794. Note the upper storey erroneously added to the south cloister. After Carter 1795

than a hole in the ground, bounded by an iron railing, but it was formerly surmounted by a building (Fig. 336).

Since the conduit feeding the well followed the alignment of the Anglo-Saxon cathedral, it inevitably took a skewed course through the Early English cloister, and the dipping-place was likewise constructed askew to the new plan (Figs. 16 and 279). The layout dates from the end of the twelfth century (p. 384), although the superstructure of the dipping-well may not have been built until the early part of the following century. There is no tangible evidence to indicate whether an attempt was made above ground to disguise the divergent alignments by a suitably planned structure over the dipping-well, but it must be considered likely that that was the case. The structure was rebuilt in the fifteenth century in the form of a rectangular walled enclosure, now destroyed: the latter demonstrably reflected the alignment of the conduit.

Evidence for the plan and form of the late medieval structure is preserved in sketches made by John Carter in 1794 (Carter 1795, 36, pl. xliii).[22] These were redrawn and published by Church (1894a, opp. 19; 1894b, opp. 425), together with a brief description of the feature.[23] Carter's sketches are reproduced here, as Figure 337. The structure is indistinctly shown on Simes's map of 1735, and Carlos illustrated it in 1824 (Pl. III).[24]

The Early English structure

As originally constructed, the dipping-well comprised a rectangular stone-built chamber measuring 3.4 m by 1.7 m internally, set astride and perpendicular to the conduit. The chamber, which has a simple stone-slabbed roof, is entirely subterranean, and nothing remains of the superstructure which undoubtedly surmounted it. Within the span of the chamber the pointed barrel vault was omitted from the conduit itself. There were simple lancet arches in the east and west walls, echoing the internal profile of the conduit, and in the walls above these are two-centred relieving arches (*cf.* Figs. 392–3). The water flows through an open channel in the paved floor of the chamber, and a centrally placed stone slab formerly bridged the channel, providing a convenient standing place when dipping a receptacle into the water. There is also a step down from floor to water level on the east side of the chamber, and Buckle suggested that its purpose was to facilitate easy access when the water was low (Buckle 1894, 47).

The chamber has solid walls on the east, south and west, but is open-sided to the north, being spanned by a broad two-centred arch with a moulded profile, now badly eroded (Fig. 289.8). This was the entrance from an outer chamber, the original form of which is unknown; there must have been a ramp or steps descending from cloister ground level. The south wall of the chamber is plain except for a small rectangular niche which was probably a lamp-recess.

The late medieval structure

The original superstructure was demolished, and the entrance to the dipping-well was modified, probably around the middle of the fifteenth century, when the east and west walls were extended northwards by *c.* 3 m, and a new flight of stone steps introduced to provide a direct approach from the north. The walls flanking the steps partly obscured the moulded jambs of the original arched side of the chamber, showing that the entrance area was reduced during the reconstruction.

The fifteenth-century walls were carried above ground level to a height of *c.* 2.5 m, and were continued around the older, vaulted part of the dipping-well, as an enclosure. The wall was topped by a symmetrical, two-stepped coping. Thus the late medieval superstructure over the well was rectangular in plan, measuring 6.40 m by 2.44 m externally. An opening with a four-centred head and moulded (plain chamfered?) jambs, sited at the head of the steps, formed the new entrance from the cloister garth. The rebated jambs and the arrangement of the top step imply the

former presence of a door, although none is shown in the surviving illustrations. Part-way down the steps two non-matching, rectangular recesses were provided in the flank walls. The purpose of these is unclear: that on the east, still remaining, appears to be a wall cupboard, while its counterpart on the west no longer exists. The latter appears on Carlos's view as a mere slot. He also shows a rectangular cistern in the south-west corner of the chamber.

Demolition

The late medieval superstructure of the dipping-well was entirely demolished in the early nineteenth century, the steps were robbed out, and the entrance infilled to ground level. The feature was lost from sight. Two important interments were made in the latter part of the century, hard against the west side of the former dipping-well, and in so doing one of the walls flanking the steps was destroyed. This side of the well now comprises brick and concrete.[25]

Destruction may have occurred in the 1820s, when the cathedral environs were 'tidied' and purged of sundry other historic structures. Coney's undated plan (*c.* 1814) clearly shows the feature, which he labelled 'sewer' (Coney 1842, 2; Dugdale 1846, **2**, 274). Britton's plan of 1823 does not depict the dipping-well, although its site is noted as 'ancient lavatory' (Britton 1836a, 100, pl. I). However, the structure was still open in 1824, when Carlos described and illustrated it:

> In the centre of the enclosed square is an extensive lavatory in a good state of preservation & still sufficiently perfect to shew its original destination. It is an oblong square building without a roof surrounding a sunk area and having an entrance at one end ... from this entrance a flight of steps leads to the floor and at the upper end is a recess covered by a pointed arch, the recess is partly filled with rubbish but a stone cistern exists on one side in a perfect state, a low arch opposite the cistern allows the passage of a small stream of water, one of the numerous wells from which the city derives its name & this small rivulet still keeps its ancient and silent course. The recesses near the arch ... were for towels and other utensils.[26]

No sign of the dipping-well appears on Garland's plan of 1836, by which time it had certainly been levelled (Winkles and Winkles 1836, opp. 89).

The infilled dipping-well was evidently examined, as part of the explorations carried out by Buckle in 1894, and Church (1894b, 425) referred to the fact that 'late excavations have also brought to light the foundations of a building over an old watercourse in the Palm Churchyard'. He further reported that 'the building... was in existence within the memory of some now living at Wells.' However, the site was not opened up permanently to view at the time, and it was not until the early part of the present century that the dean and chapter caused the existing iron railing and steps to be constructed. The awkwardness of the present access results from the need to erect a wall to retain the intrusive Victorian graves on the west, and to support their monuments (Fig. 336).

Discussion

The dipping-well has attracted a certain amount of antiquarian interest, and various hypotheses regarding its function have been advanced, but never seriously evaluated. The earliest reference to the feature is in 1322, and the context implies that water was drawn here (HMC 1907, 181). Carter (1795, 36) regarded it as a *lavatorium*, or 'ancient bath', describing its use thus: 'Having descended the introducing steps, we see on our left an aumbury, or cupboard, for keeping of linen, etc. Before us is an arched headway, directly over the bathing place, and to the right and left are the arches of the aqueduct.' Carter was rather too obviously influenced by the baths of classical antiquity.

In Buckle's time it was popularly supposed that the place was a latrine, or 'gong', and was labelled as such on Paul's plan (Fig. 3). The feature may well have degenerated to such a use in post-medieval times, but Buckle successfully dispelled the notion that that was its original function. Such was the importance of clean water in the cloister that, in the early fourteenth century, the chapter closed the privy in the Camery because it was found to be fouling the supply to the dipping-well (HMC 1907, 181). Buckle correctly summarized the position: 'The building was intended for dipping water and for washing linen; the water required for the cathedral was drawn here until the introduction of the modern supply pipes' (Buckle 1894, 47). The term 'dipping-place' seems to have been coined by Buckle, and has been retained ever since.

It was an extension of the concept that the dipping-well was used as a washing place that led Colchester (1987, 74) to posit the two stone pentices against the east cloister walk as shelters for drying linen, an explanation which is here rejected (Structures 19A–B: see pp. 317–20). For possible drying shelters along the north side of the cloister, see Structure 27 (p. 322).

When sketched by Carter and Carlos, the dipping-well lay in a walled enclosure, open to the sky. We may, however, question whether it had formerly been a roofed building. This is feasible for several reasons. First, the provision of a wall at least 2 m high, with an integral doorway, seems disproportionately substantial for a roofless enclosure housed within the cloister. Secondly, it seems curious to provide lamp recesses, or linen cupboards, in a structure that was roofless.

In conclusion, the dipping-well, in its last recorded form, was a simple, open building set over a flight of steps leading to a subterranean water supply. It was

reconstructed in the mid-fifteenth century, potentially under Bekynton, as part of the piecemeal cloister refurbishment programme (pp. 246–57).

However, none of the late medieval and post-medieval uses — actual or supposed — explains the origin or, necessarily, the primary function of the underground chamber in the late twelfth or early thirteenth century. The labour and cost involved in building the great conduit across the Camery, and through the cloister, would have been considerable, and the provision of a water supply, direct from St Andrew's Well into the heart of the cathedral building complex, must have been the *raison d'être* for its existence. In view of the markedly asymmetrical location, it would appear that there was no intention on the part of the builders of making a conduit-house a central focus within the garth, as was the case in some monastic cloisters. Notwithstanding, it is noticeable that the feature lies axially opposite the small east entrance to the cloister from the Camery (Fig. 279). This is not on the east–west axis of the cloister, but the displacement would not have been specially noticeable when there was a north cloister. In this respect the siting of the dipping-well at Wells is analogous to that of the cloister well at Gloucester (which is on the east–west axis, but closer to the west cloister range than to the east).

The association of a well, or conduit, with the cloister was commonplace in monastic houses, but the only other certain occurrence of the phenomenon in a secular context is at Sarum. Although outside the garth, a rectangular chamber described as a well-house occurs just beyond the east range and, like Wells, its plan is askew to the cloister (Fig. 354.3). The age of the well at Sarum is uncertain, but it, and the skewed alignment of the well-house, undoubtedly belong to a phase earlier than Bishop Roger's cloister of *c.* 1110–25 (RCHME 1980, 21, and fig. opp. 15).[27]

The considerable expense of constructing the conduit at Wells, and of forming the chamber for the dipping-well within the cloister garth, close to the east walk, demonstrates the great importance that Bishop Reginald attached to the provision of a water supply direct from the holy well to the cathedral church. Wells are sometimes found inside medieval churches (as in the crypts at Winchester and Glasgow Cathedrals), or within monastic cloisters (as at Gloucester Abbey, later Cathedral); it would have been a simple matter to dig a well within the church or cloister garth at Wells, if the provision of water *per se* was the basic criterion. Instead, an infinitely more costly operation was undertaken in order to channel a specific supply of water from the place of its origin to a required destination.

The desire for a dipping-well in the cloister may have been influenced by the well-house at Sarum, but the arrangements at other sites were doubtless also influential. Almost exactly contemporary was the construction of an underground well-chamber at Glastonbury Abbey. There, the so-called St Joseph's Well lay against the north side of the former Anglo-Saxon cloister, under the south wall of the Lady Chapel (Rahtz 1993, 84–7). Although ill-known, a dipping-well lay adjacent to the south side of the quire at Exeter (Fox 1956).

Until such time as excavation takes place in the cloister at Wells, nothing certain can be claimed regarding the original superstructure of the dipping-well, except that it must have been larger than the restrictive little building which superseded it in the fifteenth century. Given the one-time importance of the cloister as a prestigious element in the cathedral complex, it seems highly unlikely that the dipping-well would have been a small and architecturally undistinguished structure, occupying an aberrant alignment within a new and skilfully designed rectilinear plan. The superstructure must surely have been intended to disguise the alignment of the underground component.

Two alternative arrangements may be considered for the superstructure of the dipping-well. First, it could have been integral with and entered from the narrow east cloister, in the same way that some contemporary monastic *lavatoria* were (*e.g.* Durham; Neath Abbey, West Glamorgan; and St Augustine's, Canterbury). Secondly, the subterranean structure could effectively have been obscured by a free-standing building within the cloister garth. Wells had no need for a *lavatorium* in the monastic sense, but a monumental well-house or conduit-head would have been entirely appropriate to the ambience that successive bishops sought to create in the late twelfth and early thirteenth centuries. Interestingly, the earliest surviving reference to the dipping-well by name, in 1582, describes it as the *lavarum*.[28] Although it can be no more than conjecture, it is possible that the well was topped by a free-standing polygonal structure with a vaulted roof. The fragments of thirteenth-century vaulting with dog-tooth ornament, previously noted, are of a scale ideally suited to such a structure (p. 292; Figs. 289.12 and 304).

Finally, the suggestion has been made from time to time in antiquarian literature that the dipping-place was an outdoor baptistery. Attractive though this notion may be, it is not readily sustainable: open-air baptism had long been an anachronism by the early thirteenth century, and the cathedral had been supplied with a font several centuries earlier (p. 149). The only medieval reference (1457–58) to a 'baptistery' at the cathedral specifically describes it as being 'in the church' (HMC 1914, 87).

Structure and function in the west cloister

Introduction

The west cloister is a complex range which has been subjected to many changes and counter-changes. Unlike its eastern companion, the west cloister played

little or no direct part in the liturgical life of Wells Cathedral. Procession along the walk was probably the principal feature in this connection. The uses to which the upper range was put, along with the various adjuncts that grew up, were either non-liturgical or straightforwardly secular. No detailed record of the fabric has ever been made, no archaeological excavation has taken place, and as yet there has been little attempt to analyze or explain the structural history of the range. What follows is therefore only a first essay into the subject.

With the exception of the porch near to the midpoint, there is no evidence to suggest that the west cloister was encumbered with structural adjuncts of any kind prior to the mid-fifteenth century. Since then, however, an agglomeration of features has concealed virtually the entire outer wall face, apart from the northernmost bay, W_1 (Figs. 340–2), and even that had a structure in front of it at one time. In the late Middle Ages a new cloister entrance was created three bays to the north of the old one, and another porch was built. That still serves its original purpose as one of the principal entrances to the cathedral from the town.

Primary structure

Problems concerning the design and plan of the west cloister, as originally conceived, have already been discussed, with the conclusion that the foundations could have been laid out along with those for the primary west front (p. 264). It has further been argued that some of the cloister superstructure was also erected before the modified west front was built, thus fixing the present position by the opening years of the thirteenth century. A more detailed examination of the salient features of the west walk may now be given, and its structural development traced (Figs. 338 and 339).

The earliest upstanding masonry of the west cloister is the outer wall (for at least half its height), and the two northernmost buttresses. The latter differ significantly in design from those of the east cloister, and from the remainder of the buttresses of the west range. Indeed, it is clear that bays W_1 to W_3 come early in the claustral sequence. However, there has been a long-held assumption, frequently reiterated, that the west cloister is assignable to Jocelyn's episcopate (1206–42), and the period around 1230 has found general acceptance (Colchester 1987, 70), although dating as late as *c.* 1240–60 has also been proposed (Pevsner and Metcalf 1985a, 322–3).

Apart from the fact that doubts have been expressed from time to time concerning the age of the plain, bold plinth of the west front, *vis-à-vis* the date of the ornate superstructure, the evidence of the so-called bonding between the outer cloister wall and the south-west tower buttress is not necessarily all that it seems. The problem was touched upon in chapter 8, in relation to the development of the west front.

Much has been made of the structural bond, which rises to a height of 2.6 m above ground level (Colchester 1987, 71), but interpretation is far from straightforward. First, we must ask why bonding suddenly stops at this level, with the cloister thereafter butt-jointed to the tower. Second, if the presence of a partly-built cloister was taken into account as the west front was being constructed, why is the connection between the two so plainly botched? (Fig. 282). Third, if the two components were laid out and begun simultaneously, why is there no union between their respective plinths?

The cloister plinth is of critical importance, and seems to have escaped attention hitherto. Present ground level alongside the west front is more-or-less correct in relation to its own plinth and its doorways (the ground has probably risen 10–15 cm since the thirteenth century, but no more). This contrasts with the cloister wall, where no plinth is visible today. It is entirely buried.[29] As now seen, buttress $W_{1/2}$ exhibits curiously stumpy proportions, with its first weathering at too low a level. Soil probing indicates that the chamfered plinth here is some 30 cm below ground surface, and that the level from which the cloister was built was *c.* 60 cm lower than at present. This additional height would restore the proportions of the buttress perfectly (Fig. 288.5). The conclusion must be that the west cloister was begun from a lower horizon, and that ground level was raised when the west front was redesigned. Alternatively, an intended step between the plinths of the two components may have been expunged.

Next, it is instructive to look at the composition of buttress $W_{1/2}$. Its lowest stage comprises large blocks of Doulting stone, greyish in colour, pitted and well weathered. This is in marked contrast to the much smaller, crisper blocks used in the higher levels; many are yellowish in colour, and several are of Chilcote stone. The change occurs at the level at which the cloister wall breaks bond with the west front, and the union itself exhibits a minor curiosity. There are three good bonders cut in ashlar, the first of these aligning with the topmost chamfer of the west front plinth. The chamfered course below this stops 10 cm short of the face of the cloister wall, which appears to continue into the core of the buttress. The shortfall between the ashlar of the buttress and the cloister wall is packed with rubble, which bespeaks an *ad hoc* junction.

Finally, there is a subtle but unambiguous change in the character of the rubble masonry of the cloister wall at *c.* 1.4 m south of the buttress. First, a short stretch of vertical joint can be seen running down to, and seemingly below, ground level; second, coursing is discontinuous; and, third, greater concentrations of red Triassic sandstone appear close to the west front at a low level. Similar concentrations are seen in the remainder of the cloister wall, but only above the change in the ashlar masonry of its buttress. There can be little doubt that the cloister wall was initially built to

Fig. 338 Ground plan of the west cloister, differentiated according to period. The choristers' house (demolished 1870), which is also appended, has been reconstructed from various sources. Rooms and spaces are numbered to facilitate textual reference

a height of *c.* 3.2 m above contemporary ground level (2.6 m above modern level), and that it stopped at a vertical feature *c.* 1.4 m south of the present tower buttress. This was surely a doorway.

It may be no coincidence that such a doorway would have lain on the axis of the enigmatic north cloister (p. 264; Fig. 279). This is also the position at which Salisbury's cloister has its principal entrance. However, the feature was expunged sometime after the lower stage of the west front had been built, and the aperture was carefully infilled with rubble. This infilling was carried out at the same time as the cloister wall was raised to its full thirteenth-century height. The first building stage of the west cloister outer wall

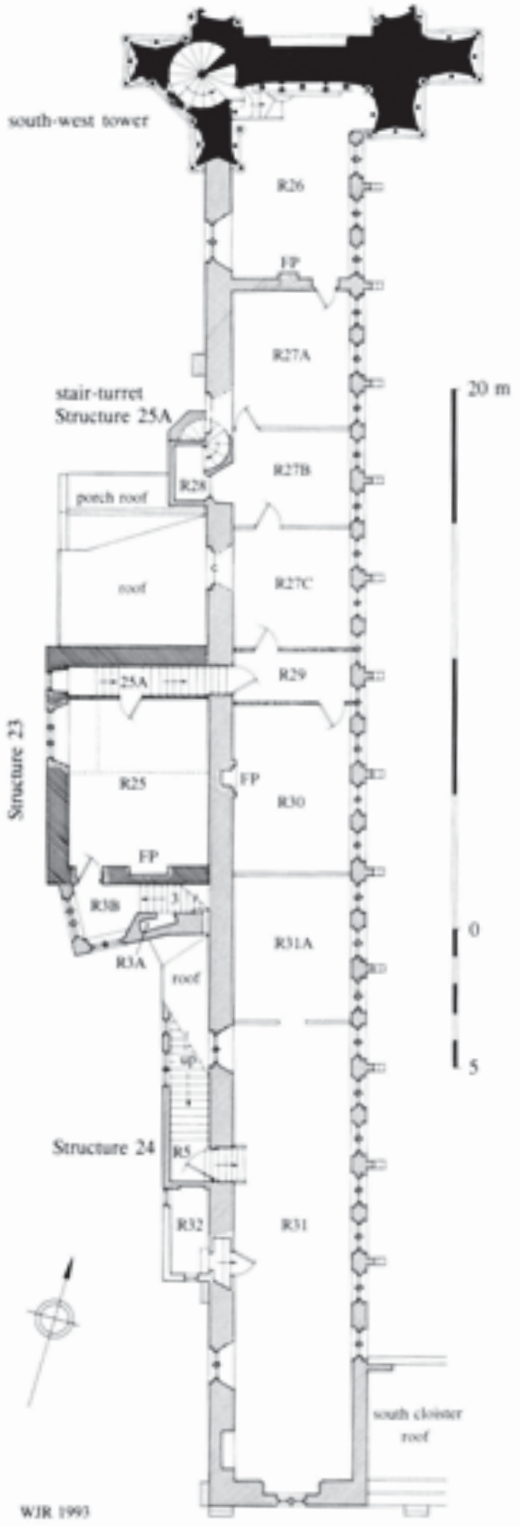


Fig. 339 First-floor plan of the west cloister, differentiated according to period. For key, see Fig. 338; room numbering continues in the same sequence

is likely to be no later than *c.* 1205, but the second stage may not have followed for another two or three decades. It has been argued, on the basis of the design of the south portal, that the west cloister was abandoned as a concept, but was subsequently reinstated (p. 267).

Whatever, the precise details of the early thirteenth-century constructional sequence, it is clear that major works in this area had ceased by 1243. The masons' workshop outside the west front had already been dismantled and a row of small elms planted, when the chapter ordered that lay burial should begin here and extend westwards, keeping clear of the main entrance to the west front. In other words, the southern part of Cathedral Green, west of the cloister, was now being turned over to cemetery use.

Later developments

The later medieval and post-medieval history of the west cloister and its adjuncts is poorly documented. There are no accounts of chapels or burials in the vicinity. Instead, a variety of uses has obtained and the consequential changes to the fabric have been numerous. These changes are inseparable from the history of the adjoining choristers' house (Structure 30, now a ruin), and Wells Cathedral School, which functioned in the upper range. A considerable amount of demolition took place in the late nineteenth century, and other changes have been wrought more recently.

The principal antiquarian records of the west cloister adjuncts are:

1. Carter's general plan of the cathedral environs, *c.* 1795, shows the structures in question, albeit crudely and incorrectly angled (Fig. 340). The west porch is depicted in more detail on his cathedral church plan (Jewers 1892).
2. Carter's elevation of the west front, to which the west cloister is attached; some of the detail shown is potentially unreliable (Fig. 341). All structures in front of the cloister are omitted.
3. Parker's ground plan of the choristers' house complex, *c.* 1865; this contains substantial surveying inaccuracies (Fig. 343; Parker 1866a, pl. XXII). Details of the surviving fragment of the hall do not correspond perfectly to the plan.
4. Clarke's watercolour of 1863, showing the choristers' house complex before partial demolition (Fig. 347; Parker 1866b, fig. 14).
5. Irvine's coloured elevation drawings of the choristers' house before demolition.
6. Buckle's drawing of the late medieval porch turret in 1901, prior to alteration.[30]

The problem of interpreting the complex is further compounded by there being no known plans showing the upper floors of these structures, or of the west cloister range itself. Finally, the post-medieval fabric accounts for the cathedral have yet to be transcribed and made available. They will doubtless shed some further light on the history of the west cloister. The ground plan, Figure 338, has been compiled from the inadequate sources available; for ease of reference, the

rooms and principal spaces have been consecutively numbered (R1, R2, etc.). Careful resurvey of the extant remains is required.[31]

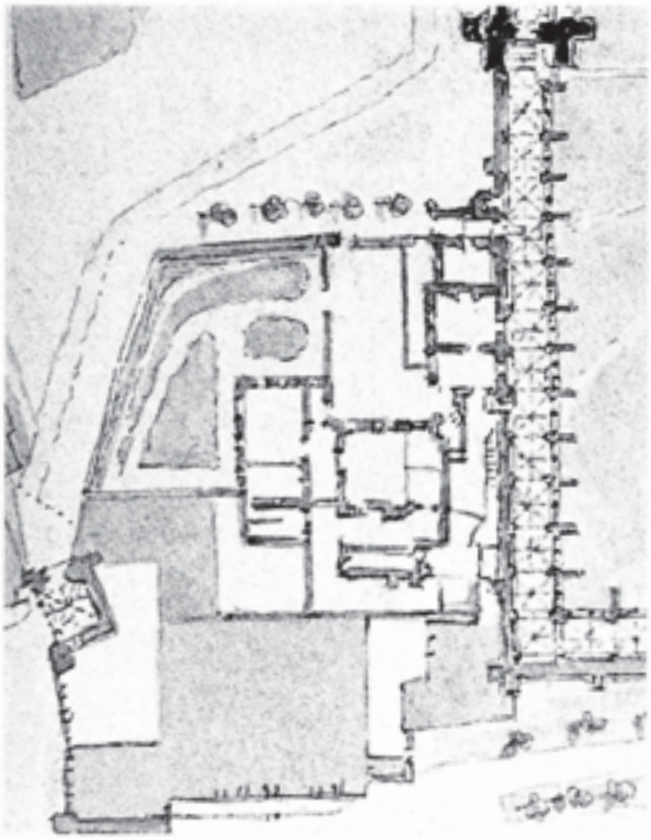


Fig. 340 Detail from Carter's general plan of the cathedral precinct, c. 1795, showing adjuncts to the west cloister (now the Mary Mitchell Garden). Penniless Porch is the skewed structure on the far left (Courtesy of the Society of Antiquaries of London)

The early porch and audit chamber (Structure 23)

The earlier of the two west porches is adjacent to bay 32, and is now embedded in a group of later structures (Figs. 268 and 338, R1). Although thirteenth century in origin, it was almost certainly not erected contemporaneously with the west wall of the cloister, and it has been argued that the buttress spacing here points to the porch's having been added at an early stage (p. 265). The intended entrance was several bays further north, and close to the west front. A vertical straight- joint can be seen where the south wall of the porch abuts the cloister.

Another problem which arises, is to determine whether the porch was built as a single or two-celled unit, but this cannot be finally resolved without further investigation. Elements of the plan — particularly the wall thicknesses and its relationship to the buttresses — point to the likelihood that the porch was at first a single-celled, rectangular projection, similar to that posited at the south-east corner of the cloister (Fig. 277), and that a second and larger room (R2) was later built alongside to the north. The main objection to such a sequence is the fact that there is no apparent structural break in the west elevation of the porch where the former north-west quoin of R1 would be expected. Indeed, the coursing of the masonry is visibly continuous. Possibly the west wall was rebuilt, or refaced, when the porch was modified in the fourteenth or fifteenth century (below, p. 331).[32]

The two doorways associated with the early/mid thirteenth-century work are visible. The outer door of the porch, giving access from the Cathedral Green, remains intact and in use, albeit reduced in size in the

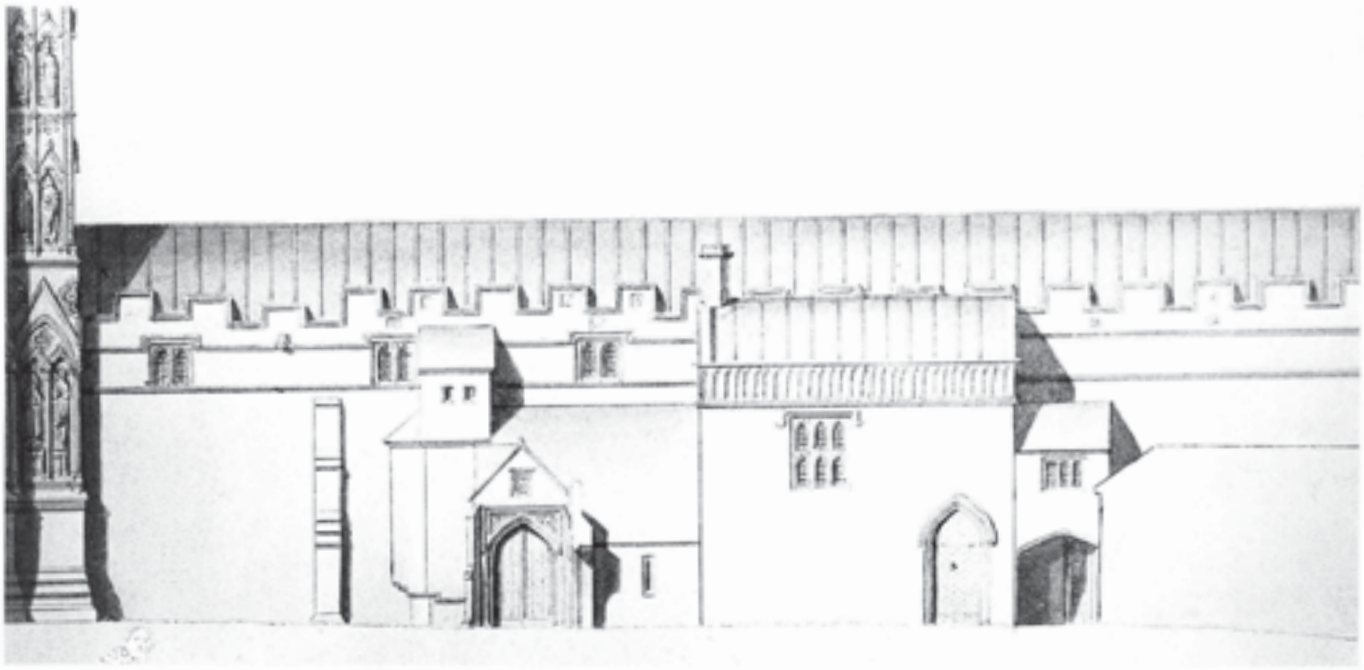


Fig. 341 Carter's elevation of the west cloister, c. 1795, showing the two porches but omitting later additions (Courtesy of the Society of Antiquaries of London)

Fig. 342 The northernmost bay (W_1) of the west cloister and the first buttress, showing the relationship to the west front of the cathedral. Note that the cloister plinths are now below ground level. The porch stair-turret (Structure 25A) is seen on the far right

fifteenth century. The doorway is of moderately large proportions, and has a two-centred arch with continuous mouldings on the outer face; and there is a hood-moulding with figural label-stops (Fig. 289.5). The rear-arch, now concealed, is probably of simple segmental form.

The doorway opening into the west cloister walk from the porch is of tall proportions, and was clearly intended as a processional entrance. It has mouldings on both the outer and rear-arches, and the detail of the former suggests that it was designed to be external (*i.e.* it was not intended to be housed in a porch). The doorway is now infilled, having first been reduced in size, and the outer arch mouldings substantially mutilated. The door opened into the walk, which contrasts with the outward-opening arrangement originally provided for the south cloister door (p. 277).

The outer arch has two moulded orders, of filleted rolls flanked by hollows, surmounted by a hood-moulding (Fig. 289.7). The northern label-stop, in the form of a male head, survives, but its counterpart is lost. The tall rear-arch is fully visible within the west cloister walk. It has a segmental head, outlined with rolls and hollows, and has evidently lost a label-moulding (Fig. 289.6). This appears to have been hacked away when the fifteenth-century vaulting was inserted (*cf.* the Lady Chapel doorway in the east walk). The opening is flanked by slender blue lias shafts, with stiff-leaf capitals carved in Doulting stone. These in turn carry lias abaci (Fig. 289.9). The water-holding bases are also of blue lias, but in very eroded condition; they appear to have stood upon low, moulded stoolings of Doulting stone, as with the doorways of the west front of the cathedral.

The west porch, like its southern counterpart, was regarded as a gate to the cathedral precinct, and not merely as a doorway. Indeed, it was the principal public approach from the market place. This entrance was described in 1372 as *porta*, and had an upper chamber which accommodated the audit office (HMC 1907, 273). A single-celled porch could hardly have housed such a chamber above the entry, nor was there a place for a staircase. The implication must be that by 1372 the porch had been developed into its two-celled, two-storey form.

In whatever form it began, there is no doubt that the porch was remodelled at least once, and almost certainly twice. The two-celled building had a steeply

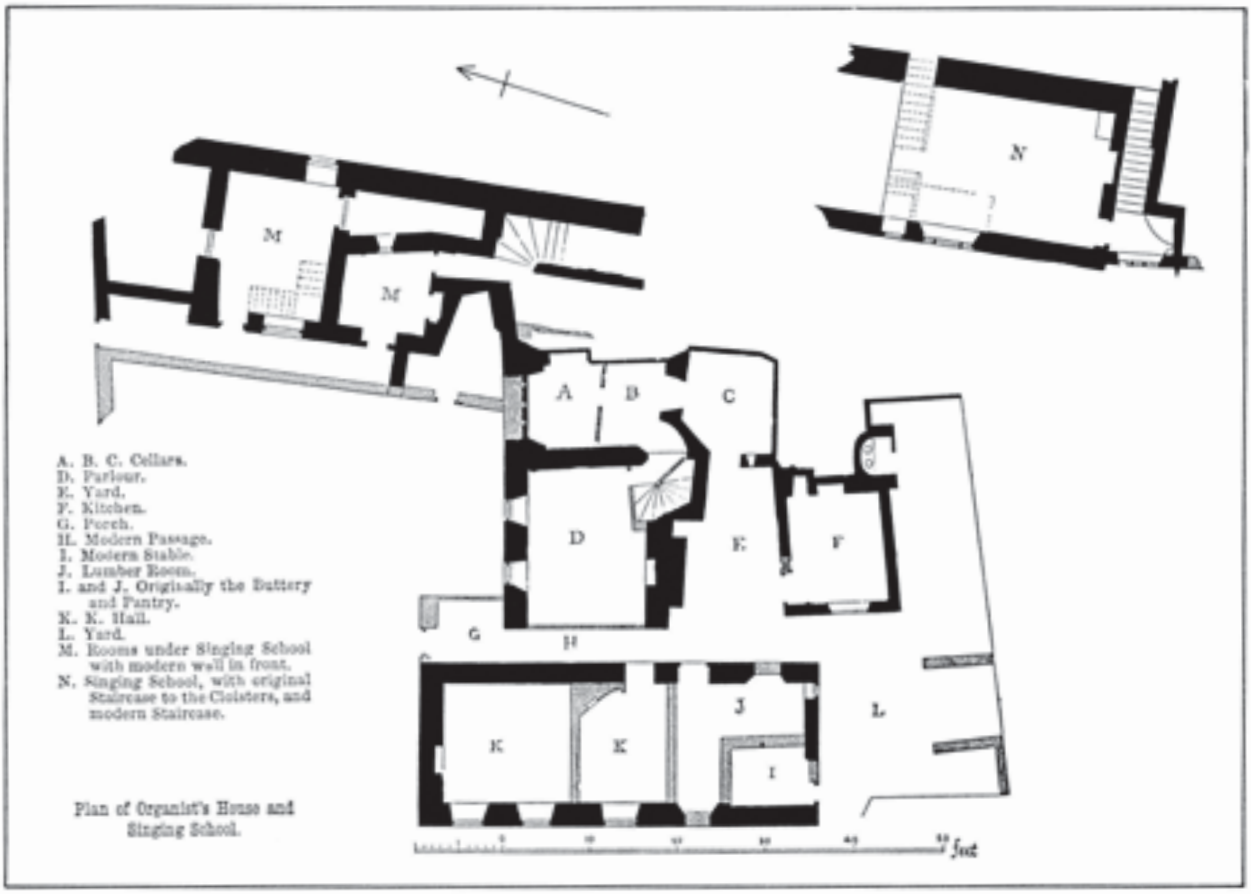


Fig. 343 Plan of the choristers' house and adjacent claustral structures in c. *1865. After Parker 1866a*

pitched roof running parallel to, and standing higher than, the cloister: it was gabled at both ends, and there was a valley gutter on the east side. The four moulded corbels that supported the valley between the porch and the cloister parapet are still in place, as are the two corbels that once held the feet of the single truss across the centre of the building. The present roof is nineteenth century, but its predecessor was probably a fourteenth-century purlined roof with arched principals (*i.e.* similar to the house roofs in the Vicars' Close).

The west slope was later cut back from the eaves, and a low stone parapet added, with short returns at both ends. Carter's elevation shows the roof as lead covered. The parapet is decorated with continuous blind arcading, having a narrow pitch and trefoiled heads (Fig. 341). This is unlike any other parapets at Wells, but a fourteenth-century date seems more likely than a fifteenth (the narrowness and continuous rhythm of the arcading recalls that around the top of the chapter house, just below the parapet). A six-light mullioned and transomed window was provided in the first-floor chamber (R25). The upper register of three lights has cinquefoiled heads, while those below the transom are plain. Internally, shutter rebates and some iron crooks remain. The window form suggests a fifteenth-century date, although one might have expected the lower register of lights to have had foiled heads (*cf.* the cloister screen wall). Plain transomed windows were common in Wells in the mid-fourteenth century (*cf.* the Vicars' Close).

Access to the upper chamber in the later fifteenth century was via a narrow stone staircase, housed in a small outshot constructed against the south side of the porch (R3). The stair is entered through a doorway with a four-centred head, in bay 31 of the cloister (Fig. 338). The door, which has its threshold at wall-bench level, opens into the west walk. Although the direction of opening is the opposite to what might be expected, this was probably a necessary expedient occasioned by the immediate rise of the stair beyond the threshold. Halfway up the stair was a west-facing window, later superseded by a small doorway giving access to a tiny latrine chamber (R3A) that was perhaps added in the early sixteenth century. Only the eastern jamb of the window remains, with traces of plaster on the reveal.

At the head of the stair a doorway with a four-centred head opens into the chamber (R25) above the porch and adjacent room.[33] The existing door, made of three wide oak planks, appears to be contemporary, although it has been rebacked with pine boarding in the early eighteenth century. Prior to that being done, there was a small squint in the centre plank, suggesting the continued use of the room as an office where security was an active consideration. This would tend to suggest that it was still the audit chamber when the

door was made. However, by 1670 it is recorded that the 'audit room' was over the west walk (SRS 1973, fo. 150). In the nineteenth century, the room above the porch was used as the singing school, and later it became the 'glass-house' (glazing store).

The chamber has an eighteenth-century fireplace in its south wall, which is presumably on the site of an earlier one. The gable has been rebuilt and the stack removed. Carter's elevation shows a late medieval crenellated stack rising from the north gable (still extant), and his plan (Fig. 340) marks a fireplace in the ground-floor room (R2) where a doorway now is. This room was probably only accessible from the west cloister walk in the late fifteenth century; the original point of entry is uncertain.[34] The room may have been an office, or perhaps it was a shop where candles and pilgrim souvenirs were sold to visitors upon arrival.

The stone stair (R3) is likely to date from the period of Bekynton's reconstruction of the west cloister, or possibly a little earlier. Hence, there must have been a previous staircase, presumably a timber newel, sited within the room adjacent to the porch. The stone stair had a tiny chamber (R4) beneath it, which was entered through a low, Tudor-headed doorway in the south wall of the porch. The chamber was probably a latrine.[35] The stair leading to the audit chamber, as already noted, was modified in order to incorporate a latrine part-way up. To do this, the south wall was thickened and angled outwards; the latrine door, with its four-centred head, opened onto the stairs. The structure has a slated pentice roof. The awkwardly shaped landing (R3B) at the head of the stair was increased in area as a result of the rebuild and was provided with two relatively large windows. One faces west and has three lights, the other faces south and has two lights. They are all of plain rectangular form and date from the sixteenth century. Obviously, some activity took place on this tiny landing which required a lavish provision of daylight: perhaps there was a desk here at which a clerk worked on the cathedral's accounts.

The small trapezoidal space (R4), where the understair latrine lay, was not always enclosed. The area was once open-sided on the west, where it was spanned by a depressed four-centred arch (Fig. 341).[36] While it has the appearance of being a porch, entered from the yard to the west, it evidently led nowhere. A tall, narrow doorway formerly opened off the south side, apparently leading into a chamber contained within the exceptionally thick wall here.[37] This is beneath the upstairs latrine (R3A), and it seems likely that there was a ground-level latrine too (R4A), replacing the one that had formerly been under the stone stair. This may provide a clue to the purpose of the open-sided, trapezoidal space (R4). Surely, it housed a late medieval urinal for the use of the boys at the school, and that R4A was an adjoining closet. The cathedral accounts for 1726–27 contain an entry for 'repairing the boghouse' at the grammar school (HMC 1914, 517).

In 1742, the chapter determined that the ground floor of the former porch should become the registry:

> Whereas it is very inconvenient for the registry and records belonging to the dean and chapter to be kept in private houses, [it was] ordered that, for the more safe preserving the said records for the future, the ground room in the cloisters, near the door at the entrance up to the audit room, be fitted up and made convenient for that purpose. (HMC 1914, 538–9)

Bekynton's west range: school and offices

When Bishop Bekynton (and his successors) rebuilt the west walk, *c.* 1460–80, he added the present upper range, the whole being a mirror-image, on the garth side, of Bubwith's east cloister (Fig. 269). There is no evidence to suggest either that there had been an earlier upper floor to the west cloister, or that more than one constructional phase was involved in erecting the new range.[38]

Outwardly, to the west, the range presented a simpler elevation than its eastern counterpart. The thirteenth-century parapet coping was removed throughout the length of the cloister, leaving only its basal string-course and a few coping blocks that were tucked into one of the statue niches of the south-west tower (Fig. 282). Above the string, the wall was raised in Doulting ashlar, and crowned with a heavy crenellated parapet. The roof is currently slated, but Carter's elevation shows it as lead covered (Fig. 341). At the southern end is a stone gable-finial in the form of a crouching beast, probably a lion; the head has weathered away (Fig. 344; *cf.* p. 398).

The fourteen-bay upper range was subdivided to provide accommodation for various uses, although identifying these in spatial terms poses problems. In addition to the 25 windows overlooking the cloister garth — which so impressed John Leland in 1542

Fig. 344 Fifteenth-century gable finial at the south end of the west cloister range

(p. 249) — six further windows were provided on the west face, three to either side of the porch. The windows are each of two lights with cinquefoil heads, set under a square label which connects with a string-course at the base of the parapet.

Leland tells us that the upper range housed 'a goodly Schole with the Schole Master logging and an Escheker' (Toulmin Smith 1964, 291). If this is taken literally, it implies that a new audit chamber was created in the cloister, to replace that above the west porch. Interpretation of the subdivisions and uses of the west cloister is fraught with difficulty. Most of the partitions within the upper range are lath-and-plaster work of fairly recent date; the only undoubtedly original division is between bays 37 and 38, where there is a masonry cross-wall with a fireplace and fifteenth-century crenellated stone stack (the latter omitted from Carter's elevation, Fig. 341). The two-bay room thus defined at the northern end of the range was probably only accessible from the newel stair within the south-west tower (R26; Fig. 339). It was therefore a secure room. It would seem likely that this was Bekynton's exchequer, and it is still known as the cathedral 'accounts office' (but see also observations on the chamber above the west porch, p. 332).

The original extent of the second chamber (R27) is uncertain, but it likely occupied four bays, *i.e.* bays 34–37 (now rooms R27a-c). Arguably, this was a medieval self-contained unit to which access was gained via the stair-turret at the junction of bays 35 and 36. This semi-octagonal projection (Structure 25A), entered from the west walk (R8), seems to have been adapted to serve the upper range of the cloister (for details, see p. 337). Crowning the turret is a small rectangular chamber (R28) which acts as a lobby, providing the only means of egress from the stair into the first-floor range.

South of this again is a narrow landing (R29) associated with an inserted staircase of the early eighteenth century, and beyond that a chamber of two bays, with a fireplace at the centre of its west wall (R30, now the library annexe). Next comes the library office (R31a), which seems formerly to have been part of the southernmost room, occupying six medieval bays (26–29). Since 1997, the latter has been leased to the Wells Freemasons, but it was originally the school room (R31). Access to this is via a broad flight of stone steps housed under a long narrow pentice built against the west wall of the cloister (Structure 24; R5). There is no reason to doubt that this is part of Bekynton's work; it is a fine late medieval stair, lit by its own windows, and having a moulded stone handrail. Access to the stair was external to the cathedral, being from the garden of the choristers' house (now the Mary Mitchell Garden), but later the approach became engulfed by other structures (since partly demolished), and a vaulted passage (R5A) was driven through from the porch to the base of the school stair (Fig. 338).

The southern end of Bekynton's new cloister range was intended, *ab initio*, to house the Grammar School which, previously, had led something a peripatetic existence. By the early 1480s it was established over the cloister, where it remained until 1870 (Colchester 1985, 9). Between 1888 and *c.* 1945 the room housed the Girls' High School, and from 1973 to 1997 it was used as the choristers' practice room.

Prior to 1973 the choristers practised in the northernmost room of the west cloister (R26, lately the accounts office), to which they had moved sometime earlier from the chamber over the porch (R25). How long the 'singing school' was there is uncertain: Bekynton provided a facility for the choristers' school and practice room somewhere in the middle or northern part of the range (R27?). The movements of the two schools are confusing, and have not been fully elucidated.[39]

The late medieval porch (Structure 25)

For reasons related to the development of the choristers' house and school complex (see below, p. 337), the thirteenth-century porch became an inconvenient point for public access to the cloister, and it was superseded by a new porch adjoining bay 35 (Fig. 338, R7). This porch is almost of the same depth as its predecessor, but somewhat narrower. It has diagonally placed buttresses at the two western angles, flanking a Tudor-arched outer doorway with crudely carved spandrels containing blank shields, and a square label (Fig. 345). Set into a square, recessed and moulded panel in the gable above the door is one of the vault bosses from Stillington's Lady Chapel (Fig. 245; boss 19, p. 448).

The porch is meanly and shoddily built, reusing much old stone, and in its present form appears to be sixteenth century, but appearances are deceptive. It has also been claimed that the porch was rebuilt in 1822, with salvaged materials from the Camery (Colchester 1987, 70). The presence of the vault boss would appear superficially to support this suggestion, but that is unfortunately untenable since the boss was already here in the late eighteenth century, when Carter illustrated it (Fig. 341).

Restoration carried out in 1990 revealed that no less than two periods of construction — and a further two of minor alteration and restoration — are involved. Masonry that is clearly earlier than the present porch is incorporated in the north wall (Fig. 346). Built of rubble laid in red mortar, this wall was evidently part of a structure abutting the cloister: it has the remains of a jamb of rough ashlar at its west end, onto which the late medieval porch façade has been abutted. The structure is undated, but must be between the thirteenth and fifteenth centuries. The semi-octagonal stair-turret (Structure 25A) associated with the late fifteenth-century upper cloister range abuts the pre-porch wall (Fig. 345). Also observed in the north wall, at a low level, was the base of an infilled opening,

Fig. 345 West cloister porch (Structure 25) and adjoining stair-turret, from the north-west, in 1998. The small Tudor door in the crenellated garden wall to the right was the entry to the Grammar School

perhaps a doorway. A lintel placed across this opening is a recycled sixteenth-century window sill; the infilling included stone voussoirs and clay roof tiles.[40]

There is no reason to suppose that the early wall was part of the thirteenth-century cloister *per se*, but was presumably a subsequent erection against it. The masons' yard had, for example, lain in this area when the west front of the cathedral was under construction. The yard had gone by 1243, but any associated structure of a permanent nature might have remained (HMC 1907, 74).[41]

The second-phase masonry appears to mark the creation of the porch, by adding a gabled 'front' to the west side of the old structure. The new work is of Doulting ashlar, mostly laid in thin courses, suggesting that the stone was reused. There is a plain-chamfered plinth, almost entirely buried, and the entrance is flanked by a pair of slender, diagonally-set buttresses with two weathering stages. Fine, white, lime mortar was used for this work.

Dating the porch is problematic. On the one hand it is tempting to see this as work carried out by Bekynton in the third quarter of the fifteenth century, because it is known that he was responsible for enclosing the choristers' garden in 1459 (p. 341), and must by then have relocated the west cloister entrance. However, the extant detail of the porch cannot be reconciled with so early a date.

Fig. 346 North elevation of the present cloister porch (Structure 25), showing evidence revealed during repointing in 1990. The scars probably represent the points where the west wall and lean-to roof of the 'shelf-house' adjoined. Scale 1:80

Several pieces of evidence must be weighed. First, the buttresses have the appearance of sixteenth-century work, especially the ogival detail on the lower weathering. Secondly, the outer doorway is crude by Wells' standards: its mouldings and spandrels point to a date

in the second half of the sixteenth century. Thirdly, the use of thin ashlar courses of varying height is similar to the masonry of the library latrine tower, for which a sixteenth-century date has been independently suggested (p. 304). Fourthly, there is the problem of the vault boss. The earliest date at which this could have been released from Stillington's chapel is 1552, when demolition began. The boss is in good condition, and shows no signs of having lain amongst demolition rubble for a long period. It is difficult to imagine the circumstance that could have given rise to this boss being incorporated in the west gable of the porch much after the 1550s, *a fortiori* because it is housed in a moulded and recessed panel that seems to be part of the original build of the gable. When the boss was taken out for conservation in 1990 nothing was found to suggest that it was a subsequent insertion. Demonstrably, the use of the boss was not a piece of early nineteenth-century antiquarianism, as has hitherto been assumed.

A third period of work is evidenced in the masonry of the north wall, in the form of an irregular rubble infill which superficially appears to be sandwiched between the earliest masonry and the ashlar (Fig. 346). This intermediate material is bedded in a greenish-yellow lime mortar, for which a date in the seventeenth century is likely. The infill, which was sealed beneath a rendering of grey lime-ash mortar, is certainly later than the masonry to either side, belying the true stratigraphic sequence: it is the patching of a scar left by the removal of a structure that was once bonded to the early masonry, and which was abutted by the later ashlar. There are two parts to the scar: a vertical line, where a slender wall (*c.* 20 cm thick) has been removed, and a sloping feature which runs eastward from the top of the 'wall', at an angle of 45°. The latter is more than a roof scar: it is consistent, for example, with the removal of a south-facing gable parapet. Whatever was here had gone before the end of the eighteenth century, and the external appearance of the porch has not changed significantly since that time.[42]

Not only are there archaeological indications that a structure formerly stood in the northern angle between the cloister and the porch, but references to it have also been preserved. It was apparently known as the 'shelf-house', presumably referring to the fact that it was a shelved storeroom. On 13th January 1596–97, the dean and chapter granted to Thomas Maicock 'that he shall have and use the shilfe howse adjoyning to the west end of the cathedrall church of Wells standing in the churchyeard without the dore goyng down to the grammer schoole, to putt in such necessaries as he shall thinck good of, so as he doe at all tymes repaire the same' (HMC 1914, 333). On 2nd January 1634–35, Mary Maicock, widow, was granted a forty-year lease (for a rent of 4d) on 'all that shilfe-howse or out-howse... adjoyneinge unto the west end of the cathedrall church... and on the south side of the said west end... and on the north side of a room or howse sometyme used for and commonly called the Doale-howse, neere to the Grammer Schoole' (HMC 1914, 411). These descriptions fix the position of the shelf-house as being north of the garden wall bounding the choristers' house and Grammar School, and adjacent to the porch where the dole was distributed.

An indication that the shelf-house may have been demolished in the 1720s comes from the following entry in the accounts of the keeper of the fabric for 1726: 'A rail is to be put up from the small west door of the cathedral to the west cloister door, to prevent the playing of ball there against the church wall' (HMC 1914, 513). The school children had obviously discovered a use for the newly exposed expanse of plain cloister wall. The iron railing that was erected is illustrated by Storer (1819, **4**, pl. 2).

This leaves the supposed 1822 rebuild of the porch entirely unexplained. However, much of the moulded masonry of the outer arch, including the spandrels, appears to have been renewed, and the crude detail and the tooling would accord with an early nineteenth-century date. So too might the filling of the probable doorway in the north wall. The lime-ash mortar used to repoint and repair the porch could also be of the 1820s; likewise the present roof structure. The two oak door-leaves hanging in the outer opening are made of ancient planks, but have been crudely rebuilt. Again, this could be part of the 1822 work.

There is now no inner door, from the porch to the cloister walk, but the rebated stone frame indicates its former existence. Here, under a large Tudor arch, of two plain-chamfered orders, had been a pair of doors that opened into the walk. Directly opposite the porch, in the northern half of bay 35 of the garth wall, a Tudor doorway was cut through the late fifteenth-century tracery. This new opening provided direct access to the cloister garth, as successor to the original screen doorway in bay 32.

Between the old and new porches is a small room used until recently as a store (Fig. 338, R6). It was only accessible from within the new porch, and was entered via a doorway with a moulded, four-centred head in the south wall. The room seems to have been lit by a single slit-window in the west wall, if Carter's drawing is taken at face value.[43] The present larger window, of pseudo-Elizabethan form, is nineteenth century. It is noticeable that room R6 bears the same relationship to the entrance passage of the porch (R7) as did the ground-floor room (R2) to the previous porch entry (Structure 23, R1). Continuity of function, transferred from one porch to the other, might be the explanation. However, the low level of light intake would have made the use of room R6 difficult as an office or shop. More likely, it can be identified with the former 'doale-howse', mentioned in a lease of 1634 (HMC 1914, 411). It was not uncommon in the Middle Ages to distribute doles from a church porch, especially in connection with funerals.

Stair-turret (Structure 25A)

In the northern angle between the porch and the cloister is the semi-octagonal stair-turret already mentioned; it is built against the thirteenth-century outer wall of the west walk, and also abuts the oldest masonry incorporated in the porch. It seems certain that the stair was not originally intended to provide access to the first floor of the cloister, but to an upper chamber over the porch (or the structure that preceded it). Part of the pyramidal, slated roof survives, with its apex immediately below the parapet string-course of the original single-storey cloister (Figs. 338, 342 and 345).

The turret is built of red Triassic rubble with dressings of Doulting stone: the construction is typical fifteenth-century work and bears a close resemblance to the library stair-turret (Figs. 311). Entry is from the cloister walk, via a doorway with a four-centred head; the threshold is at wall-bench level.

The turret was subsequently raised, in order to reach first-floor level in the west range. The heightening took the form of a small rectangular chamber with a slated pentice roof, perched asymmetrically on top of the older work. The chamber was built of Doulting ashlar, and formerly had two slit windows in its west face. The addition was reduced in height in 1901.[44]

A further, enigmatic, feature of the stairway requires comment, even if its purpose cannot be explained. Part-way up the stair is a window of three lights, which looks into the west walk immediately below the crown of the vaulting. The lights have four-centred heads, and have never been glazed; the whole feature projects slightly into the walk and is carried on a stone cornice. Basically it is a Tudor oriel window. Clearly, the primary function of this elaborate window cannot have been to light the stair: that would have been more expeditiously achieved by a conventional slit opening in the external wall of the turret. The oriel has more the appearance of being a place from which something could be watched. It is difficult to suggest a context for a watching-loft in the west cloister in the mid-fifteenth century. It is not opposite an opening in the screen wall, and a view into the garth could only have been obtained through the upper tracery if this was unglazed (Fig. 271).

To summarize: it is suggested that Bekynton created a new porch out of an existing structure alongside the west cloister. This mid-fifteenth-century porch was two-celled, comprising an entrance passage and an adjacent room. Although there is now no upper floor, it seems virtually certain that one formerly existed, and that access was gained from the cloister walk, via the polygonal stair-turret. The same stair led up to the curious oriel window which overlooked the west walk, plausibly a watching place. Sometime in the sixteenth century, the porch was remodelled, being reduced in height and given its present entrance façade. It was potentially at the same time that the stair-turret was raised and converted to serve the upper cloister range, instead of the porch. No reason can be suggested for these modifications.

The choristers' house and garden (Structure 30)

History of the house

Immediately outside the thirteenth-century west porch a small hall-house was built in the mid-fourteenth century, and subsequently extended until it became physically joined to the cloister (Fig. 338). The building was demolished in 1870. Often referred to as the 'Organist's House', on account of a later use to which the property was put, the building was erected by Bishop Ralph of Shrewsbury in 1354 to house the choristers (Gransden 1982, 39, 41, n. 84; Colchester 1985, 14).[45] There were technically only six choristers serving the cathedral, although six older boys were also allowed to stay on for a while. Thus a maximum of twelve boys had to be accommodated at any one time, together with the Master of the Choristers. The boys slept in a dormitory, while the master had his own room. The choristers' house was thus adequate to provide for their combined needs (Colchester 1985, 14).

The basic arrangements within the house can be evinced by studying the surviving plans and watercolour (Fig. 347), albeit that they constitute a very inadequate record (pp. 339–41). There are some clear disagreements in detail between the plans given by Carter (*c.* 1795; here Fig. 340) and Parker (1866a; here Fig. 343), but broadly speaking the structural development is likely to have been as follows.

The original fourteenth-century house comprised a north–south hall of three bays, which included the screens passage; there was a further bay containing the service rooms at the southern end. A low but two-storied solar and chamber block was seemingly added at right-angles in the fifteenth century, making the house T-shaped in plan.[46] A detached kitchen of rectangular outline, just to the south, gave the plan a crude semblance of a courtyard house, although the yard was minute. Other rooms and storage areas on the east side infilled the space between the house and the cloister. It is of particular interest to note that the house and all its accretions are on the axis of the Saxo-Norman cathedral, and are thus awkwardly sited in relation to the medieval cloister: the potential significance of this survival has been noted (p. 117).

Alfred Clarke's view of the house in 1863 shows the north gable of the hall with its early Perpendicular window of two transomed lights; next to this was a tall porch, evidently sixteenth century; and, running from that to the cloister, the lower chamber block (Fig. 347). This appears to be a minutely accurate depiction, and even the window mouldings are recognizable. The porch and chamber wing still had

Fig. 347 The choristers' house from the north-west in 1863. From a watercolour by Alfred A. Clarke, in Wells Museum. After Parker 1866b

medieval crested ridge-tiles on their roofs, and there was a crenellated chimney stack rising from the east gable of the latter. A fuller description is given below.

The choristers' house fell into disrepair in the seventeenth century. In 1667–68 the chapter determined to 'inspect the Choristers House, and make provision for such repairs as might seem necessary' (SRS 1973, fo. 66). In 1671 there was further order to 'inspect the dilapidations of the Choristers House... so that the roof might be put in order immediately' (*ibid.*, fo. 176). The Communar's Cash Books for 1670–71, 1683–84 and 1695–96 confirm that repairs were duly carried out (HMC 1914, 442, 454, 476). Although the building was still referred to as the choristers' house, it was by this time in the sole occupation of the cathedral organist. The change came about in the middle of the sixteenth century, when the Choristers' School and the Grammar School were merged, and the office of Master of the Choristers was combined with that of organist (Colchester 1985, 14).[47]

A long-running dispute broke out between the organist and the dean and chapter, concerning liability for repairs to the house and, as a consequence, little was done at all. Whatever work was carried out did not meet with the approval of contemporary antiquaries: 'the house has been almost entirely spoiled during the last century, vile additions having been made to it, encroaching on the small space originally left between the house and the cloister, and destroying the outline of the house which, when it stood clear, must have been extremely picturesque. The interior is also spoiled by modern partitions, now becoming more old-looking and more rotten than the original roof of the hall which remains' (Parker 1866a, 22).

Almost immediately, the dean and chapter began to demolish some of the additions, which drew fire from E.A. Freeman:

> For a long time past the building has been in a disgraceful state, and a munificent private offer to repair it was, for what reasons no man can guess, refused.[48] Since that time, the buildings which connected the body of the house with the cloister have been pulled down. This was a senseless act; for, though they had been much patched and mutilated, ancient portions still remained, and, in any case, their presence kept the house in its proper position as part of the whole. At last, on the night of April 12th 1870, the ancient roof of the house, which still remained, fell in, damaging the gable and shattering the tracery of the window. How this came to pass, there is no distinct evidence, but it is believed on the spot not to have been wholly accidental. (Freeman 1870, 184, n. 34)

Description of the house

All that survives of the choristers' house today is the much diminished shell of the hall, comprising the north gable and short returns on the east and west (Figs. 348–50). The remainder of the complex was thoroughly demolished, and the site landscaped to create a terraced garden (complete with fashionable ruin) for Penniless Porch house. Terracing has probably removed even the foundations of most of the hall. Nevertheless, it is possible to attempt a basic description of the complex, and broadly to assess its physical development. Rooms and spaces are numbered and described with reference to the reconstructed plan, Figure 338.

There is no reason to doubt that the surviving ruin is a fragment of the hall built by Bishop Ralph in 1354. The house was an unbuttressed, rectangular building of four bays, measuring *c.* 13.8 m by 5.3 m overall. The open hall occupied the northern two bays (R11–12), the screens passage (R13) lay in the third bay, and the fourth was probably divided into buttery and pantry (R14A and R14B). The location of the original fireplace is problematic: we would expect it to have lain at the mid-point of the east wall, where a later sub-division and corner fireplace were inserted (R12). However, two asymmetrically sited recesses occur in the north wall at ground level (Fig. 353). One is almost certainly original, and has a large stone lintel, now cut back, under a segmental relieving arch. This has the appearance of being a fireplace, although the position of the flue is unclear, as is its relationship to the gable window above. The recess is now infilled, and the floor level has been considerably raised. Alongside is a taller, lintelled recess of post-medieval date which also appears to have been a fireplace, although once again the flue poses problems; nor is a stack shown at this end of the building, in nineteenth-century illustrations.

Fig. 348 The choristers' house garden (now Mary Mitchell Garden) viewed from the roof of the west cloister (1993). The crenellated wall was the northern boundary of the garden, and the arched gate marked the entrance from Cathedral Green. The ruined north gable of the choristers' house can be seen in the middle of the garden. Penniless Porch gatehouse is indicated by an arrow (centre top), and to the left of that are seen the now-restored turrets of the Palace Gate

Fig. 349 North gable of the choristers' house, in 1987. The house was built by Bishop Ralph of Shrewsbury in 1354. Scale of 2 m

Fig. 350 Fragment of the west wall of the choristers' house

Fig. 351 Fragment of the east wall of the choristers' house

Fig. 352 Interior of the choristers' house, looking north-east

Fig. 353 Detail of the two infilled fireplaces(?) in the north wall of the choristers' house. Scale of 2 m

The north gable contained a two-light, transomed window of very early Perpendicular style. It is related to, but slightly more developed than, the side windows in the Vicars' Hall (Pugin and Pugin 1895, **3**, pl. 20), which is also attributable to Bishop Ralph and is dated *c.* 1349. The architect was William Joy, who probably fell casualty to the Black Death. His successor, Richard Farleigh, presumably designed the choristers' house, and the tracery bears close comparison with that which was being introduced at Windsor in the mid-1350s (Harvey 1978, figs. 16 and 17; 1982, 100).

The apparent thinness of the southern gable wall might indicate that there was an adjoining structure here, although the small window shown near to the south-east corner on Parker's plan looks early. There were probably two original windows in the west wall (coinciding with the bay divisions of the hall): they were altered to take sashes, and a third window was added, in the eighteenth century. At the same time, the hall was divided into two rooms (R11 and R12). The outline of the northernmost window remains, now infilled (Fig. 350). A small rectangular window in the east wall, now open (Fig. 351), was not shown on Parker's plan and was probably concealed at the time by the later porch (R17). An upper floor introduced into the hall, probably before the eighteenth century, created an attic which was lit by the north window.

Interpretation of the two-storey chamber block to the east is problematic. It lay at right-angles to the old hall and may have been Bekynton's work of 1459, when the house was being enlarged (below, p. 341). The possibility that this east wing was adapted from a remnant of the pre-1354 open hall should not be discounted. Indeed, there is much to commend this hypothesis. The walls were thick and the roof was low: the proportions militate against this being a mid-fifteenth-century two-storey wing, constructed *de novo*.

The principal room (R15) was a large parlour, with a central fireplace in the south wall and a projecting, square stair-turret alongside. The room had opposed doorways, north and south, and two windows to the north. The west end of the parlour was later screened off to form a passage (R15A), and a late sixteenth-century two-storey entrance porch was added (R17). The stair-well was also enlarged. The plan is strongly suggestive of a converted hall. Beyond the parlour was another room (R18) with a fireplace and opposing windows; the northern one appears to have been very substantial, but was infilled before the date of Parker's plan. The room was also subdivided (R18A–18B) and used as cellarage. A further room, added to the rear was similarly used (R21); it was approached from the courtyard.

The curious plan of the stair-well calls for comment. What Parker's plan shows (Fig. 343) is probably an arrangement of the sixteenth or seventeenth century, prior to which there would have been a tighter timber newel contained within the square turret, reminiscent of those in the houses of the Vicars' Close (Rodwell 1982d, plans 7 and 8). That still leaves the curving feature to the east of the stair without explanation. This is surely a tell-tale fragment of a yet earlier circular newel stair, sited at the junction between an original hall and two-storey chamber block to the east.

It is therefore suggested that the east wing of the choristers' house was itself a thirteenth-century hall-house that became a subsidiary part of the new building of 1354, and which was reduced to form a simple wing under a continuous roof-line in the fifteenth century.

What lay between the gabled east end and the cloister is unknown: there was probably an open passage which gave access to the base of the great stone stair (R5) leading to the Grammar School over the west cloister. The present lean-to structures in this area (R9 and R10) are late nineteenth century.

At the rear of the house, on the south side of the yard, lay a detached kitchen, which was near-square in plan, and had exceptionally thin walls (R19). Potentially, it was a post-medieval rebuild on older foundations. At the centre of the east wall was a modest fireplace with a bake-oven alongside. Attached to the south-east corner, and approached through an outer yard, was a little building of pseudo-apsidal plan (R20). It housed a two-seater latrine, which seems to have been sited directly over the medieval conduit that crossed the cloister and headed for Penniless Porch (p. 383).

Again, what lay to the east of the kitchen is not recorded, but was probably only an outbuilding or yard (R22).

The walled garden

The ruined house stands in its own walled garden, which forms a curious cut-out from the south-east corner of the cathedral green (now designated the Mary Mitchell Garden; Fig. 348). The wall also completely shrouds the thirteenth-century entrance to the cloister, demonstrating that the latter could not have been in public use once the garden had been enclosed in its present form. The creation of the garden is well documented, and is yet another of Bekynton's munificent works. On 6th May 1459, he recorded that:

> The Bishop at his own expense and with the consent of the Dean and Chapter lately caused a portion of the churchyard of Wells Cathedral adjoining the wall of the house or dwelling of the Choristers to be walled in and enclosed for the enlargement of the said house and the amenity of the churchyard, and intends to have the same profaned and appointed for the use of the Choristers. (SRS 1934, 318)

The walling-in of the plot did not mark the creation of the garden *de novo*, but was linked to other changes in the vicinity. In 1451 Bekynton had already granted a strip of land along the southern edge of the churchyard for the development of twelve new houses, the *Nova Opera*, the east end of which abutted 'the garden of the choristers' (HMC 1907, 435). From the dimensions given, the development plot is readily identifiable, although it does not now abut the choristers' garden, but is separated from it by the thoroughfare which gives public access to the Cathedral Green from the market place, via the Penniless Porch gate (Aston and Leech 1977, 151). The clear implication is that the garden boundary has been moved, and the thoroughfare driven through. Pivotal to this problem is the history of access to the cathedral and the development of the gatehouse itself. While the latter was certainly built in its present form by Bekynton, whose initials and rebus it displays, there is no precisely recorded date for the work. Viewed in the context of Bekynton's other projects affecting the market place frontage, a date bracket of *c.* 1453–56 seems likely.

No attempt appears to have been made previously to elucidate the complex sequence of events that gave rise to the present curious entrance arrangements in this area. Several fundamental questions need to be addressed: why was the choristers' house sited here, and on an alignment which deviated so awkwardly from that of the cloister; why and when was the west entrance to the cloister repositioned; and why was it necessary to turn through a right-angle in order to pass through Penniless Porch? A relatively simple model may be advanced to explain the development of access to the cathedral from the south-west, which at the same time accounts for all the topographical anomalies.

It has already been argued that the main approach to the Norman cathedral was through a gate at the east end of the market place, into an entrance court (known in the twelfth century as the *atrium*), and thence into the west end of the church (p. 116). It is further argued

that Penniless Porch is on or close to the site of the earlier gate, and that the limits of the *atrium* have been partially preserved in later medieval boundaries. One of those is the north wall of the choristers' garden (Figs. 110 and 348).

The thirteenth-century west porch was approached through the *atrium*, thus maintaining the traditional route for the public approach to the cathedral. Hence, there was no necessity to make fundamental changes to the access when the church was built, even though that was undoubtedly envisaged in the original grandiose design.[49] It was a case of adapting the existing. The choristers' house not only lay within the *atrium* but, as has often been remarked, conformed to the pre-Gothic axis of the site. It has been argued above that when Bishop Ralph 'rebuilt' the house in 1354, he in fact added a new hall and service block at right-angles to an older one, which he did not demolish. This would explain why no attempt was made to realign the house, which conformed with the ancient boundaries of the *atrium*, and perhaps other features within it. Of course, we do not know the origin of the building that the choristers occupied on this site before 1354: it may even have been a relic of the west end of the Norman or earlier cathedral, converted to domestic use in the thirteenth century. Only excavation can resolve the enigma.

It is thus posited that in 1451, when Bekynton began to update the western approaches to the cathedral and to the Bishop's Palace, the fourteenth-century choristers' house occupied the northern half of the old *atrium*, the boundaries of which formed its garden wall on the north and west. It was against the latter flank that the *Nova Opera* was abutted, as recorded in 1451. The footpath from the market place to the cathedral ran around the west and north sides of the choristers' house, in order to enter the original cloister porch. In all probability the public path continued northwards from the porch, running alongside the cloister and past the west front.

Whether there was ever a separate entry from the north side of the market place to the cathedral green is unknown, but if so it would have been definitively closed by the erection of the *Nova Opera*, after 1451. Hence all traffic destined for the cathedral would have been channelled through the former *atrium*, and around the choristers' house. When Bekynton rebuilt the Penniless Porch gate he must at the same time have re-routed the approach to the cathedral. By closing off the east side of the previous gate, and turning the exit northwards, he created a new thoroughfare through the west end of the choristers' garden.[50] That effectively destroyed the north-west corner of the old *atrium*, but facilitated easier access from the gate to the green, *i.e.* the present funnel-shaped path.

This re-routing had several beneficial effects and one significant consequence. First, the benefits: the choristers' house and its garden could now become more private, and a physical link with the cloister (and hence with the singing school) could be established. The entrance to the Grammar School — soon to be constructed over the west cloister — was also from the garden. The desirability of walling off the garden from the newly created thoroughfare was obvious, and provides the context for Bekynton's recorded action in 1459.

Secondly, the practical consequence of these works was the closure of the old west cloister porch as a public entrance. A replacement entrance had to be created further north, outside the choristers' garden, the northern boundary of which was still the old *atrium* wall. Hence, Bekynton must have been responsible for the new cloister porch, which is still in use today (Structure 25), even though it does not bear his distinctive hallmarks. Much rebuilding has occurred.

Turning to the physical remains, the garden wall of the choristers' house is seen to comprise two markedly different components. First, the north wall is built of Triassic sandstone rubble, with some evidence of coursing: it is generally similar to the masonry of the thirteenth-century cloister wall. When works were carried out in the mid-1980s which involved trenching against the north side, it was seen that the built face continued below present ground level for nearly a metre; and the foundation was yet deeper. Like the west cloister itself, this wall was constructed from a ground surface that was considerably lower than the present. It is posited that the extant garden wall is in fact the northern boundary of the twelfth-century *atrium*, and that it continued further west, as far as the corner of the *Nova Opera*, until it was truncated in 1459.

The north wall is, however, crowned by a heavy crenellated parapet of Doulting stone, which is typical of Bekynton's work (*cf.* the raised west cloister; Fig. 348). When the masonry joints were raked out for repointing in 1987, the late medieval mortar used for the heightening was plainly discernible. Equally unmistakable was the insertion of two doorways into the wall. One lies near its mid-point: this has a four-centred head under a square frame, with foliage-carved spandrels. The design is mid-fifteenth century, and this was doubtless the new entrance from the cathedral green to the choristers' house. The second doorway is smaller and plainer, under a Tudor arch, and is close to the cloister porch. This doorway is probably sixteenth century.

A minor enigma may also be mentioned. In the north face of the garden wall, between the two doorways just described, was apparently a stone arch, virtually at ground level. It is clearly depicted in one of Carter's elevation drawings, but no trace of it can be seen today. Either it was relict from an early structure that once abutted the wall, or it was part of the wall. It may be relevant to recall that the masons' yard lay here before 1243 (p. 329). Alternatively, it could have been a relieving arch for a below-ground feature. It is known that a culvert passes by the west front of the cathedral, heading in the direction of Penniless Porch.

The west wall of the garden is markedly different in construction: it comprises a mixture of rubble, including pieces of freestone. This is typical of later medieval work at Wells, as is the oblique quoining with skimpy ashlars at the north-west angle. There can be little doubt that this is Bekynton's wall of 1459. It has a plain coping, but may well have lost crenellations.

It was probably in the late sixteenth or early seventeenth century that the garden was divided into two parts, by the erection of a north–south wall which is shown by Simes (Fig. 355), and on Carter's plan (Figs. 338 and 340). The division ran from a point just west of the garden gate to the corner of the porch of the Choristers' (then organist's) House. The purpose of the division seems to have been to create a private garden for the organist (the eighteenth-century layout of which is indicated by Carter) and, separately, a forecourt or exercise yard for the Grammar School.

The yard was doubtless an early example of a school playground. The need for such a provision is clear from various disapproving references to children playing in the area of the cathedral green and cloisters. On 1st October 1606, the chapter ordered 'that hereafter nether the schollers of the Gramer Schoole nor any other shall play in the cloysters at any tyme, and that notice shall be geven to Mr Evans to forbide his schollers' (HMC 1914, 351). Perhaps this order followed the creation of the playground.

Wells cloisters: summary and discussion

Origin and purpose of the secular cloister

Of the nine English cathedrals belonging to the 'old foundation',[51] all but two were eventually provided with cloisters,[52] and another two only received their cloisters in the later Middle Ages.[53] This leaves a hard-core of five cathedrals that were cloistered by the middle of the thirteenth century. The cloister was a fundamental necessity in a Norman monastic house, but its presence at non-monastic foundations has never been satisfactorily explained. Cathedral size and relative affluence did not enter into the equation, since York never aspired to a cloister and St Paul's, London, only acquired one in the fifteenth century.

Wells almost certainly stands at the head of the list for the early provision of a cloister. Indeed, it has had a succession of them: Bishop Giso constructed the first in the mid-eleventh century, and this probably heralded the introduction of the cloister into non-monastic foundations in England. Bishop Robert built its successor in the second quarter of the twelfth century; and Reginald was responsible for the beginnings of the present cloister, later in the same century. The design for his new church, including the intended cloister, dates from *c.* 1175–76, and the foundations of the east walk were being laid in the mid to late 1180s. The west and north walks were in hand by *c.* 1200, and the south walk was completed by *c.* 1230.

In terms of the antiquity of the extant fabric, the only rival for Wells is Hereford, where there is unequivocal evidence for an east range antedating the existing early fifteenth-century cloister. Part of the outer wall of the east walk, including a flat pilaster-buttress, can be assigned to the first half of the twelfth century (Fig. 354.4). It has been claimed that these features belonged only to a pentice walk linking the cathedral to the bishop's palace (RCHME 1931, 115). It is more likely, however, that they were part of a regular Norman cloister, whether or not it was completed.

For near-contemporary analogues, Reginald's work at Wells may be compared with Salisbury (*c.* 1230+), Lincoln (*c.* 1220–30) and, possibly Exeter (*c.* 1220+), but very little survives of this last, owing to its thorough demolition. Although all four may have been simultaneously under construction in the 1220s, the designs on which the cloisters were based were not contemporary. Neither Exeter nor Lincoln Cathedral was planned with the intention of having a cloister *ab initio*, and their designs were up to half a century later than that of Wells. This only leaves Salisbury, and no part of its cloister can be before 1225, although the integrated design may date from the early 1200s, when the new cathedral complex was being planned as a replacement for Sarum (Cocke and Kidson 1993, 39–40). Thus, if there is any contemporary architectural comparison to be drawn between Wells and other secular cloisters, Salisbury is the sole legitimate candidate. The remainder must be derivative.

One of the striking features about the plans of secular cloisters is their variety, and the ways in which they differed from the typical monastic layout. If our identification of the east walk of the Norman cloister at Wells is correct (p. 99), not only did it lie on the north side of the church, but it must have adjoined the presbytery, rather than the nave. Interestingly, this is exactly analogous to Sarum, where Bishop Roger's cloister filled the angle between the presbytery and the north transept (Fig. 354.3; RCHME 1980 plan, opp. 15). Regrettably, we have little information about either of these Norman cloisters, which precludes meaningful discussion.

The common monastic pattern, of a more-or-less square-planned cloister, with four walks, set hard alongside the nave, either to north or south, seems to be the exception rather than the rule in secular foundations. Of those listed above, only Exeter appears to have had a truly conventional plan (Fig. 354.5), and that perhaps resulted from its being a monastic church in the eleventh century. The small, late, cloister at St Paul's was conventional up to a point, but no more than a token effort on a severely restricted site (Fig. 354.7). This, and the others in the secular group, all exhibit idiosyncrasies which make them *sui generis* and therefore difficult to compare one with another.

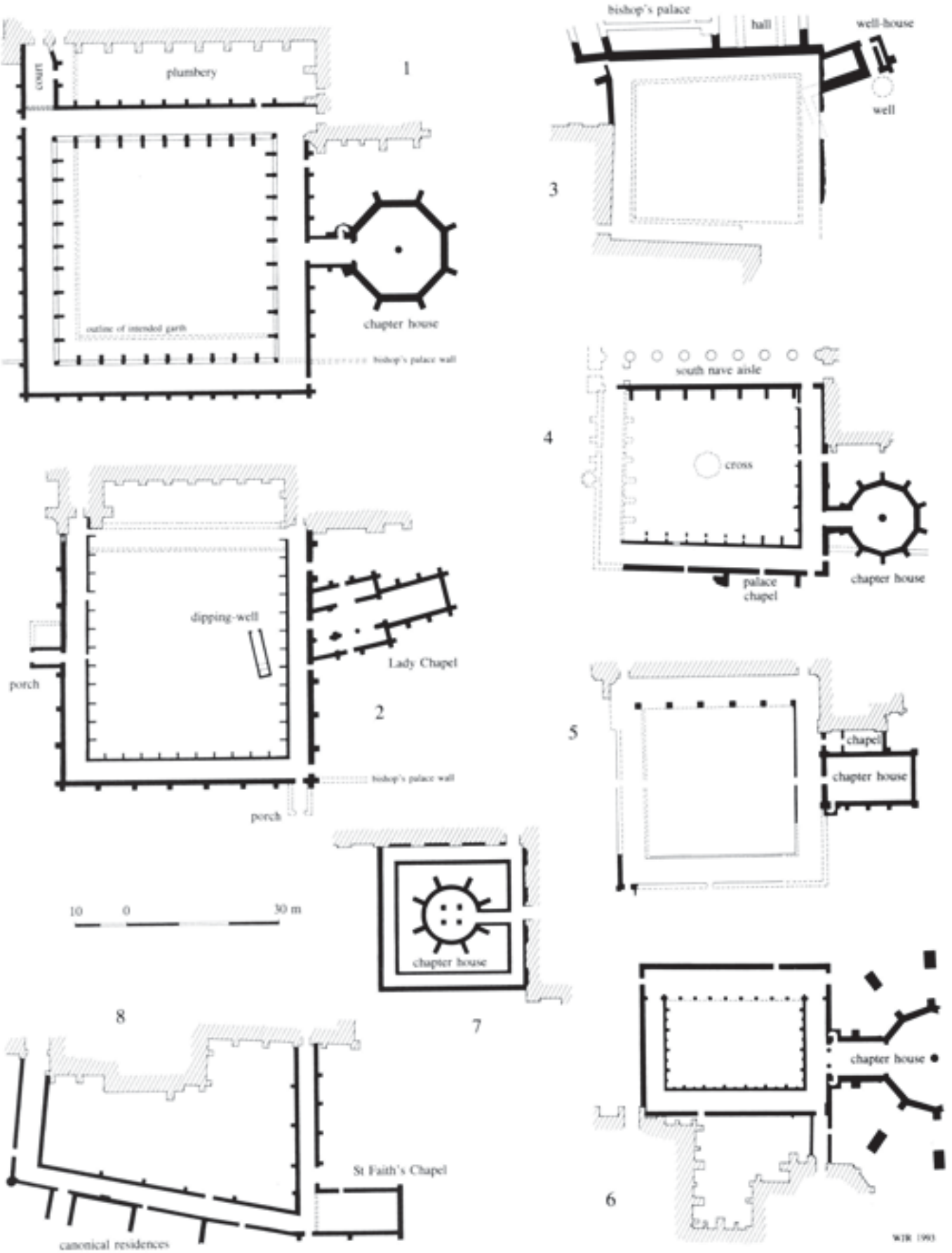


Fig. 354 Comparative ground plans of cloisters attached to secular cathedrals, twelfth to fifteenth century. Adjoining porches, chapels and chapter houses are shown, but other accretions have been omitted for clarity. 1 Salisbury; 2 Wells; 3 Old Sarum; 4 Hereford; 5 Exeter; 6 Lincoln; 7 St Paul's, London; 8 Chichester. In each case, the adjacent part of the cathedral church is shaded

Thus Hereford has never had a north walk, on account of the cramped space between the nave of the cathedral and the bishop's palace. This points to the likelihood that a cloister was not envisaged when the present building was begun in the early twelfth century. However, the arrangement of the plan, and the placing of the doorways in particular, indicates that the south nave aisle effectively doubled as the north walk of the cloister (Fig. 354.4; RCHME 1931, plan). Chichester also lacks a north walk, but its cloister of *c.* 1400 is wholly anomalous in that it wraps around the transept, bridging the east and west arms of the cathedral (Fig. 354.8; Anon. 1935, pl. II). The long-held belief that the Wells cloister was, like Hereford, only ever three-sided has now been dispelled. Not only was the missing north side an essential part of the late twelfth-century design, but it was also built, at least in part.

Wells, however, initiated a significant further departure from the typical monastic plan: its north walk was not designed to lie immediately alongside the nave, but was placed at a short remove, so that an oblong enclosure was created between the two components. Exactly the same is found at Salisbury, but nowhere else. At Lincoln the cloister is detached from the body of the church to a similar extent, but there it bridges the gap between the main and the eastern transepts on the north side (Fig. 354.6). It is both derivative and a compromise: in a sense, it is like Sarum or pre-Gothic Wells, but with the cloister pushed out from the presbytery aisle. The mild similarity is purely fortuitous.

The only valid comparison for the early Gothic plan of Wells is Salisbury (Fig. 354.1). In terms of size, the Salisbury cloister is the largest of the group. It now measures 57.5 m square externally; but it should be noted that the original plan (superseded in 1248) was for the cloister to be smaller by one bay in each direction, or *c.* 51.5 m square (Cocke and Kidson 1993, 8–10). Remarkably, the Wells cloister is 51 m square. The Hereford cloister is 45 m square (if the south nave aisle is included); Exeter is 41.5 m square; and Lincoln is 37.5 m by 29 m.

Thus Wells occupies a pivotal position in the history of the non-monastic cloister, first, because Giso's construction may have been the earliest of its type in England and, secondly, because Reginald's Gothic cloister stood at the forefront of a new fashion. The pressing but unanswerable question is, why Wells? All the other secular cathedrals that received cloisters did so at a time when they enjoyed diocesan status. But Wells was the odd-man out: Robert's Romanesque cloister was being built half a century after Wells had lost the bishopstool, and Reginald's trend-setting Gothic cloister came almost a full century after the loss. That a church of secular canons, and not a particularly wealthy one at that, could aspire to such architectural pre-eminence is most remarkable. The contrast is heightened by the fact that the precisely contemporary college of secular canons at Ripon — an advanced building for its time — did not have a cloister. Neither did Southwell Minster, nor the hugely wealthy Beverley Minster. So it was the secular cathedrals that followed Wells's lead, and not the colleges.

In respect of Salisbury, it has recently been claimed that 'the cloister was no luxury but essential for the proper unfolding of the elaborate processions ordained by the Use of Sarum' (Cocke and Kidson 1993, 10). The problem is to decide which one influenced the other. Moreover, any argument applied to Salisbury has to be transferred back to Wells, where the grand claustral plan appeared up to half-a-century earlier. The Use of Sarum was current there too, and it has been observed that Bishop Robert's charter which reconstituted the chapter in 1136 was based on St Osmund's Institutes of *c.* 1090, and later Sarum material (Klukas 1981, 30–1).

Claustral layout and function

Although both Wells and Salisbury developed and adapted their claustral plans, during the cathedral-building process, the case for regarding them as derivative from a single design is strong. Turning to the layout, we find that in each case there was only one subsidiary structure initially linked to the cloister. At Wells it was the Lady Chapel and at Salisbury it was the chapter house. Both were appended to the east walk. It has been argued that the original intention at Wells was to erect a chapter house, but that that was thwarted by the decision, before 1196, to retain the Saxo-Norman Lady Chapel, restore it and link it to the east cloister. This was the first of a series of compromises that wrecked the immaculate plan. It is further suggested that the intended position for the chapter house at Wells was south of the mid-point of the east walk, as at Salisbury and, more markedly, at Hereford (Fig. 279). In the absence of a chapter house proper at Wells, prior to the fourteenth century, the Lady Chapel-by-the-Cloister was sometimes used for chapter meetings.

The mid-fourteenth-century chapter house at Hereford had a predecessor on the same site; the plan is unknown, but it has been assumed to be rectangular (Marshall n.d., 114). The rectangular chapter house at Exeter survives, but its plan and position close to the transept are indicative of monastic influence. The sadly unanswerable question is whether the Wells chapter house, had it been realized in the late twelfth century, would have been rectangular, circular or polygonal. Given that the architect eschewed all forms of apsidal planning at Wells, we can fairly certainly discount a rectangular building terminating in an apse. We can probably go further and eliminate a simple rectangular form altogether on the grounds that it would have been aesthetically awkward in relation to the cloister. The size of the cloister demanded something much more than a simple rectangular projection of one bay's width. That would have been conspicuously out of

keeping with the architect's predilection for the elevations to impart a feeling of bulk, not slenderness.

The origins of the polygonal chapter house have been traced back to Worcester, where the early twelfth-century building was of circular plan, with ten flat-buttressed segments (Stratford 1978). Development into a polygonal plan had occurred before the end of the century, as is seen in the twelve-sided chapter houses at Abbey Dore, Herefordshire (RCHME 1931, 6, plan), and Margam Abbey, Glamorgan. Whatever was designed for Wells, it must have been broadly contemporary with these, and was certainly antecedent to Salisbury, Lincoln, Westminster Abbey, etc. If the Salisbury chapter house was in any sense derived from the unfulfilled Wells design, then an octagonal building may be surmised.

Although the foregoing may be dismissed as conjecture, as indeed it is, reasoned argument is not an inappropriate tool to use in the reconstruction of a building as regular and as logical as Wells Cathedral so clearly was. It may also be noted that although the octagon was not represented in the ground plan of the cathedral (except in the arcade pier bases) it figured prominently in finials of buttresses and corner turrets, all of which had steep pyramidal caps. Against such a setting, an octagonal chapter house would have been complementary.

Turning now to the provision of doorways in the cloister, and to their respective uses, several points of interest emerge. First, there were clearly two types of doorway: the purely functional, and the processional. The latter are distinguished by their loftiness. The two major processional doorways were those that gave entry from the east walk to the transept, and from the west walk to the south-west tower.

The east walk was provided with four other openings, of which three survive in their original form. Two are processional doorways: one opened into the primary Lady Chapel-by-the-Cloister, while the other was an entry from the Camery into the south-east corner bay (at Salisbury, a small door for the bishop's entry lay at the latter position). Halfway along the east walk, directly opposite the dipping-well, a tiny doorway was also entered from the Camery, which Buckle (1894) supposed to be the access to the cathedral privy. He was almost certainly correct in this identification, since the *necessarium* was evidently reached via the south transept door and east cloister. This is implied by a chapter memorandum which, in March 1297, directed that 'the door towards the chapel of the Virgin in the cloister, because of the necessary chamber, to be opened every night while matins are said' (HMC 1907, 163).

Finally, it has been argued that there may have been yet another primary door in the east walk, close to the northern end, which was adapted in the mid-thirteenth century for use in connection with structures that were erected outside in the Camery. The opening is in the same position as a processional doorway leading out of the cloister at Salisbury, into the cemetery known as 'Paradise'. Hereford has a generally similar series of eastern doors, although in their present form they are later medieval (Fig. 354.4).

No ancient doorway was provided in the south cloister at Salisbury, but Wells has one at the south-east corner, the bishop's private entry. Hereford was similarly provided. Whether the Wells door is part of the primary concept is open to debate; it is perhaps odd that there should be two adjacent doorways in this corner bay, and the original intention may have been for the bishop to enter from the east. However, the formal enclosure of the Church Camery with a high wall, running into the south-east angle of the cloister, prevented the bishop from gaining access from the east, and hence an additional doorway in the south became a necessity. Coincidentally, both at Salisbury and at Hereford the respective bishops each granted a strip of land to the dean and chapter in order that the south cloister walk could be built on its present site.

The west walk at Wells was initially provided with a single entrance at the north end, on the axis of the north cloister, and this corresponds exactly to the position of the public and processional entrance to the cloister at Salisbury. At Wells, though, the public entrance was moved to the mid-point of the west walk, as part of the early/mid thirteenth-century revision of the plan (*cf.* the west entrances at Hereford and Exeter). The scale of the west doorway, and the elaboration of the mouldings, demonstrate that this was the principal entrance to the Wells cloister. The two porches, west and south, it has been shown, are secondary to the design at Wells, and there have never been any porches at Salisbury.

To summarize: Wells would appear to be the progenitor of the early medieval secular cloister. In its first Gothic form, this was a large and expensive enclosure that served no essential liturgical function, and some other cathedrals, as well as collegiate churches, managed indefinitely without one. The primary purpose was, plausibly, to provide an impressive setting for the chapter house, associated with a covered processional way of monumental quality. A subsidiary purpose may have been to enclose a small cemetery for the canons' use. The basic layout was probably the same for all the cathedrals of the south-western group, *i.e.* Wells, Salisbury, Hereford and Exeter.

Processional doorways provided entry to the west cloister from the great cemetery, and thence to the cathedral church and to the chapter house (or Lady Chapel at Wells), and finally to the eastern cemetery. A small doorway at the south-east corner created a link with the bishop's palace. Initially, there was no upper storey and no utilitarian adjuncts, although at Wells the cloister had the additional, and perhaps incidental, function of enshrining the dipping-well within its garth. Its skewed alignment and markedly off-centre location remain without an entirely satisfactory explanation. Generally, we know very little about features within secular cloister garths, although at Hereford, a

large cross with an octagonal base stood at the centre of the cloister (Willis 1727, **2**, opp. 499).

The design and earliest elements of the cloisters at Wells and Salisbury are so similar — yet strikingly different from all others — that a common origin is the only realistic explanation. Most striking is, or was, the provision of an enclosed rectangular space between the nave and the north cloister walk. The purpose of such a space is unknown: it was secure, invisible from outside, and was entered through restricted doorways. At Salisbury, the enclosure, which is known as The Plumbery, served as a works yard from the later Middle Ages until recent times. A medieval plumbery is recorded at Wells, but it was probably in the Camery (p. 362). The suggestion, often repeated, that the purpose of the enclosure was to form a light well for the benefit of the windows in the south nave aisle is of dubious validity. While it incidentally fulfils that function at Salisbury, it must be remembered that when the cloister was first laid out — and the rectangular space defined — the walks were conceived on a much smaller scale than those eventually constructed. Likewise at Wells, the initial modest cloister walks could not have caused serious light obstruction in the nave. The recent suggestion that the Salisbury Plumbery yard was a more-or-less chance creation — the result of erecting a screen wall between the church under construction and the cemetery to the south (Blum 1991, 17–18) — is invalidated by the comparable evidence at Wells.

It is entirely possible that the space between the north walk and the nave aisle occurred not as a result of architectural considerations, but as a consequence of liturgical planning. Wells is somewhat unusual for a small Gothic cathedral in having a western aisle to its transept, and this clearly acted as a processional route. The east cloister walk was a direct continuation of that route. To have connected the cloister to the transept at any other point would not only have doglegged the processional path, but also left an awkward blind end to the western aisle; and if the northern arm of the cloister was to connect with the eastern arm, in the usual way, it had to abut the south-west angle of the transept. Quite simply, the design of the transept, combined with its liturgical use, conditioned the position of the cloister. The dead space created between cloister and nave was purely incidental. Salisbury's transept lacked a western aisle, but it projected by three bays (rather than Wells's two) beyond the nave, and thus a different form of connection with the cloister was adopted.

The original plan of the Wells cloister provided for narrow walks (3.32 m wide), the construction of which was partly, if not wholly, achieved. These walks were later replaced by the present ones of 3.8 m. The equivalent dimension at Salisbury is 5.9 m and, although there is no suggestion that narrower walks were constructed there, they were plainly intended (4.5 m). Wells and Salisbury both have western screen-façades, and in each case a link-structure was needed to effect a union between the north-west corner of the cloister and the interior of the church, via a processional doorway.

Reconstructing the early Gothic screen wall at Wells is the most difficult aspect of the entire cloister study, since there is virtually no surviving evidence apart from the low bench. This would have supported a series of blue lias bases and shafts carrying an open screen essentially of the form seen at Salisbury, although much less developed. Irvine recorded the position of a single base on the screen bench. The emplacement for another is also visible on the bench attached to the outer wall, demonstrating that the bay structure of the screen was reflected by a series of wall-shafts, or even an arcade, on the solid flank of the cloister walk. The walks were ceiled, but the matter of timber vaulting must remain an open question for the time being. The evidence which would enable this to be determined, and indeed reveal the entire early Gothic bay structure of the cloister, is concealed behind plaster and wall monuments.

Knowledge of the early roof arrangements is more coherent. Pentice roofs, inwardly sloping, lead covered, and with a pitch of 16°, are clearly evidenced at Wells; and while there was a substantial coping around the perimeter of the cloister, it seems likely that there was no parapet or gutter over the screen wall, and that the roofs were free-draining into the garth. As might be expected, the evidence at Salisbury is comparable in some respects, but more sophisticated. There, similar low-pitched, lead coverings were employed, but the whole arrangement was reversed so that drainage was outside the cloister, and not into the garth. An outer parapet with a lead gutter behind it, and projecting water-shutes, completed the external elevation and totally concealed the roof from ground-level view. At Salisbury, the small space between the vaulted ceiling and the roof was lit and ventilated by a series of quatrefoil openings on the garth face. Wells had slit-windows.

Nothing survives of the thirteenth-century roof structure at Salisbury, but it is reconstructible in outline from evidence remaining in the masonry. There were plates on both the inner and outer walls, and the bay divisions were marked by wall-posts rising from simple corbels on the garth side. The posts presumably had diagonal struts springing from near their bases, to the principal rafters, thus providing an element of intermediate support to an otherwise unsupported span.[54] While at Salisbury a full series of holes for through-putlogs remains in both the inner and outer walls, there is nothing to compare with the single line of high-level sockets observed in the south wall at Wells. Finally, the mutilation of the lowest decorative elements of the west front at Wells, where the thirteenth-century cloister abutted, is replicated at Salisbury, and here too a pentice roof was carried across the space between the south-facing buttresses of the south-west tower.

Development of the claustral ranges

A large cloister was a profligate use of space in a secular church, and the gradual process of turning the ceremonial enclosure into a utilitarian structure has been revealed at Wells. First, porches were added, and the western one incorporated the audit office. Secondly, an upper floor was constructed in the mid-thirteenth century over part of the east walk, with an external stair-turret and an office (or, possibly, consistory court room) adjoining at ground level. Thirdly, the entire east range was redeveloped in the early-to-mid-fifteenth century, to provide a luxurious first-floor setting for the cathedral library. Fourthly, the west range was similarly developed, to provide schools and offices on an upper floor. Lateral extension accompanied this growth, and the choristers' house — formerly a separate building — was soon linked to the cloister. The west entrance became so congested that it was abandoned to the schools, and a new approach created for public access. Fifthly, a plethora of minor adjuncts, including chapels and shelters, almost all now lost, grew up within the garth. Some were incorporated in the remains of the redundant north cloister, while others were tucked into corners and fitted between buttresses. One or two, such as the chapel of the Holy Cross, were added around the outer periphery.

By contrast with all this business at Wells, the only significant structural addition at Salisbury was the fifteenth-century library and schoolroom over the east cloister (Tatton-Brown 1995, 9). The consistory court was established inside the north-west corner of the cloister (in the link-structure), and the rectangular space between the north walk and the nave served as a works yard, acquiring the appellation 'Plumbery'. Occasional scars on the external walls show that minor timber structures were erected against them at some stage. But none of this adds up to anything like the level of development experienced at Wells. The same is true at Hereford, where only a small part of the east walk has an upper storey, and no significant lateral additions appear to have been made before the eighteenth century, when the west range was partially rebuilt.

Finally, the developing relationship between cloisters and subsidiary chapels is worth noting, particularly at Wells where the trend was set. It seems clear that the provision of chapels in or around the secular cloister formed no part of the original concept, and that where such a relationship occurred it was secondary or incidental. Thus it has been argued that it was only a last-minute decision to retain a fragment of the Saxo-Norman cathedral (St Mary's chapel) that led to the creation of the Lady Chapel-by-the-Cloister at Wells, and consequentially to the suppression of the intended chapter house. Later, the chapels of All Saints and the Holy Cross were added, together with the pyxes of Holy Cross and St Saviour, and the probable chantry-altar pentices; and there may well have been other minor liturgical foci in and adjoining the cloister that have gone unrecorded.

By contrast, the cloister at Salisbury remained remarkably pure and free from chapels and sepulchral accretions. At Hereford, the bishop's private chapel of SS Katherine and Mary Magdalene has the appearance of an attachment to the south side of the Gothic cloister, but in fact antedates it: the cloister was built up to the Romanesque chapel (Fig. 354.4). A chapel dedicated in honour of the Holy Ghost was created in the narrow space between the transept and the chapter house at Exeter, where the slype would have been had the cathedral developed along monastic lines (Fig. 354.5); and the wholly anomalous, late cloister at Chichester incorporated the chapel of St Faith at its south-east corner, but, like Hereford, this was a fortuitous inclusion of an extant structure (Fig. 354.8).

10 The Camery

Origin of the Camery

The present-day Camery — or more correctly the Church Camery — is a plot of land 0.3 ha (¾ acre) in extent, lying immediately south-east of the cathedral and within its ancient precinct.[1] The site is completely enclosed on all sides, with the cathedral on the north, the cloister on the west, the masons' yard on the south and a high wall on the east (Fig. 16). The use of the term *camera*, which was generally reserved for a chamber, seems odd here, and various explanations have been offered. It could be argued that it was the sense of definitive enclosure, with access through restricted doors and gates which gave rise to the naming, but this is unlikely for reasons noted below.

An alternative explanation is that this area housed the cathedral latrines in the *camera necessaria* (*cf.* Buckle 1894, 47); such a name, applied originally to a single structure, could conceivably, by extension, have become associated with its environs. In the sixteenth century a latrine turret (Structure 14) was built to serve the library over the east walk of the cloister (p. 304), and it obviously had a predecessor because, in 1322, there was a complaint to the chapter that the privy by the cloister was fouling the cathedral water supply (HMC 1907, 181, art. 8). It was also referred to in an ordinance of 1297 (HMC 1907, 163).

The latrine explanation is nevertheless highly improbable, especially since there was a second and potentially much larger close of land, known as the Bishop's Camery, beyond the eastern boundary wall. Equally, this reduces the force of the argument for the analogue with a room-like space. Altogether, the two *camerae* covered a considerable area, and were not specially imbued with a sense of enclosure.

The first recorded reference to the Church Camery by name is in 1433, when it was 'vulgarly called camery' (HMC 1907, 465–6).[2] An episcopal grant of 1541 makes clear the distinction between the two *camerae*. The 'Bisshop's Chamerey' was described as being 'in the space by the wall of our palace at Wells' (*in pomerio palatii nostri Wellensis*), and the dimensions are recorded as 200 ft by 54 ft. The 'Church Chamerey' adjoined it, and was described as 'a pasture of the cathedral' (HMC 1914, 254). From this it is clear that the Bishop's Camery was the narrow, rectangular plot of land, hemmed in by the springs, and now called 'Scotland' (p. 379; Fig. 356). This restrictive description may be misleading, since there is reason to believe that the Bishop's Camery covered a much larger area. It is therefore interesting to note that Simes's map of 1735 labels a large part of the palace garden, east of the moat, as 'The Camera' (Fig. 355).

This raises the possibility that the whole of the bishop's land between the palace and the cathedral, and stretching as far east as Tor Street, and north to St Andrew Street, constituted the *camera* in the twelfth century. The medieval wall defining the eastern boundary of the cathedral precinct thus not only created a division between the two *camerae*, but also between two ownerships, around the turn of the thirteenth century (see below). Hence the designation *camera* must have been used here in one of its less common senses, referring to a small estate, or a close of land: *camera per terram* (Latham 1965, 65).

The Camery wall

The Camery wall still forms part of the medieval division between dean and chapter property and the bishop's own land (now vested in the Church Commissioners). This is one of the most ancient and important boundaries in the ecclesiastical precinct of Wells. The need for a formal demarcation is likely to have arisen during the second half of the twelfth century, when the chapter's independence from the direct influence of the bishop steadily grew. This cannot have happened until some time after Bishop Robert of Lewes's ordinance refounding the chapter and instituting the deanery. The date of that ordinance is debatable, but it was between 1136 and *c.* 1159 (Gransden 1982, 25–6). Thereafter, various disputes arose between the two authorities, and the definition of territorial boundaries became both a matter of principle and physical manifestation.

Topographically, it is evident that the Camery wall was originally intended to define the eastern limit of an approximately square parcel of land, lying in the angle between the presbytery of the new church of the 1170s, and the east side of its cloister. While the cloister was conceived, and undoubtedly begun, in the 1180s, it is unlikely that the superstructure of the east walk was completed until the early 1200s (thus completely defining the west side of the Camery). The context for enclosing the Church Camery is in the period *c.* 1200–20.

The area was defined on the east by a wall that started at St Andrew's stream and ran north towards the cathedral, where it presumably ran past the original east end. Although there was a slight change of alignment at the cathedral, the boundary clearly continued northwards to St Andrew Street, and even beyond. The street alignment shows a modest deflection at the point of intersection with the north–south boundary. On the west side of this line, lay the Church Camery, cathedral and (from the fourteenth century onwards) the Vicars' Close, all being dean and chapter property. By contrast, east of the line, was the Bishop's Camery, a canonical house (now 'The Rib'), and another canonical house (now 'Tower House') beyond St Andrew Street: these were all episcopal property (Fig. 356).

The medieval Church Camery measured *c.* 65 m by 57 m, or 0.37 ha. (0.91 acre). St Andrew's stream itself may at first have constituted the south boundary, but sooner or later a wall which formed an eastward continuation of the south cloister was erected. This wall is not shown on Simes's map, and possibly did not exist in 1735 but, more likely, it was dilapidated and omitted as inconsequential. The south wall has been substantially repaired and repointed, if not rebuilt, in modern times; the return around the south-east angle is likewise of uncertain age.

The greater part of the east wall, however, remains intact, and is essentially of two medieval builds (Fig. 357). Running north from the stream, a length of *c.* 35 m of what is presumed to be original masonry still stands, varying in height from *c.* 2.5 m in its northern part, to less than 1.5 m at the southern end. The northward continuation of the wall, for another 25 m to the Lady Chapel, follows a different course. Here, the wall line veers sharply to the north-east, ending at the buttress-arch (Figs. 358 and 367). The directional change clearly relates to the early fourteenth-century extension of the quire and construction of the new Lady Chapel, which precipitated the need for the dean and chapter to acquire additional land from the bishop, and to redefine the cathedral precinct in this area.

The medieval realignment must have taken place before 1326, and probably by 1319, the date suggested by Colchester and Harvey (1974, 205) for the completion

Fig. 355 Extract from William Simes's map of Wells, 1735, showing the cathedral, Bishop's Palace and the Camery

Fig. 356 Plan of lands abutting the east end of the cathedral, based on the 1:500 scale Ordnance Survey map, 1886. Boundary walls of medieval date are shown in solid black; those of later or uncertain date are obliquely hatched. The suggested courses of lost medieval boundary walls are indicated with chain lines. St Andrew's Well is marked 'W'

of the present Lady Chapel. It has been speculated that Bishop Drokensford's grant in 1326 of a piece of land at the east end of the 'newly built' Lady Chapel related to the repositioning of the Camery wall, but this cannot be so. First, the grant is too late: the wall must have been realigned well before 1326. Secondly, the piece of land was made over to Canon Michael de Eston, who inhabited the canonical house closest to the east end of the cathedral (The Rib).

The grant refers to 'A piece in the garden of the bishop's manor of Wells adjoining the dwelling house of the said Michael [de Eston], in length from the wall of the chapel of St Mary... newly built, eastward 50 feet; and in length from the old wall of the said Michael towards St Andrew's Well in the said garden on the south side, 28 feet'. It is further ordered 'that a tree commonly called a medler growing in the said piece towards the said well remain in the bishop's hands', and 'from the tree to the well a path 8 feet wide' was required. (HMC 1907, 214–15).

Neither the dimensions given, nor the directions, are reconcilable with the triangular plot of land acquired by the dean and chapter when the Camery wall was resited. The grant refers to a more-or-less rectangular plot 50 ft (15.25 m) long in an east–west direction, abutting the east end of the Lady Chapel; and 28 ft (8.5 m) wide, lying between the springs on the south and the canon's old garden wall on the north. In other words, this grant relates to an extension of the canonical garden, not to the Church Camery. The bishop's medlar tree must have lain close to the present boundary between the palace grounds and the garden of The Rib. The path referred to in 1326 will have been the predecessor of the present path which runs north from St Andrew's Well, alongside the Camery wall (Fig. 356).

The realigned Camery wall curved around the east end of the cathedral, leaving space for a footpath, which was bridged by a flying buttress where the gap was narrowest, at the south-east corner of the Lady Chapel. Access was thereby maintained around the east end of the cathedral, to the Camery. The wall now terminates at this buttress-arch, where there is a gateway, but Carter's plan of 1795 shows it continuing further north; by 1886 only a stump remained, as indicated on the Ordnance Survey map. The gateway is set beneath a remarkable structure, built on the principle of a flying buttress (Fig. 367); it is referred to here as the buttress-arch, and is discussed on p. 356.

In the same way that the Camery wall, approaching from the south, swings eastwards to embrace the fourteenth-century east end of the cathedral, so too does the footpath running up to it on the north. This path undoubtedly marks the line of the now-vanished boundary wall between the cathedral and St Andrew Street. It may even be speculated that the reason for Drokensford's grant of an extra portion of garden in perpetuity for the adjoining canonical house (The Rib) was in compensation for the loss of a triangular wedge of land which must have occurred when the new Lady Chapel was built, and the boundary to the north of it was realigned.

Description and analysis of the wall

Recording the wall

Until 1979–80 the Camery wall was effectively invisible beneath a heavy cloak of ivy, and hence the age and condition of the structure were unassessable. The only feature known to arouse curiosity was a tiny, low-level window near the centre of the wall, through which the holy well could be glimpsed amongst the undergrowth in the bishop's garden. It was also apparent, by examining the outflow from the well, that the conduit leading westwards beneath the Camery and cloister passed under this window. An area of vegetation on the west face of the wall was cleared in 1979, and a small excavation carried out: Area 8, described on pp. 386–90 (Figs. 16 and 395).

Fig. 357 General view of the east Camery wall, from the west in 1979, after being stripped of vegetation. The right-hand ranging-pole stands at the bend in the wall, from which point northwards (left) it was realigned in the early fourteenth century. Scales of 2 m

The unsuspected antiquity and importance of the wall were at once recognized, and its dilapidation was registered as a matter of concern. Consequently, in 1980 the dean and chapter caused the remainder of the west face of the wall to be stripped, and a trial area was conservatively repaired (Fig. 357). Full-scale repair and repointing took place in 1984, when the east face was also necessarily stripped of vegetation. Both elevations of the wall were studied and recorded photographically; unfortunately, resources were not available to allow the preparation of stone-by-stone drawings, which would have been merited. Many archaeological features were observed in the construction of the wall: these have to a large extent been masked by the repointing, but not destroyed.[3]

The wall, which averages 72 cm (2½ ft) thick, is largely built of Triassic sandstone rubble set in pink lime mortar; however, it incorporates some recycled blocks of freestone, particularly at a low level. There are many localized changes in construction and materials, resulting from repairs, modifications and the abutment of other structures, long since removed.

Description

The description runs from north to south, and is related to linear measurement along the wall's course, zero being the present northern extremity (plan, Fig. 358).

East face

The northern quoin (0 m) is irregular and is no more than a patching of the scar left by the demolition of the northward continuation of the wall. There is a blocked doorway (A), centred at 6.2 m: the opening was *c.* 1.0 m in width and the northern jamb remains, but the southern one was entirely removed at the time of blocking the aperture. The north jamb stands to a height of 1.5 m, and is formed by small pieces of dressed stone which, with the exception of one bonder, are vertically jointed to the rubble of the wall itself. There is thus a suggestion that the primary doorway had rough stone jambs that were later lined. No head or lintel is preserved, the upper part of the wall having been rebuilt or refaced (Fig. 359A).

Another blocked doorway (B), centred at 16.0 m, also had an aperture 1.0 m in width. Its jambs, which are formed of the same rough rubble as the adjoining wall, stand 2.0 m high; there is now no doorhead, the wall above the jambs having been rebuilt in post-medieval times. Both doorways A and B were original features of this northern section of wall, and may well have had timber lintels.

Although the wall face was largely obscured by shrubs at the point where it began to curve, a change in the masonry construction could be detected at *c.* 25 m. North of this point there was a noticeable tendency for thinner and flatter slabs of sandstone to be employed. The curve evidently marks the junction between the later medieval diversion and the original course of the Camery wall.

Centred on 27.5 m, and set relatively low in the wall, is a small window (C) with a four-centred head, evidently dating from the fifteenth century. This is the only extant aperture in the Camery wall, and is sited directly over the medieval conduit which runs from St Andrew's Well to the market place. On the east side of the wall the water is carried partly in an open channel. The window surround is of Doulting stone (Fig. 360). The character of the masonry for *c.* 1 m to the north, and 1.5 m to the south, of the window differs from that of the body of the wall: there is a greater use of small stone and a total absence of the large, recycled blocks

that characterize the primary construction (see below). The window is plainly an insertion, and the northern edge of the associated disruption is clear, but the southern edge is not sharply defined. The wall above the window has been substantially rebuilt or refaced in more recent times.

South of the inserted window, from 29 m to 56 m, the wall stands to a height of 2.25 m and is largely of one build, although varying amounts of reconstruction have occurred in the uppermost courses (50 cm). The masonry is still sandstone and conglomerate rubble, with considerable variation in the size of individual pieces, but in the lowest 50 cm are many large, dressed blocks of Doulting stone. These do not form a consistent pattern, and are plainly recycled ashlars used here in the primary build (Fig. 361).

Between 32 m and 35 m the wall was crowned by the remains of its medieval coping, possibly original. At 2.2 m above modern ground level were two projecting courses of thin slabs carrying a saddleback coping made of small stones set in ample mortar (Fig. 362).

The southern end of the wall was in poor condition, and much obscured by an earthen embankment and shrubs. Between 56.0 m and 56.8 m is a vertical strip of masonry of slightly different character from that adjoining, particularly on the north; there is a considerable mixture of stone types here too. This potentially represents a blocked feature, such as a narrow doorway or a former lateral abutment (D). Finally, at 59.5 m a clear vertical break, with a quoin, indicates that either this was the original southern end of the wall or that there was an opening here. The wall is slightly thinner to the south of this point, a detail registered on the 1886 Ordnance Survey map. We may suspect that there was a doorway here, close to the corner.

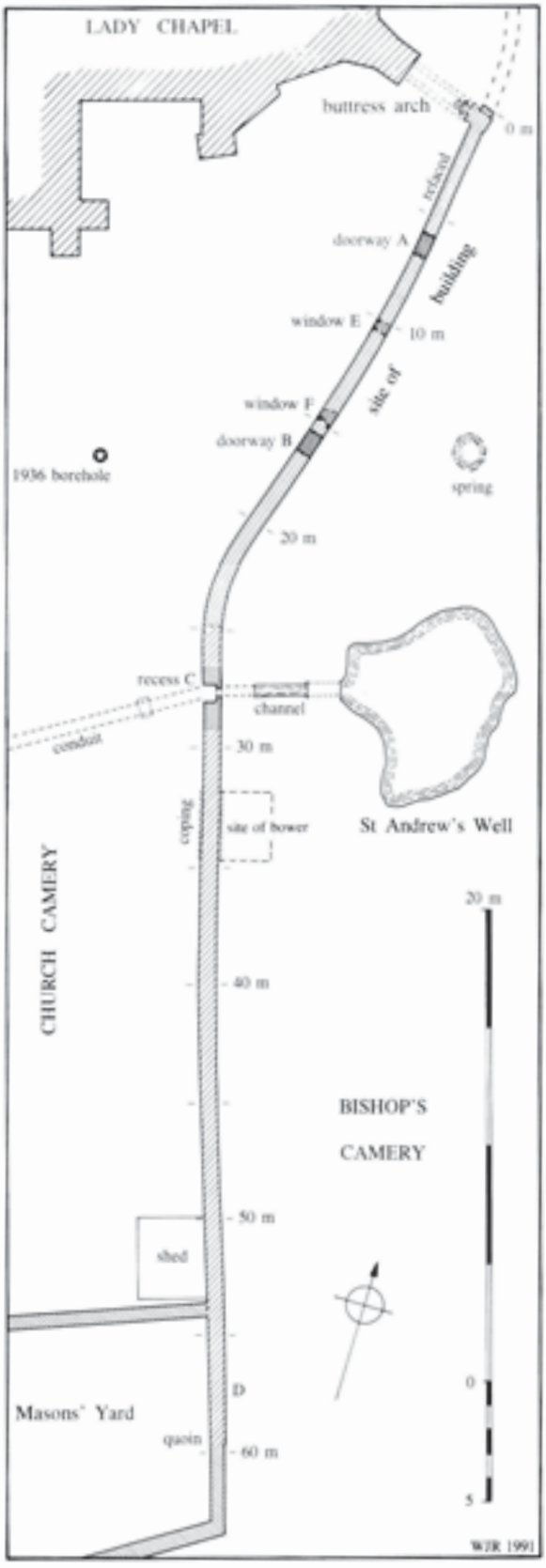


Fig. 358 Plan of the east Camery wall and adjacent features. The numbered divisions marked alongside the wall are at 5 m intervals, measuring south from the buttress-arch. Major features are lettered 'A' to 'F'. Scale 1:300

West face

The wall face begins with the projecting stub to the north of the buttress-arch. The masonry abutting this arch, and extending 6 m southwards, is of squared rubble and freestone, neatly coursed and with tight joints. This work stands to a height of *c.* 1.75 m, above which is a further 75 cm of rougher masonry, evidently rebuilt (*cf.* the east face). The lower part of the wall is utterly different in character from the more roughly coursed east side, and must surely represent a wholesale refacing operation; indeed this work is evidently contemporary with the construction of the buttress-arch.

Fig. 359 Features in the Camery wall. A (upper) East face of blocked doorway 'A', before repointing; B (lower) West face of the same feature, during repointing. Note also the open putlog hole on the left. Scales of 2 m (Jerry Sampson)

Fig. 360 Fifteenth-century window ('C') in the Camery wall, viewed from the east during clearance. Scale of 2 m

Fig. 361 Detail of the construction of the early thirteenth-century Camery wall, showing reused ashlar blocks in the lowest visible courses. Scales of 2 m

Fig. 362 Camery wall. Remains of the thirteenth-century weathering-course and rubble coping. Viewed from the east, before repair. Scales of 2 m

A freestone coping at a height of 2.0 m above ground level was intended, as evidenced by the abutments provided to the buttress-arch mouldings, to both north and south. There is no evidence to confirm that such a coping was ever fixed on the south side (Fig. 363).

At 5.8 m is a vertical joint, just beyond which is the first blocked doorway (A), already noted on the east side of the wall. The aperture is 95 cm wide by 1.3 m high, and has jambs fashioned from large blocks of Doulting stone and a thin flat lintel of similar material (Fig. 359B). South of the doorway, the wall face is of similar character to the east side, and the masonry is fully coursed with the southern jamb, suggesting a contemporary build.

The second blocked doorway, B, is encountered at 15.5 m. Its width is 1.0 m and the jambs can be discerned for a height of *c.* 1.5 m, before being lost in the rebuilt upper courses of the wall; as on the east face, there is no sign of a lintel, and the opening is not dressed with freestone (Fig. 364). Set between the two doorways, at 10.3 m, is a pair of blocks of Doulting stone standing vertically in the wall, their tops being approximately level with the posited lintel of doorway A. These were found to be the jambs of a small rectangular opening, further elements of which were revealed during repairs. The opening measured 50 cm by 60 cm (Fig. 365), and was evidently a window (E). The less well preserved remains of a second example (F) lay at 14.5 m, close to doorway B. Only the southern jamb of this window remained (Fig. 364), but was supplemented on the east side of the wall by the corresponding jamb of its rear opening. The window was splayed, and the building to which it admitted light must have stood on the bishop's land, east of the Camery wall. The windows, like the doorways, were evidently original to the build at this point.

At *c.* 22 m the curvature of the wall begins, and from 22.5 m to 25 m there are marked differences in the character of the masonry, and the whole west face has possibly undergone a localized reconstruction here. Next comes the rear opening of the small fifteenth-century window (C). The window is here contained within a square recess, measuring 60 cm wide, 56 cm deep and 1.2 m high. The lower half of this has subsequently been infilled with a blocking of rubble (Figs. 366 and 396). As on the east face, the structural break resulting from the insertion of this window and its surrounding masonry into an older wall can be seen clearly on the north and less distinctly on the south. The aperture cut through the Camery wall was far larger than was necessary simply to insert the window and accompanying recess, and excavation here showed that

Fig. 363 Detail of the mouldings of the buttress-arch and abutment of the Camery wall on the south. Note the beginning of a steeply profiled ashlar coping embedded in the wall-top. Scale of 2 m

Fig. 364 Camery wall. West face of blocked doorway 'B', and jamb of window 'F' to the left. Scale of 2 m

Fig. 365 Camery wall. West face of window 'E', after repointing. The jamb of doorway 'A' is visible on the far left. Scales of 2 m (Jerry Sampson)

the conduit below had been completely reconstructed at the same time, necessitating a wider opening. Further details of this feature are given on pp. 386–90.

From *c.* 29.5 m the wall takes on a uniform character and comprises small, well-laid rubble with occasional interspersed lumps of freestone in the lowest visible courses, echoing the construction noted on the east face. From 50 m to 53.5 m the wall face is obscured by a wooden shed. The relatively modern wall separating the masons' yard from the Camery abuts at 54 m, and south of this, the Camery wall displays no features of interest owing to extensive refacing in the 1960s.

Excavation alongside the wall

The excavation carried out in 1979 against the west face of the wall (Area 8) revealed that its masonry stood much higher, relative to ground level, when it was first built. The conduit is deeply buried, and the offset between the wall and its foundation — representing early thirteenth-century ground level — is now more than 1.5 m below the surface of the Camery. Moreover, a putlog hole relating to the wall's construction was revealed below ground. Thus only two-thirds of the original height can now be seen (Figs. 396 and 397).

When built, the early thirteenth-century section of the Camery wall must have stood about 4 m high, excluding the coping. Its lower courses have been buried as a result of rising ground levels on both sides. The levels have been raised by deliberate dumping, associated first with the construction of the fourteenth-century Lady Chapel, and secondly with the mid-fifteenth-century damming of the spring mouths to provide an increased head of water to supply the bishop's well-house (p. 397). Ground level has risen only 40 cm since the fifteenth century.

The buttress-arch

Although this now serves as a gateway into the Camery, it was certainly not constructed as such. Nevertheless, a Tudor blocking wall and door were evidently built under the arch (Fig. 369) There probably was no gate here until the late nineteenth century when a wrought iron railing and gate were inserted to control access to the Camery. These fittings were replaced by a new railing and gate in 1979.

The construction is that of a ground-based flying buttress that appears to give support to the south-east corner of the Lady Chapel, which is itself conventionally buttressed (Figs. 367 and 369). The flier between the buttresses has three hollow-moulded and chamfered orders which are carried down to a moulded plinth (Fig. 363). The counterpoise is of square section, diagonally set on top of the outer buttress, and rises like a chimney. It is stepped and clasped by a quartet of lesser shafts, also square. All five have castellated caps.

Relationships between the buttress, and the Lady Chapel on the one hand, and the Camery wall on the other, are complex: three separate phases of work seem to be represented. First, the Lady Chapel was probably complete by 1319 (Colchester and Harvey 1974, 205), and was clearly designed without the need for flying buttresses. Nor do they appear on the towering Lady Chapel of Lichfield which is contemporaneous. However, double buttressing of polygonal buildings was a known technique. For example, the Lincoln chapter house, which was built with conventional buttressing (1220s), had a full set of fliers added in the fourteenth century. There was no structural logic in the addition of a flier to just one buttress at Wells. It must therefore have served another purpose.

Fig. 366 Camery wall. West face, after clearance, showing the fifteenth-century window-recess 'C', with masonry blocking in the lower part (cf. Fig. 396)

The rebuilding of the northern section of the Camery wall, on its deviant course, probably did not take place until the Lady Chapel had been completed, and this might have been an occasion for the addition of the flying buttress. However, the masonry on the west face of the wall which seems certainly to be associated with the construction of the buttress is markedly different from that of the remainder of the rebuild. It therefore seems clear that the buttress was inserted into the wall at a somewhat later date, perhaps around the middle of the fourteenth century. There must have been a pressing reason for such changes, and that could have been an unexpected eruption of the springs close to the cathedral. There is, however, no evidence of structural failure in the east end of the Lady Chapel.

The purpose of the buttress-arch, it is argued, was not primarily to give a modest amount of structural support to the Lady Chapel, but to act as a prominent tell-tale to warn of ground movement that might threaten the security of the structure; this is discussed further in chapter 11 (p. 380). A close analogue for the form and position of the buttress-arch is found at St Mary's church, Lyminge, Kent. There, the buttress arch is fifteenth century, and is attached to the south-east angle of the chancel; although the ground falls away to the east and north, it is difficult to explain the presence of this solitary and unusual buttress.

Excavations in September 1954 in connection with laying a new drain beneath the buttress-arch revealed a medieval drain and, surprisingly, a ground-arch between the Lady Chapel and the Camery wall foundation. A plan and elevation drawing of the discovery were prepared by A.D.R. Caroe, from sketches made by the master mason.[4] These have been redrawn as Figure 368.

It was found that the south-east buttress of the Lady Chapel and the buttress-arch had both been built from the same ground level, namely the present one (47.29 m O.D.), and both stand on foundations of sandstone rubble, although of differing depths: the former is in excess of 1.6 m, while the latter is 1.37 m (4½ ft). A metal probe was driven into the ground at a slight angle, so that it penetrated beneath the buttress-arch, to a depth of 2.75 m (1.25 m below foundation level) without encountering the natural gravel. Moreover, it was noted that the buttress-arch is not only markedly askew to its foundation, but does not align with the ground-based arch beneath it, which has the appearance of belonging to an earlier construction. Finally, a stone-built drain with an internal cross-section *c.* 30 cm square was bonded to the west face of the Camery wall at this point.

A three-phase development is indicated here. The drain was almost certainly contemporary with the construction of the Lady Chapel, and was intended to collect rainwater discharging from the shutes at parapet level around its east end. Water appears to have been carried southwards along the west face of the Camery wall, to debouch into the great conduit (p. 383). The drain was short-lived, since it was severed by the construction of the ground-arch linking the Camery wall to the Lady Chapel. The ground-arch cannot have served any structural purpose on its own, and it must be presumed that it carried a secondary buttress or other structure; its thickness was 1.4 m, which is excessive for a mere blocking wall between the Lady Chapel and Camery wall.

Fig. 367 The north-eastern corner of the Camery, and the buttress-arch adjoining the eastern Lady Chapel. Scales of 2 m

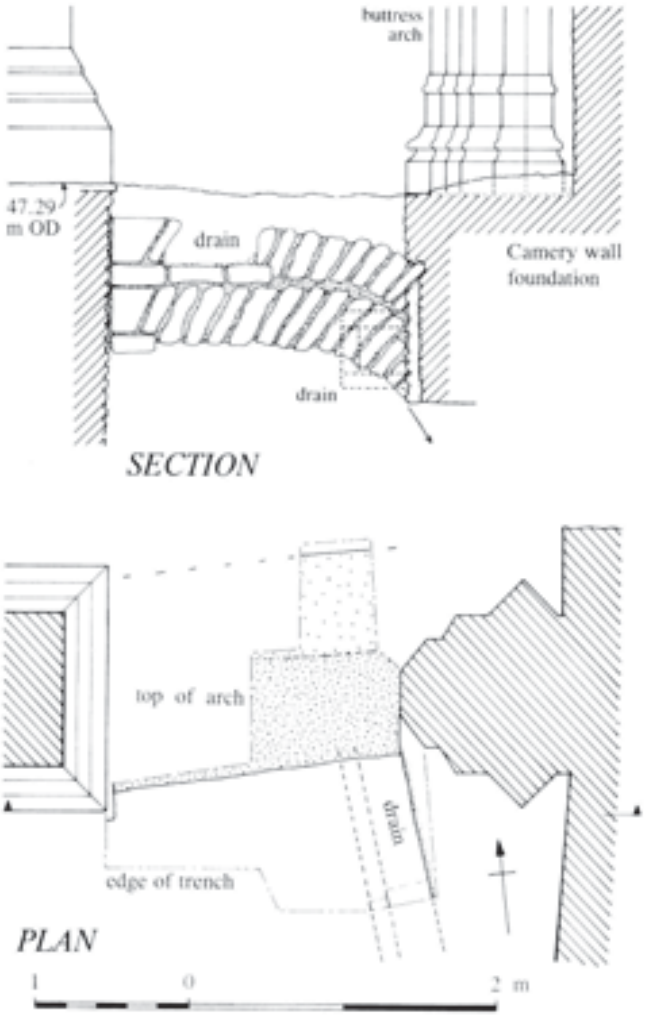


Fig. 368 Sketch plan and elevation of the ground-arch discovered in 1954 beneath the buttress-arch at the south-east angle of the Lady Chapel. After W.A. Wheeler and A.D.R. Carve. Scale 1:50

Whatever it was, the structure carried by the ground-arch was not squarely aligned on the Lady Chapel buttress, but deflected slightly to the north. The ground-arch was constructed in the same manner as a conventional flier, the only difference being that it was entirely buried. It had two rings of voussoirs, springing from the foundations of the Camery wall, and there were false keystones abutting the Lady Chapel foundation.

The present buttress-arch represents the third phase. It was constructed to align axially with the Lady Chapel buttress, and would have given modest support to the south-east corner of the chapel at a high level. The arrangement of mouldings indicates that the arch was intended to be open, as it is now, but Carter's view of the Lady Chapel from the north shows that a wall and door had been inserted (Fig. 369). The form of the door-head suggests a Tudor date.

In July 1936 a borehole was sunk in the Camery, 14.9 m south of the Lady Chapel, where it was recorded that there was 2.9 m of 'made ground' (*i.e.* archaeological deposits) above the natural gravel, which lay at 43.7 m O.D. (Fig. 358). This corresponds to the gravel level recorded in excavation Area 8. The gravel bed itself was reported as being 4.7 m thick, overlying Keuper marl.[5]

Medieval burials in the Camery

In the Anglo-Saxon and early medieval periods the area that we now call the Camery was the lay cemetery associated with the cathedral, and excavation has shown that burial was dense (chapters 3 and 4). Under the provisions of a chapter statute, passed on 9th July

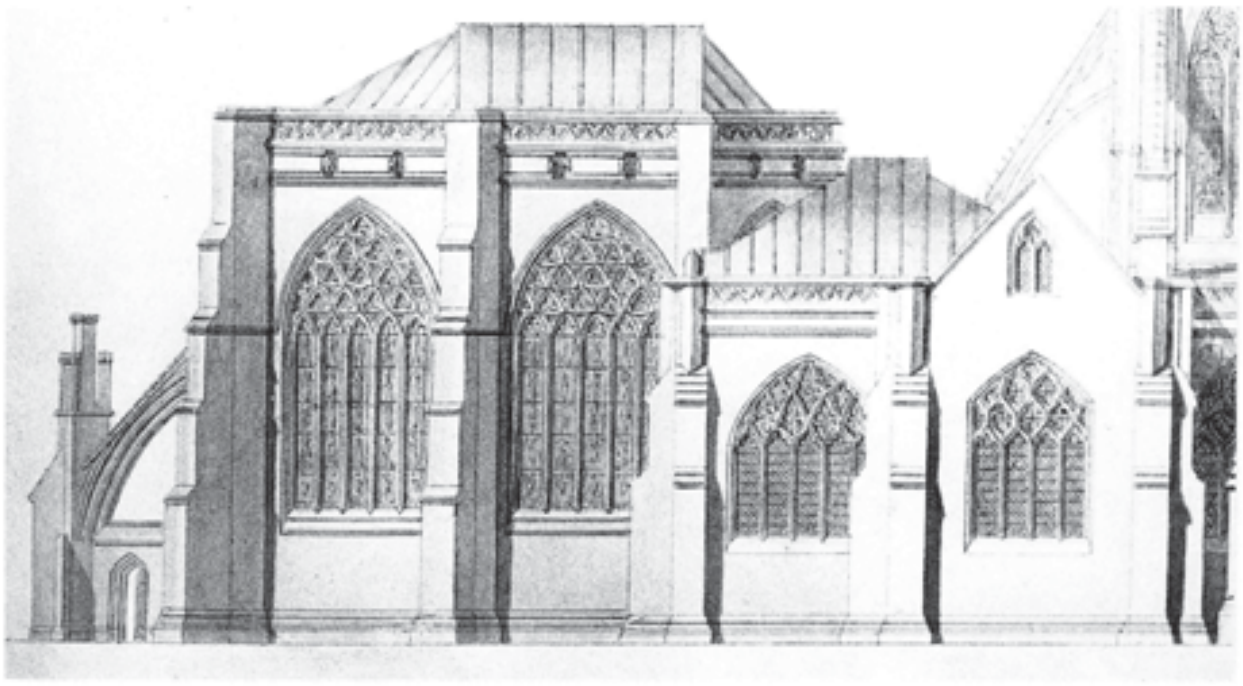


Fig. 369 Carter's north elevation of the Lady Chapel, showing the buttress-arch with a blocking wall and small doorway (Courtesy of the Society of Antiquaries of London)

1243, the Camery was designated as the cemetery for the vicars choral of Wells Cathedral: '... vicars in the churchyard towards the east, behind the chapel of St Mary [by-the-cloister], and elsewhere in the churchyard' (HMC 1907, 74). Exclusivity may have been intended, but cannot necessarily be assured, and it is not therefore a *sine qua non* that all excavated burials outside the Lady Chapel-by-the-Cloister, after 1243, must be those of vicars choral. It is prudent to assess the evidence on its merits.

Indeed, the discovery in 1903 of a decorated medieval coffin lid, apparently *in situ* on top of a stone coffin, in the eastern part of the Camery, is an indicator of a prestigious burial which is unlikely to have been that of a vicar choral. The discovery was made during drain-laying at a point *c.* 2.1 m to the south of the south-east transept of the cathedral (Anon. 1903). The coffin lid (Fig. 490) dates from the second quarter of the thirteenth century, and covered a burial that reflected the skewed alignment of the Lady Chapel-by-the-Cloister; this is somewhat curious in view of the fact that the grave was far removed from the chapel, but close to the cathedral itself. The coffin lid was raised to the modern surface, while remaining on its original alignment. It is now surrounded by graves of recent date (Fig. 16).

Cemetery east and south of the Lady Chapel-by-the-Cloister

Two small groups of burials were excavated, one to the east of the chancel, the other outside the south aisle of the chapel.

Eastern group

This group comprises eight well spaced graves, set in two rows immediately outside the east end of the thirteenth-century chancel (location plan, Fig. 135). The group was truncated to the north, south and east by the foundation trenches for Stillington's chapel (Fig. 370). The graves varied somewhat in shape and size: in two cases, F1380 and F1385, the corpse was a close fit and the grave lacked clearcut outlines. The former was a 12–14 year old child (B286), the latter an adult male (B285). Although very fragmentary, F1377 was probably similar: the skeleton was that of a 14–15 year old (B282). Grave F1235, on the other hand, was probably small in size, but was sharply defined and it contained the remains of a slightly older teenager (B263).

Grave F1387 was distinguished by having several pieces of stone rubble placed around the head of this adult male (B284). The remaining three graves (F1370, 1374 and 1386) each yielded one or two iron nails from their fills. The numbers were insufficient to be derived from nailed coffins, and they were almost certainly residual from an adjacent pit (F1403) which contained burnt wood and nails, and had been cut by grave F1374. Nevertheless, there is little doubt that this last interment was housed in a coffin: the skeleton (B280) abutted a sharply defined wood stain on the north edge and at the north-west corner. There was also a good deal of disarray amongst the bones of the torso, as is often witnessed where the corpse decayed in a void (p. 542). The skeleton was that of a mature male.

Graves F1370 and F1386 were both fairly spacious, and with adequate capacity for coffins, yet the burials themselves testify to a different form of treatment. In both cases the bones were very tightly juxtaposed and had not been allowed to spread laterally as the corpse decomposed. In burial 283 the upper arms were virtually on top of the ribs, and the left leg was crossed over the right one (Fig. 371). There can be no doubt from the posture of burial 283, and probably burial 281 also, that the corpses were bound in winding-sheets. Both were young adults in their late teens.

No shroud pins or other furnishings were found in any of these graves. A feature common to all eight was, however, the placing of the lower arms and hands on the body, and not alongside. The intention seems to have been to cross the lower arms, or to lay the hands together, on the stomach.

The graves formed a coherent group and there is no reason to doubt that they were vicars choral. They can, moreover, be dated with reasonable accuracy. Their position and the neat rows suggest that interment is likely to have taken place soon after the building of the mid-thirteenth-century chancel, which accords well with the cemetery designation of 1243. The site was subsequently transected by a stone-built surface-water drain serving the chapel (F1332). That, like the graves, was severed in 1477 when the construction of Stillington's chapel began.

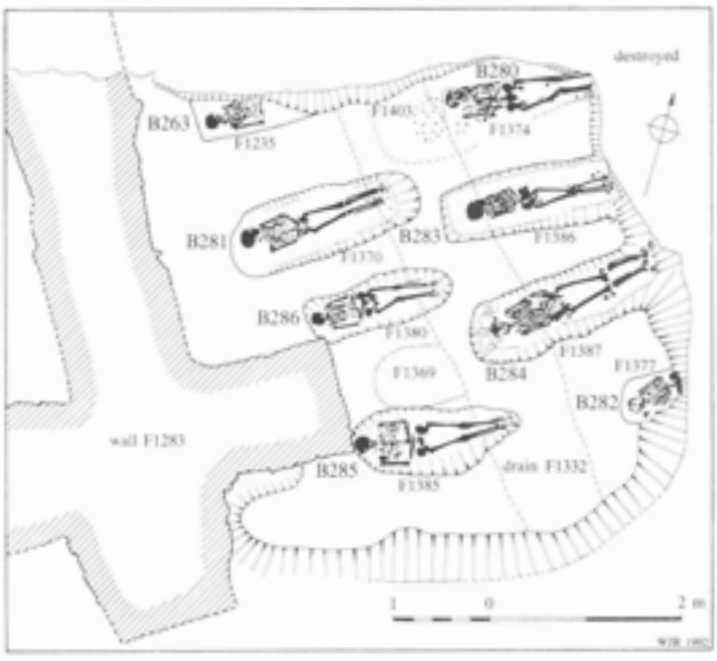


Fig. 370 Plan of burials of vicars choral in Area 11, outside the east end of the Lady Chapel-by-the-Cloister. Scale 1:80

In sum, it is likely that the eight excavated graves belong to the second half of the thirteenth century. Various stray sherds of pottery recovered from three of the graves are not at variance with such a dating.

Fig. 371 Burial 283: the posture suggests that the corpse was tightly bound in a shroud

Southern group

A thinly distributed series of interments occurred outside the south aisle of the Lady Chapel, and extended into the ill-defined area occupied by the medieval masons' yard (Fig. 372). Two early graves, potentially Anglo-Saxon, have already been discussed (p. 60), and the remaining twelve were all medieval. They were found to extend up to 6 m south of the Lady Chapel, their arrangement was orderly, with a hint of rows, and there was no intercutting or superimposition of graves. The fifteenth-century realigned conduit cut a swathe through the area, essentially divorcing the cemetery from the chapel. The masons' yard and workshops which were built at the same time effectively sealed the bulk of the cemetery, which has been archaeologically examined only where it was necessary in 1978 to cut two foundation trenches through the yard surfaces.

The graves can be grouped according to three localized orientations. Not surprisingly, those which lay close to the south aisle shared its alignment. Alongside the mid-wall buttress (F186) lay a child, burial 46, the grave-cut for which (F702) was ill-defined. The burial was sandwiched between two charred planks which may have been the top and bottom boards of a coffin, but this is by no means certain since no traces of sides or end-boards were found. Two nails were recovered, one on each side of the grave, near to the mid-point. If this burial was contained in a coffin, the latter must have been of jointed and not nailed construction.

Just to the east lay burial 41, a young adult female. The grave was well defined (F672) and had contained a wooden coffin constructed with many nails.[6] Alongside the neck lay a split boar's tooth (not pierced), which could have been either an amulet or a fortuitous inclusion in the grave.

Both the burials just described overlay the filling of a twelfth-century robber trench, and their relationship to the late thirteenth-century south aisle of the Lady Chapel suggests that they post-dated its construction. They are therefore likely to belong to the fourteenth or possibly the early fifteenth century; they were clearly lay folk and not vicars choral.

South of the cutting for the conduit lay burials 9 and 10. The former completely filled its grave (F247) and was uncoffined. The arms were crossed over the chest. The latter was in a square-cut grave (F258), but there was no evidence of a coffin. The arms were crossed on the stomach. Both grave fills contained floor tile fragments dating from the late thirteenth century, and both were severed by the conduit of 1477.

Further still to the south, in a deep trench cut in 1978, six burials were encountered but only partially investigated. They lay in two rows. Burial 1 was unique on this site in having a reversed orientation: the head was to the east. The arms were crossed on the stomach and the body fitted snugly in the narrow grave (F220). There was no room for a coffin and it seems very likely that the corpse was enclosed in a winding sheet: this could also explain the presumably inadvertent reversal of the interment.

Burials 3 and 4 were represented by the upper parts of the thorax and were uncoffined (graves F226 and 215), while only the feet of burial 2 were examined. Its grave (F214) was of ample size to contain a coffin, although no specific evidence for one was noted. Burials 5 and 6 were just clipped by the excavation trench, so that only the skulls were seen. The interments were clearly contemporaneous, sharing the same grave (F221), and they seemingly also shared the same coffin. The grave cut was too narrow for two separate coffins, but there were nails around both skulls. The board forming the south side of the coffin had been charred. There may have been a divider within the coffin, since nails also occurred between the skulls.

Fig. 372 Plan of burials in Areas 3 and 10, to the south of the Lady Chapel-by-the-Cloister. Scale 1:80

The six graves just described were all cut through thirteenth-century masons' yard levels, and several yielded fragments of unused floor tiles (of Nash Hill origin) dating from the last part of that century. All were sealed by construction works of the late 1470s.

Finally, two more graves were encountered in another deep excavation trench a little way east of the last. The alignment of burials 7 and 8 was deflected well to the north-east, presumably in response to a local topographical influence that has not yet been recognized.[7] Burial 7 was in a relatively narrow grave (F219) with a rounded east end in which the feet occupied a cramped position. The posture suggested a shroud-burial. The grave could not have accommodated a conventional wooden coffin, yet there were four iron nails in the fill of the excavated portion, strongly hinting at the deliberate inclusion of timber: the possibility that one or more planks was laid over the body must be considered.

The evidence from burial 8 was unequivocal: interment had been in a nailed timber coffin, placed in a fairly narrow but square-ended grave (F239). Part of the charred bottom board and north side of the coffin survived as carbonaceous stains in the soil (Fig. 524). The pattern of nailing indicated the method of construction: the base was fixed to the sides and end(s) with upward-driven nails, while the lid was secured by nailing down from the top.

Burials 7 and 8 were contemporary with burials 1 to 6 and were locked into similar stratigraphic relationships. In sum, it seems reasonable to regard the cemetery to the south of the Lady Chapel as comprising two elements: in the first there are two lay burials, and in the second there are ten vicars choral.

Burials north of the Lady Chapel-by-the-Cloister

The medieval cemetery did not extend fully around the north side of the chapel, into the enclosed space between it and the cathedral. Two interments, B45 and B59, were however encountered in this area, close to the transept (Fig. 146). They were an infant and an adult male. It is possible that their location had significance relative to the fourteenth-century shrine-like structure built into the wall inside the transept, next to Bishop de Marchia. The structure is usually considered, albeit improbably, to be the tomb of Viscountess de Lisle (d. 1463; Jewers 1892, 36).

Workshops and other structures

The masons' yard

The earliest reference to a masons' workshop (*hastellaria*) at Wells is in 1243, when the great cemetery was laid out to the west of the cloister (HMC 1907, 74). It was presumably a temporary lodge, associated with the construction of the west front of the cathedral but, by 1243, the workshop had already been removed (p. 329). Although explicit documentation is lacking, it seems almost certain that a permanent yard was then (or even previously) set up in the southern part of the Camery where, as has been shown on archaeological grounds, an accumulation of masons' débris begun to form in the mid-thirteenth century.

The cathedral accounts have preserved a miscellany of references to masons' and plumbers' workshops, although without specifying their precise location.

(i) In 1390–91 a tiler was paid 10d for mending the masons' 'logg', which was described as being 'in the corner' [of the Camery?]. Four bushels of lime were required for mending windows in the 'plumbatory', and a carpenter spent one week repairing the great door of the plumbery. Two iron

'twestes' (hinge-straps) for the door were mended, and timber, nails, a lock and a key are all mentioned. The 'house within the plumbery' was also repaired (HMC 1914, 20; Colchester 1983, 7).

(ii) In 1417–18, a payment was made for the carriage of timber from St Cuthbert's churchyard to the 'plomery', and a note at the end of the accounts records that 80 oak rafters were held in store 'against next year', in the plumbery (HMC 1914, 58).

(iii) In 1457–58 a new key was required for the 'logg', and one for the door of the Camery, and a 'twyxte' for the outer door had to be mended. Four iron hooks were required for the doors of the plumbery and lodge, and another six hooks for the plumbery windows and doors. John Turpyn, mason, was paid for making three sets of freestone 'durnys' (jambs) for the three doors of the plumbery, totalling a 40 ft run[8] (HMC 1914, 87; Colchester 1983, 12–13).

(iv) Various tools were made by Thomas atte Antelope, blacksmith, for the plumbery in 1500–01 (Colchester 1983, 31).

(v) A sieve for the plumbery was recorded as a 'necessary expense' in 1549–50 (HMC 1914, 271).

It is not unreasonable to infer from these accounts that there was a close physical association between the masons' lodge, the plumbery and the Camery. The 'great door' to which reference is made was surely the former processional entry to the cloister at the south-east corner of the Camery. The mention of a house within the plumbery suggests that the term was applied not only to the plumbers' workshop, but also to the locality in which it lay (*cf.* Salisbury). Plausibly, it was synonymous with Camery (or at least a part thereof). Irvine (1873/74, fig. 8) evidently also reached that conclusion.

The present masons' yard occupies a long, narrow and tapering strip of land between the Camery and the bishop's millstream (originally St Andrew's stream). It is walled all round and has the principal entrance at the west end, from Palace Green, through a late medieval arched gateway adjoining the corner of the cloister (Fig. 278). There is a breach in the Victorian north wall, leading into the present-day Camery (Fig. 16). Prior to its partial realignment in 1978, the rubble-built north wall was straight and regular and dated from *c.* 1850–70. The foundation for the wall, and its construction trench (Fig. 380, F53), confirmed this. Part of the foundation exposed in Areas 2 and 3 was composed of lengths of late medieval Doulting stone mullions, packed transversely across the trench (Fig. 373). These stones, which lacked glazing grooves and were hence from screenwork, were the casualties of Victorian restoration, probably in the cloisters.

It was only in the mid-nineteenth century that the masons' yard was separately walled off from the Camery, and that was doubtless partly a response to the need to recreate a working yard as the base for major restoration campaigns. Between the mid-sixteenth and early nineteenth centuries there was so little work carried out to the fabric of the cathedral that the masons' yard must have become well nigh defunct. It is not shown at all on Simes's map of 1735 (Fig. 355). Nevertheless, it is clear from excavation that the present masons' yard was formerly more extensive than now: in the early sixteenth century it stretched as far north as the transept of Stillington's chapel. The nineteenth-century wall effected an arbitrary severing of the site.

Arguably, the origins of the masons' yard on its present site go back to the late twelfth century, to the time when the present church was being constructed, and archaeological evidence has demonstrated that the yard was certainly here in the mid-thirteenth century. Access to it was initially from two directions. There was probably a track around the edge of the Camery, past the east end of the cathedral, and up to St Andrew Street. That would have been the route by which stone arrived from the local quarries. Communication between the yard and the core of the cathedral complex was via the cloister, and its now-blocked doorway at the south-east corner (Fig. 265).

The archaeological evidence, from Areas 2 and 3 indicates that the medieval masons' yard was deeply stratified: layers of stone-dust and chippings, interleaved with lenses of clay, accumulated to a depth of more than a metre. All this was deposited on top of Anglo-Saxon and early medieval features. It was only possible to make two north–south cuttings across the yard in 1978, and thus the majority of it remains intact beneath Areas 2–3. In the lower levels many fragments of unused thirteenth-century glazed floor tiles were recovered. This would appear to be an area where tile waste was dumped when the pavements were being laid in the Lady Chapel-by-the-Cloister (p. 177). When the yard subsequently contracted in

Fig. 373 Sections of discarded medieval screen mullions used in the foundations of the Victorian masons' yard wall. Scale of 75 cm

extent, graves of medieval vicars choral (and others) were cut through the stone-dust deposits (p. 360).

In 1978, the gravel surface of the modern masons' yard was machined off and a reinforced concrete slab laid down: stone-dust deposits were seen to extend throughout the western half of the yard. Where a deep excavation was made (in excess of 2 m) to construct a settling pit in the middle of the yard, it was observed that layers of stone-dust, clay and gravel extended to a depth of *c.* 1.5 m. The natural ground surface fell away here, towards the south, as it approached the bishop's millstream. The medieval masons' yard was established on the natural slope down to the stream, but the declivity in the land surface has gradually been levelled out by the deposition of stone-working débris.

Once the eastern arm of the cathedral had been extended (in the early fourteenth century), access to the masons' yard from the north-east became restricted, and stone was delivered to Palace Green and then manhandled through the cloister, there being no direct access for carts to the Camery. Materials had to come in through the south porch, and out again through the tall doorway into the Camery. With major building works in hand in the early fifteenth century, this was clearly an impractical form of access to the masons' yard, and so the first recorded modernization took place. In 1433 the bishop granted a small triangle of land adjacent to the south-east corner of the cloister to the dean and chapter, for the purpose of creating a new entrance to the yard. The wording of the grant is of interest.

> Gift ... of a gate with free ingress and egress thereby to a close of the dean and chapter called the Camery at Wells, lying on the south side of the choir, which gate is situate, and by special leave of the bishop new built, in a wall extending from the door of the cloister southward between the said close on the east and the bishop's outer palace on the west near and by the said cloister door ... also grant of free ingress and egress by all gates and entries of his said outer palace on the east, west and south sides, and by the gates of his park near Kuerbrigge and Torrehill to and into the Camery, with all manner of materials for the repair or new building of the church, cloister, churchyard ... (HMC 1907, 465–6)

The triangle of land gifted from the bishop's outer palace for siting the gate is readily identifiable on the ground, and the wall extending southward from the cloister still stands. A new gateway with a four-centred stone arch was formed in that wall, providing access to the Camery from Palace Green[9] (Fig. 278). Generously proportioned in order to permit easy entry of large waggons, this remains the entrance to the masons' yard today. The old doorway leading into the cloister from the east continued in use, and was probably not infilled until the late sixteenth or seventeenth century. It is now partially obscured by the yard office.

The reference to three gates giving access to the 'outer palace' implies that there was a route eastwards between the springs and the moat, to the now-lost Torregate (p. 5). This would probably have been the main access route to the cathedral for carts of stone arriving from the Tor Hill and Doulting quarries.

The excavated workshops (Structures 16 and 17)

Between Stillington's south transept and the existing (1978) masons' yard wall, the remains of a pair of long, narrow masonry buildings were encountered immediately below the topsoil (Figs. 232 and 374). Although it is clear that in their heyday these must have been an almost identical pair, their structural histories differed considerably. It will be convenient to treat the two together, beginning with Structure 16, which was the earlier in origin. Although Structure 17 was converted for use as a stable in the post-medieval period, it will be convenient to outline its complete history here (see also p. 368).

Structure 16 (Fig. 374)

In overall plan this measured 11.95 m by 3.1 m (39½ ft by 10¼ ft) externally, but the two long sides exhibited irregularities suggesting that the structure was in fact of two phases. The masonry had been almost entirely robbed, leaving only small patches in the south-east and south-west corners. The interior of the building had been heavily disturbed and, unlike Structure 17, the surviving remains were ephemeral. There were indications that a timber construction had ante-dated the masonry building, and that the latter was of two periods: the sequence may be summarized as follows (Fig. 375).

Phase 1

The earliest evidence comprised three rectangular pits, marking the south-east and the two western corners of the later masonry structure. On the north-west, the pit (F1537) lay immediately outside the corner of the stone building, without a stratigraphic connection. At the south-east angle, the surviving foundation appeared to have been built on the site of the pit (F1538), destroying much of its outline. At the south-west corner, however, the evidence was unequivocal. A pit (F85) measuring 1.5 m by 1.3 m was found to lie squarely under the corner of the building, whose foundation (F88) at this point had been increased in depth to take account of the soft filling material below. The latter contained much charcoal and building débris, including medieval window glass.

The most likely explanation of the pits is that they were the settings for large timber posts associated with a long, narrow building; there was no post-pit at the north-east corner of Structure 16, a site occupied by one of the clasping buttresses of Stillington's chapel. The buttress itself was a convenient substitute for the post (Fig. 375.1).

Phase 2

Two-thirds of the way along the north wall of the phase 3 building (see below), a pronounced kink in the robber trench indicated that the wall here had not been built in continuous alignment, but must have been of two abutting sections, the eastern being the earlier (Fig. 374, F86, F93). The robber trench on the south side (F69) was much wider and the precise alignment of the wall less easy to determine, but the trench's sinuous plan nevertheless made it clear that that wall could not have been straight either. Phase 2 would therefore appear to have consisted of a rectangular structure measuring 4.6 m by 3.1 m, with its north-east corner abutting one of the buttresses of Stillington's chapel (Figs. 375.2 and 376).

The phase 2 building may have been no more than a partial replacement of its predecessor. This may account for the fact that no remains of a west wall to the phase 2 structure were noted; although the site had been disturbed by subsequent gardening activity, some evidence should have survived. Wall trench F93 appeared to be butt-ended on the west, suggesting that either the structure was open-sided, or that there was a doorway at the north-west corner.

Phase 3

The phase 2 structure was extended or replaced, to create a masonry building of the same length as the phase 1 timber structure. This evidently occurred at the same time as Structure 17 was first erected. The two buildings clearly comprised a pair, the masonry technique and mortars being identical (Fig. 375.3).

No internal features or floors were found in Structure 16, and there were no indications of an entrance. The robber trenches however yielded not only débris associated with the pink-mortared walls of phase 3, but also rubble with grey ash-mortar adhering; this may indicate later alterations to the superstructure which are not reflected in the plan.

Structure 17 (Fig. 374)

This roughly rectangular building, measuring 12.2 m by 2.7 m (40 ft by 9 ft) externally, was constructed immediately to the south of and parallel to Structure 16, with a gap of only 80 cm between the two. It was not erected until the latter had reached its third phase (Fig. 375.3).

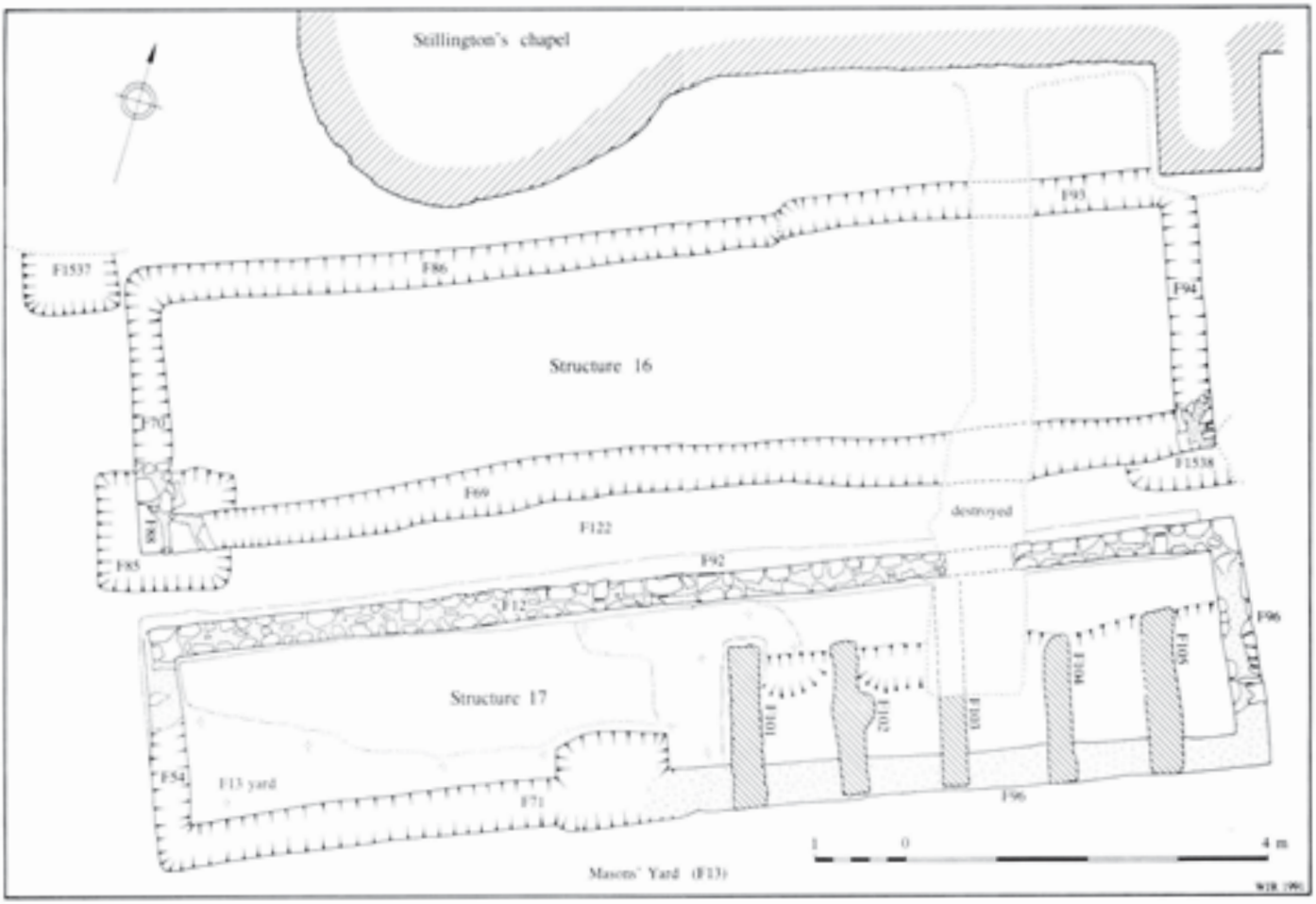


Fig. 374 Foundation plans of Structures 16 and 17, in Area 1. Scale 1:80

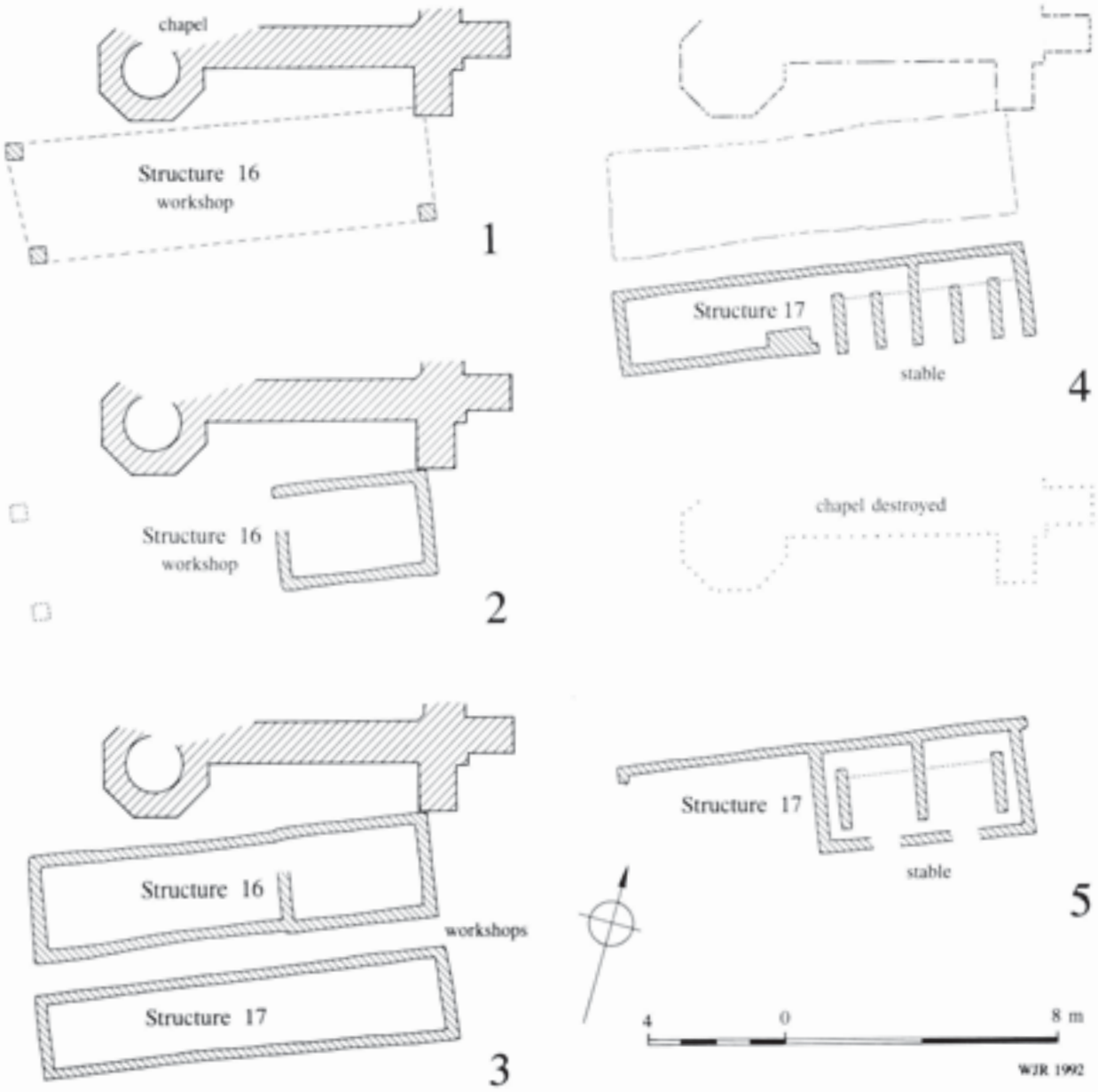


Fig. 375 Plans illustrating the development of Structures 16 and 17, and their relationship to the south transept of Stillington's chapel. 1 Late fifteenth century; 2, 3 Early sixteenth century; 4 Mid-sixteenth century; 5 Late eighteenth century. Scale 1:200

Phase 3

The building was erected on the final surface of the masons' working floor, F13. This same layer of compact stone-dust formed the primary floor within the structure. The south wall was not set into a foundation trench, but on the north there was a shallow trench (F93) dug to receive a footing. The walls averaged 30 cm (1 ft) in thickness, and were made of coursed rubble — mostly small pieces of Doulting stone and local Triassic sandstone — set in soft pinkish-buff lime mortar. The north wall (F12) was best preserved, standing to a height of *c.* 25 cm; the base of the east wall and more than half of the south side (F96) were preserved, while the remainder of the latter, together with most of the west end, were robbed (F71, F54) (Fig. 377).

An internal, rectangular projection near the centre of the south wall, also robbed of masonry, had the appearance of being the base of a chimney stack. A discontinuity in the south face of the wall, opposite this feature, may indicate that it was not original, but was added in the next phase. No indication of the position of the entrance was found, although it was probably in the south side.

Phase 4

After some 35 cm of soil and rubble had accumulated outside the building, above the former masons' yard surface (F7), the structure was adapted to a new use as a stable. The eastern half of the south wall was demolished, internal floor level was raised (F32), and five cross-walls (F101–5) were inserted into the building to

Fig. 376 Foundation trench (robbed) of Structure 16, in phase 2. View west. Scales of 2 m

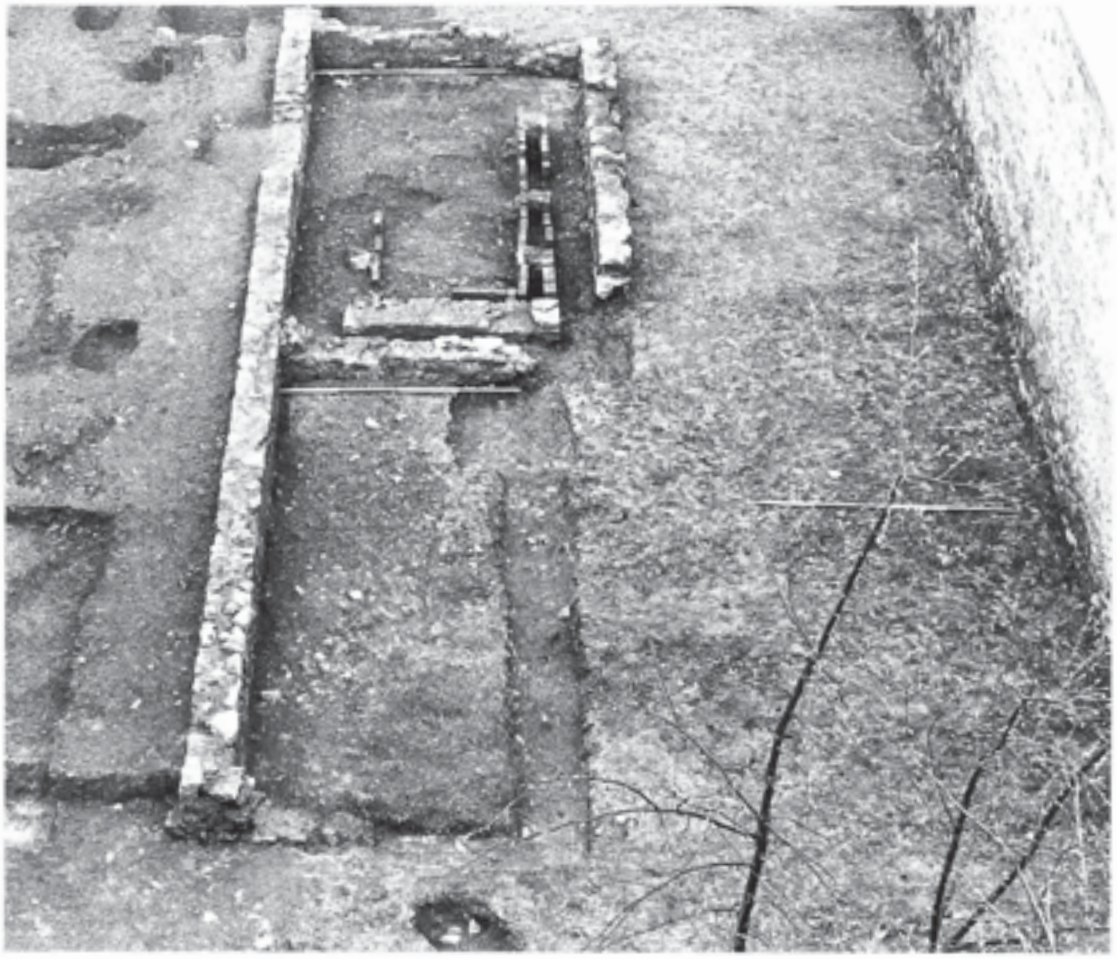


Fig. 377 Foundations of Structure 17 (phase 3), with brick-lined stable drains (phase 5). The final medieval masons' yard surface abuts the building on the south and continues part-way round its ends. View east. Scales of 2 m

create a series of stalls (four of equal width, and a narrow one at the east end (Fig. 375.4). Hard, pink mortar was employed. The entrance to the western half of the building may have been between the stalls and the presumed inserted chimney. It would seem likely that the western end of the building now served as the groom's lodging.

Between the stalls, the floor of the stable was very worn and uneven, but along the northern edge, where the mangers would have lain, was a smooth floor surface.

Phase 5

A complete rebuilding of the stable occurred in this phase, using roughly coursed rubble, set in a mixture of greyish-pink and grey ash mortars; occasional brick-bats were included. New east, west and south walls (F97–99) were constructed, changing the proportions of the building, which now measured 6.2 m by 3.4 m externally. The western half of Structure 17 was not rebuilt, and its footings were robbed of stone. The north wall alone remained standing for its full length (Figs. 375.5 and 377).

Three of the cross-walls defining the stalls of the previous phase were retained (F101, 103, 105), while the others were probably removed (F102, 104), so that the accommodation of the stable now comprised two double stalls. These were edged around the walls with brickwork, and a drainage slot (F106), also lined with brick, was formed along the south side. The bricks were red, frog-less, and of eighteenth-century type (Figs. 378 and 379).

The stable was demolished in the mid-nineteenth century, and the masonry at the south-west corner was subsequently robbed out in its entirety (F120). The demolition rubble (F17) inside the stable contained Welsh roofing slate.

Discussion and dating

There is no direct evidence for the use of Structures 16 and 17 in phases 1 to 3, although their plans and intimate association with the masons' yard point to workshops. Stratigraphically, the beginning of the sequence postdates at least the initial construction phases of Stillington's chapel, and thus cannot be dated earlier

Fig. 378 Plan of the eastern part of Structure 17, after conversion into a stable (phase 5). Scale 1:80

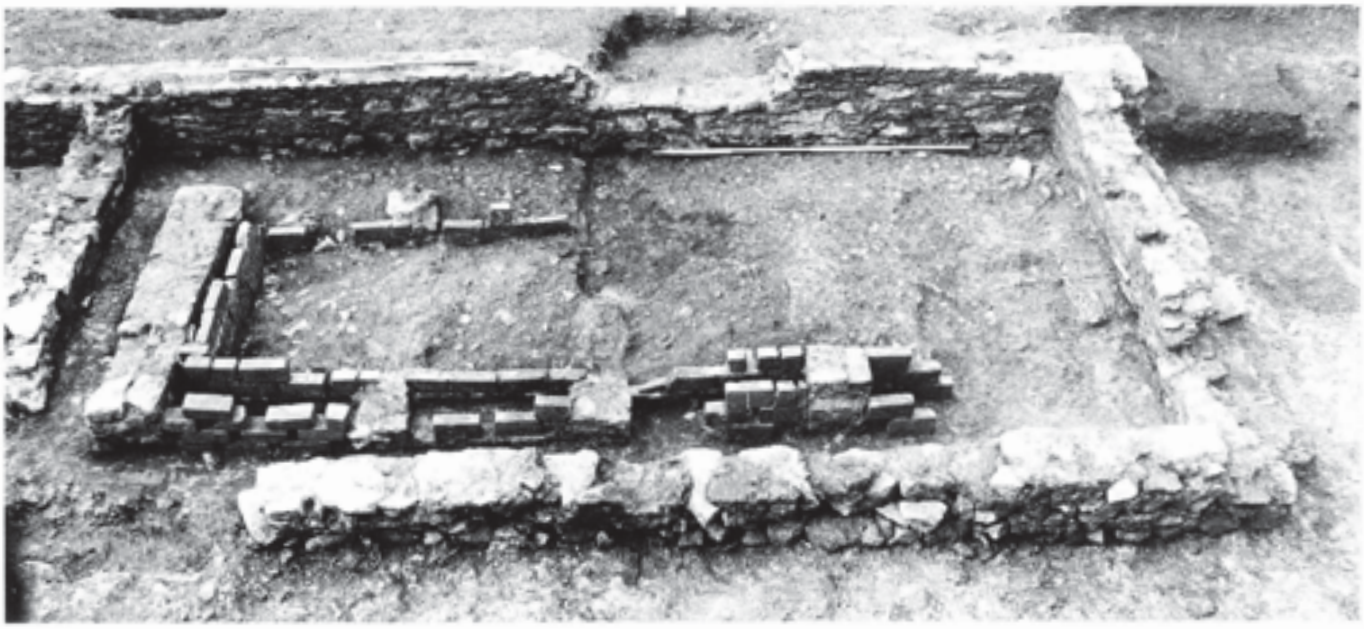


Fig. 379 Structure 17 from the south in its final form (phase 5). Scales of 2 m

than the 1480s. Moreover, it would have been an inconvenience to scaffolding on the south transept. The likelihood is therefore that Structure 16 (phase 1) was a temporary masons' lodge, erected late in the constructional stages of the chapel, and that by the end of the fifteenth century it had been adapted for permanence. Clearly, these are later than the documented references to workshops, cited above.

The three phases of Structure 16 all relate closely to one of Stillington's transept buttresses. It would have been virtually impossible to demolish the transept and leave Structure 16 standing, and it is reasonable to argue that both came down at the same time, in or soon after 1552. The lifespan of Structure 16, in its masonry phase, is thus essentially bracketed into the first half of the sixteenth century. The foundations were thoroughly robbed after demolition.

Structure 17, on the other hand, was retained for much longer and was converted into a stable and lodging in the sixteenth century, and was substantially rebuilt in the late eighteenth century. This building is identifiable from documentary evidence in the form of a lease by the dean and chapter, dated 1541–42, of 'the rome of too coples within the walls from the east end of the worke house in the Camery, ... 16 ft long, to make a stable and a loft of same' (HMC 1914, 703). This pre-suppression reference confirms the use of Structure 17 as a workshop, and provides a precise date for its partial conversion to a stable in phase 4. The reference to two 'coples' indicates that two bays of the roof structure were to be included in the new stable. Its situation at the east end of the workshop, and the quoted dimension of 16 feet, both help to confirm that the building has been correctly identified.

Further references to the stable occur in leases dated 1705–06 and 1741 (HMC 1914, 486, 539). It was obviously still standing in 1735, although tidily omitted from Simes's map (Fig. 355). However, the stable must have gone before the end of the eighteenth century, or it would undoubtedly have appeared on Carter's plan: an expanse of gravel merely marked its site (Fig. 381B).

Miscellaneous structures

Several sources of evidence point to the former existence of minor medieval structures in the Camery, apart from the chapels, masons' lodge and plumbery. For example, there are two recorded mentions of the cathedral privy. It has already been noted that, in 1297, an instruction was given to leave the south transept door unlocked during matins, to allow access to the *camera necessaria* (HMC 1907, 163; Church 1894b, 325); and an early fourteenth-century memorandum records a chapter decision to move the privy by the cloister to a more distant location because it was fouling the supply to the dipping-well. The chapter ordered: 'The door of that privy to be blocked up, so that none have access to it in future' (HMC 1907, 181).

Clearly, the privy must have been built on or close to the line of the great conduit. Neither it nor its replacement have been found, but a possible candidate for the latter is shown on Carter's plan (Fig. 381B). Midway along the south wall of the Camery, a small square feature is shown, which has the appearance of a projecting tower. This was undoubtedly a latrine chamber, discharging into the bishop's millstream, but its date is unknown. It may have been post-medieval.

In 1390–91, repairs were carried out to a house within the plumbery, which is likely to have been in some way associated with the local workforce: for example, the master mason would almost certainly have had a residence within the cathedral precinct. Also of fourteenth-century date, was the building that was integral with the reconstruction of the east wall of the Camery. The evidence for a range here is provided by the blocked doorways and windows in the northern section of the wall (p. 352). Finally, the reconstruction of part of the great conduit in the mid-fifteenth century may have led to the erection of a sluice-house against the east wall, where the window overlooking St Andrew's Well is positioned.

Post-Reformation garden and churchyard

The destruction and robbing of Stillington's chapel after 1552 have been discussed in chapter 7. By 1586, the dean and chapter must have felt that the supply of building stone was within sight of exhaustion, and thus ordered that no more be given away or sold, conserving what remained for the cathedral's own use (HMC 1914, 309). At least one-third of the Camery must have been in a derelict state at the time, being encumbered by the rubble of Stillington's chapel; the remainder was presumably still leased as a garden. Stone robbing continued into the early seventeenth century, the last recorded reference being in 1607–08 (HMC 1914, 355).

Thereafter, chapter interest in the Camery changed direction, and the records concentrate on the great conduit and lead water-pipes which ran through the area (Fig. 380). Their essential functions had to be protected. Thus in 1624 it was ordered that the tenants of the New Works (in the market place) were to be responsible for the 'greate gouts in the Camery and under the cloyster' and for the 'pipes of lead' (HMC 1914, 383). Concern for the water supply was still paramount in leases of 1705–06, when the dean and chapter reserved the 'right of entry for repairs to the cathedral, and for the tenants of the twelve houses in New-works to view and repair the pipes and watercourses leading to the said twelve houses' (HMC 1914, 486). The water supply is discussed further on pp. 402–8.

Meanwhile, a new rainwater disposal system for the east cloister roof was installed in the seventeenth century, and was probably associated with the general

refurbishment of the library in 1686. Downpipes were fitted as replacements for lead shutes that tended to spew water down the walls, thus introducing dampness that was anathema to good library management. As part of the work, a well-built drain of mortared masonry was constructed parallel to the cloister (Fig. 380, F146). It was fed by branch drains from the individual downpipes (F158, 180, 371), two of which had small access holes (roding-eyes) at the point of junction. The drain had a fall from both its north and south extremities, towards the centre, where it discharged via a vertical shute (F326) into the great conduit below.[10]

There are no records of interment in the Camery in the sixteenth century, and the practice may have ceased as early as 1477, when the old Lady Chapel was demolished (p. 199). Certainly, it would appear that, upon the completion of Stillington's rebuild, a chapter decision was taken not to use the Camery for burial any more. Thus, in 1488–89, it was ordered that the keeper of the fabric should provide for enclosing the graveyard (*pro clausura cimiterii*), and for looking after the herbage and trees therein. He was further charged with assigning a convenient new burial ground for the vicars choral and all minor ministers of the church, their families and servants (HMC 1914, 116). While the Camery was of course enclosed, this reference would seem to imply that an area containing burials needed physical separation from some other use. Secular activity may already have invaded the site.

The first reference to the Camery being leased out for non-ecclesiastical use is in 1541–42, a decade before the demolition of Stillington's chapel began. The lease of that date refers not only to the conversion of one of the former masons' workshops to a stable, but also to 'a little orchard there lyeng, and the herbage of the said Camery'. The whole was leased for 6s 8d *per annum* to Walter Cretyng, archdeacon of Bath (HMC 1914, 703). This establishes that the Camery was in privileged secular use at least from the time of the Reformation. Cretyng occupied The Rib, the canonical house immediately east of the cathedral. This house had only a small amount of land attached, and the annexation of the Camery provided it with a fine walled garden. Cretyng had also acquired a piece of garden from the Bishop's Palace in 1541 (p. 349).

In 1661 the Camery was leased for forty years to Alexander Jett, notary public (HMC 1914, 714). Between 1705–06 and 1774 there was a series of leases granted, again relating expressly to the Camery and its stable (HMC 1914, 486, 539, 544). Clearly, the area continued to be used as a garden or orchard throughout the period under consideration and, at least from 1661, the Camery was leased to lay folk, and not to the occupant of The Rib (who was normally the archdeacon of Bath).

As an aside, it may be mentioned that, in 1633–34, a lease for forty years was granted to Augustine Benford, a vicar choral, of a newly built house and adjoining plot of land, which is described as 'lying ... upon the church camery of the west side' (HMC 1914, 406). However, additional details make it plain that this property lay to the north of the quire of the cathedral, and thus not within the area under consideration here. The house is shown on Simes's map, fronting onto St Andrew Street (Fig. 355).[11] It is interesting to note that in the seventeenth century the Camery was considered to extend around the east end of the cathedral, and to the north. In the early Middle Ages, it may well have encompassed the land upon which The Rib was built.

In the post-Reformation era, the Camery was not only separated from the cathedral in a tenurial sense, but physical compartmentation also occurred, and the interconnecting doorways were blocked. Carter's plan clearly shows all the then-current openings in the cloister, including the three minor ones in the west walk which communicated with adjacent buildings. Yet in the east walk, only the south door leading to the Bishop's Palace is indicated. The three medieval openings off the east walk — to the Holy Cross chapel, to the Lady Chapel, and the processional doorway at the south-east corner, respectively — are all missing from the plan. Nor do they appear on Fourd's plan, or Storer's (1814). The date of blocking is unknown, but is most likely to have been late sixteenth century.[12]

We may suspect that all three redundant openings were solidly infilled with masonry. The Lady Chapel doorway was unblocked in the mid-nineteenth century, when access to the Camery was once again required for cemetery use, and a fine pair of wrought iron gates was fitted. The blockings in the other two openings were partially removed, sometime towards the end of the century (perhaps in 1894), so that their moulded surrounds were visible on the east face. This was simply a piece of antiquarianism.

Thus access to the Camery between the mid-sixteenth and mid-nineteenth centuries was either from the north-east, through the doorway under the buttress-arch, or from Palace Green, via the former entry to the masons' yard. The absence of any mention of a masons' lodge or plumbery in the seventeenth and eighteenth centuries confirms the lack of maintenance and building activity at the cathedral. Practically, the masons' yard closed down at the Reformation.[13] Although details are not recorded, it is evident that the southern margin of the Camery was not given over to garden, and buildings remained here.

The layout of the Camery garden in the eighteenth century is evidenced by three plans. Fourd's incomplete depiction of *c.* 1730 shows a wide path and a wall set parallel to the cloister, transept and south quire aisle (Fig. 381A). Within the wall, a formal garden is indicated with lines of trees and narrow paths running in a north–south direction. Simes's map (1735) is

more stylized, and shows six equal-sized parterres within a regular grid of wide paths. A single specimen tree is placed at the centre of each plot (Fig. 382). The eastern Camery wall features prominently, and not only does it curve around the Lady Chapel of the cathedral, but it also has a spur running up to the south-east transept.

Carter's plan (*c.* 1795) tells a different story. Here, we see an area of lawn and shrubs flanking the south side of the cathedral, and running up to the buttress-arch. In the central and eastern parts of the Camery were evidently two blocks of kitchen garden, each divided into a series of rectilinear beds by narrow paths (Fig. 381B). The layout incorporated the remains of several broad paths, and the central area of the kitchen garden appears to have been enclosed on two sides by an L-shaped wall. The east–west arm followed the southern edge of the nave and chancel of Stillington's chapel, and was presumably built upon its foundation.

Carter detailed a series of structures along the southern boundary of the Camery which have since been swept away. The gate on Palace Green opened into a rectangular yard, walled all round. A gap in the north side gave access to a broad path that ran the length of the east cloister, while in the south-east corner of the yard lay a small, square building which would appear to have been a stable with three stalls. Adjoining on the east was a rectangular building, which is indicated on Simes's map as a house, and Carter shows an adjoining garden plot on the north. From sometime in the nineteenth century, to the mid-twentieth, this served as the office for the reconstituted masons' yard. It was demolished *c.* 1960, and the present carpenters' workshop erected on its site.[14]

East of the house lay another garden plot, two more small buildings, and the latrine chamber projecting over the bishop's millstream (p. 368). The south-east corner of the Camery contained a large rectangular pond about which nothing further is known. Thus between them, the three maps reveal a typical seventeenth-century formal layout within the Camery which, by the late eighteenth century, had been fragmented and largely converted into kitchen garden. Nevertheless, some trees remained and their timber was of sufficient intrinsic value for an exclusion clause to be entered in the lease of 1774 (noted above).

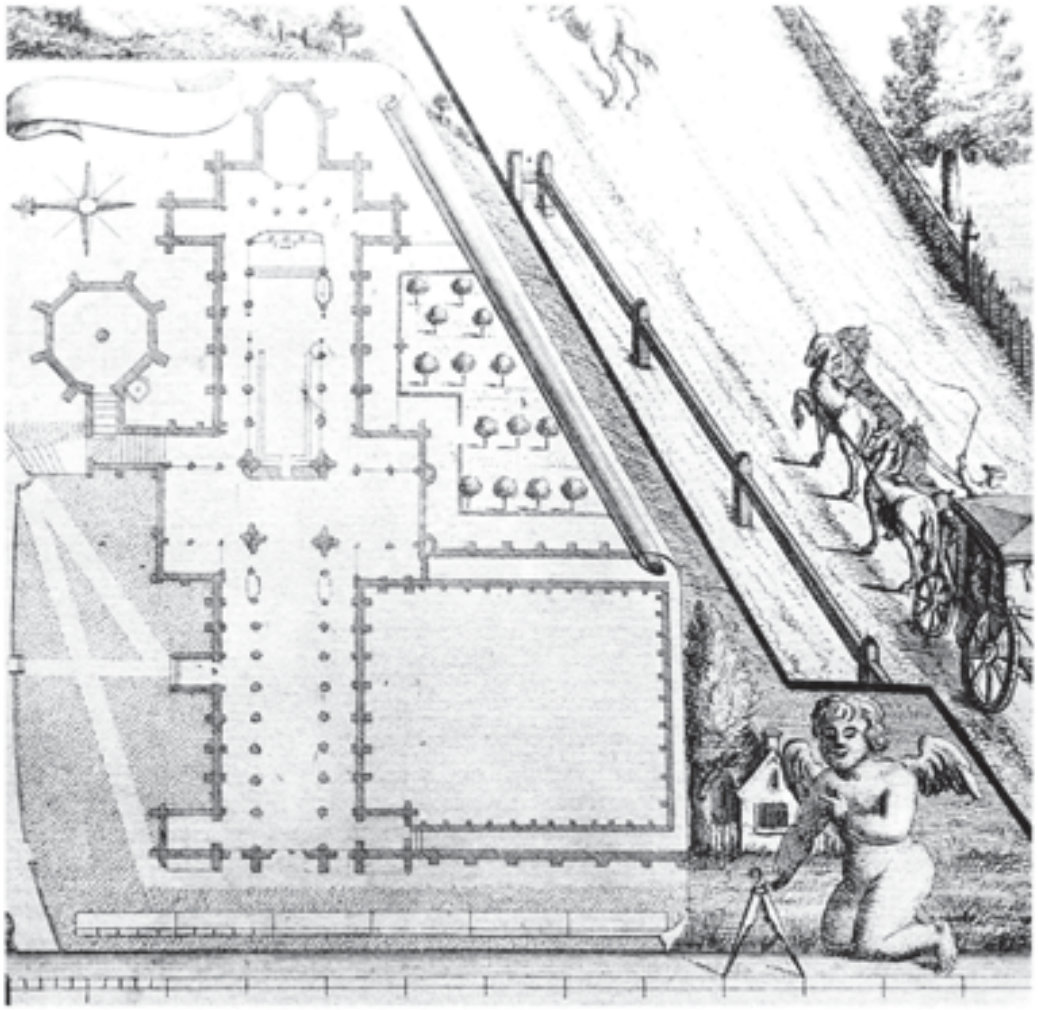


Fig. 381A Plan of Wells Cathedral by Thomas Fourd, c. *1730, showing the formally planned garden in the Camery (Richard Neale, courtesy of the Dean and Chapter of Wells)*

The east–west axis of the garden was not quite parallel to the cathedral, as evidenced by the alignment of several bedding trenches which were recorded in the uppermost levels of the excavation in Areas 1–3 (Fig. 380A: F18–20 were soil-ridges between beds). The same axis was also adopted for the nineteenth-century masons' yard wall, which seems to have followed the edge of the southernmost garden path.

Excavated features expressly relatable to the later post-medieval period include several pits dug over the line of the water-pipe and conduit, evidently for repair, as per the leases (Fig. 380: F57, F67, F68, F84, F177, F253, F411). One of the inspection chambers was also partially rebuilt (manhole F95; p. 406). Several amorphous features, perhaps tree-pits, were encountered, but they cannot be specifically related to Simes's plan; refuse and gardeners' pits, too, were found (*e.g.* F25, F34, F48, F89, F344, F345). The brick-built flue for a heated greenhouse was also uncovered (F108), and a soakaway pit (F76) was perhaps connected with rainwater disposal from its roof. Likewise, deposits of boiler ash were connected with the greenhouse (F49, F82).

The Camery was being tidied up in 1822, when stone was taken from it to repair the west cloister porch (Structure 23). At the same time, the small medieval sacristy protruding from the south side of the Lady Chapel, into what was described as a 'garden', was demolished. This polygonal excrescence is shown on Carter's plan, and the scar still remains on the wall of the chapel (Fig. 5).[15]

Several short-lived structures, presumably sheds, were erected in the Camery. One is indicated by a group of small postholes against the south transept, together with fixing scars in the masonry above (Structure 29; Fig. 380).[16] There was also a two-celled lean-to (Structure 28) erected against the east cloister wall (bay E7), immediately south of the library stair-turret, where it rested in part on the foundations of the former Holy Cross chapel. This was probably a garden-tool shed, and is shown on both Carter's and Paul's plans (Fig. 3).

The date at which the dean and chapter repossessed the Camery for their own use has not been discovered, but it seems not to have been before 1851, when it was still referred to as 'Miss Parfitt's garden'. By 1856 a new phase of burial in the Camery had begun. According to tombstone inscriptions, the first recorded

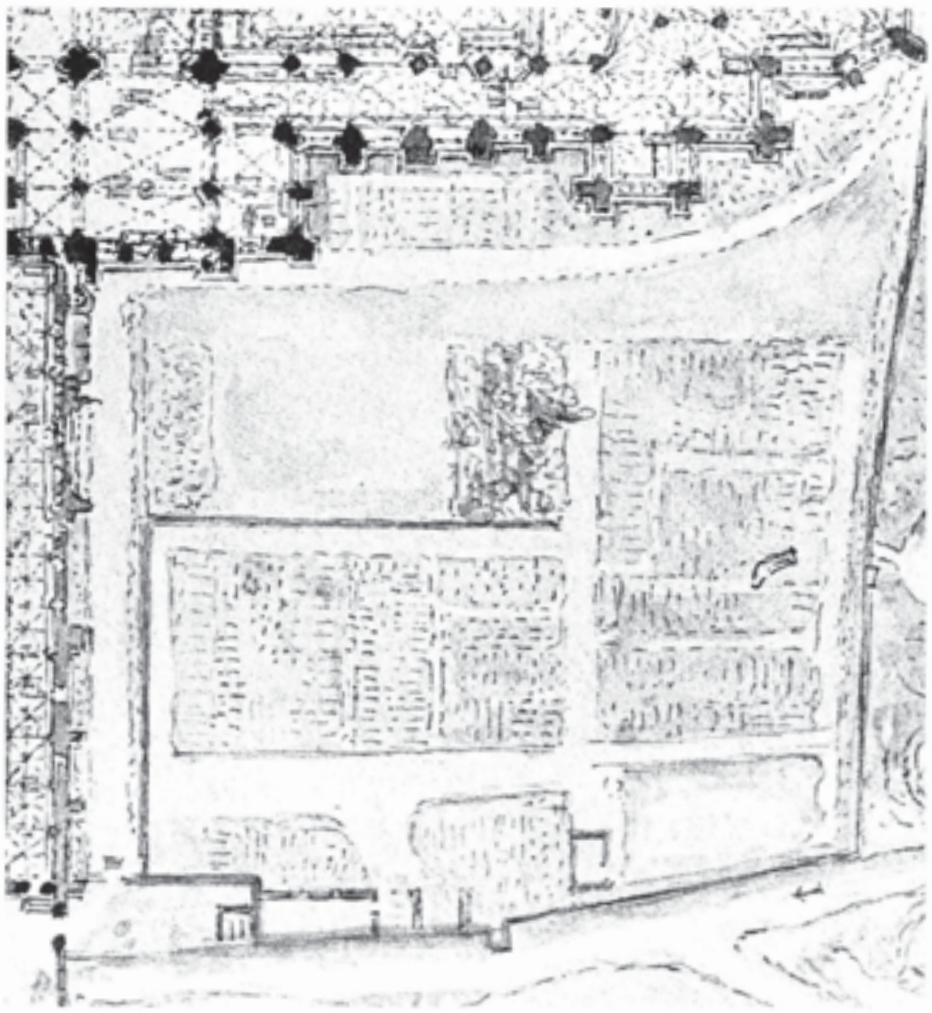


Fig. 381B Extract from Carter's plan of the cathedral environs in c. *1795, showing the layout of the Camery (Courtesy of the Society of Antiquaries of London)*

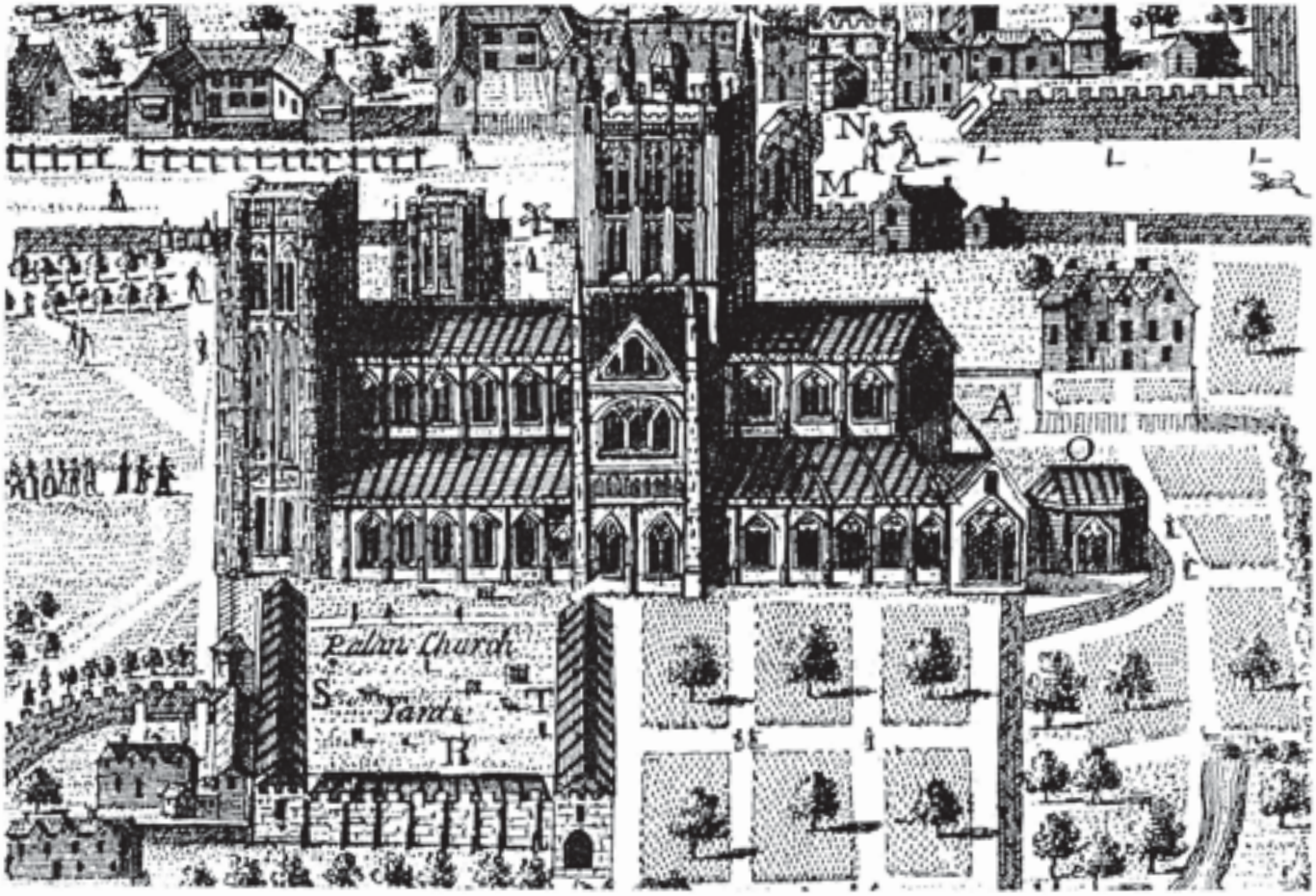


Fig. 382 Extract from Simes's map of 1735, showing the formal layout of gardens in the vicinity of the cathedral (Richard Neale)

interment was that of a three-year old child, Mary Magdalene Clarke.[17] The next dated stone is 1885, since which time a steady stream of burials has taken place, all in areas to the north and north-east of Stillington's chancel. It has already been noted that Bishop Hervey's funeral, in 1894, followed hard on the heels of Buckle's excavations (Fig. 11). On the 1:500 scale Ordnance Survey map of 1886 the area is designated as 'churchyard' (Fig. 4). It was during drain-laying in 1903, immediately south of the south-east transept of the cathedral, that the thirteenth-century tomb-cover decorated with a floriated cross was discovered (p. 491; Fig. 490). Foundations for walls of unknown date and purpose have been discovered from time to time in the eastern part of the Camery, mainly during the excavation of graves.

The 1886 map shows that additions had been made to the little house against the southern boundary, associated with the revival of the masons' yard, which probably occurred at the beginning of the great restoration of the west front, 1870–74. By 1886 the yard had already been tidily walled off from that part of the Camery designated as churchyard. The map also shows a rectangular walled garden, or orchard, in the south-east corner of the Camery (on the site of the pond) that was later absorbed into the masons' yard.

Summary: the development of the Camery

It has been deduced that *camera* was the term used at Wells, in or by the twelfth century, to describe that portion of the bishop's manor which lay between the cathedral and the episcopal residence, including also an area to the east wherein lay the springs. It is argued that, during or soon after the episcopate of Robert of Lewes, a portion of the *camera* was handed over to capitular control and was perhaps given formal definition. The remainder continued in episcopal hands. However, it was not until *c.* 1200 that the *camera* was divided by the construction of a high wall, which began at the south-east angle of the cloister, and ran eastwards alongside the bishop's millstream (St Andrew's stream). It then turned northwards and headed towards St Andrew Street, passing by the east end of Reginald's new church *en route* (Fig. 383A). To the east of this wall lay the Bishop's Camery, and to the west the Church Camery. The latter embraced the old cathedral cemetery and the restored Lady Chapel-by-the-Cloister, and in 1243 the enclosed area was formally designated as the burial place for vicars choral.

The springs were entirely on the episcopal side of the divide, but the outflow from St Andrew's Well was channelled through the Camery and into the cloister via

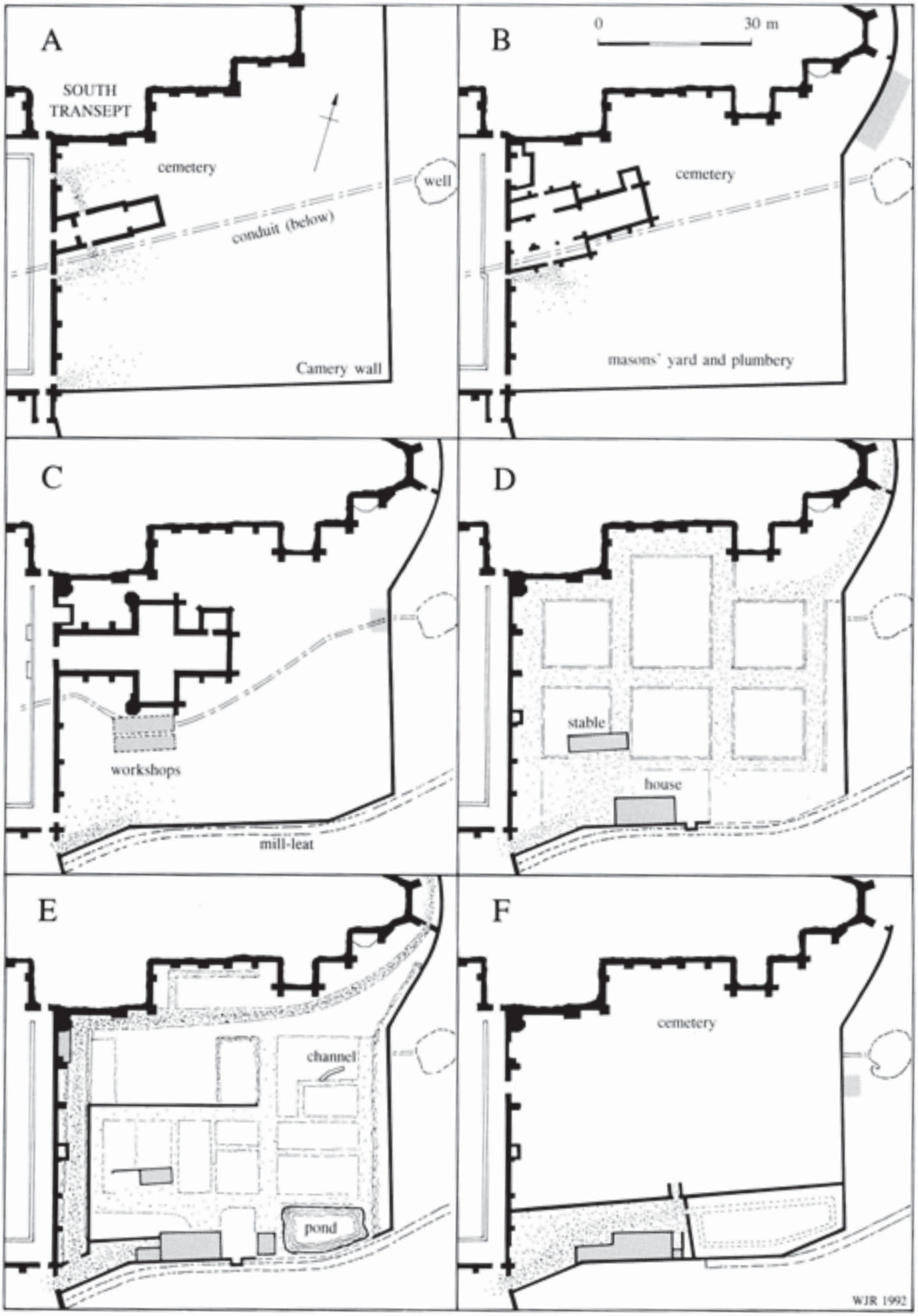


Fig. 383 Plans to illustrate the suggested development of the Camery and the principal buildings in it. A Early thirteenth century; B Mid-fourteenth century; C Late fifteenth century; D Late seventeenth century; E Late eighteenth century; F Late nineteenth century. Scale 1:1000

a specially constructed conduit. By the middle of the thirteenth century, a permanent masons' yard had been established in the south-east corner, with access to the cathedral via the cloister. Here lay not only the masons' lodge, but also the plumbery, and a house. The latter could have been the master mason's residence.

In or perhaps before the second decade of the fourteenth century it was determined to extend the presbytery of the cathedral and to construct a new polygonal Lady Chapel. This may have been directly linked to an attempt to secure the canonization of Bishop William de Marchia (d. 1302): the proposed retroquire and Lady Chapel would have provided a fashionable architectural setting for the shrine (Wilson 1990, 200). Work on the chapel was complete by 1319.

Before construction could begin, however, it was necessary for the cathedral to acquire additional land from the bishop's own estate, and to realign the intervening boundary. Thus a considerable section of the Camery wall to the east of the cathedral — and extending some distance to the north and south — had to be demolished and rebuilt further east. In effect, a swan-neck was introduced into the boundary, sufficient to accommodate the extended eastern arm and a footpath around its perimeter.

The realigned wall came very close to the northernmost springs, and a good deal of soil — probably derived from the new foundation works — was dumped around the fringes of the springs, in order to raise the ground and provide a level site for the Lady Chapel. This interference with ground levels and drainage must have had an effect on the natural outflow of the springs, and there may have been ground eruptions or structural movement in the realigned Camery wall.

Whatever occurred, something occasioned the construction of the buttress-arch, which supplied a modest amount of support for the south-east corner of the Lady Chapel and, perhaps more importantly, acted as a tell-tale for ground movement. Introducing the buttress-arch involved a partial rebuilding of the Camery wall at the point where it swung around the Lady Chapel. The date of this modification is uncertain, but is believed on stylistic evidence to have taken place towards the middle of the fourteenth century: Colchester (1987, 80) suggests *c.* 1335–40.

Integral with the realigned wall were two doorways and two windows that related to a building of unknown size and purpose, but which clearly lay on the palace side. No convincing explanation can be offered for the erection of a structure on the edge of the springs, on the bishop's land, but accessible from dean and chapter property. The lack of evidence for attachment scars in the masonry might indicate that the building was timber-framed.

In 1451 the level of water in the mouths of the springs was raised to provide an adequate head for Bekynton's piped water supply (chapter 11). At about the same time, and in consequence of raising water levels, the mouth of the conduit carrying the outflow from St Andrew's Well had to be raised too. That involved breaching the Camery wall and constructing a new section of conduit through it, at a higher level. In association with these works new sluices were constructed, and these were possibly housed in a lightweight building attached to the west side of the wall. At any rate, a recess and eastward-looking window were embodied in the Camery wall, directly above the conduit.

Meanwhile, between the 1420s and the 1450s, the east cloister was rebuilt and raised to create a prestigious library above the walk. Pressure on the masons' yard was considerable, and in 1433 a new entrance was created from Palace Green to enable carts of stone to enter the Camery, without manhandling materials through the cloister.

From 1477, the Camery was the scene of major building works, when the old Lady Chapel-by-the-Cloister was demolished and Bishop Stillington erected his grandiose new chapel on the same site. One of the ancillary works associated with this project was the realignment of the great conduit under the Camery, in order to clear the way for the new chapel's foundations. By the early sixteenth century, masons' workshops had spread right up to the walls of the chapel, and it is unlikely that any further burials took place in the Camery.

Anyway, by 1541–42 the Camery was being used for secular purposes: the ground was leased to the occupant of The Rib, and one of the former workshops was converted into a stable. In 1552 the systematic destruction of Stillington's Lady Chapel began, and gunpowder charges were used to assist its demise. For the next half-century the Camery must have resembled a bomb-site, as not only the Lady Chapel, but also the Holy Cross chapel and other structures were torn down piecemeal. Quarrying the Camery for reusable stone continued until 1608.

A house and other small-scale structures were erected at an uncertain date in the south-west corner of the Camery, on the site of the disused masons' yard. It may have been the granting of a new forty-year lease in 1661 to a notary public that gave rise to the planting of a formal garden, with a grid of wide walks and parterres. By the end of the eighteenth century, however, the garden layout had been fragmented and its formality lost, and in the middle of the following century the dean and chapter reasserted control over the whole area. The Camery was levelled and grassed, and the blocked doorway of the former Lady Chapel, which communicated with the cloister, was reopened. By 1856 the Camery was once again in use as the cathedral cemetery, a function which continues to this day. The masons' yard was reinstated on its old site, and enclosed by a wall, probably around 1870. The house and other buildings on the site were initially adapted for use, but have since been replaced by new structures.

11 Medieval Water Supply and Distribution Systems

The wells and their management

Early references and representations

The springs and streams of Wells have figured prominently in the history and topography of the city since its foundation in the Anglo-Saxon period. The very fact that the place has never been known by any alternative or qualifying name — at least since the eighth century — provides sufficient testimony to the importance of the water. The earliest occurrence of the placename is in a charter of A.D. 766, which mentions 'the Great Spring at Well' [*Wielea*] (Birch 1885, no. 200; HMC 1907, 496; Sawyer 1968, no. 262). Early versions of the name are always found in the singular, which demonstrates the particular importance attached to one spring.

Later, the plural form came in, as also at Wells-next-the-Sea, Norfolk. The singular 'Well' still occurs as a placename at three locations in England: in Kent, Lincolnshire and Yorkshire (Ekwall 1936, 481). The Kentish Well was, however, known as 'Welles' in the thirteenth century, and two other unqualified plurals of the Old English *wiella* have survived as 'Welham' in Northamptonshire and Yorkshire (*wellum*, dative plural). More commonly, the *well* element is compounded with a personal or topographical name.

Representations of the Somerset Wells feature on medieval seals, drawings and other pictorial sources, and invariably occupy a foreground position. Although there were, prior to the formation of the bishop's lake, no less than four substantial spring outlets ('pots') at Wells, the number shown in some medieval depictions is three. This may be artists' convention, or conscious religious symbolism, or it may be a true representation of the situation in the Middle Ages. However, in the earliest surviving representation, a drawing bound into the Lanalet Pontifical, the wells are boldly indicated by two wooden barrels set on the ground (p. 112; Fig. 106).

The thirteenth-century steward's seal of the borough of Wells depicts a tree growing above an area of water (represented by two wavy lines). It is somewhat similar to the reverse of the Corporation seal, the earliest extant impression of which dates from 1335 (Fig. 111). The obverse of the latter shows an arcade of three arches with wavy lines representing the water beneath. In the conventionalized layout of the seal, the arcade assumes the form of a bridge, upon which stands first the cloister, and then the cathedral (described on p. 132). A finely detailed fifteenth-century drawing, which attempts to show the whole episcopal complex at Wells, includes two springs, out of which streams flow; one stream is bridged (Kirby 1892, pl. XVI; Aston and Leech 1977, cover illus.).

Depiction of the wells on the borough seal continues unbroken to the present day, and they also feature prominently on the city arms in the form of three

Fig. 384 Detail from Carter's plan of c. 1795, showing waterworks in the grounds of the Bishop's Palace (Courtesy of the Society of Antiquaries of London)

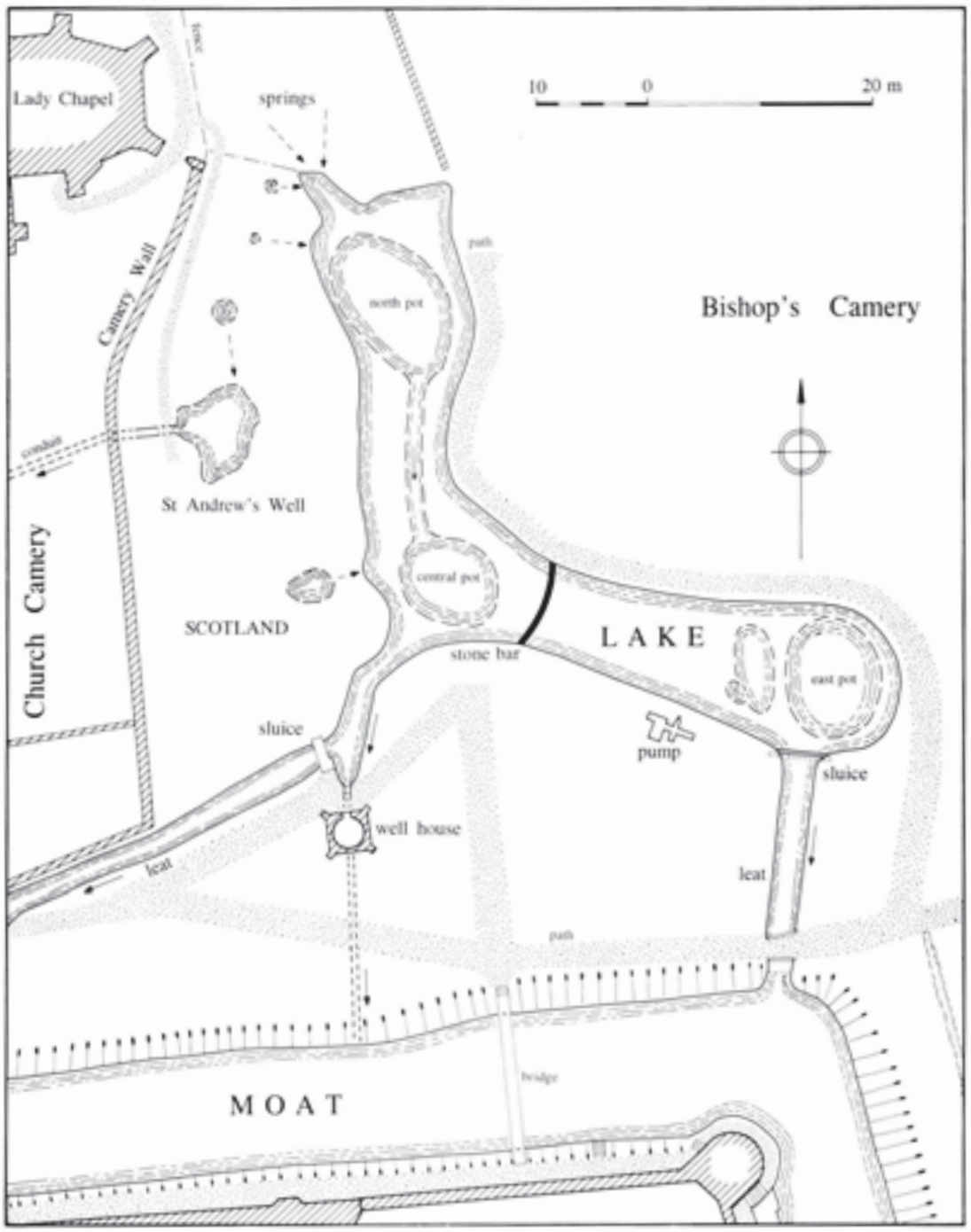


Fig. 385 Plan of the Bishop's Palace lake, springs and surrounding area, known as 'Scotland'. After a survey made in 1980. Scale 1:600

stone-built well-heads, with an ash tree growing amongst them. Beneath is an abbreviated version of the legend, *HOC FONTE DERIVATA COPIA IN PATRIAM POPVLVMQVE* ('The abundance that comes forth from this spring flows into the land and its people').

The earliest plan of the area containing the wells is Simes's map (1735), but its representation of water-features is extremely crude and simplistic (Fig. 355). Carter's plan (*c.* 1795), on the other hand, is replete with interesting detail and shows numerous features that are no longer apparent (Fig. 384; Pl. I). Many changes have occurred over the last two centuries, some of which can be traced through maps, but the whole area is in need of detailed study. The existing topography is shown on Figure 385.

A brief introduction to the wells and watercourses of the city has been given in chapter 2 (pp. 30–5). It remains to describe the results of investigations and research undertaken in connection with excavations in the Camery.

St Andrew's well

Although one of the pots bore a dedication in honour of St Andrew, which is mentioned sporadically from 766 onwards, there is no surviving tradition of the

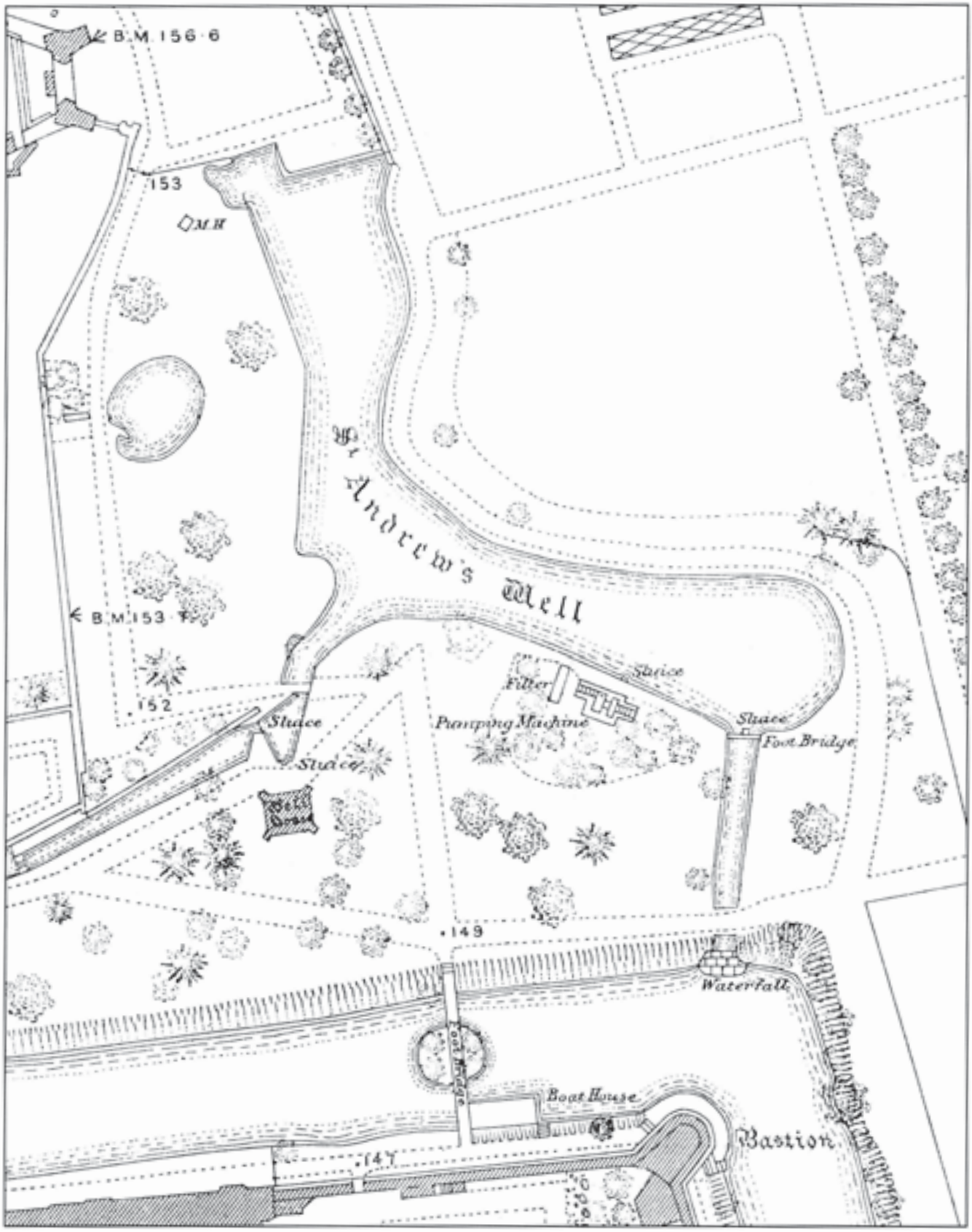


Fig. 386 Plan of the Bishop's Palace lake and adjacent features in 1884. From the Ordnance Survey 1:500 map (1886)

Fig. 387 South-east view of Wells Cathedral, drawn by Henry Gastineau in 1818. The pool in the foreground is St Andrew's Well, with the Camery wall and rustic bower behind. After Storer 1819

veneration of this holy well, nor is it credited in folk memory with any particular healing powers (Horne 1923, 25). Curiously, the springs were entirely overlooked by Hope in his study of holy wells (Hope 1893). Nevertheless, despite the lack of recorded testimony, there is explicit archaeological and architectural evidence that this particular spring, and the water which emanated from it, was revered. Special arrangements were made both for collecting the water and for viewing the well itself from the cathedral precinct.

There has been much confusion in antiquarian writing over the exact identity of the holy well. Only one spring can properly bear the dedication to St Andrew, but this has often been carelessly transferred to others, and even applied to the group as a whole. Most commonly, the dedication has been erroneously transferred to the main eastern pot in the lake, also known as the Bottomless Well: *e.g.* by Collinson (1791, **3**, 375), Buckle (1888, pl. VI) and Stanton (1987–88, 28). Regrettably, the entire lake was boldly labelled as St Andrew's Well on the 1886 (1:500) and 1888 (1:2500) maps published by the Ordnance Survey, which has long given a spurious authority to the misidentification (Fig. 386). On the 1930 and subsequent editions of the 1:2500 map ambiguity was embraced by placing the label alongside the lake.

A lease of 1541 provides unequivocal identification of the holy well: the document describes the bishop's Camery, giving its dimensions, and refers to 'St Andrew's Fountain and the stream flowing from it' (HMC 1914, 254). A grant of 1459 concerning drainage works in two gardens to the west of the cloister refers to the stream there (*i.e.* the cathedral conduit) as running from a spring called 'Seynt Andrewis welle' (SRS 1934, 322). The dipping-well in the cloister garth, which taps that stream, was referred to in a chapter act of 1322, as 'St Andrew's Well in the cloister' (HMC 1907, 181). Finally, a grant of 1326 mentions the well several times in a context which makes clear the fact that it lay at the northern end of the bishop's Camery (HMC 1907, 215). The 'St Andrew's Well' mentioned in that grant was demonstrably not the eastern pot.

The earliest explicit reference to the holy well ('fountain') is in the charter of 766 which gives the place-name *Wielea* in the singular, thereby acknowledging the particular significance of one spring. The fact that the easternmost pot — the so-called Bottomless Well — embraces the strongest spring today provides no basis for assigning the dedication thereto. Leland's description of 1542 is unfortunately not helpful, since he merely says that 'the chefest spring is caullid Andres welles' (Toulmin Smith 1964, 144). Horne (1923, 24), following the Ordnance Survey and popular belief at the time, transposed the naming of St Andrew's Well and the Bottomless Well.

However, to be fair, he recorded his suspicion that the names assigned to the two pots had become muddled. Simes's map is ambiguous: it is unclear whether it is the central or the eastern pot which is marked as the holy well (Fig. 355, *U*), and he altogether omitted the true St Andrew's Well. Only one antiquarian illustration of the holy well is known, dated 1818 (Fig. 387; Storer 1819, **4**, pl. 3). This shows it as a small pool. In the eighteenth century, a rustic bower was constructed against the Camery wall, just south of the window; it is marked on Carter's plan (see also Fig. 358).

The environs of the springs

The post-medieval naming of the area around the springs as 'Scotland' is not necessarily related to the fact that St Andrew is the country's patron saint, as has sometimes been supposed, but is essentially the allegorical use of a far-away name for a locally remote place. The holy well lies in the most remote corner of the Bishop's Palace grounds, a wild, boggy and overgrown plot, hemmed in on all sides and difficult of access. In the eighteenth and nineteenth centuries such situations typically acquired names such as Egypt, Antioch, Jericho or, less exotically, Scotland. Just possibly the choice of Scotland in the Wells context may have been influenced by the connection with St Andrew, but it may be purely coincidental. There is no authenticated use of the name before the present century, and it was perhaps assigned by Bishop Kennion (1894–1921).

Fig. 388 Aerial view of the springs and eastern part of the grounds of the Bishop's Palace, looking south (1979). The road on the left is Tor Street. The northern pot of the lake is emphasized by reflected sunlight, and the line of the Camery wall can be seen snaking around the east end of the cathedral (right) (West Air Photography)

Prior to the beginning of the thirteenth century, the wells simply lay to the east of the cathedral, and within its precinct: there was probably no intervening barrier. This situation changed around 1200, when the increasing independence of the dean and chapter from the bishop's control led to the formal definition of their separate territories (p. 349). The construction of the 4 m high Camery wall resulted in the wells being reserved for the bishop's benefit, while the cathedral would have been wholly deprived of a good water supply had not the great conduit been built (p. 383).

Although unrecorded, it seems likely that an agreement was reached, whereby overall control of the springs remained in episcopal hands, but the outflow of St Andrew's Well was assigned to dean and chapter use: hence the need to construct a large and efficient conduit capable of carrying the full output of that pot. The bishop had a vested interest in the waters derived from the other pots because these provided the power source for his mills (p. 380). In the mid-sixteenth century, Leland described the springs as being 'in a meadow plot' (Toulmin Smith 1964, 144). This remained so until modern times, the large area of land east of the palace and cathedral, up to Tor Street, being meadow or pasture. It now contains allotments and an arboretum (Fig. 388).

The importance of the episcopal mills declined in the early nineteenth century, and sometime in the early 1830s the present L-shaped lake was formed on the site of the springs, primarily as an ornamental garden feature.

Study of the springs and watercourses

Beneath the streets and buildings of Wells lies a complex network of watercourses and drains which has never been the subject of systematic study and recording. A major project awaits the undertaking. Over the past century, many observations have been made during building works or other disturbances of the ground, but very little has been recorded in a meaningful fashion. There have also been a number of planned explorations by cavers, but again the results have been reported in only the barest detail.

Buckle, during his excavations in the Camery, encountered the great conduit and was the first to appreciate its antiquity and to plan parts of its course (Buckle 1894, pls. 1–3). Herbert Balch, local

antiquary and first curator (1894–1954) of Wells Museum, had a profound interest in the watercourses of the city, and gathered much disparate information for a lecture which he delivered in 1925 to the Wells Natural History and Archaeological Society. Although published, the paper is unillustrated and difficult to follow (Balch 1925). It is essentially an anecdotal *pot pourri*, and lacks scholastic apparatus. The then-bishop (Wilson) expressed the desire that 'a sketch plan' of the watercourses would be produced, and Balch undertook so to do: but there is still no published plan today. A second lecture by Balch, in 1928, was also briefly reported (Barnes 1928). Considering Balch's long personal acquaintance with Wells, it is surprising how many flaws there are in his observations.

Between the 1930s and 1970s, W.A. (Bert) Wheeler, master mason at the cathedral, carried out many works on dean and chapter property which involved the repair or discovery of watercourses, and he amassed considerable knowledge. His diaries are replete with references and interesting detail, but they have yet to be fully studied.[1]

In the 1930s, concern arose over the discernible encroachment of the springs towards the foundations of the Lady Chapel, and Wheeler recorded that the northern end of the lake had advanced nine feet between 1886 and 1939 (Wheeler 1970, 18). Several small springs also erupted outside the confines of the lake. In 1940, Wheeler carried out an operation involving embanking and infilling, in an attempt to force the spring-mouths back into the centre of the lake. This was only partially successful, and a new operation was mounted in 1966. Dr William Stanton, a hydrological engineer, was later engaged by the dean and chapter to report on the matter.[2]

Stanton's sustained interest in the springs and watercourses of Wells led to the publication of a pair of important articles (Stanton 1987–88). Unfortunately, some of Balch's erroneous conclusions were incorporated therein. Local cavers, under the leadership of James Hanwell, carried out several reconnaissance exercises in the 1960s and 1970s in the cathedral conduit and millstream, and the results of their work were to some extent embodied in Stanton's articles.

The first archaeologically-based investigation in the area of the springs took place in 1978–80, as part of the excavations in the Camery. This was mainly concerned with the cathedral conduit and the medieval piped water supply to the twelve medieval houses in the market place, Bishop Bekynton's New Works.

In August 1979, after prolonged drought, and with the kind permission of Bishop John Bickersteth, the palace lake was drained and the water supply cut off from the conduit, so that further study could take place in areas that are normally inaccessible. The level in the holy well was further lowered by pumping. The results of these investigations are reported below (pp. 395–6). At the same time the springs and associated features were summarily surveyed, and a new plan prepared (Fig. 385).

The molendinary system

With a plentiful supply of running water, deriving from several separate sources, it is not surprising to find that Wells was amply endowed with mills in antiquity. The record begins with the Domesday Survey, which shows that there were no fewer than nine mills on the manor in 1086 (VCH 1906, 455). Bishop Giso held four in demesne, and the canons of St Andrew held two mills on the episcopal demesne. Three others were in the hands of individuals.

The manor of Wells was extensive, and some of the mills were doubtless on the rivers Axe and Sheppey, since they could not all have been concentrated within the city and its immediate hinterland. The history of the mills of Wells is complex and inadequately researched, but attention has profitably been paid to the subject by Scrase (1978; 1982b). Mills *per se* are of only marginal relevance in the context of the present enquiry, but the management of the springs was substantially related to the demands of milling. As the demand increased, so the head of water in the wells to the east of the cathedral had to be raised. The consequential effects of so doing appear in a variety of ways in the archaeological and architectural record.

Mills and their identity

In the Middle Ages there seem to have been three episcopal grain mills at Wells, two within the city and one at Keward (the south-west extremity). These were In Mill, Out Mill and Keward Mill. It is also known that the hospital (or priory) of St John the Baptist, in the suburb of Southover, possessed a mill, but whether that lay within the city, or elsewhere, has long been a moot point.

By the sixteenth century, the bishop is described as having five mills, the 'additions' being accounted for by two of his mills — In Mill and Out Mill — having two wheels each (Scrase 1978, 34; 1982b, 239). Confusingly, in 1587, the four mills within the city were known as the In Milles and Out Milles or, collectively, as the Town Mills. It was reported in a petition of 1633 that there were five mills in the borough, presumably all in the parish of St Cuthbert Within (Serel 1875, 108).

Simes's map marks but does not name three mill sites within the borough. His plan excludes Keward where, on clear topographical evidence, there were two separate mills. The three town mills are shown on an early nineteenth-century plan, and there labelled, from east to west, as Upper, Middle and Lower Mills.[3] Including Keward, there are thus five ancient mill sites known at Wells, all undoubtedly medieval. Two had been made into double mills before 1587, thus bringing the total to seven, of which six lay within the borough.

It has been traditional to regard Upper and Middle Mills as the episcopal Inmills and Outmills, respectively, and Lower Mill as the property of St John's Hospital

(Aston and Leech 1977, 151–2). Lower Mill is currently known as Priory Mill. However, Scrase has demonstrated these attributions to be fallacious. He has also drawn attention to the fact that a lease of 1739 mentions another mill, called Palace Mill (Scrase 1982b, 240).

The currently understood position is summarized below (for the locations of mills 1 to 3, see Figs. 23 and 389):

1. *Palace Mill.* This lay on the western boundary between the episcopal precinct and the town, close to the Bishop's Palace moat. It is shown but not labelled by Simes, and is marked on an early nineteenth-century map as Upper Mill. Being within the episcopal precinct and Liberty of St Andrew, this mill probably escaped inclusion in documents relating to town matters; hence it is ill-known and the earliest certain mention of it is in 1596. Its presence is, however, inferred in Savaric's charter of *c.* 1199–1201.

   By 1828 the mill was being used as a silk mill; it was demolished in 1835 for the construction of a new market hall, which in the present century has been converted into a postal sorting office. An attempt to locate the site of the mill by excavation, in 1987–88, was unsuccessful; the stream was, however, found (Dennison 1987, 206; 1988, 235–7).
2. *Inmills.* In the centre of the town, a mill stood on the west side of Mill Street. This was formerly Mill Lane, and was so-named by 1280 (Scrase 1989a, 99). The site has been referred to as Town Mill, and in the early nineteenth century was known as Middle Mill.

   Part of the mill building survives, as does the millpond.
3. *Outmills.* A mill lay on the edge of the developed town, in West Street. This street was confusingly also known as Mill Lane by 1332–33 (Scrase 1989a, 100). Outmill had become a double mill by 1587. In the early nineteenth century the site was called Lower Mills, and in the present century it has acquired the name Priory Mills. This is a bogus assignation, the property having never belonged to St John's Hospital (Priory). The extant building is nineteenth century, and is now a warehouse.
4. *Upper Keward Mill.* This lies astride the western borough boundary. Long assumed to be an episcopal mill, Scrase has convincingly demonstrated that it was in fact 'Keward Mills *alias* Priory Mills', and that it may be equatable with the lost mill belonging to St John's Hospital (Scrase 1982b, 241).

   A good deal of the mill survives today, in an industrial complex.
5. *Lower Keward Mill.* Nothing certain is known about this mill, which has long since disappeared. If, however, the upper mill at Keward belonged, before the Dissolution, to St John's, the lower one must, by elimination, have belonged to the bishop.

The millstream

Leaving aside the mills at Keward, the chain of three city mills lay on a stream which was fed by the springs to the east of the cathedral. The management history of the springs is therefore inextricably bound up with the development of the mills and millstream. How early the first mill was established on this line is unknown, but it would be remarkable if the Palace Mill, at least, had not been established by the beginning of the eleventh century, and possibly much earlier, as part of the assets of the *villa regalis* upon which the minster was built. This was in effect the bishop's domestic mill, and was very much a part of his residential complex.

Scrase expressed doubts about the antiquity of Palace Mill, on the grounds of its absence from records earlier than 1596 (Scrase 1982b, 241); but that is easily explained by the mill's position within the curtilage of the palace. As such, it lay in the Liberty of St Andrew, and not in the borough or parish of St Cuthbert Within. Confirmation that there was a mill hereabouts at the end of the twelfth century is supplied by Savaric's charter of *c.* 1199–1201. This document describes the bounds of the borough, beginning at the south-east corner adjacent to the Bishop's Palace, '...on the south side, where the water runs down from the mill' (SRS 1932, 2–3).

It seems highly likely that all three mills, together with at least one at Keward, were in existence by the mid-eleventh century, and that these were the four which the Domesday Survey recorded as being held by Bishop Giso, in demesne. The significant point here is recognition of the fact that the outflow of the cathedral springs had been harnessed at an early date, in order to provide both a head and a steady flow of water for milling. The only practical means of achieving this was by damming the side of the valley immediately south of the springs, in order to create one or more pools.

Excavation alongside the Camery wall demonstrated that the surface of the bedrock there lies some 3 m below present ground level. The head of water has been raised in at least two stages, in the early thirteenth and mid-fifteenth centuries, a conclusion which was also reached by Stanton (1987–88, 29–30). However, there must have been a third, and yet earlier, raising of the spring head, for two reasons. First, there had to be a reservoir for the earlier Palace Mill and, secondly, it was observed during excavation (in Area 8) that there had been a considerable accumulation of silt — perhaps as much as a metre — in the vicinity of the springs, before the Camery wall was built (p. 385). Such an accumulation would have been unlikely if the valley slope had not been dammed, otherwise the silt would simply have washed downstream.

Prior to the creation of the palace moat in the fourteenth century, St Andrew's stream flowed southwestwards through the valley floor, from its source at the springs (Fig. 23). By damming the springs and

constructing a millstream along the flank of the valley, north of the natural watercourse, the requisite head was generated to power the first mill (Palace Mill).

This primary millstream ran somewhere between the south side of the Anglo-Saxon cathedral complex (*i.e.* where the cloister now stands) and the buildings of the Bishop's Palace, plausibly on what is now the site of the northern arm of the moat, or immediately outside it. Indeed, when a 2.5 m deep sump was mechanically excavated towards the south side of the masons' yard in 1982 bedrock was not encountered. Beneath superficial layers of masons' waste lay waterlogged silt and gravel, extending to an unknown depth. The appearance of the material was consistent with the infilling of a stream or channel. Since the masons' yard was established on this site by the thirteenth century (p. 361), the considerable antiquity of the silt and gravel deposits is beyond question.

The Bishop's Palace was moated by Ralph of Shrewsbury in the mid-fourteenth century, and in order to accomplish this considerable feat of engineering, two conditions had to be fulfilled. The first was of paramount importance: the new work must not adversely affect the functioning of the mills; secondly, a stable and more-or-less constant water level was needed in the moat, this being primarily a prestigious monument, not a work of serious defence. The implication must be that the water sources for the mills and moat were separately controllable and not interlinked. This is confirmed by the fact that the millstream was fed from the central pot, and the moat from the eastern pot. In any case, moat level was far too low to provide a driving head for the first mill.

The old course of St Andrew's stream had to be infilled: its site is believed to lie beneath the palace courtyard (p. 33; Fig. 23, E1). It is suggested that the millstream was re-formed, and moved further north, when the moat was dug. The new millstream, which survived into the nineteenth century, ran close to the south side of the masons' yard and cloister (Fig. 23, D1). It then fed two ponds on Palace Green, before circumnavigating the north-west corner of the moat, to arrive at the first mill. The original purpose of the ponds was almost certainly to store a sufficient head of water for the continuous functioning of Palace Mill. The ponds are shown on Simes's map, where the western one was labelled the Horsepond (Fig. 355). The other pond was described by Buckle (1888, 78) as a 'stone-lined pool', the purpose of which he did not know. Both were dry when Carter planned the area, *c.* 1795. Palace Mill must have had its own bypass system, possibly a channel feeding back into the moat, but nothing is known of this.

The outflow from the mill probably returned in the first instance to the natural stream (Fig. 23, course E2), but at some unspecifiable date a second section of millstream was cut through the centre of the town, linking the first and second mills (course D2). Although largely culverted, it still exists, and the many medieval and later references to this watercourse establish that it was known as the Millstream. There was a long, narrow millpond abutting the east side of Mill Street, providing a reservoir for In Mill (mill 2).

The truncated, older, and probably natural, watercourse (E2) then served as the overflow from the moat, to which it was connected by a sluice near the mid-point on the west side. The sluice and channel are shown on the Buck brothers' engraving of the palace, 1733.[4] There is no reason to doubt that the moat was initially fed from the cathedral springs, and not from the Chilcote stream, even though that passes close by on the south (but runs at a lower level). Buckle affirmed that there was no physical connection between the two (Buckle 1888, 78).[5]

Simes's map shows watercourse E2 terminating in a pond at a street junction which was then called 'No Where' (now the meeting of South Street and Mill Street). The pond is referred to as La Pole, La Poole and Lawpool from 1348 onward (Scrase 1989a, 105). There was an open channel (G1) running north, alongside Mill Street, between Lawpool and the Millstream, and another leat (G2) flowed south from Lawpool to join Chilcote stream, here running along the park boundary (B2–B3; Fig. 23). The derivation of the name Lawpool is unknown, but is possibly a corruption of 'lower pool'. That would make good topographical sense, since there was a L-shaped pond at the upstream end of watercourse E2, adjacent to the moat sluice, and this would have been the 'upper pool'. Palace Mill, alongside which it lay, was also known as Upper Mill (p. 381).

The features just described, involving Lawpool and watercourses E and G, are no longer extant and are thus difficult to interpret. They must have functioned in the Wells molendinary system, but further evidence is needed. Stanton suggested that channel G provided a bypass for In Mill. That is unlikely, because any diversion of water away from that mill would automatically have severed the entire supply from Out Mill, and part of the supply from Keward Mills. In order to keep the system operating, a bypass leat for In Mill would have been necessary, which must surely await discovery.

It is of course possible that one or more mills is missing from the system, and had there been one at Lawpool, for example, channels E2 and G1 would have served it. There was, immediately east of Lawpool, a structure known as the Cold Bath, but its date and precise function are unknown. Today, the site is marked by Cold Bath House, under which the bath is said to survive (Balch 1925, 17).

West of In Mill, the watercourse (D3) is known today as St Andrew's stream; this is essentially a natural course which has been locally straightened, and is now almost entirely culverted. It runs to Out Mill, which has its own clearly defined bypass leat (D5, also now culverted), and thence on to Keward. Beyond Out Mill, a brook known as the Ludbourne joins from the north (for which, see p. 409).

Stanton argued that St Andrew's stream *alias* Millstream (D2–D4), was artificial for its entire length, from the palace moat to Keward, and that the only natural watercourse was the Chilcote stream (B) alongside Bishop's Park (Stanton 1987–88, 40–1). This proposition seems untenable: first, there was plainly no practical requirement for the excavation of 1.6 km of mill leat in order to make the system function; secondly, individual bypass leats still had to be created for mills 3 and 4; thirdly, the curvilinear course followed by St Andrew's stream for almost half that distance is arguably natural; and fourthly, the greater part of Stanton's 'natural' course is the ditch belonging to the medieval park boundary, created in the thirteenth century. Balch's contention that there were two natural streams running through Wells, both of which were partly canalized and adapted to molendinary purposes, is more plausible (Balch 1925, 18–20).

The cathedral conduit

The earliest surviving evidence for harnessing the water from the wells for non-molendinary purposes comes in the form of the great stone-built conduit which was constructed around the turn of the thirteenth century. It carries the outflow from St Andrew's Well in a westward direction, passing through the southern part of the cathedral precinct. In order to receive the water, and to ensure a continuous flow, the conduit had to be constructed significantly below ground level. The conduit mouth was on the west side of the spring, and a short, open channel ran to the Camery wall. At this point the conduit went underground and changed direction, veering slightly to the south. It then followed a straight course in a west-south-west direction, through the Camery, obliquely under the cloister, across the southern end of the entrance court to the cathedral (now Mary Mitchell Garden), through the main gate (now Penniless Porch), and into the north-east corner of the market place (Fig. 389). This was a distance of 155 m, at which point the conduit left dean and chapter land.

Thereafter, the destination and eventual outfall of the conduit are uncertain: it could have turned sharply south, as suggested by Balch (1925, 24) and flowed into the millstream, or it may have continued on its primary course, following the northern edge of the market place. There is a vague record of the discovery of a disused conduit on this alignment (Balch 1925, 27). The latter route is more likely and, ultimately, the outfall must have been into the millstream.[6]

The conduit passed to the south of the new cathedral church, and a drawing-chamber was constructed within the cloister garth. This feature was known in the early fourteenth century as St Andrew's Well in the cloister. The vaulted chamber was entirely below ground level, and was presumably approached by a flight of steps from within the garth. Although subsequently modified, it remained in use as a dipping-well, supplying the daily needs of the cathedral until the early nineteenth century, when it was superseded by a piped supply. The chamber, which is known today as the Dipping-Place, has been described in chapter 9 (p. 323).

Balch asserted that there was a second dipping-well, for public use, on the eastern edge of the market place: he had been informed by A.A. Clarke, a local resident, that the substructure and steps leading down to a dipping-well still existed behind Penniless Porch (Balch 1925, 24). The existence of a drawing-place here has been disputed (Stanton 1987–88, 34). Nonetheless, it is highly probable that a dipping-well would have been provided somewhere in or adjacent to the market place for public use, and it would have been appropriate for this to be on the boundary of the cathedral precinct. The topography of the market place was substantially remodelled by Bekynton in the mid-fifteenth century, and the possibility that there was previously a dipping-well alongside Penniless Porch, or

Fig. 390 The converging routes of medieval conduits in Areas 4 and 5, approaching the cloister from the east (top). The vaulted conduit of c. *1190–1200 runs through the centre of the picture, with the south aisle wall of the early Lady Chapel alongside (right); the diversion of 1477, with its slabbed top, enters from the upper right. Part of the transept turret of Stillington's chapel is visible at the top. Scales of 2 m*

Fig. 391 Plan of the early thirteenth-century conduit (F300) as excavated in Areas 4–5. The junction with Stillington's conduit, entering from the south, is also shown. For sections, see Fig. 392. Scale 1:80

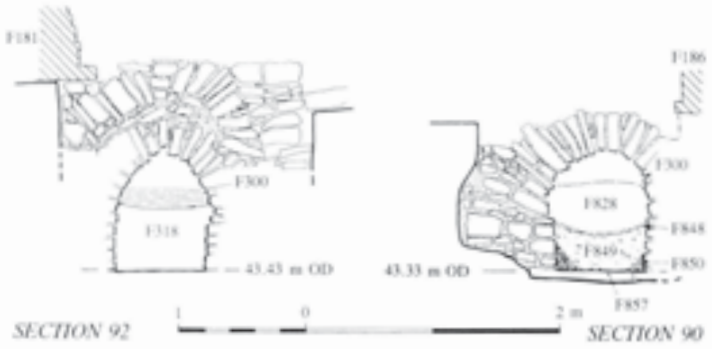


Fig. 392 Cross-sections through the early thirteenth-century conduit and its construction trench in Areas 4 and 5. Scale 1:60

alternatively at the north-west corner of the market place (where Sadler Street adjoins), should be borne in mind.

The original course of the conduit between the west cloister and Penniless Porch was severed in 1451, when Bekynton built the *Nova Opera*, and a more northerly diversion was created. The conduit served as a drain, once it had left the cathedral cloister, and it still runs under the middle of the houses of the New Works.

Early thirteenth-century conduit

The only part of the original conduit still in use today is the section under the cloister garth and walks. To east and west, later diversions have veered away from the old line. A 10 m length of original conduit, cut off and disused since the late fifteenth century, was found during excavation in Area 5, where its construction was examined (Fig. 390). The north side of the conduit was also encountered in Area 8, and the junction between the original conduit and its fifteenth-century diversion was investigated against the east cloister wall, in Area 4 (Fig. 391).

The construction of the conduit was basically a cut-and-fill operation. The work must have been carried out after the demolition of the Anglo-Saxon and Romanesque cathedral, but immediately before the Early English cloister was constructed (p. 258); the conduit also ante-dated the erection of the Camery wall (p. 324). The construction trench was 1.8 m (6 ft) wide and was excavated into the natural gravel to a depth of *c.* 1.2 m (4 ft); one section shows the trench side as substantially undercut (Fig. 392, S90). That would have occurred naturally as a result of groundwater pressure, when the trench was open.

The floor of the conduit (F857) was laid in a scoop in the base of the trench and comprised thin slabs mainly of red sandstone, but included some white lias. These appeared to be bedded on gravel, but this was presumably only the residual aggregate after the lime had been washed out of a bedding mortar.

The sides were built of roughly coursed rubble, defining a channel 70 cm (2¼ ft) wide by 45 cm (1½ ft) high (F300). Centring was erected for the construction of a pointed barrel-vault, and a slight ledge resulting from this operation remains visible on both walls

of the conduit. Although a pointed cross-section was clearly intended, giving a total internal height of 90 cm (3 ft), inadequate centring left the roof of the conduit with a very irregular profile: in places it was almost semicircular (compare sections on Fig. 392). The voussoirs comprised thin pieces of sandstone rubble with minimal dressing. The vault was provided with a more-or-less continuous line of pseudo-keystones which projected slightly above the crown of the extrados, and are seen in plan on Figure 391. Coarse pink mortar was used as the matrix throughout the construction. The trench was packed with rubble, around the conduit.

The extrados of the vault lay approximately level with the surface of the natural gravel, above which was a varied and uncertain depth of topsoil and gravearth. Adjacent to the cloister, this was up to 1.3 m thick. The conduit was considerably reinforced where it passed beneath the east cloister; here, at a distance of 1.6 m out from the east wall, began a second ring of voussoirs, forming a relieving arch, all encased in a substantial block of masonry resembling a buttress foundation (Figs. 391 and 392). Unfortunately this feature had been heavily robbed, with the result that much of the outer voussoir ring was missing, and the inner ring had been broken through (Figs. 83 and 393). The gash was crudely plugged with unmortared rubble. The robbing is most likely to have taken place in the later sixteenth or seventeenth century, when the Camery was being ransacked for building stone (p. 242).

The mouth of the thirteenth-century conduit at St Andrew's Well has not been observed, but it may still be extant beneath a metre or more of mud. Owing to the increased damming of the springs in the late Middle Ages, the original channel is now deeply buried and a replacement conduit has been built literally on top of it. Excavation in Area 8, well below present water level, revealed an area of mortared rubble which was part of the north side of the primary conduit, seemingly the extrados of the vault (Figs. 396 and 397). Here, it is clear that the vault projected above the level of the natural gravel around the spring mouth. The conduit was buried by dumping material over it, which was part of the process of raising ground level around the springs to increase the head of water. Obviously, the conduit would have been constructed before damming was completed and water level raised.

Measurements of levels taken on the floor of the conduit alongside the east cloister (43.3 m O.D.) and at a point 11 m further east, reveal only a very slight fall, less than 10 cm. Conduit floor level beside the Camery wall can be calculated approximately, and must have been *c.* 43.6 m O.D. All indications are that the conduit was constructed with a very modest fall of *c.* 30 cm across the Camery, a distance of 65 m. This represents a fall of only 1 in 220.

Average water level in St Andrew's Well must have been *c.* 43.7 m to 43.8 m O.D., after damming in the early thirteenth century. Stanton calculated the natural water level in the east pot to have been *c.* 43.5 m O.D., which will always have been slightly lower than that in St Andrew's Well (Stanton 1987–88, 42). Stanton's figure seems rather high for natural water level, and almost certainly reflects the level obtaining after initial damming had taken place. Prior to damming, it is suggested that water level at the springs stood between *c.* 42.5 m and 43.0 m O.D.

Fig. 393 Junction of Stillington's conduit (seen here with the cover-stones removed) with the earlier medieval vaulted conduit, where it passes under the east cloister. Note the double ring of voussoirs, and the post-medieval hole broken through the vault (behind the 75 cm scale)

Nothing is known of any sluices or control systems associated with the earliest conduit, but it is inherently likely that a bypass system existed on one or other side of the Camery wall, whereby the water emanating from St Andrew's Well could be turned into the millstream. Such was certainly the case in the fifteenth century, as described below.

When examined in Area 5, the disused conduit was found to contain 70 cm of silt, which was divisible into several distinct layers (Fig. 392); above them was a void. In the angles between the sides and bottom lay fillets of orange-brown sandy silt (F850); these were sealed by the main deposit, a dark grey silt with organic

inclusions, sandy pockets and small pebbles (F849). This was topped by a thin deposit of orange-brown silt, sand and small gravel (F848). These layers represent the accumulation of silts in the conduit down to 1477; above them was a mixture of deposits that had not been water-laid: here they are collectively labelled as layer F828. In part, this layer was composed of extraneous material which entered the conduit when it was broken open during the construction of the foundations for Stillington's chapel, but overlying all was an unconsolidated deposit of very fine grey silt. The exposed surface was undulating and the whole had the appearance of being silt deposited by natural seepage into a imperfectly sealed space. Many snail shells were preserved in these upper deposits, suggesting damp but not waterlogged conditions.

Fifteenth-century conduits

The cathedral conduit underwent two significant modifications in the second half of the fifteenth century. The first must have occurred in or soon after 1451, the second in 1477.

Bishop Bekynton's modification

In 1451, the water level in the central and northern pots was raised by more than a metre in order to guarantee an adequate supply for Bekynton's nearby well-house, and the conduit-head in the market place (p. 400). Raising the level in these two pots inevitably affected St Andrew's Well: its mean level had also to rise. The thirteenth-century conduit mouth would then have been too low and would have become totally submerged, and choked. Hence, the inlet and a section of the conduit itself had to be raised to an appropriate level.

Beginning at the Camery wall and extending westwards, a new length of conduit was constructed, apparently on top of the old one. At a point *c.* 6.5 m west of the wall the old and new courses must have merged, although the junction has subsequently received further modification. Essentially, the 1450s conduit is intact and still conveys water (Fig. 394). Presumably, a further section of raised conduit was built to the east of the Camery wall, between it and the well, but the present arrangements in that area appear to be entirely post-medieval. They are described on p. 392.

The evidence for the successive conduits was recorded in 1979, when Area 8 was excavated and the water level in St Andrew's Well was lowered so that the mouth and eastern end of the channel could be explored. Intensive study and recording were not carried out. The length of conduit in question — including the post-medieval section east of the Camery wall — is shown schematically in plan in Figure 395. The principal features are lettered *A* to *K*.

Excavation revealed that the thirteenth-century conduit passed partly through, and partly beneath, the foundations of the Camery wall (p. 385). When Bekynton

Fig. 394 View east inside Bekynton's conduit of c. *1451, adjacent to the Camery wall. The weir was created when the water level was raised in St Andrew's Well, probably in the early nineteenth century. The floor of the conduit was also raised*

raised the water level in the upper pots, the mouth of the conduit had to be lifted by a similar amount; this was certainly in excess of one metre and appears to have been in the order of 1.2 m. A somewhat lower figure was indicated by Stanton (1987–88, 42). Without knowing the precise level of the thirteenth-century conduit mouth, it is impossible to arrive at a more accurate calculation.

The relationship between the thirteenth- and fifteenth-century conduits, where they pass under the Camery wall, is illustrated in cross-section in Figs. 396 and 397. A sizeable gash was made through the wall and its footings in order to accommodate not only the new conduit, but also a rectangular recess, with a small window, overlooking the holy well. The recess is sited directly above the conduit, and a sluice was provided at this point, which must have been operated through a slot in the floor of the recess. The vertical channels for the sluice-board are preserved in the sides of the conduit (at *E*, on Figs. 395 and 398A). Curiously, the channels do not extend for the full depth of the conduit, but are confined to the uppermost blocks on both walls; this is illustrated diagrammatically in a longitudinal section (Fig. 399). There is no evidence to suggest that the lower parts of the side walls have been altered or rebuilt, and it seems most likely that the sluice was introduced as a later feature, its channels having been cut into the walls *in situ*. For such a sluice to work it presupposes that the floor level in the conduit had been substantially raised, probably with a stone step which has since disappeared. This relates to the post-medieval developments described below.

Bekynton's conduit did not pass directly through the wall, but started from a funnel-shaped opening on the east face (*D* on Fig. 398A). This suggests that St Andrew's Well, or an open channel leading from it,

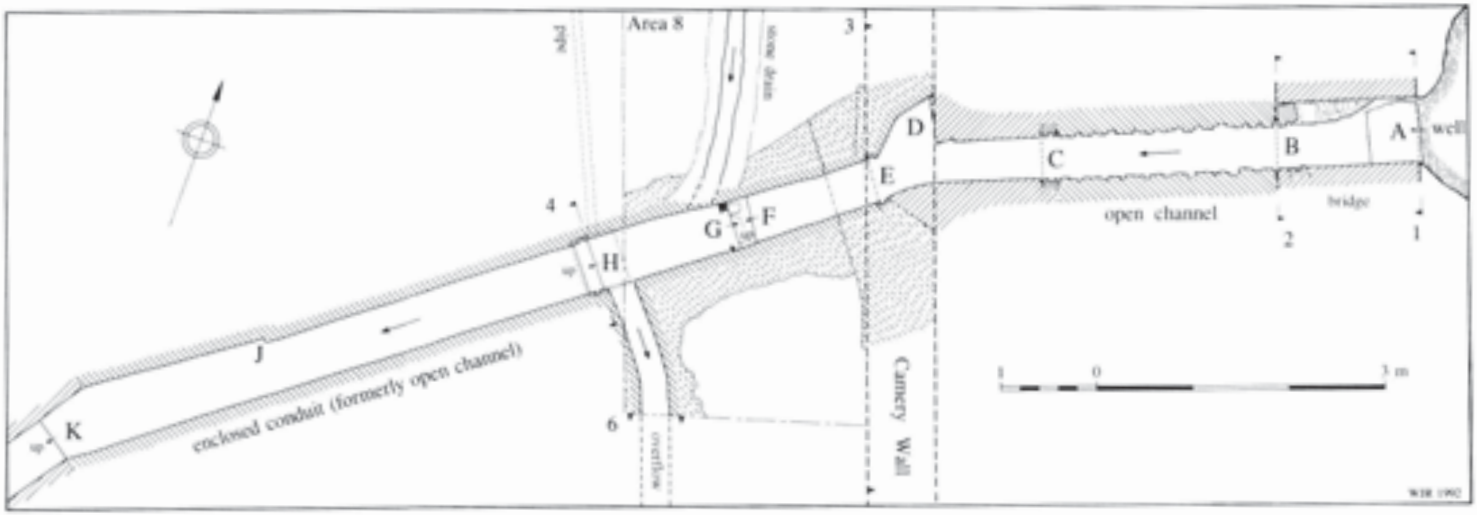


Fig. 395 Outline plan, at floor level, of the fifteenth-century and later sections of conduit adjacent to the Camery wall. Long arrows indicate the direction of flow; short arrows mark upward steps in the floor. For sections, see Fig. 401. Scale 1:80

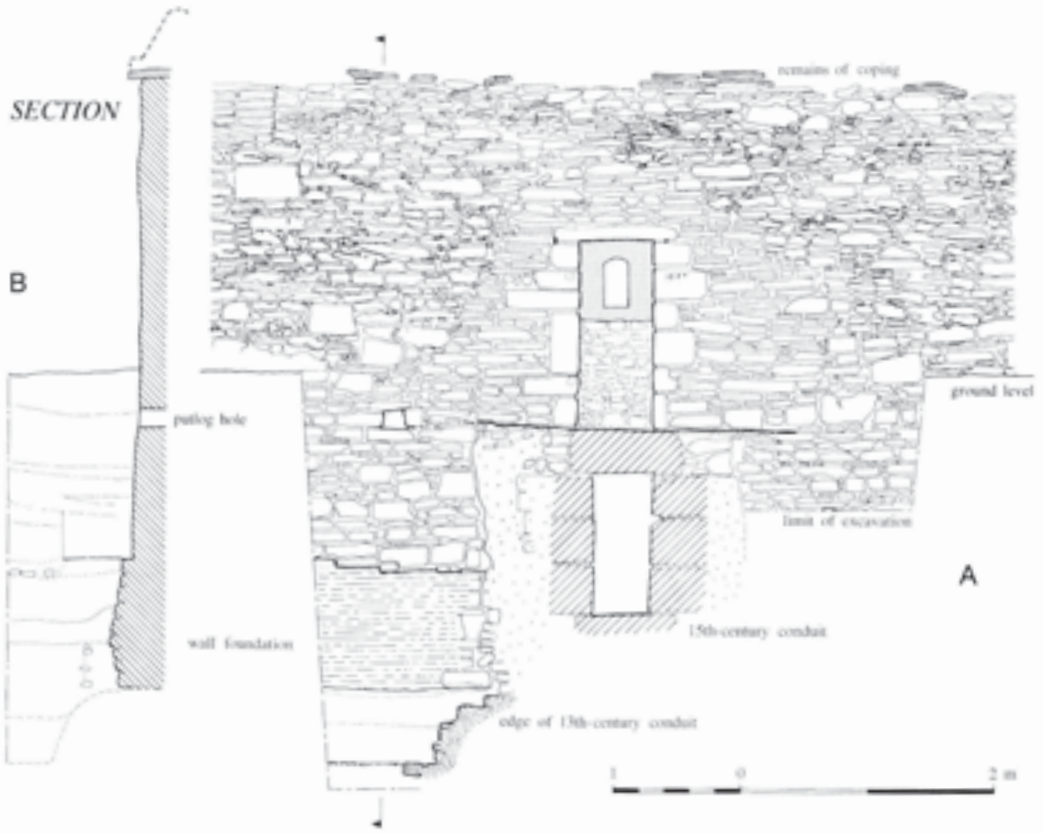


Fig. 396 The Camery wall, and excavation Area 8. A West elevation of the wall, showing its full height, as exposed by excavation (cf. Fig. 366). The fifteenth-century conduit appears in cross-section. B Partial section through the wall and its offset foundation, together with abutting deposits, as seen in the north face of the excavation. Scale 1:60

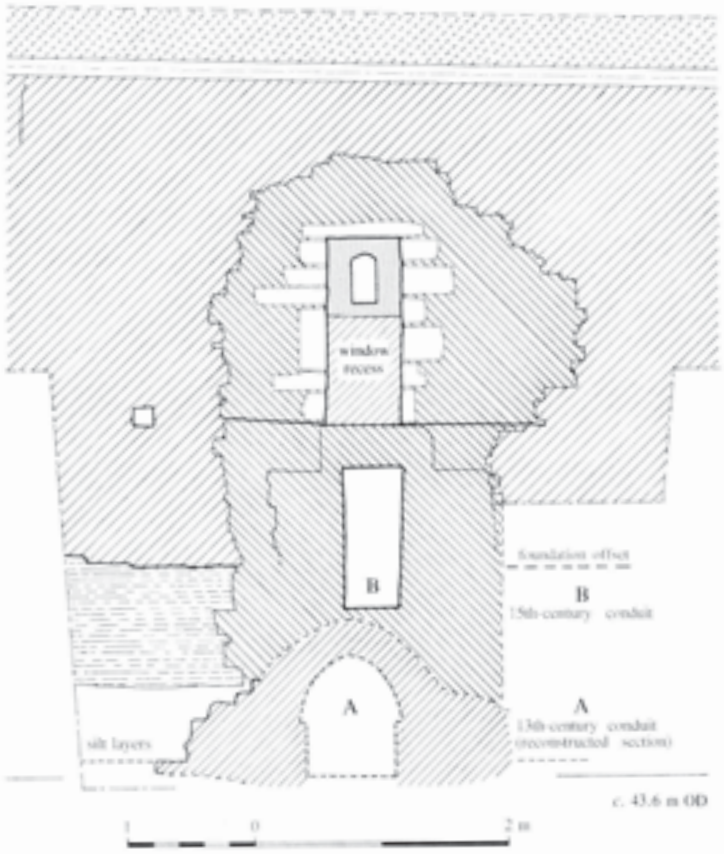


Fig. 397 Interpretation diagram to illustrate Fig. 396. The probable profile of the early thirteenth-century conduit has been reconstructed. Scale 1:60

Fig. 398 Plans of excavation Area 8 and the adjoining Camery wall. A Late medieval features. The conduit is shown without its cover-stones. B Post-medieval features. Scale 1:80

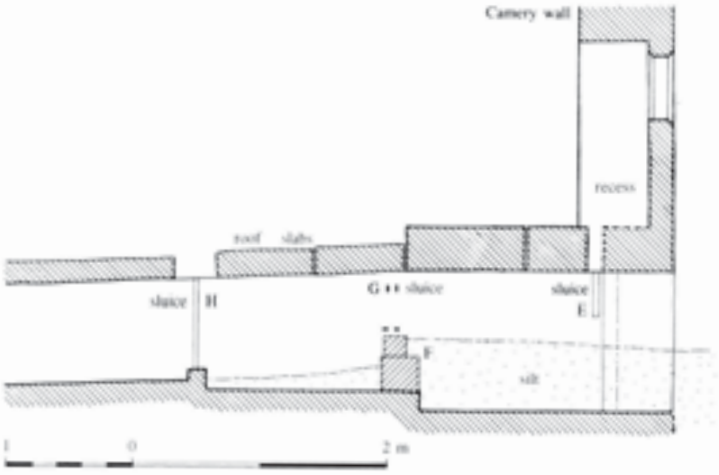


Fig. 399 Diagrammatic longitudinal section through the fifteenth-century conduit in Area 8, looking north, showing also post-medieval inserted features. Scale 1:60

ran directly to the foot of the wall. The funnelled mouth and the conduit itself were built mainly of Doulting ashlar, including some very large blocks which are typical of fifteenth-century masoncraft. The floor was also paved and the roof formed of large slabs laid flat (Figs. 400 and 401.3). Beneath the Camery wall, the conduit measured 1.1 m high by 45 cm in cross-section.

The vertical dimension of the conduit reduced significantly as it progressed westwards. The first reduction came at 1.4 m west of the Camery wall, where there was an upward step (*i.e.* acting against the direction of flow), at point *F*. The step was 17 cm high (Figs. 398A and 399). Immediately beyond the step, at *G*, there had been a sluice which was clearly a secondary insertion. Blocks of Doulting stone had been laid on the floor of the conduit and wedged in place, forming a channel into which a timber sluice-board would have been dropped. Rubble was piled up on the east side, infilling the conduit to nearly half its depth. No vertical channels were cut in the walls of the conduit; instead, four iron pins were driven into them to act as guides, two on each side (Figs. 398A and 399). One of the pins on the south side had fallen out, but was recovered from the silt. Again, this feature was associated with a post-medieval raising of the water level.

At 2.9 m west of the Camery wall lay another sluice, this time certainly an original feature (*H* on Fig. 398A and 399). The walls of the conduit are vertically channelled from top to bottom, and the sluice-board seated on a Doulting stone bar which was built into the floor. This bar formed another step in the conduit floor, again acting against the flow (Fig. 402). There is a late nineteenth-century brick-built inspection chamber over the conduit at this point, into which a modern pipe-drain feeds rainwater from the roof of the eastern Lady Chapel. The first two cover-slabs east of this chamber are both post-medieval, and are either additions or replacements.

Fig. 400 View west inside Bekynton's conduit, after draining and removal of post-medieval fills. The two steps in the floor are original

The two contra-flow steps in the conduit floor are original and their purpose was undoubtedly to act as silt-traps. They were later infilled and sluices constructed. These features have all long been disused and a considerable mass of rubble and silt had piled up on the floor. Although the excavation was not extensive enough to provide the necessary evidence, it seems likely that there was formerly a small building against the Camery wall at this point, enclosing the sluices, the wall-recess and the window overlooking the holy well. No trace of a sluice-house survived long enough into modern times to appear on any map.

Immediately east of sluice *H* is a side channel running south from the conduit towards the millstream (Fig. 395). The channel is rectangular in section (Fig. 401.6), and has its floor level with that of the conduit. It is uncertain whether this is an original feature. Either way, there must have been a separate sluice to control the flow into this channel from the conduit.

From sluice *H* the conduit continues westwards for 3.4 m, at which point there is a slight stagger in the north side, followed by a marked widening of the watercourse (*J* on Fig. 395). The masonry of the south side continues without deviation. Bekynton's conduit ends at *K*, 8.8 m west of the Camery wall, where it is now joined by Stillington's (Fig. 403).

Bishop Stillington's diversion

The need to divert a considerable length of the conduit within the Camery at an early stage in the construction of Stillington's chapel (1477) has been outlined on p. 203. The thirteenth-century conduit was intercepted just east of the cloister, and again at the point of junction with Bekynton's reconstruction. The new conduit,

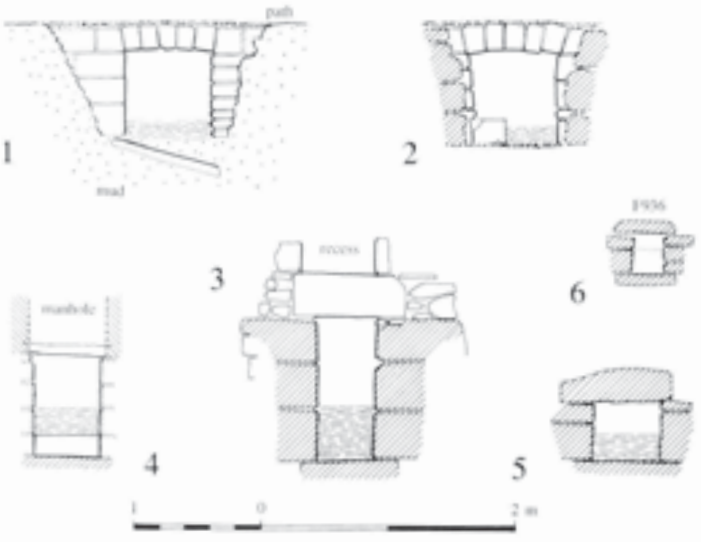


Fig. 401 Sections through conduits. 1 East elevation of the early nineteenth-century bridge adjacent to St Andrew's Well; 2 West elevation of the same; 3 Section of Bekynton's conduit beneath the Camery wall; 4 Section of the same at sluice 'H'; 5 Section through Stillington's conduit in Area 5; 6 Overflow channel in Area 8. See plan, Fig. 395. Scale 1:60

Fig. 402 View west inside Bekynton's conduit, showing the original sluice ('H') and bar forming a step in the floor. The opening to a small culvert (F936), heading south towards the millstream, can be seen on the left

Fig. 403 View west inside Bekynton's conduit (water filled), towards the junction ('K') with Stillington's diversion. Note the reduced aperture to the latter

c. 58 m in length, follows a curving course through the southern part of the Camery (Fig. 16). Twenty-five metres of the conduit were exposed and studied in 1978 (Figs. 199, 217 and 418). Its sides are built of dressed Doulting stone, exhibiting strongly pronounced tool marks from a bolster. The roof of the conduit is mainly capped with slabs of roughly dressed white lias, mortared in place; the floor seems to be of similar stone. The rectangular internal section averages 50 cm wide by 48 cm high, and is thus only half the size of Bekynton's conduit (Figs. 393 and 401.5). A small step was created, contra-flow, at the junction between the two (*K* on Fig. 395). The floor level at the beginning (east end) of Stillington's diversion is estimated as lying at *c.* 45.15 m O.D.

In the first 47 m of its course the conduit dropped *c.* 80 cm, a fall of 1 in 60. As it approached the cloister a significant adjustment of levels was necessary in order for the new conduit to rejoin the thirteenth-century line. Here, in the westernmost 11 m, the floor of the channel began to fall more steeply and, in the final few metres, the internal height was increased from 48 cm to 86 cm. Floor level at the point of union was at 43.4 m O.D. This represents a fall of 1 m in 11 m.

Stillington's conduit has a fast flow, but because of the sharp reduction in the fall at the junction between it and the thirteenth-century conduit, the rate slows markedly at that point. Consequently, a deep deposit of silt and waterborne débris has been laid down in the vicinity of the east cloister. Essentially, a sump has been formed here and, at its maximum, the depth of silt is 50 cm (Figs. 391 and 392, F318). Two-thirds of the cross-section of the thirteenth-century conduit beneath the cloister is thus currently choked with silt.

At the junction between the pointed barrel-vault of the thirteenth-century conduit and the slabbed roof of Stillington's diversion a small inspection hole was formed, 20 cm square (Figs. 390 and 391). Whether it was initially intended that rainwater from the neighbouring roofs should be directed down this hole is uncertain, but by the late seventeenth century a vertical stone-built shute had been constructed and the cloister drains directed into it (Fig. 404).

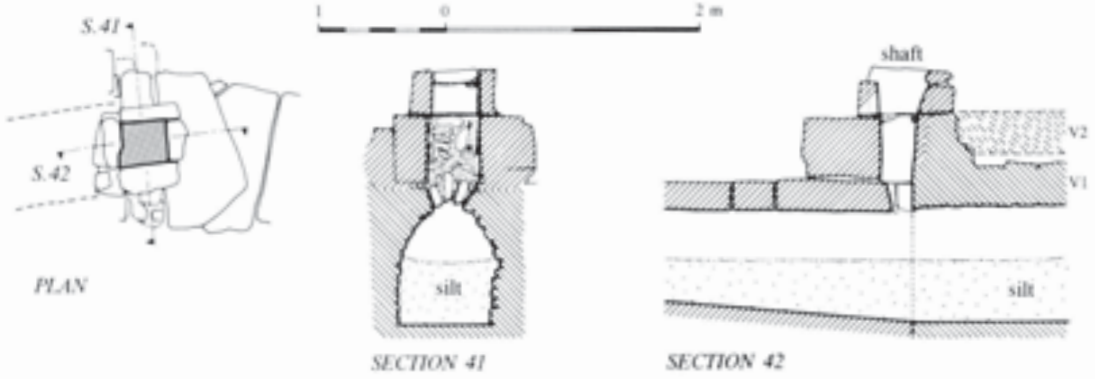


Fig. 404 Plan and sections of the junction between the thirteenth- and fifteenth-century conduits adjacent to the east cloister, showing the vertical shaft through which the seventeenth-century cloister drains discharged. Scale 1:60

Post-medieval modifications

The mouth of the conduit at St Andrew's Well is now spanned by a small footbridge which carries the path running along the eastern side of the Bishop's Camery (Figs. 385 and 395). The bridge is 1.46 m wide, stone-built, with Doulting ashlar facings to east and west; it has near-flat arches of tightly jointed masonry (Fig. 401.1, 2). The construction is typical of eighteenth- and early nineteenth-century work, and it is likely that the bridge was built in *c.* 1830, when the present lake was formed.[7] A massive lias slab set under the eastern arch of the bridge served as a threshold to the conduit mouth (*A*). The stone has subsequently tilted and sunk into the mud.

The bridge was built over what was previously an open channel, 45 cm wide, the mouth of which flared towards the well. The curving northern flank of the channel is preserved beneath the bridge. At the junction between the curved and straight sections is a pair of Doulting stone blocks with vertical channels to house a wooden sluice (*B*). This sluice controlled the inflow from the well to the conduit, but must have fallen out of use (and was partly destroyed) when the bridge was built. Curiously, the sluice is not set at right-angles to the channel, but mirrors the general alignment of the conduit west of the Camery wall. Without detailed investigation, this occurrence cannot be explained.

West of the bridge, the water runs through an open channel for 2.3 m, before disappearing into the covered conduit, 1.3 m from the Camery wall. The sides of the open channel are formed of large, irregular lumps of rock which are neither coursed nor mortared: they have the distinct appearance of being a nineteenth-century garden feature. The floor of the channel is gravel and small rubble. At the entrance to the covered conduit is a second pair of Doulting stone cheeks, channelled to take a wooden sluice (*C*). The rock-lined open channel has clearly been constructed at a relatively late date (but before 1886) between the bridge and sluice *C*. It may be suspected that there was once an open pool between the bridge and the Camery wall, perhaps with a sluiced outlet to the south, through which the flow from St Andrew's Well could be directed when it was necessary to close the conduit.

From sluice *C* to the Camery wall the conduit is crudely constructed. The sides exhibit two phases of building: the lowest two or three courses are of water-worn ashlar and appear to be the remnants of a

Fig. 405 View east inside the post-medieval conduit running between the Camery wall and St Andrew's Well (plan, Fig. 395, 'D' to 'B'). The furthest part of the channel is open topped, and the voussoirs of the bridge beside the well can be glimpsed in the distance

*Fig. 406 Rubble construction of the post-medieval conduit east of the Camery wall ('D'), showing the base-course made from a block of channelled masonry salvaged from an earlier sluice (*cf. *Fig. 405). The conduit here is built on a bed of mud and rubble*

Fig. 407 View east inside Bekynton's conduit, beneath the Camery wall at sluice 'E'. In the middle distance is the junction ('D') with the post-medieval extension beyond. Its clay and rubble floor is at a higher level, and relates to the raising of the lake in the early nineteenth century

well constructed channel, although whether *in situ* is unclear. The upper parts of the walls are made of uncoursed and unmortared rubble (Fig. 405). There are reused stones, including Doulting blocks bearing evidence of sluice-channels (Fig. 406). The roof is slabbed, and the floor consists of a deposit of rubble and clay, at least 50 cm in depth.

This length of conduit abuts, and partly plugs, a funnel-shaped aperture (*D*, previously mentioned) in the east face of the Camery wall's foundation, and there can be little doubt that it is largely, if not entirely, a post-medieval construction (Fig. 407). Moreover, floor level rises markedly within the conduit, between the Camery wall and the well, the differential being at least 50 cm. This can be readily explained by the post-medieval creation of the palace lake. Stanton deduced that water level in the upper pots was raised by about half a metre when the lake was formed: hence the need to rebuild and raise the conduit mouth by a corresponding amount. Mean water level in St Andrew's Well today stands at *c.* 45.4 m O.D. The threshold slab (*A*) below the bridge was at *c.* 45.25 m O.D. (prior to slumping).

It has already been noted that two other post-medieval sluices were formed in Bekynton's conduit, and that they both related to raised water and floor levels (p. 392). Indeed it is clear that the head of water in St Andrew's Well was formerly maintained at a slightly higher level than it is today. Sluice *G* was evidently a replacement for *E*, and the conduit floor between the two had formerly been as high as 45.6 m O.D. Presupposing that mean water level in the well was at least 10–15 cm higher than the threshold of the sluice, a figure of *c.* 45.75 m O.D. is implied. The level has thus been reduced by *c.* 35 cm. Wheeler (1970) confirms the modern lowering of water level in the lake.

Finally, it will be noticed that Carter's plan of the Camery shows a short and slightly curved section of water-filled feature, a few metres west of the boundary wall (Fig. 384). This was clearly a roofless section of the conduit, which would have served as a dipping-well for the kitchen garden. The position indicated it comparable to section *J–K* of the conduit (Fig. 395), and helps to explain why this is anomalous. The extra width and rebuilt north flank of the conduit are doubtless the result of a collapse of the open channel. There is no reason to doubt that Bekynton's conduit was originally roofed all the way, but the removal of the slabs is likely to have occurred in the seventeenth century. They were replaced in the mid-nineteenth century.

The dipping-well (Structure 20)

The dipping-well (Dipping-Place) lies asymmetrically in the cloister garth, towards the east side. It is a primary feature of the earliest conduit, and its structural history and interpretation have been considered in detail in chapter 9 (pp. 323–6).

Summary: development of the conduit

There were three phases of conduit construction. The first is datable to the turn of the thirteenth century. It was constructed as an integral part of the cloister foundation, and pre-dated the erection of the Camery wall. The conduit drew its supply from St Andrew's Well, which must have been dammed to provide a head. The dipping-well in the cloister was an original feature, and the principal drawing-place. It is likely that a building stood over the well, perhaps associated with an architectural focus in the cloister garth. There was possibly a second dipping-well downstream, on the edge of the market place. The conduit probably continued along the north side of the market, and at some point turned south and debouched into the millstream.

Bishop Bekynton's ambitious building programme involved works of hydraulic engineering, begun in 1451. By further damming the spring mouths and raising the head waters, he had necessarily to rebuild the eastern end of the conduit and to raise the intake level.

At the same time he introduced sluices and built a small chamber against the Camery wall, with a little recess and window overlooking St Andrew's Well. Bekynton may have been responsible for modifications to the dipping-well in the cloister, including the construction of the small rectangular building that survived into the early nineteenth century (Fig. 337). His construction of the New Works, on the north side of the market place, involved severing the conduit between the west cloister and Penniless Porch, and redirecting it on a more northerly course, to serve as a drain for the twelve new houses.

The conduit was found to be in the way of Bishop Stillington's proposed reconstruction of the Lady Chapel-by-the-Cloister, and so in 1477 a considerable diversion of the line within the Camery was necessitated.

Various alterations at the eastern end of the conduit have taken place in post-medieval times, associated in part with the formation of the bishop's lake in the 1820s or 1830s.

Bishop's palace moat and lake

The moat

In 1340 Bishop Ralph of Shrewsbury obtained a royal licence to crenellate, empowering him to enclose the cathedral precinct, palace and canonical residences with walls and gates. The palace moat, although not specifically mentioned, was plainly part of the work. There is no specific dating evidence for the palace fortifications, and it is generally assumed that they were erected in the middle years of the fourteenth century. They were, executed on a monumental scale, and remain impressive to this day (frontispiece). The fortifications were adequate to protect the bishop and his retainers from local skirmishes (as had occurred in Wells in 1336), but were not seriously defensive in the military sense. The Wells palace may be compared to showpiece castles such as Herstmonceux in Sussex, for which the licence to crenellate was granted in 1440. For discussions of the Bishop's Palace, see Parker 1861–62, Buckle 1888 and Dunning 1982.

Prior to the excavation of the moat, St Andrew's stream passed somewhere through the palace complex; and a little to the north, probably just outside the line adopted for the moat, lay the first millstream. Both must always have been bridged to allow access from the palace to the market place, and to the cathedral via the east cloister walk. The original course of the St Andrew's stream is uncertain, as is its precise point of origin: it may have emanated from the central pot (as the millstream did), or from the eastern pot (Buckle 1888, pl. VI). The latter provided the supply for the moat, entering at the north-east salient. The outflow was via a sluice in the south-west arm of the moat, into the truncated St Andrew's stream (Fig. 23). In effect, the moat was an interruption in the course of the stream.

The millstream would appear to have been realigned northwards when the moat was created. At the same time two ponds were created on Palace Green, presumably to provide a reservoir for the Palace Mill, when the flow from the springs was sluggish.

Changes effected in the nineteenth century included infilling the two ponds on Palace Green and diverting the millstream directly into the northern arm of the moat. The outflow was also repositioned by creating a new sluice at the south corner, connecting with the Chilcote stream. The date of a second sluiced outlet from the south-west side, to supply Palace Farm, is unknown (Fig. 23, F). The modern sluice at the north-west salient supplies water to the High Street gutters (Fig. 389).

The lake and its antecedents

The palace lake features prominently in numerous nineteenth-century illustrations of Wells Cathedral from the south-east. It helped to provide the romantic composition that was so popular with late Georgian topographical artists. In the ideal secular context, the artist achieved a combination of house, lawn and water. Here we have its ecclesiastical counterpart, a more unusual phenomenon: cathedral, lawn and water. It is not therefore surprising that many artists positioned themselves adjacent to the springs, and drew the cathedral, with pool, grass and shrubberies in the foreground. Sometimes the 'lawn' element (or the shrubberies) was exaggerated, to enhance the landscape effect.

Early maps are not particularly helpful in determining the history of the lake. Simes shows a T-shaped arrangement, emphasizing the central pot (Fig. 355). The north pot is connected to this by an arm which effectively forms a north–south lake. The entire palace is incorrectly proportioned on the map and, as a consequence, the south-eastern arm of the lake has been swung round in a clockwise direction, greatly simplified and merged with the channel running into the moat. The east pot is omitted altogether.

Carter's plan, on the other hand, is superbly detailed and very informative (Fig. 384; Pl. I). He shows a serpentine lake connecting the north and central pots, with a weir and a channel flowing into the east pot. The latter also had a separate feed from the north (coming from the East Liberty), and two outlets (to the south and south-west). The former fed into the north-east corner of the moat, and the latter flowed past the well-house, and into the millstream. The second outlet no longer exists.

The late medieval water-control system is fully comprehensible with the assistance of Carter's plan. There were clearly two separately controllable reservoir levels, not including St Andrew's Well. The serpentine lake (north and central pots) provided the high-level feed for the well-house, and hence for the piped supply, while the east pot fed the moat and mills.

Fig. 408 The east end of Wells Cathedral from the Bishop's Palace garden, by Thomas Hearne, 1802. The east pot is in the foreground, being fed by a cascade (exaggerated) over the fifteenth-century weir. The buttress-arch adjoining the Lady Chapel can be seen in the mid-ground, and the house on the right is The Rib

One of the most instructive views is that drawn by Thomas Hearne, and published in 1802: it shows the east pot in the foreground, and beyond is the weir (a stone bar) over which water is cascading from the central pot (Fig. 408).[8]

It is generally asserted that the existing L-shaped lake was created as an ornamental feature in the mid-1820s, as part of the landscape 'improvements' initiated by Bishop Law (1824–45).[9] Law certainly left his mark on the palace grounds: it was he who supposedly demolished two sides of the ruined medieval hall, to make it into a more romantic garden feature. If Law was in fact responsible for the demolition, he must have acted quickly since John Buckler's drawing, dated 1825, shows the hall in its present depleted form.[10] However, the formalization of the lake seems not to have been undertaken immediately upon Law's arrival in Wells.

It is also clear that there was a period, in the 1820s–30s, when water levels were lowered and the serpentine lake was no longer maintained. A view of the east end of the cathedral, from the palace garden, published in 1825, evidently shows the north pot, after the water level had dropped and the lake had virtually disappeared (Britton 1836a, pl. VI). However a good deal of artistic licence has crept into the landscape, and the reliability of this evidence might be challenged. More realistic is Hablot Browne's drawing, taken from the same viewpoint, probably in the early 1830s (Winkles and Winkles 1836, pl. 39). This depicts a circular pool that undoubtedly was the north pot and, south of it, the dried-up bed of the serpentine lake, upon which two ladies are standing (Fig. 409).

Unless Browne's drawing was upwards of ten years old when it was published by Winkles — and that seems unlikely — the formal lake cannot have been created by Law in the 1820s. John Buckler's fine illustration of 1838, however, shows the lake unmistakably in its present form.[11] It would therefore seem that the introduction of a formal edging to the lake, and a sluice to maintain a high water level, occurred in the early-to-mid 1830s. Further research may pinpoint the date more precisely.[12]

As already mentioned, the lake was drained in 1979 in order to study the springs and their control systems. Between the central and east pots is a dam which formerly maintained a differential in the water levels between the northern and eastern arms of the 'L'. The dam, which is now submerged beneath the lake's surface, carries a weir that is topped with a solidly constructed, curving band of Doulting stone, set on a rubble foundation and sealed at the extremities with puddled clay. The character of the masonry indicates a late medieval date. This feature is locally referred to as 'Bekynton's Bar', in the belief that the weir formed part of the waterworks constructed during Bekynton's episcopate. While there is no documentary proof that it was so, it can hardly be assignable to any other era.

Fig. 409 Wells Cathedral from the south-east by Hablot Browne, in the mid-1830s. The level of the lake has been lowered, so that the north pot forms a pool. The two figures on the left are standing on the dried-up bed of the lake. St Andrew's Well is in the shrubbery, left of centre. After Winkles and Winkles 1836

The bar was designed to hold back the water flowing from the north and central pots, in effect forming a long, narrow lake. A short channel led westwards from that lake, carrying water into Bekynton's well-house, where it fed the piped system (p. 398). The flow of water into the millstream, from the same channel, was controlled by a sluice.[13] In times of flood, excess water from the lake spilled over the stone bar, into a stony channel which connected with the east pot, at a lower level (Pl. X).

The topography of the area around the springs has changed considerably since Carter's day (Figs. 384–5). Not only has the present lake been formed, involving raising the water in the three main pots to a common level, but the channels and sluices have also been rationalized, and some have been entirely lost from view. Water level in the northern arm of the lake has been raised by *c.* 50 cm, the depth to which the stone bar is now submerged. The level over the east pot had correspondingly to be raised by about one metre.

Virtually all the water from the lake now discharges into the moat, via the eastern sluice. The medieval channel from the east pot still exists and incorporates both a sluice and a waterfall.[14] The latter was created as a garden feature, presumably in the 1830s. The ancient millstream has been blocked, on the south side of the masons' yard, and a new channel formed to divert the flow into the moat.

On the south side of the lake, near to the east pot, are the remains of a cast iron water-wheel and pump which provided a domestic supply to the palace and may have been installed as early as the 1830s. There would have been a small channel branching off the eastern arm of the lake, to drive the water wheel, and the overflow would have been conducted to the main channel feeding the moat.

Piped medieval water supply

The fifteenth century was an era of episcopal munificence and great change at Wells, and this extended even to the water distribution system. Bishop Bekynton was a considerable benefactor of both the cathedral and the city, and he instituted the first piped water supply. Fortuitously, this work is well documented, both in respect of its installation and subsequent maintenance.

In a grant dated 20th September 1451, Thomas Bekynton conceded to the master and burgesses of the borough and their successors 'for ever' that:

> They may have a head for a water conduit with reservoirs, vents and other engines above and below ground, for taking and leading a portion of the bishop's water springing within the precinct of his palace of Wells from a spring

> called Seynt Andrew welle, upon a spot appointed by the said bishop. Whereon he has built such head at his own cost sufficient for lead pipes 12 inches in circumference, dikes, trenches, ponds, cisterns, etc., as well within the said precinct as in the public streets of the city, and power to repair the same, break ground and lay pipes, etc., so that the water may flow as far as the high cross in the city market and other places as they shall think fit, making good all damages; provided that the first head and reservoir to take all the said bishop's water be round, of 10 feet diameter within the walls, built of stone, lime or other material at his cost, with one round cistern of lead 5 feet in depth and 4 feet in diameter, and pipes attached on either side of the reservoir or cistern at the cost of the city, half the water to be led towards the city, half to flow to within divers parts of the palace, and the said head shall have one door and two keys, one to remain with the bishop, the other with the master and burgesses: provided also that when the moat surrounding the palace shall be scoured, all the water may be turned thither until the same be refilled; covenants that the head or reservoir shall be opened, inspected and cleansed every six months at least, and that the waste water shall flow into the bishop's great mill stream.
>
> For this benefit the master and burgesses grant that they and their successors shall once a year visit the place where the said bishop is buried in the church of St Andrew to render prayers for his soul; and the said bishop ... grants 40 days' indulgence for every such visit. (HMC 1907, 433)

The construction of the first Wells waterworks is thus precisely dated to 1451, and with it the well-house in the palace grounds, the supply pipe to the market place, and the conduit-head there.[15] This must also signal the first, or at least a new, piped supply to the palace itself. Bekynton carried out extensive improvements at the Bishop's Palace, including the construction of the north range, which is still the episcopal residence today. Here, according to the contemporary chronicler, William Worcestre, Bekynton erected, *inter alia* 'a very large kitchen, with conduits of water to the kitchen and buttery, cellar and bakehouse, and stewponds for keeping fish, at a great cost of over £1000' (Harvey 1969, 294–5). The site of Bekynton's kitchen is known (Buckle 1888, pl. III), but the archaeology of his plumbing has not been probed.

Inevitably, the supply pipe from the well-house must have bridged the moat: it was probably carried in a wooden trough supported at intervals on piles. Such arrangements are recorded at other late medieval moated residences (*e.g.* Herstmonceux Castle, Sussex), and at Lichfield, where the lead pipe which supplied water to the cathedral was carried across the close ditch by a bridge.

Also in 1451, Bekynton made a grant for the construction of the *Nova Opera*, the twelve new houses on the north side of the market place (HMC 1907, 435); these too were supplied with piped water from the bishop's well-house.[16]

The bishop's well-house

The charming little well-house standing in the northern part of the palace grounds remains and is in good condition, although the original plumbing fittings have long since been removed (Figs. 386 and 410). Measured drawings were made in the 1830s by A.W.N. Pugin, and are reproduced here as Figs. 411 and 412. The original cistern was evidently then intact (Pugin and Pugin 1895, **2**, 47). The well-house features prominently in John Buckler's view of the palace from the north, in 1837.[17]

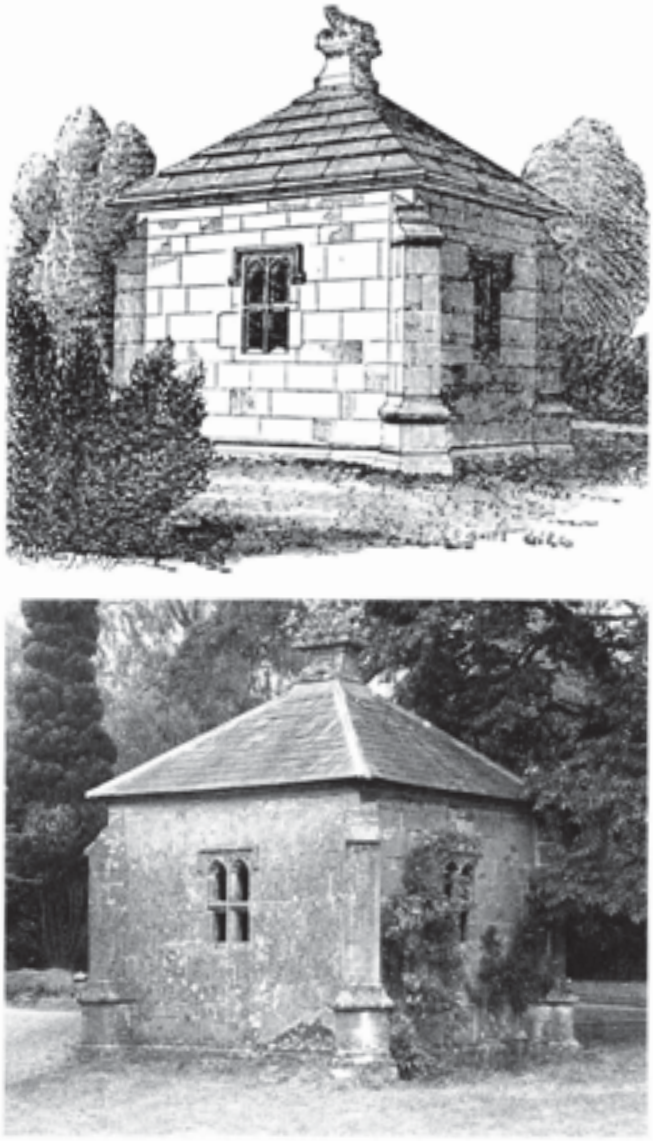


Fig. 410 Views of Bekynton's well-house of 1451 in the grounds of the Bishop's Palace from the south-west. A (upper) From a drawing (reversed) by Orlando Jewitt, c. 1860. B (lower) As existing in 1979

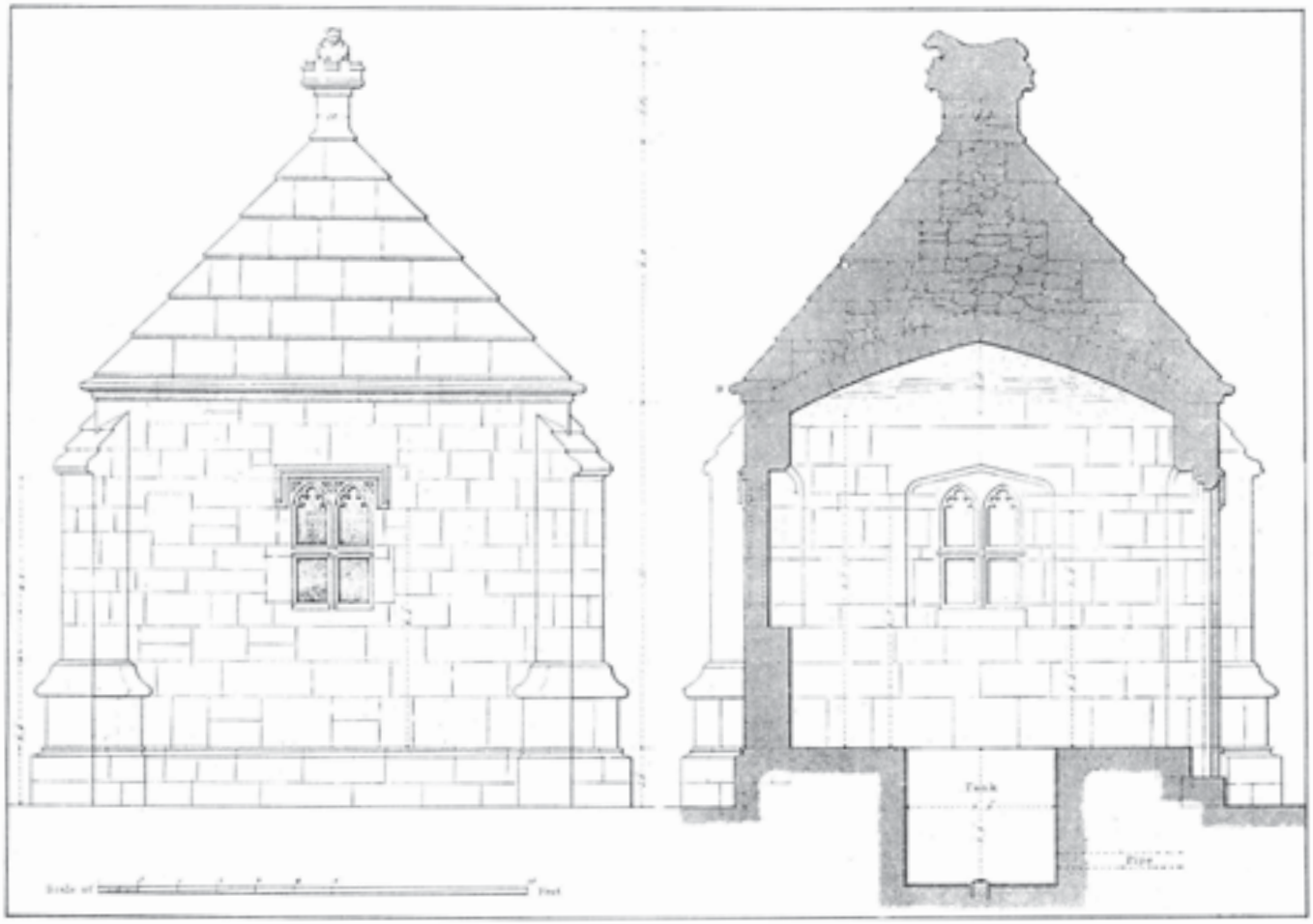


Fig. 411 Pugin's drawings of the bishop's well-house in the 1830s: south elevation and section looking west. After Pugin and Pugin 1895

Bekynton's grant of 1451 is ambiguous in that it refers to the spot 'whereon he has built' the well-house, and then goes on to the specify the manner in which it shall be built, supplying critical dimensions. Perhaps the work was in progress at the time. The well-house, which is situated beside the millstream close to the point where it leaves the lake, is fed from the highest level of the springs, that is above the weir. Indeed, there can be little doubt that the stone bar was built specifically to raise the head of water, in order to feed the well-house. It should be noted that the grant refers to water being drawn from St Andrew's Well, which it seemingly was not. Whether this represents fifteenth-century confusion over the precise identity of the holy well, or a change of plan, is uncertain. Nor does the grant mention damming the springs, or constructing a weir, works which may already have been effected.

The well-house is built of Doulting stone and measures 3.9 m (12¾ ft) square externally. It has diagonal buttresses at the quoins with stepped copings, and a bolection-moulded plinth. The entrance is in the north side, where the doorway has a four-centred head under a square label (Fig. 413); the jambs have wave-mouldings. There are four-light mullioned and transomed windows (unglazed) with simple hollow mouldings in the other three elevations; they too have square labels (Fig. 414). The vaulted stone roof is pyramidal and was finished with stone slates externally; these were replaced with Welsh slates in the late nineteenth century. The roof is crowned by a castellated finial which bears the figure of a crouching lion. The latter may be compared with the somewhat similar creature surmounting the ridge of Bekynton's school over the west cloister (Fig. 344).

Internally, the well-house is circular in plan, 2.97 m (9¾ ft), and thus approximates to the requisite diameter of 10 ft. Sunk into the centre of the floor was a circular lead-lined cistern, 1.14 m (3¾ ft) in diameter by 1.07 m (3½ ft) deep. These fall short of the dimensions specified by Bekynton, namely 4 ft and 5 ft, respectively. Pugin's drawing shows an outlet pipe on the north side, and a drain hole in the centre of the base. The latter would have been fitted with a tubular bung, to act as an overflow. Curiously, Pugin omitted to show the inlet channel, which passes under the threshold of the doorway in the north side, and which is controlled by an external sluice.

The original circular cistern has been replaced, probably in the mid-nineteenth century, by a square one. There is a single outlet point, which can be closed with a wooden bung, to shut off the flow of water. In the centre of the cistern stands an overflow pipe which

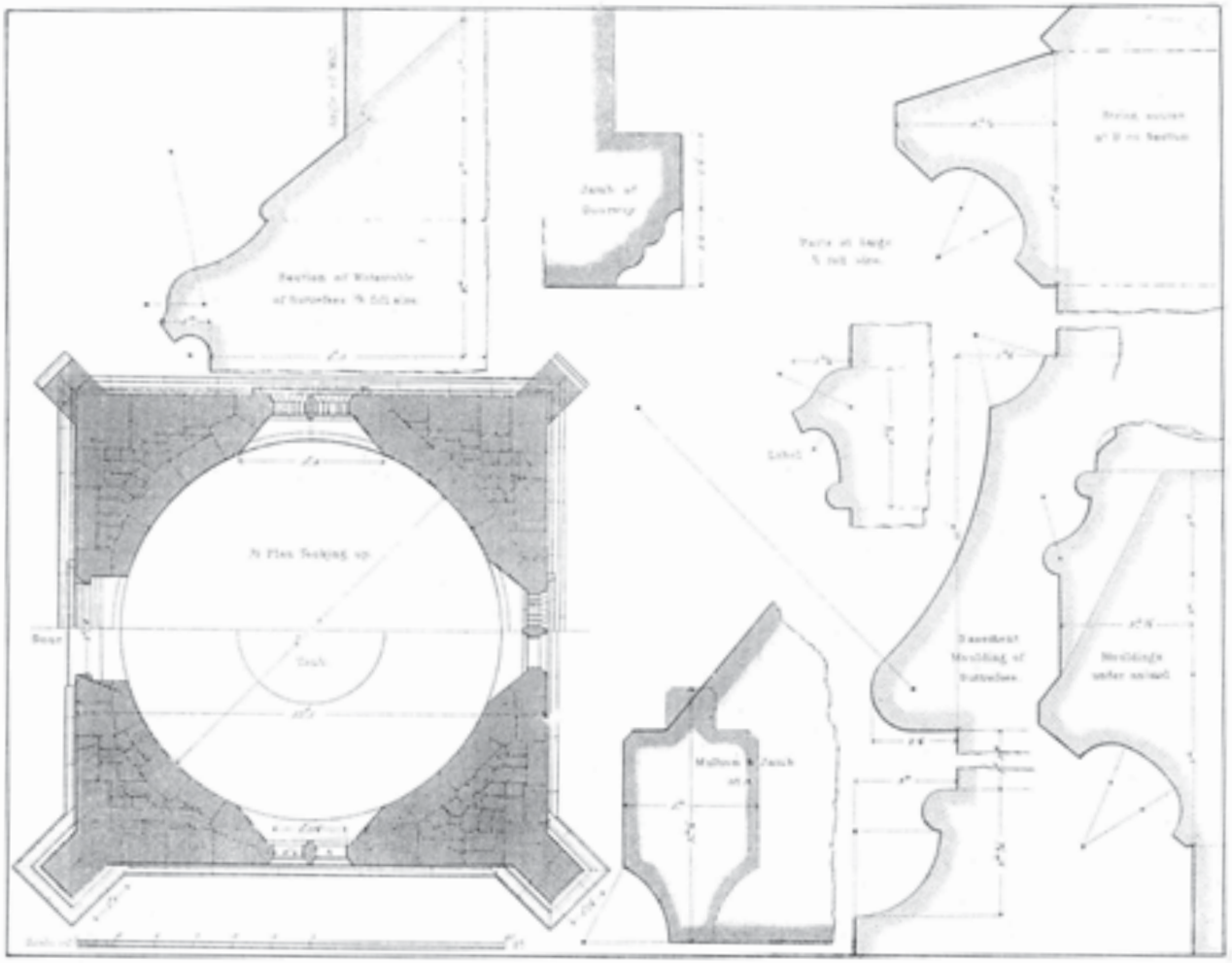


Fig. 412 Details of the well-house in the 1830s: plan and moulding profiles. After Pugin and Pugin 1895

Fig. 413 The north-facing doorway of the well-house

Fig. 414 West window of the well-house

discharges into the moat. The overflow is a tubular bung which can be withdrawn, enabling the cistern to be rapidly scoured.

Three lead pipes, each 4 inches (10 cm) in diameter, were fitted to the original cistern. One pipe supplied the palace, another fed the conduit-head in the market place, and a third supplied the *Nova Opera* (New Works, p. 397). The supply to the market place still functions, but the underground pipe has been replaced partly or wholly with cast iron. The exact route taken by the pipe is unknown, but it evidently followed the south side of the old millstream. The cast iron pipe was exposed in 1978 where it passes beneath the threshold of the doorway leading from the kitchen garden to Palace Green (Fig. 295). The pipe continues across the green, through the archway of the great gatehouse (Bishop's Eye), and down the centre of the market place to the conduit-head. The total distance is *c.* 310 m.

Conduit-head in the market place

The well-house and conduit-head are mentioned, *en passant*, by Leland, *c.* 1542, who also noted the market cross which had just been erected by Bishop William Knight: it was 'a right sumptuus peace of worke' (Toulmin Smith 1964, 145–6).[18] Bekynton's original conduit-head was a tower-like structure, elaborately detailed. According to Simes's map (1735), it stood in the middle of the road immediately west of the medieval market cross, at the junction of High Street and Sadler Street. Doubtless the cross and conduit were a considerable inconvenience to traffic: the former was demolished in *c.* 1790 (Collinson 1791, **3**, 375), and the latter superseded in 1803. The opportunity was taken in that year to resite the new conduit-head *c.* 12 m to the east of its original position (Fig. 4). This is the place now occupied by a rather feeble fountain-head in Strawberry Hill Gothick style.

The medieval conduit-head is magnificently depicted in a well-known engraving of Wells market place, published by Britton (1830), but based on a water-colour by William Alexander. This was presumably painted sometime before 1803.[19] Bekynton's conduit-head is shown as a monumental structure, somewhat decayed, and listing to the north. The perspective gives the impression that it was square in plan and, from the scale of the attendant figures, in the order of 7 m high to parapet level. It is shown in considerable detail, and with verisimilitude (Fig. 415).

Fig. 415 Bekynton's conduit-head of 1451 in the market place, from the south-west in c. 1800. The architectural detail is meticulously represented. After Britton 1830

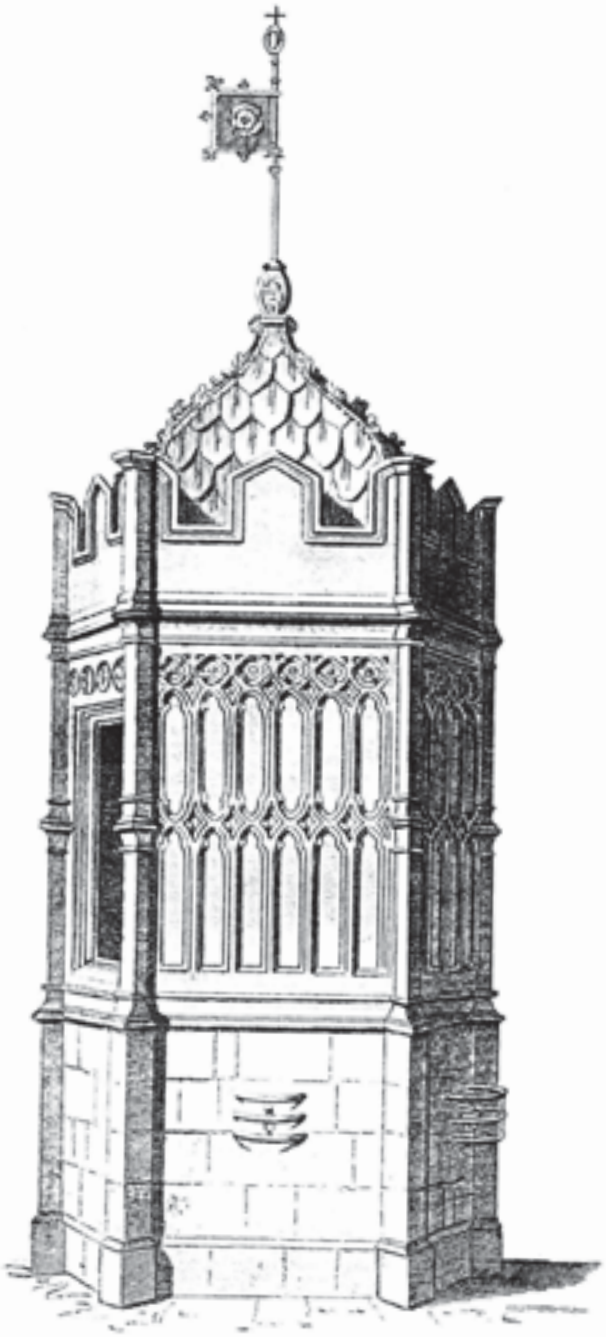


Fig. 416 Carter's restoration drawing of the conduit-head made in 1791. After Gentleman's Magazine *1811*

Another watercolour of the conduit-head[20] shows the same setting, but from a slightly different viewpoint. It must have been painted while the conduit was still in existence, and on the reverse is a note in a contemporary hand, 'Old Conduit at Wells, Somersetsh. Now (1805) demolished. Dayes.'[21] The depiction of both the conduit's architectural form and its general condition are in agreement with Britton's illustration.

There are, however, other illustrations in existence showing the conduit-head in a very different light. The earliest is a drawing by Carter, entitled 'Conduit in the High Street, Wells, as it appeared in 1791.' This rather incongruously accompanies a discussion of wind-vanes

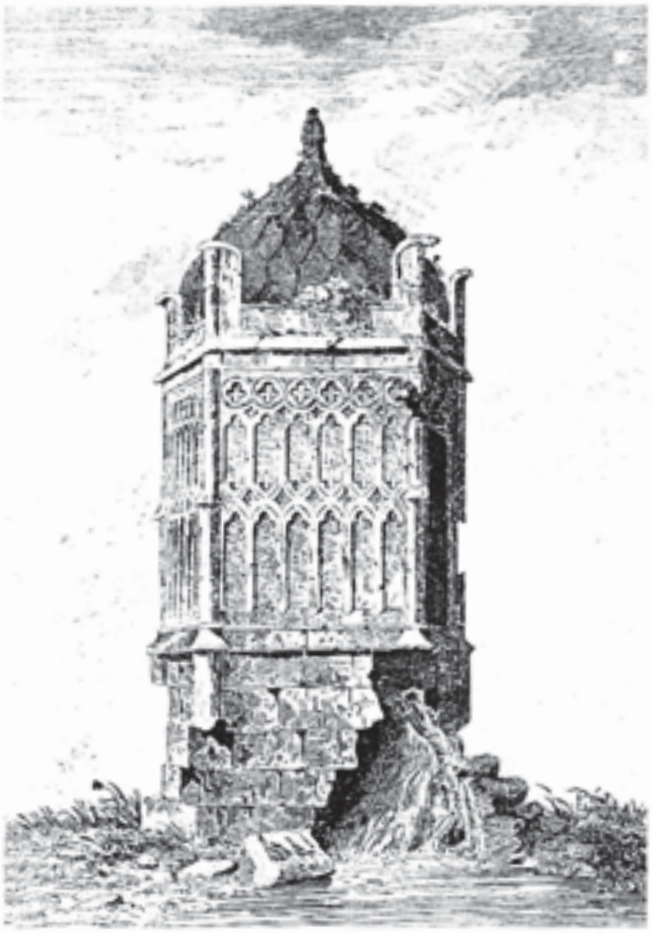


Fig. 417 Anonymous drawing showing the conduit-head in an advanced state of dereliction, c. 1800. Scale of 10 ft. After Cassan 1829

in an article on Henry VII's Chapel, Westminster.[22] All Carter says about the Wells conduit is 'The plan hexangular. The design is evidently coeval with Henry's chapel ... Here is found an ornamented preparation for a vane (not a finial ...), in which is fixed a complete vane. No doubt subordinate vanes were once set on the tops of the small angular buttresses.'[23] Carter's drawing of the conduit-head is evidently in part a restoration, but there is no doubt that the illustrated building was polygonal in plan, not square. The architectural detailing is exactly as shown by Britton (Fig. 416). Carter had previously referred to the structure, in a note on 'Antient Conduits' published in 1807, as a 'Rich and singularly elegant octangular conduit standing in the High Street, and near the Cathedral, Wells'.[24] He also alluded to the 'Plain square conduit on south side ditto cathedral', this, of course, being a reference to the bishop's well-house.

The next illustration, also depicting a polygonal structure, was published in 1829, with the note 'This fine conduit was taken down a few years ago, and a very bad substitute erected in its stead; but a drawing of the old one is in existence' (Cassan 1829, 30). The accompanying scale-bar reveals that the structure was much smaller than it appeared in Britton's view, the masonry being no more than 4.7 m high (Fig. 417).

In 1839 Phelps published a description of the old conduit-head, together with a crude vignette. He described the conduit as 'an hexangular building formed entirely of stone, the sides decorated with two tiers of pannel work with trefoil heads, and a band of quatrefoils over them; above, a cornice with an embattled parapet and an imbricated roof terminated by a finial' (Phelps 1839, 14, 155).

These varied illustrations all purport to show Bekynton's conduit-head, but was it square, hexagonal or octagonal in plan? Balch (1925, 22–3) confused the issue by supposing there to have been a second conduit-head erected here, after the demolition of Bekynton's, but before 1835, namely the one illustrated by Phelps. However, he failed to appreciate that what Phelps depicted had long since gone. Stanton (1987–88, 31) repeated the error.

The two watercolours by Alexander and Dayes, respectively, appear convincing in every detail, and cannot be rejected lightly. Nevertheless, the weight of evidence is against them, and the possibility that they are derived from a common but erroneous source has to be admitted. Alexander's is the only illustration to show a surviving fragment of the vane-shaft rising from the roof finial. This must have been the crucial piece of evidence that was of such interest to Carter.

The conduit-head comprised two structural stages, surmounted by a crenellated parapet with bold corner merlons, and a pyramidal stone roof with a finial. *In toto*, the masonry of the conduit-head apparently stood *c.* 4.7 m (15½ ft) high. The sides of the lowest stage measured *c.* 1.8 m in length by *c.* 1.7 m high, and were of plain ashlar. There were water outlets in at least two of the faces (south and west), the flow from which was apparently controlled by cocks. These appear to have been protected from damage by metal cages. In Alexander's illustration a wooden trough is shown at ground level on the south side, and a barrel stands beneath the west cock.[25] There would have been a lead-lined reservoir inside the conduit-head, with an overflow from which the excess water ran into a subterranean channel. While the drain which emerged from the New Works and conveniently crossed the market place hereabouts (p. 383) could have picked up the overflow and fed it back into the bishop's millstream, as directed by the original grant, this does not appear to have been the case. Instead, the overflow from the conduit-head was conducted into one or more channels running down the High Street (p. 409; Fig. 389). These were seen and commented on by Leland in *c.* 1542 (Toulmin Smith 1964, 145). The existing blue lias street-gutters are much later replacements.

The second stage of the medieval conduit-head was purely ornamental, and stood *c.* 2.1 m high. Its walls carried two tiers of traceried panelling, surmounted by a band of quatrefoils. There were six bays of trefoil-headed panelling in each tier, the upper being also furnished with inverted trefoil heads at its base. This was typical Somerset tracery of the fifteenth century, other examples of which are found in the cathedral: the traceried panels in the webs of the crossing vault, for example, are of this design (Fig. 250), as were those of Stillington's Lady Chapel-by-the-Cloister. One face of the conduit-head (probably the north) was not panelled, but contained a rectangular doorway through which access to the reservoir was gained.

Hexagonally-planned structures seem to have been less common in the fifteenth century than octagons, although records are frequently confused. Nevertheless, there is an analogue for Wells in the form of St Mary's Conduit at the east end of Lincoln Cathedral. This tiny, pyramidal-roofed building is hexagonal in plan, although its antiquity is questionable (Pevsner and Metcalf 1985b, 221). The Wells conduit-head provides an object lesson in the caution that has to be exercised in accepting drawn and written evidence at face value.

The present-day fountain-head was described by Phelps (1839, 14) as 'an elegant triangular building with arches, forming a canopy over the cistern, and ornamented with crockets and a finial, the whole resting on a rustic base... On two of its sides are cocks to draw water, and on the third an imitation of rock work, over which the waste water falls, forming a pleasing cascade, and it then flows down the sides of the street, conducing to the cleanliness of the town and inhabitants.' A brass plaque refers to the fountain as the gift of Bishop Richard Beadon, 1803. Interestingly, it was erected with the consent of John Lovell, the bishop's lessee of Palace Mill. Protecting the water supply to the mill was still a material consideration.

The piped supply to the *Nova Opera*

In 1451 Bekynton granted a strip of land 243 ft in length and 36 ft in breadth on the edge of the churchyard, abutting the north side of the market place, for the construction of twelve new houses (HMC 1907, 435). They are generally known as the New Works, or *Nova Opera*, and have been studied by Reid (1930), and by Aston and Leech (1977, 151).

The houses were provided with advanced sanitation, having both a piped water supply and a constantly flushed drain. The individual latrines in the houses were positioned over, and discharged directly into, a drain which was built for the purpose. It was created by repositioning the cathedral conduit, west of the cloister (p. 384). There was evidently some problem with the outflow, because in 1459 Bekynton granted consent for a new subterranean channel to be constructed from the New Works, under the pavement of the market place, through the canonical garden on the south side of the market, and into the millstream (SRS 1934, charter 1220). The perpetual right to open up and repair this watercourse was also granted. The scale of the construction is indicated by the fact that excavations were permitted up to 8 feet in width, by 12 feet in depth.

Fig. 418 General view looking east, showing the conduit and lead water-pipe of 1477, curving around the south transept of Stillington's chapel. An inspection chamber can also be seen, adjacent to the turret base. The capstones have been removed from the pipe-duct, but are still in place over the conduit. The surface of the late medieval masons' yard is seen on the right. Scales of 2 m

The piped water supply was an extension of the waterworks system that had recently been installed to serve the palace and public conduit-head. A tapping was taken off the cistern in the well-house and a 4 inch (10 cm) diameter lead pipe was laid through the cathedral precincts, to the rear (north side) of the New Works. The course of this pipe was entirely unknown until its discovery during excavations in the Camery (Figs. 199 and 418). It can now been deduced that the pipe originated from the north side of the cistern in the well-house, then crossed the millstream and passed under the Camery wall somewhere in the vicinity of its south-east angle. A diagonal course was taken through the southern part of the Camery, to the south aisle of the Lady Chapel-by-the-Cloister. The pipe then ran under the chapel floor and snaked its way through the west doorway into the cloister. The most likely course thereafter would have been directly across the cloister garth — passing the dipping-well on the north — through the thirteenth-century west cloister porch, and across the choristers' house garden, to the back of the first house of the New Works. The pipe presumably ran the full length of the houses, and was fitted with twelve tapping-points. By 1512 a problem had arisen at this end of the supply, when the communar was instructed to mend 'the pipe by which the course of the water descends into every house of the New Work' (HMC 1914, 229).

The total length of lead piping required to supply the twelve houses was *c.* 260 m (853 ft), and a 29 m length was exposed and examined around the south side of Stillington's chapel in 1978 (Fig. 418). Its history is complicated. For most of this length, the pipe was demonstrably not where it had been laid in 1451, but was in its secondary position established in 1477 when the chapel was rebuilt, as previously described (p. 203; Pl. IX). Part of the pipe had subsequently been repositioned yet again. Only the westernmost 4 m, leading up to the cloister doorway, still lay in its original stone duct (pipe course 1; Fig. 419). South-east of this, two short lengths of the original duct — disused and empty — survived in the angle between the nave wall and the transept of Stillington's chapel (Fig. 199B, F314 and F217).

The pipe was laid in a trench, cut from ground level, or through the floor of the Lady Chapel, where necessary. In the bottom of the trench a duct was formed by digging a channel and lining its sides (but not its base) with whatever stone came to hand: reused freestone, lias and sandstone rubble occur together. The duct was capped with flat pieces of stone of varied types and sizes (Figs. 199A and 429). White lias was most commonly used. In the case of the primary duct (F217 and F314), the capstones were firmly bedded in place, using white lime mortar. By contrast, in the replacement ducts (F132 and F216), pink lime mortar was used sparingly in the sides, and in bedding some of the capstones. The top of the duct lay at *c.* 1.3 m below contemporary ground level. The constructional details of the original and relaid sections of the watermain were, apart from the mortar, closely similar. Problems encountered with the positioning of the new duct in 1477 are discussed on p. 203.

As originally laid, the pipe was in a void inside the duct, and when it had to be moved it was possible to withdraw sections of the pipe without necessarily removing all the capstones first. The discovery of a section of the empty but still capped duct demonstrated this point (Figs. 199B and 429, F217). A different

Fig. 419 View north-west along the lead water-pipe to the point where it disappears under the junction between the cloister (left) and Stillington's chapel nave. Pipe collar 2/3 is seen in the foreground. Scale of 75 cm

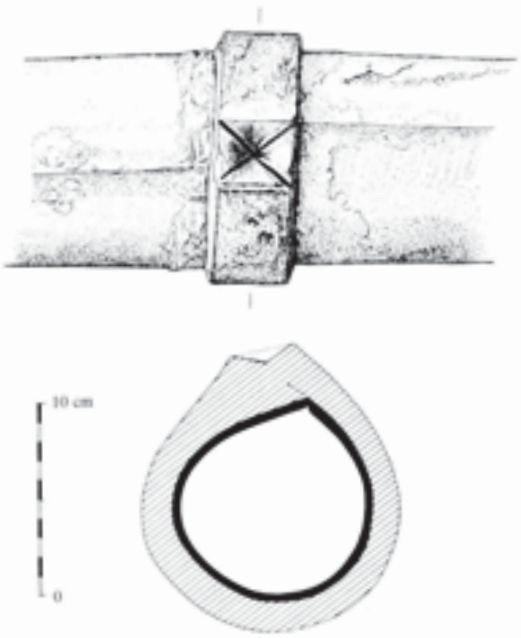


Fig. 420 Plan view and cross-section of the lead collar ('crampet') joining pipe lengths 1 and 2. Scale 1:4. Drawn by Richard Bryant

arrangement obtained when the pipe was relaid: it was placed in the open duct and propped at intervals on small pieces of stone. The surrounding void was then entirely filled with liquid clay, before the capstones were set in place. This treatment was accorded to the pipe, right up to the cloister wall, albeit that the original duct was retained for the last few metres here.

When the clay filling in the duct solidified it formed a jacket (F134) which enveloped the pipe. The purpose of the clay jacket was twofold. First, it provided firm support all the way around the pipe, so that it was inherently stress-free and the effect of the internal water pressure on the seams was minimized. Secondly, if a minor leak occurred the damp clay would tend to contain it. The clay used for the jacket was not local to the site: it was alluvial in origin, glutinous in texture and dark bluish-green in colour. The source has not been traced, but it almost certainly came from the Levels.[26]

While there is no immediately obvious reason for doubting that the pipes themselves were recycled, consideration of the measurements, however, suggests otherwise. The pipe (F133) was manufactured and laid in lengths, nine of which fell wholly or partly within the excavation (Fig. 199B). The first two complete lengths (F133/2 and F133/3 on plan) nearest the cloister measured 3.0 m (10 ft) each, the next (F133/4) 3.9 m (12¾ ft), followed by four that were all 3.7 m (12 ft) long (F133/5–8). This strongly suggests that the pipes were manufactured in 10 ft and 12 ft lengths, and that the former were the originals of 1451. One 10 ft pipe (no. 2) is certainly in the original duct; the other is next to it, although relaid. Arguably the 12 ft lengths are replacements, dating from *c.* 1477. The odd length of 12¾ ft (no. 4) may be seen as the link between the old and new.

As specified in Bekynton's grant (p. 397), the pipe was made with a circumference of 12 inches (30 cm). Sheets of cast lead, one foot wide and ten (or twelve) feet long, were rolled longitudinally, to produce a pipe with a diameter of approximately four inches (10 cm). The sheets varied from 3.0 mm to 5.5 mm in thickness. In practice, the pipe was not quite circular in cross-section, but tended to be pear-shaped (Figs. 420 and 421). The edges of the sheet were simply butted, and seamed with solder. This is an inherently weak method of jointing. While a pipe manufactured in this way might last for several centuries if undisturbed, a soldered seam that has been buried for 25 years, or so, is liable to crack if subjected to any stress. The failure of a soldered joint does not always manifest itself immediately or dramatically: a distressed seam may take a little while to develop a hairline crack, and then to leak. For this reason it is likely that Stillington's architect felt it advisable to renew the section of piping which had to be disturbed.

Fig. 421 Section through the pipe-duct (F132) and the lead water-pipe (F133, length 3). A (upper) The re-aligned duct of 1477; in the centre foreground is one of the pad-stones that supported the pipe before the duct was filled with liquid clay (removed in this view). B (lower) Close-up of the sectioned pipe, showing the final internal silting. The clay packing (F134) can be seen here beneath the pipe. Scales: (A) 25 cm; (B) centimetres and inches

Individual lengths were butt-jointed and held in place with cast lead collars, into which the pipe-ends were a push-fit. The collars were not soldered, but some form of sealant must have been used in the joint: resin is a possibility.[27] The collars were rectangular in cross-section, and each had a square boss on it, upon which a St Andrew's cross was stamped by the plumber at the time of fixing (Fig. 422). The bosses were aligned with the pipe seams, which pointed upwards. Most of the bosses exhibited a dimple or concavity on the top surface, resulting from metal contraction during the casting process (Fig. 420). The section of pipe which fell within excavation Area 4 was removed (F133/1–3), but the remainder has been left *in situ*.

It has already been noted that when the foundations of Stillington's nave were laid the water-pipe still followed its original course (course 1), but when the transept was laid out and the cathedral conduit realigned, a new duct (course 2, F216) had to be constructed for the pipe (p. 211). The masonry of the duct was bonded to the foundation of the south-west turret (F224a).

This was not, however, the final position of the water-pipe, since another slight change of course was made to the central section of pipe-duct (course 2A). This involved taking up, or easing over, some 7 to 8 m of pipe around the transept turret, and constructing a new stone duct (F132) only 30 cm, at most, south of the previous line; it may be deduced that the water-pipe gave serious trouble, necessitating a modification. The reason for moving the watermain southwards by such a small amount was, apparently, in order to lower this section slightly, and thereby improve the flow. It could not easily be lowered *in situ* because the duct at this point rested on, and was part of, the masonry foundation of the turret.

Apart from a slight rise at the cloister, the pipe had been laid almost level, at 45.15 m O.D., and the effect of the final realignment was to drop the relevant section by 8–10 cm (Fig. 423, section). This was clearly associated with the provision of a washout point, which was not part of the design of 1477.

The need to provide for periodic flushing of the pipe might not have been appreciated when it was first laid in *c.* 1451–53. It would have been logical to install washout points in the Camery, in the cloister garth, and somewhere in the vicinity of the choristers' house, but whether these were actually provided in the first instance is not known. Also, when realigned in 1477, the need for a washout near to Stillington's chapel appears to have been overlooked initially, hence giving rise to the modification described below.

An inspection chamber giving access to a washout point was constructed beside the south-west turret of Stillington's chapel (Figs. 423, F95 and 424). Here, a cast lead boss, 11 cm in diameter, was soldered onto the side of the pipe (F133/5), which was slightly flattened at this point for the purpose (Fig. 425). Difficulty was experienced in soldering the boss effectively to the pipe, and at the same time seaming the latter. Clearly, the plumber was unable to heat the parts sufficiently evenly to achieve a good 'flow' when he applied the solder. A considerable area on the upper surface of the pipe is therefore covered with an irregular deposit of solder, and on the boss itself are no less than three superimposed layers of solder (Fig. 426). Although this was poor plumbing, the joint evidently held.

The boss has a tapering aperture which would have been closed by driving in a wooden bung 5.2 cm (2 ins) in diameter. The boss pointed south, towards a short length of stone-lined channel that discharged into the conduit (Figs. 423, 426 and 427).

How long after the construction of Stillington's chapel this modification to the water-pipe took place is uncertain, but it seems to have been within the lifetime of the chapel, that is, before 1552. The indenture drawn up in that year for the demolition of Stillington's chapel laid upon Sir John Gate a responsibility that he shall 'at his proper coste charge, repair and amende the condite pipes lyinge by the side of the said chappele if

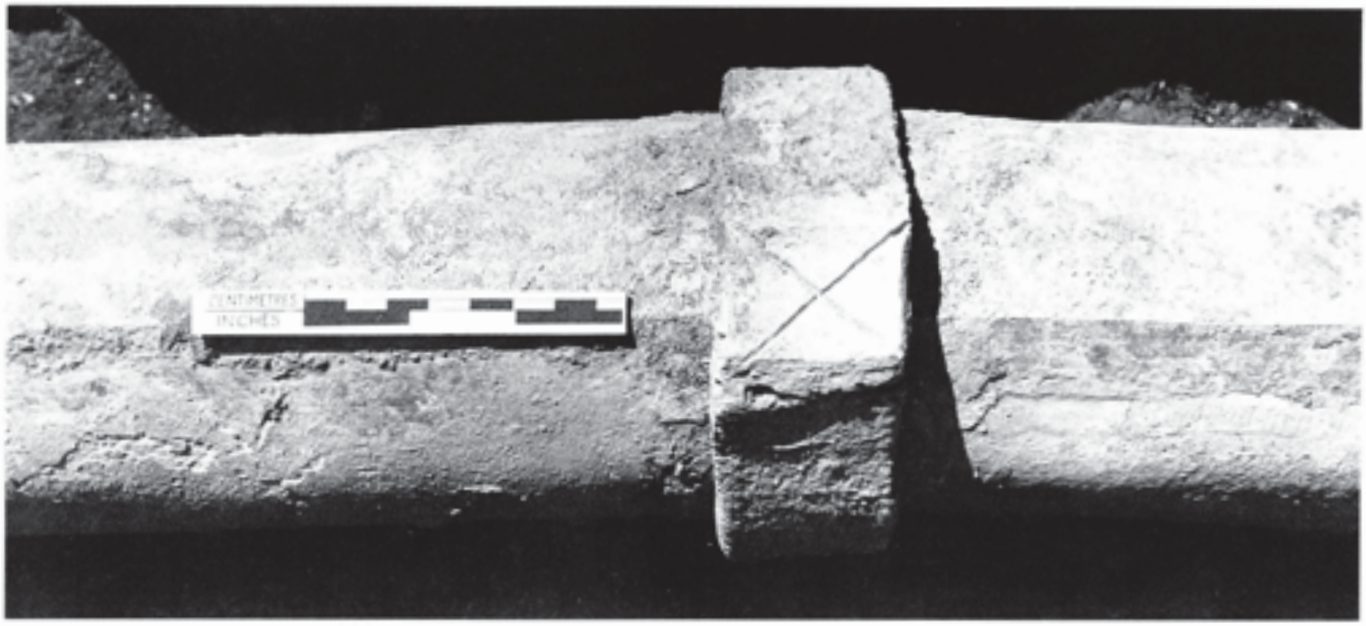


Fig. 422 Detail of the lead collar joining pipe lengths 2 and 3. The cross is the plumber's stamp, and the scale rests on the seamed top edge of the pipe. Scale of centimetres and inches

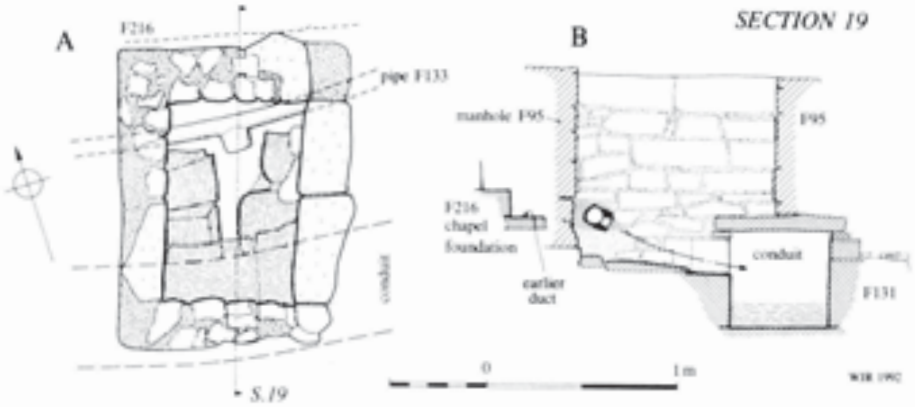


Fig. 423 Manhole, F95. A Plan showing the washout point on the water-pipe (F133) and the channel leading from it into the conduit; B Section showing the relationship between the pipe-duct of 1477, lodged on the chapel foundation (F216), and its subsequent repositioning within the manhole. Scale 1:40

any shall be hurted', and during the 4¼ year term allowed for the demolition he shall 'keep the severall pittes of the said condite fair, clene and open, and so to leve them at the ende of the saide terme in such like case as they now bin' (HMC 1914, 705). The 'pittes' were manholes (inspection chambers).

Fortuitously, the moving of the water-pipe can be dated to 1500–01, because in that year the cathedral fabric accounts contain a payment of 2s 0d for 'crampetts of pipes to the cistern of the aqueduct' (HMC 1914, 164). In a plumbing context, crampets were the cast lead collars used to join the lengths of pipe.

The inspection chamber (F95) was constructed of mixed ashlar, all reused, and measured 1.05 m by 70 cm internally, and survived to a height of 70 cm. It was built using grey, lime-ash mortar, and cannot therefore have been medieval: most likely it was reconstructed in the seventeenth century. This is an early use of lime-ash mortar at Wells. A later heightening of the chamber by two courses, in conventional pink lime mortar, may be eighteenth century. Part of a second manhole (Fig. 199A, F138), of identical construction, occurred on the eastern edge of the excavation, suggesting the existence of another washout point. There may have been further chambers, as implied by the reference to 'severall pittes'.

Hence, it was discovered that there was a need for flushing facilities to be provided at regular intervals along the course of the water-pipe. These were necessary since the pipe did not have a continuous and steady fall which would ensure a rapid flow and self-scouring ability. In fact, the system was not designed to have a free-flow at all, since this would not have permitted multiple tapping-points. The system could only have functioned if the water in the pipe was static and pressurized. This implies that the pipe was stop-ended and that the tapping-points were fitted with cocks. The pressure would have been low, owing to the very modest

Fig. 424 Manhole F95, from the west, with Stillington's transept turret on the left. In the foreground, from left to right, are: the remains of pipe-duct 2 (F216); duct 2A with cover-stones in place (F132); a capstone of the conduit (F131). Scale of 75 cm

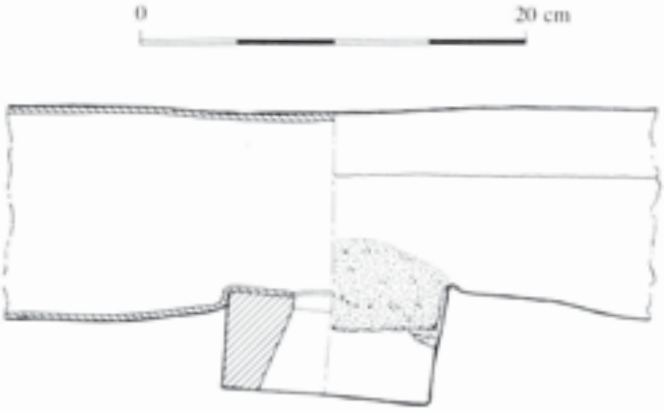


Fig. 425 Sectional plan of the washout point on pipe length 5, showing the method of construction. The stippled area represents layers of solder applied over the junction between the pipe and the boss. Scale 1:4

Fig. 426 Close-up view of the washout point on pipe length 5, as seen inside manhole F95. Scale of 25 cm

Fig. 427 Lead water-pipe and the channel leading from the washout point to the conduit, after dismantling the sides of the manhole (F95). View east. Scale of 25 cm

head of water at the well-house, and the long pipe-run, and it would have been practicable to draw from only one, or perhaps two, tapping-points at a time. Since the houses were fed in series from a single supply pipe, opening one cock would have released the pressure and captured most if not all of the flow.

Such a system would predictably be prone to silting, and regular flushing would have been carried out by withdrawing one bung at a time from the washout points, starting with that closest to the well-house, and finishing with the twelfth house in the New Works. When finally abandoned, there was only 1.5 cm of silt in the pipe (Fig. 421B).

From time to time, leaks in the system occurred and holes were dug in the Camery to locate and repair the pipe. Several such holes were recorded (p. 368; Fig. 380). An example of a soldered repair, carried out on the seam of F133/2, is shown in Figure 428. In four places along the length exposed during excavation, the cover-stones were found to be missing from the duct, as a consequence of repairs or intrusions. Where the pipe was crossed by the surface-water drain of 1893, adjacent to collar 7/8, not only was the cover missing, but the pipe was pierced with a pick-hole. Buckle did not explore the water-pipe in 1894, and curiously no mention of it is made in his report.

The earliest recorded repair took place in 1512, when the communar assumed responsibility for mending 'the pipe by which the course of the water descends in every house of the New Work' (HMC 1914, 229). Later, the tenants of the New Works were collectively responsible for the maintenance of their water supply and drainage systems. Hence, a chapter act of 1624–25 ordered that the tenants of each house 'shal beare a twelve parte of the charge of the greate goutes in the Camery and under the cloyster until it come to the first tenement at the east end' (HMC 1914, 383). 'Gout' was a term employed for any enclosed watercourse: in this context, used in the plural, it must have embraced the cathedral conduit and other drains. A lease of the

Fig. 428 Example of a soldered repair to the seamed top edge of the lead water-pipe (pipe length 2). Scale of centimetres and inches

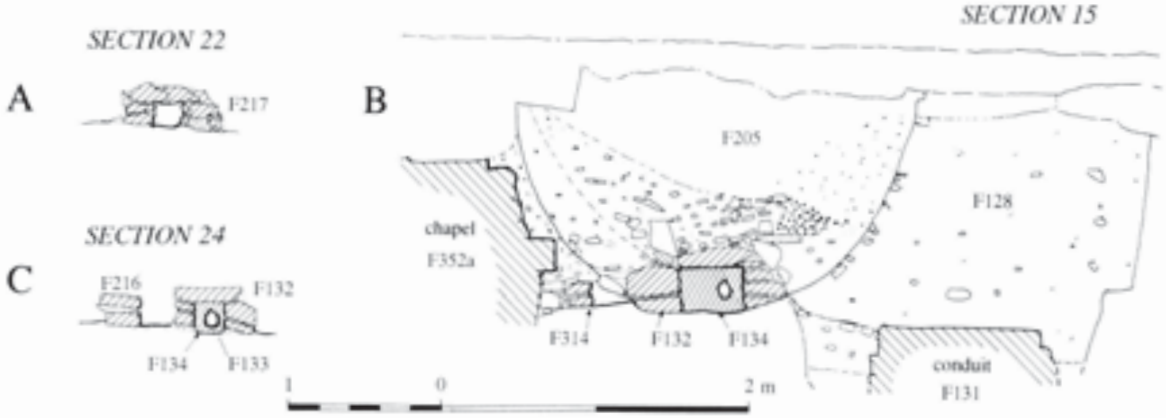


Fig. 429 Sections through pipe-ducts. A Original duct of c. *1451–53 (F217). B Fragmentary duct of 1477 (F314), abutted by the foundation of Stillington's chapel (F352a); to the right is the realigned post-1477 duct (F132), with its clay filling (F134), and its construction trench (F205). The top of Stillington's conduit (F131), and its infilled construction trench (F128) are also shown. The secondary pipe-duct (F132) in this section is obliquely represented and therefore its width is slightly exaggerated. C A true cross-section of duct F132, slightly farther west. For the locations of the sections, see Fig. 199. Scale 1:50*

same year also refers to one-twelfth-part liability for the 'great gowts and pipes of lead in the place called the Church Camery, through which the water passes to the New Works' (*ibid.*).

Later post-medieval leases of the Camery regularly referred to the conduit and pipes traversing this ground, for the need to keep them in good repair, and for the tenant's obligation to provide reasonable access. Thus, for example, a lease of 1705–06 reserved the 'right of entry for repairs to the cathedral, and for the tenants of the twelve houses in New-Works... to view and repair the pipes and watercourses within the said Camery leading to the said twelve houses' (HMC 1914, 486–7).[28] A lease of 1774 still required the tenant of the Camery to contribute to the cost of repairing the lead pipes and gouts (HMC 1914, 544). It has not been established when the pipes finally went out of use.

Not only did the water-pipe supply the twelve houses, but it also fed an outlet in the cloister, about which little is known. In the fabric accounts for 1500–01, expenditure is recorded for a 'brass pipe for the aqueduct in the Palm churchyard' (HMC 1914, 164). This may have been for a cock, or the tubular overflow-bung for a lead cistern.

Other artificial watercourses

For the sake of completeness, it worth mentioning briefly the other known watercourses in the city, albeit that they are ill-recorded. Wells was provided with an extensive and sophisticated system of stone-built drains and free-flowing watercourses. They are interlinked and most, if not all, are of medieval origin (Fig. 389).

Drainage in the Liberty of St Andrew

The springs which rise at Walcombe, on the north side of Wells (Fig. 22), give rise to a stream which flows through The Combe, to the junction, where New Street and College Road meet the old and new Bristol Roads. Here the stream divides: one branch follows New Street, turning west into Chamberlain Street, then into Portway and Tucker Street, and eventually flows into St Andrew's stream near the south-west extremity of the city. The stream, which is known locally as the Ludbourne, does not appear as an open watercourse on Simes's map, and was therefore already culverted. The stone-built culvert has never been studied but is probably medieval, at least where it runs beneath New Street and Chamberlain Street. The Ludbourne picks up another watercourse *en route*, flowing in from the north-west, from Milton. That stream has been canalized.

The second branch of the stream from Walcombe, runs in a culvert down the length of College Road and East Liberty. At the southern end of the latter, the culvert crosses St Andrew Street and enters the grounds of the Bishop's Palace. Carter shows this last section as an open watercourse, flowing into the east pot of the springs (Fig. 384), but it is now entirely culverted and its exact course is uncertain. At the junction between College Road and East Liberty, a branch culvert ran west, along the length of North Liberty.[29] This branch too is medieval, and it discharged into the Ludbourne culvert in New Street. It was sometimes referred to as the Little Ludbourne.

There is a pair of south-flowing branches from the North Liberty culvert, flanking the two sides of the Vicars' Close. These culverts ran directly beneath the latrines which were integral to the medieval vicars' houses, and are datable to the mid-fourteenth century. The culvert on the east side of Vicars' Close still functions as a drain, while that on the west side is now blocked. It was found and studied in 1991, under house no. 22. At their southern ends, the Vicars' Close drains are believed to have discharged into an east-west culvert running beneath St Andrew Street.[30] This may be the same as a fragment of culvert which has been seen near the north-west tower of the cathedral, and that in turn may flow into another culvert that is known to pass by the west front, and through Penniless Porch. How this might relate to the cathedral conduit, which crosses its putative line at the end of the New Works, is unknown. Two 'subterranean passages' were being constructed here in 1459 (SRS 1934, 322).

Almost certainly, several other branch culverts ran southwards from the North Liberty, flushing the medieval latrines of the several canonical houses and, in particular, the deanery.

Street gutters

One of the distinguishing features of the streetscape of Wells is the series of open gutters through which fresh water continually flows along the principal streets of the town. Cambridge is the only other English city with a similarly comprehensive system. The gutters are cut from blocks of blue lias, the tooling on which indicates an eighteenth- or early nineteenth-century date for the present arrangement. Although street gutters are not mentioned in Bekynton's grant, it has been assumed that he was responsible for introducing them (Stanton 1987–88, 36), which is not improbable since Leland commented on them in *c.* 1541: 'the streates have streamlets of springes almost yn every one renning' (Toulmin Smith 1964, 145). The overflow from Bekynton's conduit-head evidently provided the water for the streets, rather than discharging into the nearby culvert leading from the New Works. The water from the conduit eventually entered the millstream, in accordance with the episcopal directive (p. 397), probably at In Mill.

By the nineteenth century there were two independent street flushing systems in operation in Wells, the major one having its origin at the fountain in the Market Place; the other was in the suburb of Southover. The latter system has been virtually obliterated in recent years. The arrangement of the channels is well recorded on the 1:500 Ordnance Survey plans of 1886.[31]

High Street (north side) to Tucker Street

Today, there are two separate supplies for the High Street gutters. The pipe from Bekynton's well-house feeds the conduit-head of 1803, the overflow from which is channelled into the gutter on the north side of High Street. There is now only a trickle of water emanating from the conduit-head, instead of a gush: this is the result of tapping the pipe to provide another supply, an action opposed unsuccessfully by Balch (1925, 22–23; Stanton 1987–88, 36).

The northern gutter runs for the full length of both High Street and St Cuthbert's Street; at the west end of the latter it drops into the Ludbourne culvert. Formerly, the gutter turned north, crossed Tucker Street, and then followed its north side, debouching at the west end of the street into the Ludbourne culvert (Scrase 1992, pl. 119). The High Street gutter has two lateral branches which feed the gutters on the west sides of Broad Street and Queen Street, respectively. The southern ends of these unite under the junction with Priory Road and St John's Street, and apparently flow into the eastern gutter on Broad Street.

High Street (south side) and Broad Street

The gutter running along the south side of High Street is fed from the Bishop's Palace moat. The sluice at the north-west corner directs a flow into a culvert which runs under the Post Office, and diagonally crosses the south side of the extended Market Place. This arrangement was created by public subscription in 1803; and two dipping-wells were provided in the Market Place

(Balch 1925, 23). The wells have since been capped, and the partly-open channel, which was deemed an inconvenience, was covered in the last century.

The gutter surfaces at the corner of Market Place and runs west along High Street. It turns into Broad Street, following the latter's east side, and thence into St John's Street. After a short distance the gutter debouches, through a grating on St John's Bridge, into St Andrew's stream below.

Although Broad Street was called Water Lane in 1735, this had no connection with street gutters. Water Lane, which led from St John's Bridge to Jacob's Pump, was already known as Wet Lane by *c.* 1290 (Scrase 1989a, 99). The pump, depicted by Simes, occupied a position in the middle of the road, at the junction with High Street. It evidently stood over a well which provided a source of water independent from that in the High Street gutters. Jacob's Well is first recorded in fourteenth-century charters (Meek 1980, 68). In the latter part of the nineteenth century, Jacob's Pump was removed to a new location on the south side of High Street, immediately east of the junction with Guard House Lane. It then merely pumped water out of the High Street gutter.[32] In the Middle Ages, Jacob's Well provided the main water supply for the western part of the city.

Southover

A second series of street gutters formerly operated in this suburb. One gutter originated at Lawpool (p. 382), from whence it flowed along the south-east side of South Street, and likewise in Southover. Another gutter started at the junction between St John's Street and Southover, and followed the north-west side of the latter: it was presumably fed by a culvert from St Andrew's stream. The two gutters discharged into the Chilcote stream, which flows along the bishop's park boundary.

Discussion of the cathedral waterworks

The provision of a fresh-water supply within a cathedral or major monastic church was deemed important in the early Middle Ages. Sometimes the supply was located within the church itself, sometimes in the cloister. Thus wells may be found in the crypt, as at Winchester and Glasgow; in a side chapel, as at Lichfield; against or under an outside wall of the church, as at Exeter and Glastonbury; or in the cloister, as at Gloucester and St Augustine's Abbey, Canterbury.

However, the demand for clean water at numerous locations with ecclesiastical precincts, available on-tap rather than by dipping, led to the construction of aqueducts and distribution systems, from the early twelfth century onward. At the same time, drains were required to take away the overflow, and effluent. Hence at Wells, as elsewhere, there are two main aspects to the waterworks: the stone culverts and drains, and the piped system.

Culverts and drains

The stone vaulted conduit, constructed at the end of the twelfth century to carry water from St Andrew's Well, provided a direct supply to the cathedral cloister, where a dipping-well was created. Analogues for this have already been discussed in chapter 9. Almost certainly there would have been a second dipping-chamber, for public use, somewhere along the north side of the market place. Until the advent of the piped supply in the mid-fifteenth century, maintaining the cleanliness of the conduit was important, and only later did it become a drain for effluent.

Since there was a continuous supply of running water emanating not only from the springs to the east of the cathedral, but also from streams which flowed out of the hill on the north side of the city, a comprehensive flushing system could be provided for drains and latrines throughout the precinct. This was achieved by culverting the stream which descended into the north-east corner of Wells from Walcombe, and harnessing its flow to flush a grid of drains laid throughout the North Liberty, Vicars' Close and St Andrew Street. The system must have been constructed in the middle years of the fourteenth century, and the forty-two houses of the Vicars' Close all had integral latrines discharging into the culverts (Rodwell 1982d). In order to distribute the waters, and operate an effective scouring system, there must have been sluices and holding-tanks, so that a head could be built up and released at regular intervals to flush out the individual channels.

During the course of the fifteenth century, additional canonical houses were erected in the Liberty, and these were doubtless also linked into the system. In 1451, the lower reaches of the cathedral conduit were adapted to form a similar drain for the effluent from the houses of the New Works. While the reredorter drain is a well known, and often explored, component of English monastic houses, the wider study of drainage systems in cathedral cities has scarcely been tackled. Winchester provides a notable exception, where Dr John Crook has plotted and analyzed the monastic and public culverts (Crook 1984; 1985). In the tenth century, Bishop Ethelwold provided the three minsters with a water supply and drainage system, and during the Middle Ages this was developed to serve all parts of the cathedral-monastery. At Winchester, it was the Lockburn that was culverted and sluice-controlled, to become the cleansing stream, while at Wells it was the Ludbourne.

Piped water

Fragments of lead water-piping are recorded from many monastic sites, and the conduit-heads and cocks that they fed are known in some instances, but

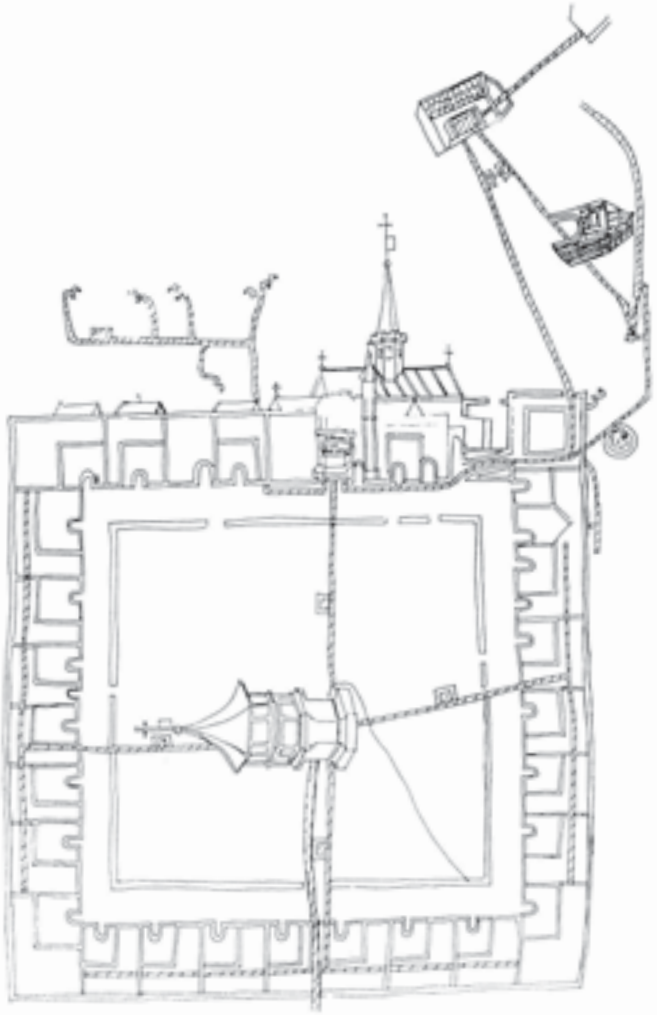


Fig. 430 Redrawn plan of the cloister of London Charterhouse, showing the network of lead pipes which distributed water to the individual cells from the central conduit-head. The original plan dates from 1511. After Greene 1982

comprehensive knowledge of the associated water distribution systems is however scarce. The famous twelfth-century plan of the waterworks at Christ Church, Canterbury, is a unique survival from the period, but it indicates that sophisticated plumbing was a normal commodity in an English Benedictine house (Willis 1868; Hayes 1977).

The city of Bristol developed a complicated series of conduits and pipes in the Middle Ages, supplying its several monastic houses. St Augustine's Abbey (now Bristol Cathedral) was fed by a conduit from Brandon Hill, and the Carmelite friars installed their own system in 1267. This was extended in 1376 to supply an outlet at the parish church of St John-on-the-Wall (Lea-Jones 1984). Similarly at Exeter, in 1346, water was conveyed into the city by an aqueduct, filling a cistern in a conduit-house in the cathedral close. There were three tappings from it: for the cathedral and close, for the city, and for St Nicholas's Priory, respectively (Tucker 1858).

Some non-monastic establishments also received piped water at a surprisingly early date. Thus, in the mid-twelfth century, the cathedral close at Lichfield was supplied from Pipe Park, Maple Hayes, 2.3 km west of the city (Gould 1976). A well-house at Pipe contained a lead cistern which fed the aqueduct that ran to the close, and there filled the reservoir in a conduit-head. Almost certainly, the principal residences within the close were also provided with individual supplies *ab initio*, and the first recorded additional tapping outside the close was in 1280. Settling tanks and washout points are recorded at intervals along the line. Unfortunately, no plan of the Lichfield system exists before the nineteenth century, and the details of its physical operation have not been studied.

The waterworks installed at Wells in *c.* 1451–53 was similar to that at Lichfield in all practical respects, except the long distance traversed by the aqueduct. Bekynton's system can, to a large extent, be recreated. The springs were dammed, to fill a lead cistern in the bishop's well-house, from which ran three pipes feeding, respectively, the palace kitchen and other service quarters, the public conduit-head in the market place, and the prestigious New Works. The twelve houses there each had its own supply, and from the same pipe a tapping was also provided in the cathedral cloister.

A near-contemporary analogue for the system is found at the London Charterhouse, for which a waterworks was established in 1430, and its complete layout is preserved in a parchment drawing, dating from 1511 (Hope 1903; Greene 1992). All the features of the Wells system are present, albeit differently arranged. Even the manholes giving access to the washout points are carefully indicated (Fig. 430).

Whether Bekynton's was the first piped supply in Wells is unknown, but it would not be surprising to discover that the Bishop's Palace benefitted from an earlier system. Moreover, in view of the discovery of a medieval pipe-duct at the upper end of the Vicars' Close, it might also be questioned whether this area of the precinct had its own supply from a conduit situated somewhere to the north. The canons' and vicars' houses could never have been fed by a piped supply from the cathedral springs, since they are at too low a level.

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Front cover
Aerial view of Wells Cathedral and its precinct from the south-east, 1982.
(West Air Photography)

WELLS CATHEDRAL

Excavations and structural studies, 1978–93

Volume 2

Warwick Rodwell

ENGLISH HERITAGE

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Volume 2
Part 2. Specialist Studies:
Artefacts and Burials

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Warwick Rodwell

D.Phil., D.Litt., D.Lit., F.S.A., F.R.Hist.S.

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and a Foreword by

The Very Reverend Patrick Mitchell

ENGLISH HERITAGE

2001

ARCHAEOLOGICAL REPORT 21

Contents

Volume 2

Plates

Volume 1

Frontispiece Aerial view of Wells Cathedral and the Bishop's Palace (in the foreground), from the south, The site of the 1979 excavations shows as a brown area in the angle between the south transept and the cloister. The Vicars' Close is seen to the north of the cathedral. (*West Air Photography*)

Volume 2
(between pp. 572–3)

I John Carter's plan of the central and eastern parts of Wells Cathedral precinct, drawn in the early 1790s. His careful use of colour differentiates between grass, gravel and water. Courtesy of the Society of Antiquaries of London (*Warwick Rodwell*)

II Edmund Buckle's analysis of the structural stratigraphy of the east cloister wall, and the adjoining part of the south transept. After Buckle 1894

III Two views of the Dipping Place in the cloister, by Edward Carlos, 1825. Courtesy of the Dean and Chapter of Wells (*Richard Neale*)

IV Detail of the gold-braided ribbon which was apparently tied round a bundle of bones placed on the thorax of skeleton 40 (*Warwick Rodwell*)

V Side view of skeleton 71, showing the junction between bone which is in a 'normal' state of preservation, and the crumbling and efflorescing condition of the face and neck (*Warwick Rodwell*)

VI The crossing and eastern arm of Stillington's chapel during excavation in 1980. Note also walls of the earlier Lady Chapel and the Anglo-Saxon mortuary chapel (centre foreground) following the earlier building alignment (*Warwick Rodwell*)

VII Bishop Bubwith's chantry chapel in the nave of Wells Cathedral. Similar screenwork existed in Stillington's chapel (*Jerry Sampson*)

VIII William Smyth's fan vaulting over the nave of Sherborne Abbey. The nave of Stillington's chapel would have had a similar appearance (*Jerry Sampson*)

IX The 1477 diversion of the lead water pipe in the Camery. The pipe was laid in a stone duct, and packed all round with a jacket of green clay (*Warwick Rodwell*)

X The northern 'pot' and outflow channel of the springs at Wells, seen here in 1979 after draining the Bishop's Palace lake: compare with Figure 409 (*Warwick Rodwell*)

XI Examples of painted wallplaster from the Lady Chapel-by-the-Cloister: (a) Fabric C, F1435; (b) Fabric E, F449; (c) Fabric F_1, with underscoring, F472; (d) Fabric D, F1430; (e) F1347; (f) F1298; (g) note underscoring, F1322; (h) F449; (j) F620. All thirteenth–fourteenth century, except (a) which is probably twelfth century (*Jerry Sampson*)

XII Late thirteenth-century inlaid floor tile (design 54), showing the west front of a great church with birds perched upon the towers (*Warwick Rodwell*)

XIII Fragments of Anglo-Saxon jet and glass. Top row: jet rim (F296); pale blue vessel glass (F993); green vessel glass (F813, F1254, F779). Lower row: blue window glass (F1401); green vessel glass (F1445) (*Warwick Rodwell*)

XIV Fragment of Anglo-Saxon cross-shaft(?) with interlace, carved in Bath stone (no. 2). Found in 1894 (*Warwick Rodwell*)

XV The Anglo-Saxon font, with its Jacobean cover, in the south transept of Wells Cathedral (*Warwick Rodwell*)

Figures

Note: Photographs are by the author, unless otherwise credited in the full captions.

Tables

Foreword

The range of scholarship in these two volumes is prodigious. Set in the context of local geology and the early history of the Church in Wessex, we find detailed studies of the Saxon bishops of Wells, the various building materials of the region, the Saxon font, the burials from late Roman times onwards, the Vicars' Close, the medieval tiles and the vanished Stillington Chapel — not to mention a host of related subjects. The sequence of structures beside the Well (or spring) of St Andrew is skilfully disentangled.

The comparative neglect of serious archaeology in Wells before 1978, compared with Glastonbury Abbey and other early sites, makes the present work especially welcome. Certain insights, such as St John Hope's prediction of a Saxon cathedral to be discovered alongside the present Gothic building, were tantalizing hints of the riches to be found; but equally, there had been erroneous guesses, such as James Irvine's plan of a supposed octagonal building adjoining the east cloister, which confused the issue for a century.

The supreme importance of the Early English cathedral emerges, when it is realized how the fully developed Gothic architecture appeared in Wells at such an early date. The plan of the cathedral and cloisters influenced what was built soon after at Salisbury and elsewhere.

Dr Warwick Rodwell, who has been Consultant Archaeologist for the Cathedral since 1977, has been the driving force behind a series of excavations and countless areas of research. Some members of the team, whom he drew in for advice, have contributed to the present work: therefore, these volumes incorporate the best research by leading specialists. We now have a reliable and accurate account for all future reference.

Plans, diagrams and illustrations are admirably clear. Notes and references are accurate. Appendices and indexing are exemplary.

It was my privilege to have oversight of Wells Cathedral while the excavations in the Camery and many other investigations were made. I therefore saw Dr Rodwell's work at first hand and can vouch for the patience, skill and vision with which he directed operations. Now, with equal skill, he has written up a quarter of a century of discovery, with contributions by the experts named on the title page. To their work, I also wish to pay tribute.

I shall never forget the thrill of descending into the partially excavated remains of the apsidal crypt of the Saxon cathedral; and what an excitement it was to see the actual skeletons of the Saxon bishops of a thousand years ago! Their bones were reverently replaced, with Christian devotion, in their respective tombs.

As I warmly commend this publication, I hope that its readers will capture some of the thrills recorded in its pages.

Patrick Mitchell.

The Very Reverend Patrick Mitchell, KCVO, FSA,
Dean of Wells 1973–89

Introductory Note

In common with most archaeological investigations in urban contexts, the excavations of 1978–80 at Wells yielded a large volume of finds and samples. Artefacts of all descriptions and ages were collected and retained, although dressed stone was sorted on site, and material of no intrinsic or stratigraphic value was discarded. Disarticulated human bone was also processed on site, being listed by context and examined for material of pathological interest before reburial. All other classes of material were subjected to post-excavation study, to varying levels of intensity.

Initial finds processing quickly revealed the relative value, in terms of worthwhile information yielded, of the various classes of artefacts. It was found that some 90% of all the intrinsically datable finds came from contexts with which they were demonstrably not contemporary; this occasions no surprise, since it is the norm on multi-period sites with moderately deep stratigraphy. The academic value of — and hence justification for — the work in the Camery at Wells lies partly in the revelation of the plans and structural histories of a series of chapels and other buildings, and partly in the establishment of an integral chronology for the early development of a large sector of the cathedral complex, based on a combination of historical, architectural and sepulchral evidence. The contribution made by loose artefacts recovered from the soil to the dating and understanding of the structural sequence was found to be remarkably small.

It was therefore determined as a matter of post-excavation policy that each class of artefact would be accorded a level of study and publication appropriate to the contribution made by it to the overall understanding of the site and structures. There is always a temptation to expend scarce resources on the prolonged study of prolific classes of finds, especially pottery, for its own sake. A brief *résumé* of the artefact classes and their treatment will serve as a general introduction to the chapters that follow.

Prehistoric artefacts — essentially flint and chert — are reported upon in detail, since they provide the earliest evidence for human settlement around the springs, and no material of this nature has previously been published from Wells. Equally, stratified material relating to the Roman period would be of serious value, but the artefacts recovered are not of sufficient interest to merit more than a brief commentary.

The whole of the Anglo-Saxon period is scarcely represented by portable artefacts: two stratigraphically as well as intrinsically important coins, several slithers of early glass and, at most, a handful of almost featureless potsherds. This is indeed a disappointing yield from a site with such a long Anglo-Saxon history. However, amongst the very few pieces of decorative masonry of the period is a fragment of a magnificent tomb-cover.

The early medieval era is better represented by decorative structural stonework, and the few Romanesque pieces provide the first glimpse of the fabric of the lost Anglo-Norman cathedral. Two other cohesive groups of mouldings and sculptures, dating from the mid-thirteenth and late fifteenth centuries, respectively, deserve extended treatment. The same applies to the huge collection of late thirteenth- and early fourteenth-century glazed floor tiles. The detailed study of these has contributed not only to the decorative history of the cathedral and its ancillary buildings, but has also provided fresh insights into the Wessex School of tilers. Other classes of decorative material, such as window glass and painted plaster, have been less forthcoming, the primary material being so thoroughly fragmented and decayed. It is nevertheless clear that the excavated chapels were supplied with high quality glazing in the thirteenth and late fifteenth centuries.

The publication of unassociated fragments of mouldings and other dressed masonry has not been deemed worthwhile, where these are both unrelatable to specific structures, and are replicated in the extant fabric. Recognizable fragments of tombs and other sculptures are, however, fully reported.

Débris of a generally domestic nature was moderately abundant: medieval and post-medieval pottery, and animal bones, were ubiquitous but sadly uninformative. During post-excavation study, complete listing of both categories of material failed to reveal much that was intrinsically interesting and worthy of publication on its own merits. Although virtually every stratigraphic context yielded pottery or bone, or both, the vast majority of this material was in small pieces and demonstrably, or potentially, residual in the level in which it was found. Some of the amorphous robbing holes and garden soils yielded post-medieval ceramics that may reasonably be regarded as contemporary. It is salutary to reflect that pottery has contributed very little to the overall site chronology, or to the understanding of individual structures.

Iron objects were prolific, but were almost entirely confined to nails, and they were wholly unremarkable. No other ferrous artefact of sufficient interest to merit publication has come to light. Finds in non-ferrous metals were relatively few in number, but more varied in type. Lead clippings and unidentifiable scraps of copper-alloy comprised the bulk. Most of the items of recognizable form are published here but, with one or two exceptions, they are all run-of-the-mill artefacts. Again, it must be commented that, for a moderately important, long-lived ecclesiastical establishment, both the yield and the quality of small artefacts were remarkably low. Wells highlights the dramatic and undoubtedly meaningful contrast between the rich and varied detritus found on the average medieval monastic

complex, and the spartan nature of artefact losses at a non-monastic religious centre.

The articulated human remains, and the trappings of Christian burial (both extant and implied), form another major component of this report. Not only is it possible to group and approximately date many of the burials, but some are also relatable to defined social contexts, and most can be intermeshed with the physical development of the cloister area generally.

Full lists of all categories of finds are held in the site archive. Feature or context numbers (prefixed 'F') are given where relevant. Some artefacts not deriving from the 1978–80 excavations, but nevertheless of related interest, are also published here.

12 Structural Materials and Decoration

Architectural fragments

with contributions by Jerry Sampson and Jeffrey West

The nineteenth-century and recent excavations together yielded a moderately large quantity of moulded fragments, as well as a small but important collection of sculptured pieces. They were mostly found in general layers resulting from demolition and robbing, rather than discrete features.

No mouldings or architectural sculptures have been identified as certainly deriving from the Anglo-Saxon cathedral, although one or two fragments are likely to belong to the Saxo-Norman era, probably to the period of Giso's episcopate (1061–88).

The significant material is broadly divisible into three groups.

1. **Romanesque**. An assemblage of mouldings, capitals and other fragments of the eleventh and first half of the twelfth centuries. The quantity is small but the quality is high, and all pieces of intrinsic interest are illustrated here.
2. **Early Gothic**. Mouldings and a series of sculptured spandrels of mid-thirteenth century date, associated with the Lady Chapel-by-the-Cloister. The number of moulded fragments was relatively small, and some of these have been illustrated in relation to their structural context (chapter 6). The spandrels are outstanding, and are accordingly given extended treatment. Scarcely any masonry of fourteenth-century date was recovered from the excavations, and none was of intrinsic interest.
3. **Late Gothic**. Numerous mouldings and a series of heavily carved roof bosses dating from the last quarter of the fifteenth century were derived from Bishop Stillington's rebuilding of the Lady Chapel. The architecture of the chapel generally is discussed in chapter 7, and the bosses are fully described below.

Romanesque

The excavated fragments were examined by Dr Jeffrey West, whose descriptions and dating have been used in the catalogue (initialled 'JKW'). Petrological and other notes by Jerry Sampson are initialled 'JCS'. Use of 'sinister' (left) and 'dexter' (right) refer to internal composition, not as externally viewed.

Excavated fragments (Figs. 431–7)

1. Corner of a square or rectangular capital; the vertical edge between the carved faces curves inward from the flat-band moulding at the top of the capital, towards the lower end. Each of the two carved faces is decorated with deeply undercut foliate ornament whose constituent leaves are deeply incised and striated. The stone is probably from the Chilcote quarries. From robber trench F1388.

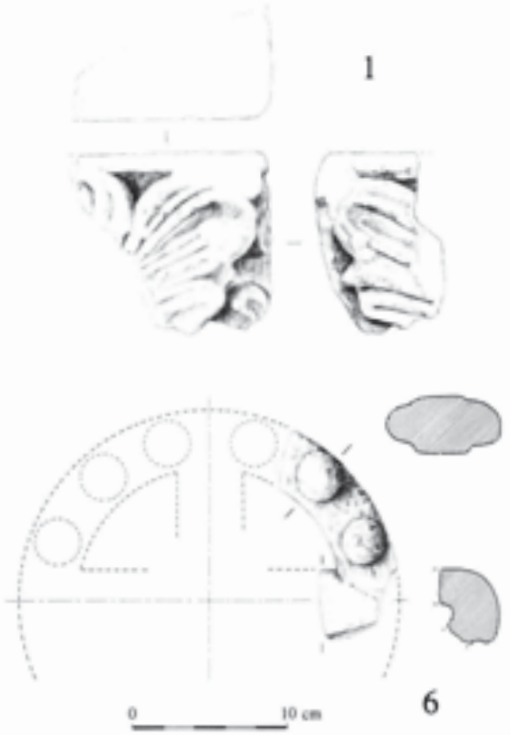


Fig. 431 Romanesque architectural fragments, nos. 1 and 6. Scale 1:5. Drawn by Richard Bryant

The overall layout of the ornament cannot be reconstructed, but it is likely to have been a symmetrical design, arranged around the median axis of each face. The surface decoration of the foliage is not comparable with that found in twelfth-century work, but bears a general similarity to the late eleventh-century trapezoid capitals on the chancel arch at Bibury, Gloucestershire (Zarnecki 1955), and the exterior of the south chancel wall at Milborne Port, Somerset (Allen 1934, 26–7, pl. 6). The type of ornament, carving technique, and the source of stone used suggest an attribution to the work of Bishop Giso (1061–88), who is known to have undertaken extensive building at the cathedral (p. 110).

2. Fragment of a composite engaged shaft, base and plinth. The mouldings of the base are of sub-attic form; the shaft is 14 cm in diameter, slightly flattened. Cut from remarkably coarse Chilcote stone, with many pebbles, fossils and pits. Although much of the reverse face has been broken away, on the sinister side are the remains of a right-angled rebate which may originally have formed the shoulder of a keying piece. Alternatively, this feature may have formed the rebate for a door or shutter; a proposal which is supported by the backward extension of the base moulding towards the rebate, on a line parallel with the plinth. There is a hint on the dexter side of a return, presumably for keying. Late eleventh to early twelfth century. (JKW)

   Pale pink lime mortar on the underside of the diagonally tooled plinth is probably the original bedding material. Dark pink mortar adhering to the fractured surfaces relates to the reuse of the fragment in the foundations of

Fig. 432 Romanesque engaged shaft and base (no. 2) in coarse Chilcote stone

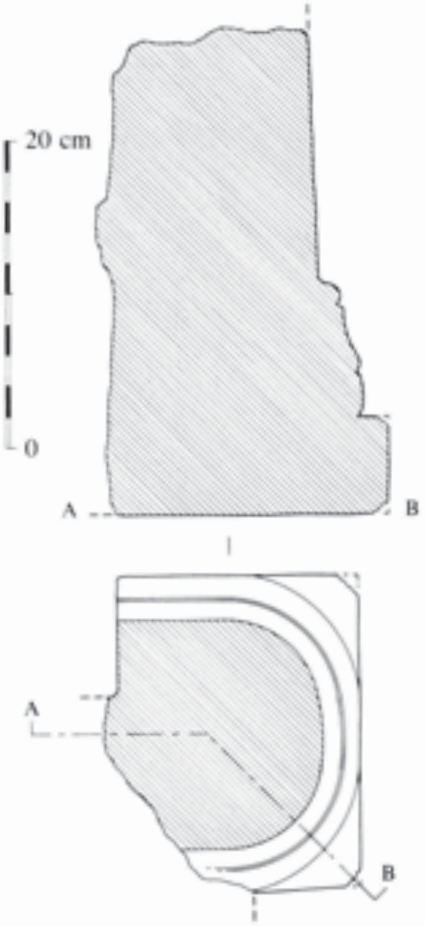


Fig. 433 Romanesque engaged shaft and base (no. 2): plan and section. Scale 1:5

the late twelfth-century reconstruction of the Lady Chapel; it was recovered from the vestibule to the nave (north side, F703A). For position, see Figs. 74 and 80C.

The origin of the fragment is likely to be Bishop Giso's rebuild of St Mary's chapel (Structure 6, p. 87) in the later eleventh century.

3. Fragment of sub-attic base moulding similar to no. 2. The upper surface retains a lightly incised line, indicating the placement of a detached shaft *c.* 20 cm in diameter. Late eleventh to twelfth century. (JKW)

   The stone is grey in colour, fine grained and crystalline; it is probably Chilcote. Pink lime mortar adheres to the surfaces, indicating that the fragment has been reused in rubblework. Found in demolition rubble (F364) within the Holy Cross chapel (Structure 18); potentially derived from the underlying Norman structures.)

4. Moulded stone of uncertain function. The crude working of the moulding suggests the possibility that either this fragment formed part of an architectural feature that would not be seen or, more likely, that its mouldings were only blocked out and remained unfinished. Late eleventh or twelfth century. (JKW)

   The fragment, which is in Chilcote stone, is perhaps derived from a capital or base of angular plan. The top of the piece bears a scar of what could be an attached shaft *c.* 8 cm in diameter. Recovered from the nave foundation trench (north side, F455) of Stillington's chapel; potentially derived from the underlying Norman structures.

5. Fragment of a moulded, spiral shaft. Although the twist cut onto the shaft is visually effective, the shaft retains the rectangular form of the block from which it was carved. Twelfth century. (JKW)

   The material is fine-grained limestone, too yellow for Chilcote, non-oolitic, but rather fine for Doulting. It is either the latter, or possibly Dundry stone (which was used at Glastonbury Abbey in the late twelfth century). (JCS)

   Recovered from the foundation rubble (F606) of the south transept of the cathedral. The date of deposition must therefore be *c.* 1180–85; the shaft presumably came from the demolition of some part of the Romanesque church (possibly the cloisters or chapter house).

6. The fragment has two principal components: a curved element of rectangular section decorated with widely spaced, hemispherical pellets on each of the narrow faces, and the remains of a second component of semicircular section whose chamfered end extends to the mid-point of the curved element and cuts it at right-angles. The cross-member has a semicircular channel cut in the reverse side.

   The form of the fragment suggests that it was originally part of a wheel cross-head which, because of its size, may have formed part of a small-scale architectural feature, or a roof finial. In this context, the channel cut into the reverse side of the cross-arm may have served as a housing for a metal support. Although examples of wheel cross-heads with pelleted rings occur in both Anglo-Saxon and Romanesque art (*e.g.* Amesbury, Wiltshire, and Kellow, Co. Durham), the use of a

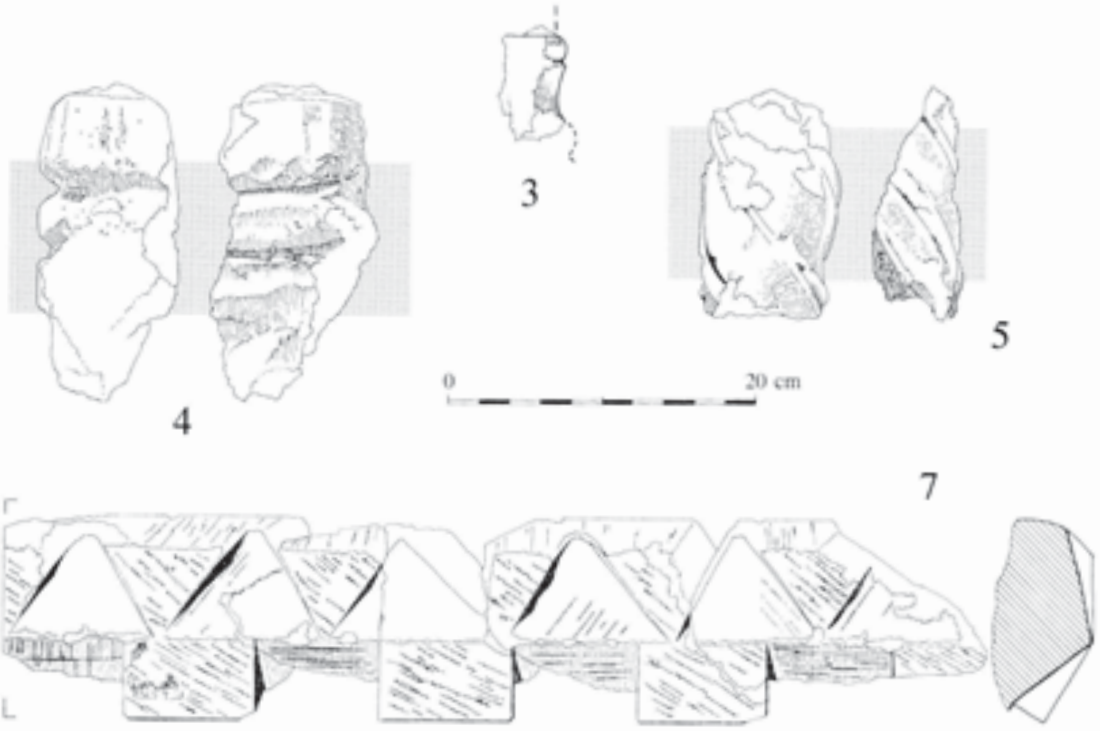


Fig. 434 Romanesque architectural fragments, nos. 3–5 and 7. Scale 1:5. Drawn by John Atherton Bowen

fine-grained, non-oolitic limestone (Doulting or Dundry?) suggests a date in the twelfth century. (JKW)

The fragment was found in layer F100, a sixteenth-century rubble deposit in Structure 16. Many other residual finds were recovered from the same context.

7. Six conjoining fragments of a linear, angular moulding decorated on adjacent surfaces with an alternating sequence of raised and recessed triangles and, crudely syncopated on the adjacent face, an alternating sequence of rectangular blocks and recesses. The form of the moulding and the fact that the decorated surfaces are set at an angle of approximately 135° suggests that the fragment originally formed part of a string-course, dating from the first half of the twelfth century. The material is Chilcote stone, diagonally tooled. (JKW)

   One piece was recovered from F721, the fill of a robber-trench (F680, Fig. 87) associated with the potential Norman cloister (Structure 8); other fragments were found in a later levelling deposit (F547), also in Area 7.

8. Fragment of the lower portion of a scalloped capital with the remains of a recessed semicircular field framed by a simple chamfer, and placed above a broad cone set on the median axis. The adjacent cones are of smaller dimension and it is probable that, in its complete state, each side of the capital had a single recessed field of trilobed form of a type common in the second quarter of the twelfth century. The base of the capital has an incised line indicating the placement of a detached shaft of 14.5 cm diameter. Although the original location of the capital is not known, it may be assigned to the works undertaken by Bishop Robert, and consecrated in 1148 (p. 115). (JKW)

   The stone is a coarse crystalline limestone, non-oolitic and apparently without crinoid ossicles; it is rather yellow for Chilcote, and lacks pebble inclusions. It may be Doulting stone. White lime mortar containing very fine, dark sand, survives on the bed-joint, where the shaft was attached, and is presumably original. (JCS) Recovered from F721, the fill of robber trench F680 (see above, no. 7).

9. Fragment of a scalloped capital with the remains of three recessed semicircular fields (two on side A; one on side B) framed by a single row of hemispherical beading. Despite the differences of form and detail between this capital and no. 8, the two were recovered from the same context (robber trench F680), and no. 9 is of a type also common in the second quarter of the twelfth century. The stone is probably Doulting. (JKW)

10. Fragment from the upper part of a scalloped capital with the remains of a recessed semi-circular field on the vertical face. A row of beading between the two flat mouldings lies against the cone. *Cf.* nos. 7–9 and 11. (JKW)

    Carved from a very shelly, yellow limestone. No visible crinoid ossicles, but otherwise similar to coarse Doulting stone (though more shelly and generally coarser). Fossils include worm tubes and crushed shells: perhaps from the Doulting 'oyster beds'. (JCS)

    This fragment came from F724, another layer within the fill of robber trench F680.

11. Fragment from the centre of a cluster of ?four scalloped capitals (*cf.* nos. 8 and 9) of which only small parts of the cones from three capitals survive. If the suggested function of the fragment is correct, it is probable that the original block of ?four capitals belonged to the same scheme as nos. 8 and 9, and may have formed part of a cloister arcade, comprising a series of single scalloped capitals, supported on shafts of 14.5 cm diameter (see no. 8), with a block of four capitals and shafts either at the corners of the cloister walks and, or, at their mid-point. This suggests the possibility that Bishop Robert built, or rebuilt, the cloister in the second quarter of the twelfth century. Although little is known of the form of English non-monastic cloister arcades, examples of similar blocks

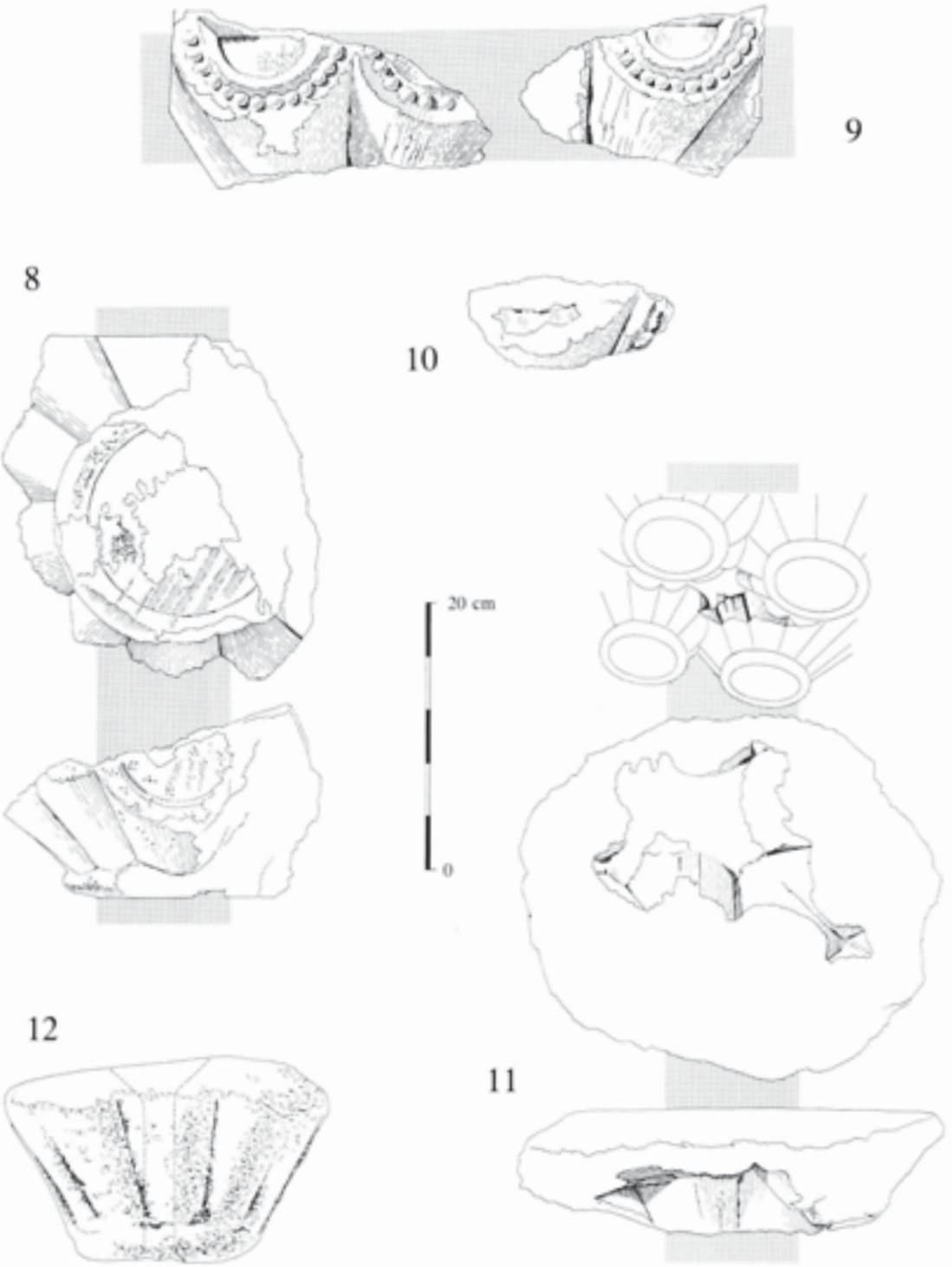


Fig. 435 Romanesque architectural fragments, nos. 8–12. Scale 1:5. Drawn by John Atherton Botwen

of four capitals survive at Wolvesey Palace, Winchester; even though these are decorated with water-leaf capitals and date from the 1160s. (JKW)

The material is ?Doulting stone, and the fragment came from the same context as nos. 7 and 8.

12. Greater part of a scalloped capital of a type similar to nos. 8, 9 and 11. A circular hole, with a countersunk pit at the upper end, has been drilled through the centre of the capital: this feature is secondary. The upper surface of the capital has been worn smooth. Second quarter of the twelfth century. (JKW)

Dimensions: 23.8 × 23 × 14 cm. The diameter of the shaft upon which it rested would have been 12.5 cm. The material appears to be Ham stone.

The capital was recovered from the rockery in the garden behind Wells Museum in 1979; it had long been there and had acquired a considerable lichen growth. It is believed that the capital had been in post-medieval use as a washing dolly, which explains both the drilled hole and the wear to the upper surface; equally, it is possible that the object could have served as a large pestle. Although the form of the capital is consistent with Romanesque work at Wells, the use of Ham stone in the twelfth-century

Fig. 436 Romanesque corbel-head (no. 13). The arrow on the section indicates the viewing angle for the elevation. Scale 1:4. Drawn by Richard Bryant

church is not otherwise attested. While the capital could be a 'stray', it has to be acknowledged that all other architectural masonry in the Museum, and on its rockery, appears to be wholly compatible with the cathedral. The possibility that the stone derived from the lost Romanesque church of St Cuthbert's cannot be discounted: only the scalloped capital of its pillar-piscina is otherwise known (Serel 1875, 6).

13. Carved male head set at an angle against the curved inner surface of an originally squared block, the back and lower parts of which have been broken away. Despite the loss of material from the back of the block, there can be no doubt that the function of this fragment was that of a corbel-head. The head is finely carved and finished with a smooth surface. The facial features are individualized, showing a deeply cleft chin, downward turned mouth, nose (broken), and drooping eyes with well defined eye-lids and drilled pupils, and rudimentarily carved ears. The head wears a plain cap with two short, rounded horns. The face is clean shaven and has no evidence of head-hair.

    There are remains of dark red pigment in the ears and on the lips. The corbel seems to have been extensively painted with a pinkish-brown ground, traces of which remain where the pigment has been absorbed into the surface of the stone. This was especially noticeable on the facial area, at the time of discovery, when the stone was damp. For a previous reference to the head, see Rodwell 1990, 162, pl. 2.

    The corbel appears to be made from a fine-grained Chilcote stone. It was recovered from F681, one of the fills of robber trench F680 (Structure 8); it is thus generally associated with several of the Romanesque pieces described above.

Discussion

The corbel-head is an example of good quality carving of the second quarter, or mid-twelfth century, and may be compared with the *ex situ* head in the church of St George, Orcheston, Wiltshire (RCHME 1987, fig. 20), which shows similar facial features, although much of the fine detail is now obscured by a thick layer of paint. Comparison may also be drawn with a head-corbel from Standlynch (RCHME 1987, fig. 21), and the 'youthful head' from Old Sarum, Wiltshire (RCHME 1980, pl. 29; Zarnecki 1984, cat. no. 135c). It is suggested that the corbel-head derives from the buildings erected by Bishop Robert, and consecrated in 1148. (JKW)

Fig. 437 Romanesque corbel-head (no. 13), viewed as it would have been seen from below

Miscellaneous fragments (Figs. 438–9)

In addition to the excavated material, various other pieces of *ex situ* Romanesque masonry have come to

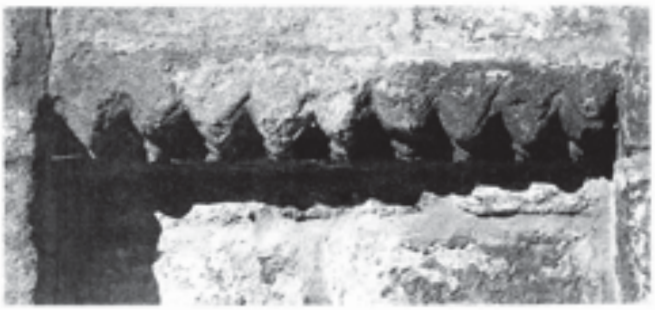


Fig. 438 Romanesque chevron-moulded string-course (no. 14), now used as a false-lintel in the south-west corner of the Vicars' Hall. Length 75 cm (Jerry Sampson)

light in the cathedral and elsewhere. These may briefly be listed.

14. Section of string-course, or part of the jamb of a multi-ordered opening, 75 cm long by 15 cm wide. Decorated with a line of triangular chevrons, eight of which are present on this piece. Each chevron consists of a main central moulding, with narrower, parallel ones above and below. Mid-twelfth century. Chilcote stone.

    Nothing is known of the history of this piece, which now serves as a false lintel over a blocked and recessed opening in the south face of the Vicars' Hall complex, adjacent to the south-west corner. The stone cannot have served as a true lintel in this position, since its ends do not bear on the jambs of the recessed opening (which is 76 cm wide). It seems likely that the stone was found during building works and was placed in its present position, purely as a display object. It is tempting to suggest that this happened when the hall was restored by J.H. Parker in 1863 (Parker 1866a, 29, pl. XXVIII). However, there are traces of yellow limewash on the Romanesque carving, which match that on the jamb stones of the 'opening', and that must be pre-Parker. The stone is also carbon-encrusted. It was illustrated by Dollman.[1]

15. Reworked fragment of a voussoir from the innermost order of a large, arched opening, evidently a doorway. Early-to-mid twelfth century. Doulting stone.

    The stone, now in the cathedral lapidary collection, was latterly a section of string-course at the base of the west triforium (first bay) in the north transept, where it formed part of the work of *c.* 1190. When the stone was accidentally damaged and removed in 1988, its previous history was discovered. Removal also revealed that fragments of slate packing had been used as levelling material. The slate is of west Somerset ('Treborough') type, and this is its earliest recorded occurrence at Wells.

    The Romanesque voussoir had been cut down to form a slab 10.2 cm thick, and on one of the long edges a pointed roll was formed for the new string-course moulding. On one of the formerly concealed ends is a portion of chevron ornament in crisp condition; an original radial setting-out line survives on the face. The chevron originally returned onto the soffit face, but has been almost entirely hacked away. Cream limewash, but no polychrome, survives on the moulding. On the opposite end of the block is a carefully cut re-entrant angle, with diagonal tooling, evidently the closing rebate for a door.

16. Reworked fragment of a roll-moulded voussoir from a large arch. Early-to-mid twelfth century. Doulting stone.

    This is from the same source as the previous stone, to which it was adjacent in the triforium string-course. Again, the block had been cut down to a thickness of 10.2 cm (slightly tapering), and a pointed roll formed on one edge. The original voussoir had an angle-roll (10 cm diameter), part of which survives on one end. The arcature and coarse dressing of the soffit face indicate that this came from an outer order of a compound arch, very likely the same one as no. 15.

The next five stones are incorporated in a small rectangular wall-recess inside one of the ground-floor rooms in the south-east wing of Wells Museum (Fig. 439A). The feature seems to be part of a nineteenth-century (bogus?) blocked doorway, with a decayed oak lintel. The stones are set in Portland cement, and bear traces of semi-recent colouring.[2] Nothing has been discovered concerning the history of this feature, or of the origin of the fragments that it incorporates, but they are doubtless local finds.[3]

17. Voussoir with chevron moulding, the upper half of which is broken away. Mid-twelfth century. Fine grained, grey limestone, probably Chilcote. 20.5 cm high, tapering from 13 to 10.3 cm.

    The stone is from a much smaller arch than the preceding examples, and is not from the innermost order. It retains white lime bedding-mortar on the edges, and traces of limewash (or a white ground for painting) on the moulding. There are also remains of pink mortar on the faces of the stone, associated with secondary use, probably as rubble in a wall-core.

18. Recut block with a chevron moulding, mostly broken away. Dimensions 23.5 × 11.9 cm. Similar to no. 17, including stone type. It is not entirely clear whether this is reshaped voussoir, or a block from a chevron-ornamented jamb: there are hints that the block was formerly tapered.

19. Composite shaft, base and plinth of sub-attic form. Late eleventh or early twelfth century. Chilcote stone, pock-marked. The stone (inverted) is complete, and is 22 cm high. Both the vertical profile and a cross-section through the angle-shaft (10 cm diameter) are given. The small scale of the piece suggests that it comes from a niche or arcade. Faint traces of a white ground remain in the angle beside the shaft.

20. Attached angle-shaft. Late eleventh or early twelfth century. Chilcote stone, pock-marked. The angle-shaft is slightly smaller than nos. 19 and 21, and is thus from a different context.

21. Attached angle-shaft, similar to no. 19 in all respects.

The following four items are additional material from the Camery excavations.

22. Angle-roll, possibly from a voussoir. Twelfth century? Doulting stone. Unstratified.

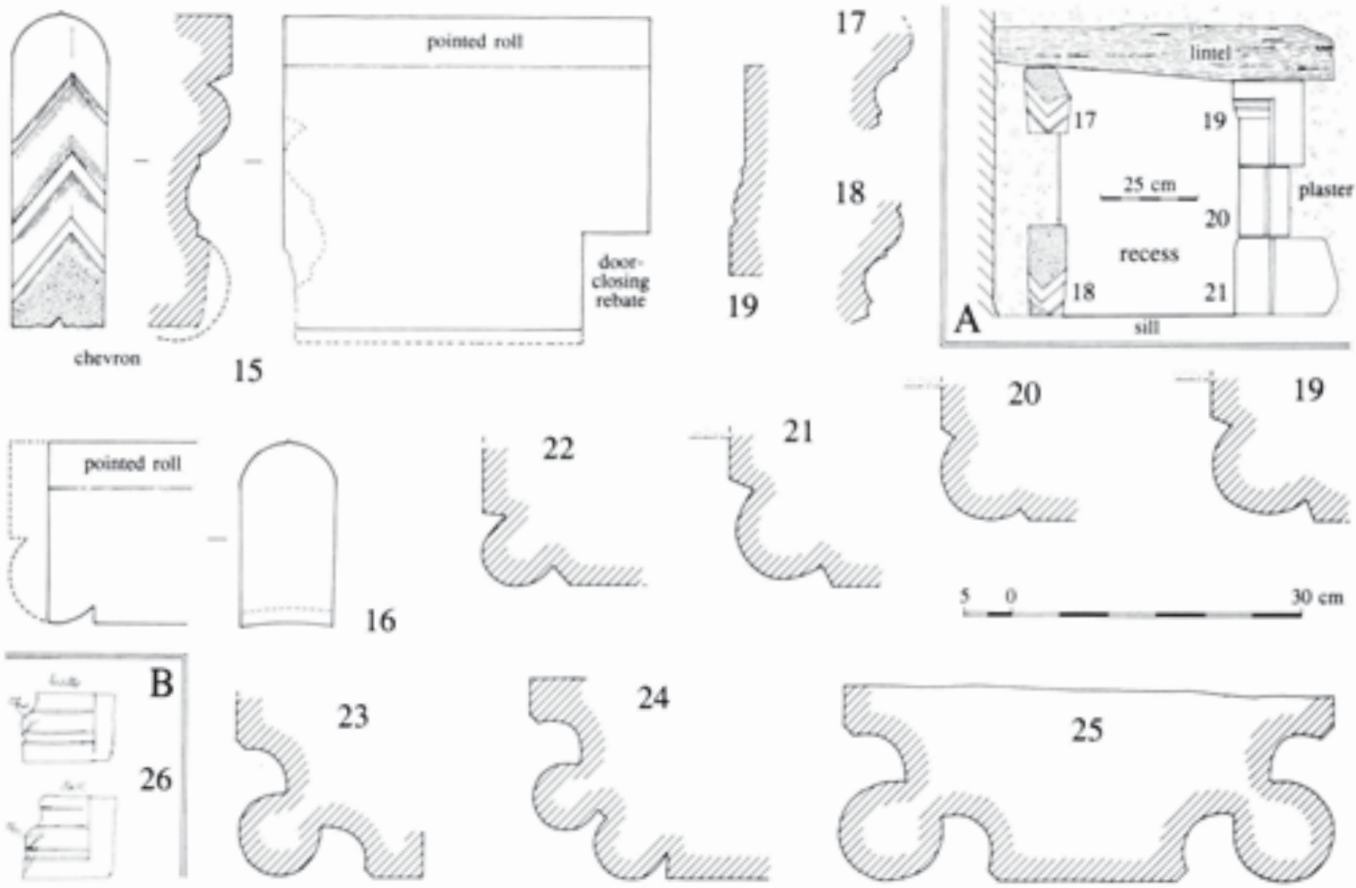


Fig. 439 Romanesque mouldings, nos. 15–25. Scale 1:8. Inset A Victorian wall-niche in Wells Museum, incorporating fragment nos. 17–21. Inset B Sketches made by Irvine in 1873, comparing Romanesque bases from Wells (no. 26) and Bath (scale unknown)

23. Small voussoir with a three-quarter roll, flanked by hollows having bevelled arrises. Late twelfth century. Doulting stone. From F490.

24. Small voussoir with two rolls, from a compound arch. Doulting stone. Unstratified. The partial similarity to no. 23 suggests that the two items are connected.

25. Symmetrical respond block with two three-quarter rolls, flanked by hollows. Doulting stone. Late twelfth century. From F1462. It is likely that a freestanding shaft, 15 cm in diameter, stood in front of the flat area that separates the two mouldings. Probably from the same structure as nos. 23 and 24.

For the sake of completeness, it may be mentioned that a moulded Romanesque base and other fragments were discovered in 1873–74, during works in the northern two bays of the western aisle of the north transept. The finds were noted by J.T. Irvine, but have since been lost. He wrote:[4]

> '... the only remains of that [Norman] date found in the church were a Norman base and the dragon head termination of a label over an arch, which came to light in the following manner.
> Toward the end of the year 1873 Canon T.D. Bernard had that chapel under the clock cleared out to form a vestry for the Vicars [he meant Virgirs]. In removing a rude stone staircase built probably in the 17th century the loose base of a Norman pillar of very similar section to those found at Bath was discovered. Some time afterwards early in Jan^{y}. 1874 the Canon had an opening made for gas and water pipes through the floor and wall of the small vaulted room or vestry in the north west corner of the North Transept, out of the heart of its wall was taken a Norman fragment, the half of a dragon's head, the stopping of an arch label of Bp. Robert's date, and very similar to like heads ornamenting the transition arches of the nave of Malmesbury Abbey. The above are all the known fragments found of Bp. Robert's period. In the angle of that house opposite the north Transept, which the late Mr John Henry Parker so admirably restored is a fragment of Norman work remaining in its original position.'

The last item refers to stone no. 14. The Norman base found in 1873 is further recorded in the following letter from Irvine, dated 28th October 1873.[5]

> 'The Canon has cleared out the old Chapel (said to be that of St John and formerly used as

> the Subdean's Court) on purpose to make it a Vestry for the Virgrs. In doing so they had to remove the old stone stairs going up to the Clock. Brown the mason found while engaged in doing this a Norman base the only fragment of that date found as far as I have learned from this old work of Bp. Robert it is really the same as that at Bath.
> It has the same claw at [the] angle and the same nick below [the] base. They also found fragments of bold Perpr [=Perpendicular] mullioning from [the] tops of screens and part of the fingers holding the tip of a sceptre from a figure of West Front [type] and two small fragments of alabaster shrine or tabernacle work painted and another(?) half of a Perpr. cil stone carved [with?] a Colm and arch stone and some fragments of marble shafts probably from some modern monument.'

The letter includes a rough sketch of the Romanesque base, reproduced here as no. 26, in Fig. 439B. For comparison, Irvine also sketched a similar sub-attic base from Bath Abbey. Both bases had spurred angles. Sadly, nothing further is known about the dragon's-head label-stop: it was presumably an attractive piece, which has subsequently passed into private possession. Finally, it may be mentioned that an early twelfth-century label-stop in the form of a male head, with lentoid eyes, was discovered during excavations in the garden behind Wells Museum, in 1996. The stone had been built into a medieval wall foundation.[6]

Early Gothic architectural sculpture

The 'Resurrection' figure (Figs. 440 and 441)

Dexter thigh and hand from a ?naked seated figure. Probably *c.* 1240–43.

Doulting stone. Dimensions: 10.5 cm high × 19.5 cm wide × 9 cm deep. F620.

The scar of the break for the lower leg beneath the knee survives, and the hand (10 × 6 × 4 cm) rests on the front of the knee. The dexter face of the thigh is less thoroughly finished, implying that it is the rear face of the carving. The dull pink surface coating may be paint.[7]

The similarity, in both size and style, of this piece to the carvings of the Resurrection Tier of the west front of the cathedral, together with the rarity of naked figures as a subject for medieval carving, suggests that it derives from this source. Its generally unweathered state shows that the sculpture could not have been exposed for much more than a century or two, but how it came to be in the Camery is not clear. There are only six missing sculptures (with another six empty niches which were probably never filled) from this range of west front statuary.[8]

Could it have been found to be supernumerary to the sculptural campaign (after the changes to the design of the niches known to have taken place between the execution of the sculptures and the completion of the architecture), and was therefore never fixed? It could have been kept in store, and then abandoned and broken near to masons' workshops in the Camery.

Thirteenth-century carved spandrels

The discovery in 1979 of two mid-thirteenth-century spandrels incorporated in the foundations of the nave of Stillington's chapel (p. 204) precipitated an enquiry into the similar sculptures at various locations in the cathedral precinct, some of which had been known for more than a century. Three spandrels were formerly displayed, along with other lapidary material, on the Chain Gate, and a further seven spandrels (together with additional fragments of those already known) were 'discovered' in 1984 in an understair cupboard (serving as a stone store) in the west cloister range.[9]

The pieces are all of very similar style, of identical dimensions, and were undoubtedly once part of a cohesive set. Professor Pamela Tudor-Craig commented

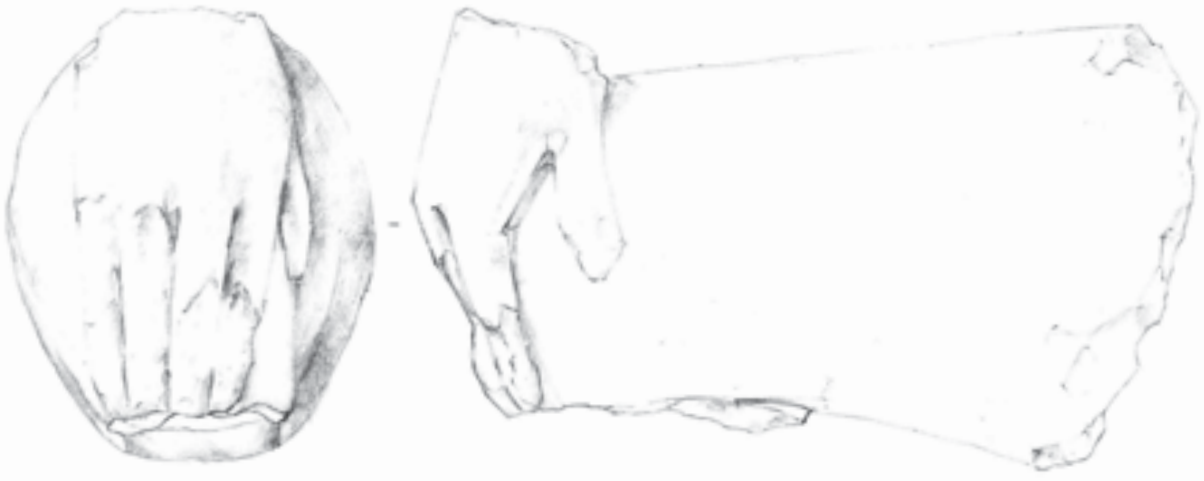


Fig. 440 Thirteenth-century sculptural fragment. Dexter thigh and hand, just over half life-size, probably from a Resurrection-tier figure originally intended for the west front of the cathedral. Scale 1:2. Drawn by Richard Bryant

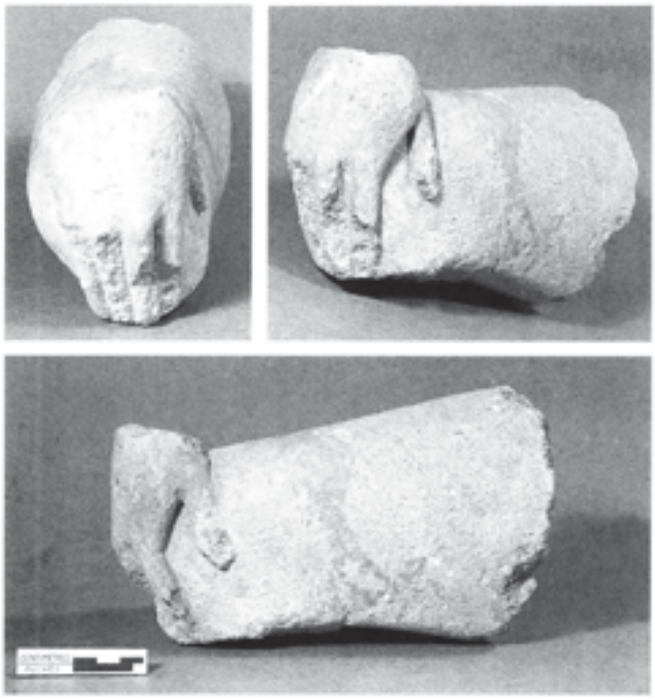


Fig. 441 Three views of the dexter thigh and hand from a thirteenth-century figure

on the then-known spandrels in 1982 (Tudor-Craig 1982, 120–2). However, credit for the initial recognition of the importance of the whole assemblage goes to J.T. Irvine, whose unpublished notes of 1870 on the subject are in the cathedral library. Irvine at first believed the spandrels to have come from the Lady Chapel-by-the-Cloister, later changing his mind and suggesting them to be from the cloister arcade.

In addition, obvious stylistic similarities have been noted with spandrels reused in two later buildings: in the south elevation of the chapel at the north end of the Vicars' Close, and in the upper parts of the porch of Mellifont Abbey, Wookey. In total, at least 26 spandrels of similar date, stone and general style have survived, together with at least five others belonging to a related series. Clearly, they are not all from the same structure. There appear to be three 'sets' of carvings, and all are demonstrably divorced from their original contexts; clues as to their provenance are few.

The largest number of spandrels have been recovered from various locations in the vicinity of the cathedral cloister, and the extant fragments account for twelve spandrels. Moreover, Irvine recorded that more await recovery from the core of the fifteenth-century staircase leading to the upper range over the west cloister (Structure 24), and further examples are probably still embedded in the foundations of Stillington's chapel.

Catalogue of the cathedral spandrels

by Jerry Sampson

Spandrel 1: 'Crane and Wolf' (Figs. 442 and 444)

Extant dimensions: 56.4 × 42.5 × 12.7 cm, broken into two pieces. There is a dowel hole in the dexter end for jointing a separate block that formed an integral part of the spandrel.

Provenance. Unknown: exhibited on the Chain Gate bridge until 1987. On the top surface there are considerable remains of pink lime mortar which looks original. In the absence of other mortars on the surfaces it seems likely that this piece was recovered during nineteenth-century excavations, rather than having been reused in a later building like several of the spandrels.

Style and composition. The representation of the crane is considerably more naturalistic than the *c.* 1200 spoonbill in the cathedral nave (on the east face of the pier at the west end of the Bubwith chantry). The feathers, though very abraded on the forward-facing parts, seem never to have been particularly deeply cut, and seem not to have formed the deep, hollow leaf-shapes of the birds' and dragons' wings found in the eastern part of the nave. The recurled tail feathers, the large feet, and the curve of the neck are all naturalistic features. The head is badly broken, the only remaining carved detail being the tip of the beak, but the break-scar shows the approximate volume of the original design. The dexter leg is also broken away where it was freestanding.

The supine wolf, its body apparently already stiffening as it asphyxiates, has lost much of its back sinister leg (which was partly freestanding), the rear face of the front sinister leg, and the outer parts of the sinister ear. The inner legs, which are treated in low relief, show naturalistic observation, with the dew-claw indicated. The inner ear, also carved in low relief, is very large suggesting that much of the outer ear is gone. The proximity of death is indicated not only by the stiffening of the limbs, but also by the slightly protruding tongue. The fur seems to have been indicated (as on the human-headed birds spandrel, no. 2) by light parallel striations.

Beneath the wolf, the stylized 'wavy' landscape is more similar to those on the west front Resurrection tier sculptures than to those on the St Hubert and Knight spandrels (nos. 7 and 8).

The two trees both consist of the standard four-lobed leaf foliage. That to sinister springs from a 'grooved collar' on the framing moulding above the upper cusp point. The dexter tree, which passes behind the wolf's hind legs and tail, and gives extra depth to the composition, is broken at its springing on the lower cusp point. The outer leaf on the sinister tree is lost, but that on the dexter tree, being longer than the norm, is a variant on the standard type, with a 'sub-leaf' on the top edge (*cf.* the leaf forms on the larger of the foliage-only spandrels in this assemblage).

Spandrel 2: 'Man-headed birds' (Figs. 442 and 445)

Extant dimensions: 71 × 45.8 × 13.7 cm, broken into two pieces.

Provenance. Unknown: found stored in the west cloister in 1984. The adhesion of various mortars to the decorated surfaces indicate that the stone has probably had two secondary uses.

Style and composition. An almost completely symmetrical design of two birds or dragons placed to dexter and sinister, and sharing a common human head at the centre. They stand perched on and encircled by swirls of foliage which originate from their own tails, as is seen in other bird/dragon compositions in this series and elsewhere in the cathedral.

The wings of the birds are handled in much the same way as the crane in spandrel 1, with light relief, long pinions and small leaf-shaped upper feathers; while the legs, by contrast with spandrel 1, are bulky, with fringed rear faces and heavy 'claws', rather lion-like. In addition, like the wolf in spandrel 1, fur seems to be represented by short parallel grooves in the surface of the body (other than the wings), perhaps the marks of a toothed drag or fine claw-chisel. Both birds have damage to the front of the visible leg, and the tail of the sinister is partly lost in the break to the sinister edge of the block.

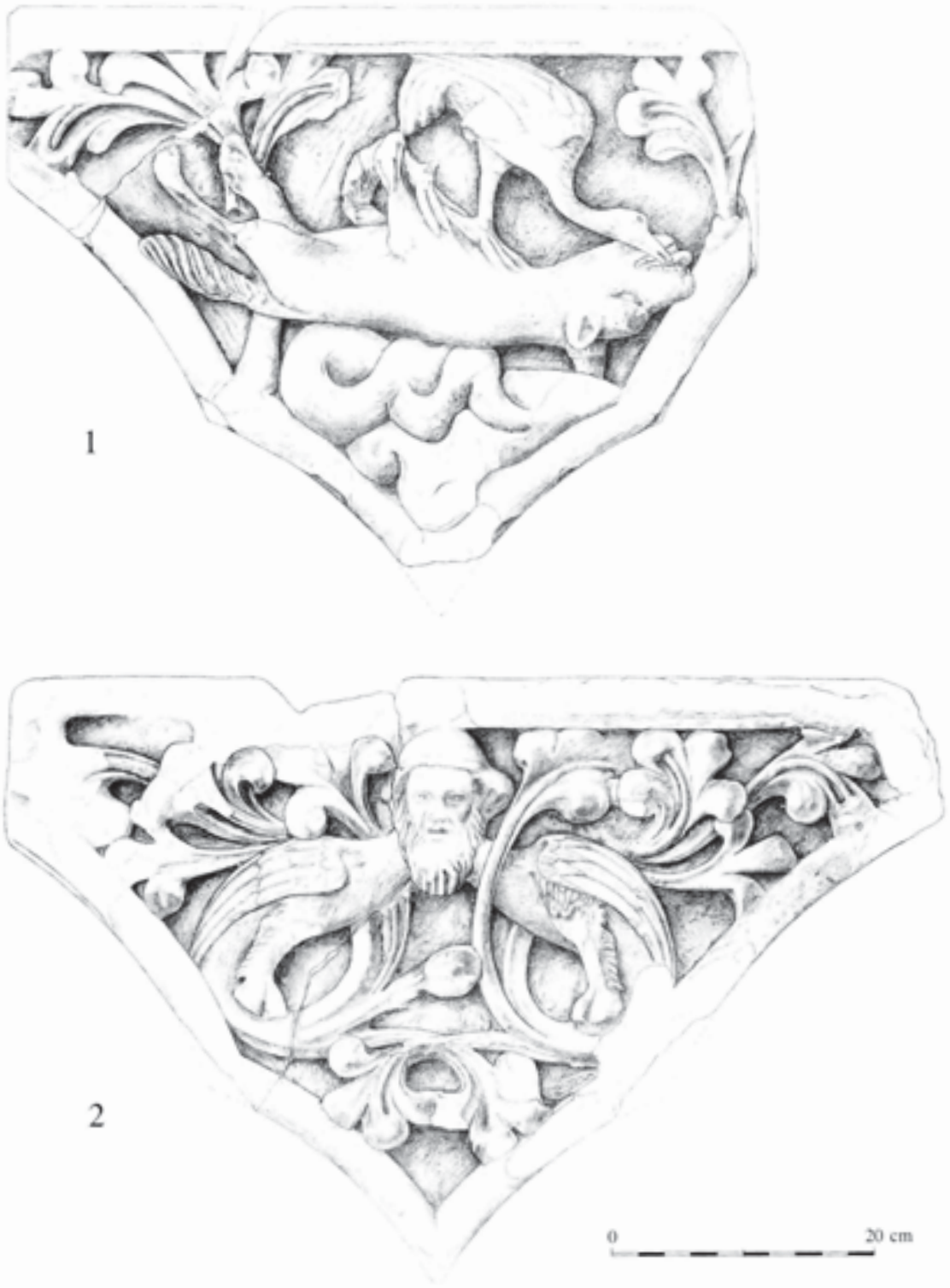


Fig. 442 Thirteenth-century spandrels, nos. 1 and 2. Scale 1:5. Drawn by Richard Bryant

The shared head is heavily bearded and, though excoriated, is clearly of the same stock as the angel on spandrel 6, the eyes being set slightly wide, with a straight bottom edge. It wears a tight cap with an embroidered or turned-up brim, beneath which long locks protrude. The long beard has a central lock (*cf.* a similar head-stop inside the west front). Each bird stands on a bud emerging from the stem which springs from its own tail.

The foliage is almost perfectly symmetrical in design, the only difference between the two halves being that the middle branch to dexter passes behind the neck of the bird, while the same branch to sinister goes in front of the neck of the sinister bird. Each tail splits into three main branches; the first run almost horizontally and cross at centre base, each terminating in a single standard leaf; the middle branches run almost vertically, and also terminate in a single standard leaf against the top moulding; while the third branches pass behind the birds' bodies and split into three leaves (two standard, the lower one a trilobe). Between each of the first and middle branches is a pair of shoots which meet in overlapping bud/leaves below the common head.

On the top edge, the middle sinister leaf may have been left unfinished: there appears to be rough stone in the cut-out

area between the central lobes and the top moulding. This is an area which has been covered with secondary mortar, and therefore retains a cleaner surface than the surrounding stone.

Spandrel 3: 'The Dragon-Slayer' (Figs. 443 and 445)

Extant dimensions: 26 × 29.5 × 13 cm; this is a sinister half-spandrel. Part of the decoration was on a separate block, now missing.

Provenance. Unknown: found stored in the west cloister in 1984. There are two mortars remaining on the uncarved surfaces: white lime mortar, which was probably the original jointing medium; and an orange/pink lime mortar which was probably the wall-core material, but could possibly represent a later reuse of the stone.

Style and composition. The dragon is very similar to spandrel 2, but with a few clear differences. The most obvious is the monstrous head; the nose and brows are abraded and no longer clearly discernible. The beast is biting a foliage stem, which may have been part of a second monster. It appears to have had long ears, like those of the solitary dragon spandrel 5, though the front (sinister) ear is abraded, and possibly broken, the inner (dexter) ear is shown in light relief and is almost as long as the rest of the head. The outer ear appears to have folded across the top of the head, and its tip is shown halfway down the front of the inner ear. Also different from

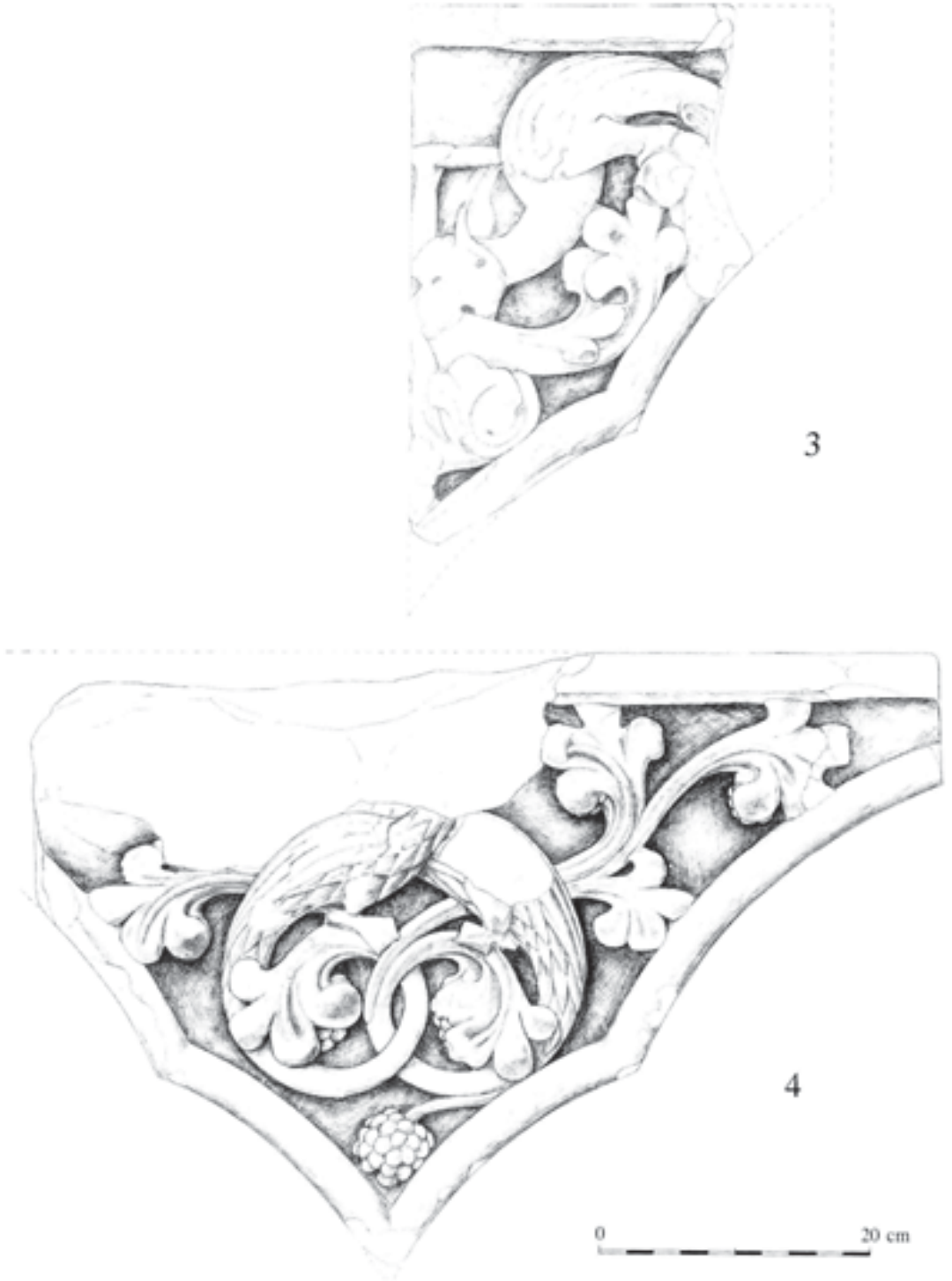


Fig. 443 Thirteenth-century spandrels, nos. 3 and 4. Scale 1:5. Drawn by Richard Bryant

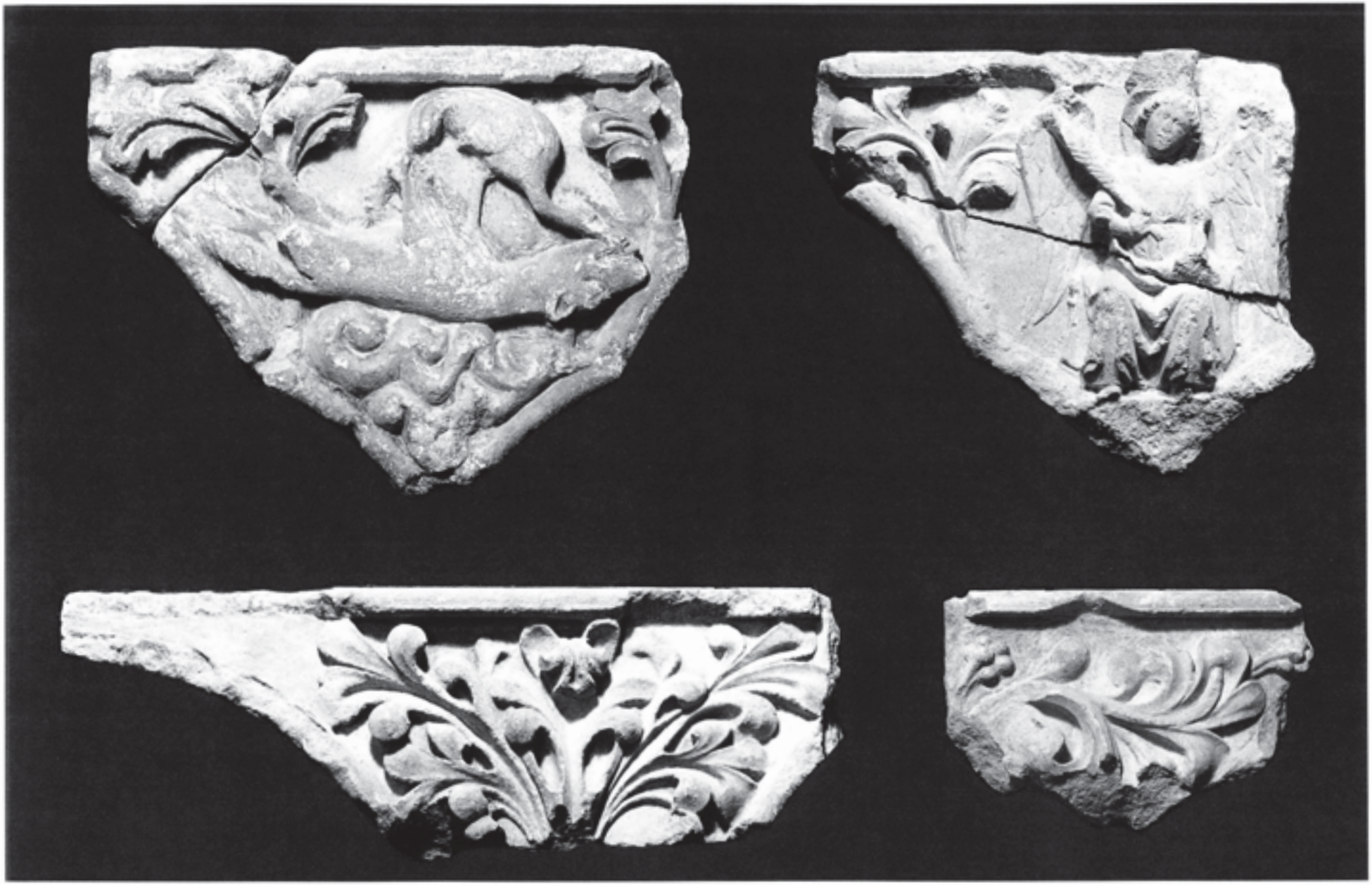


Fig. 444 Thirteenth-century spandrels, nos. 1, 6, 9 and 10. Top row Nos. 1 and 6 are figural subjects, flanked by stiff-leaf branches; Bottom row No. 9 is a symmetrical stiff-leaf composition, and no. 10 may have been likewise (Jerry Sampson)

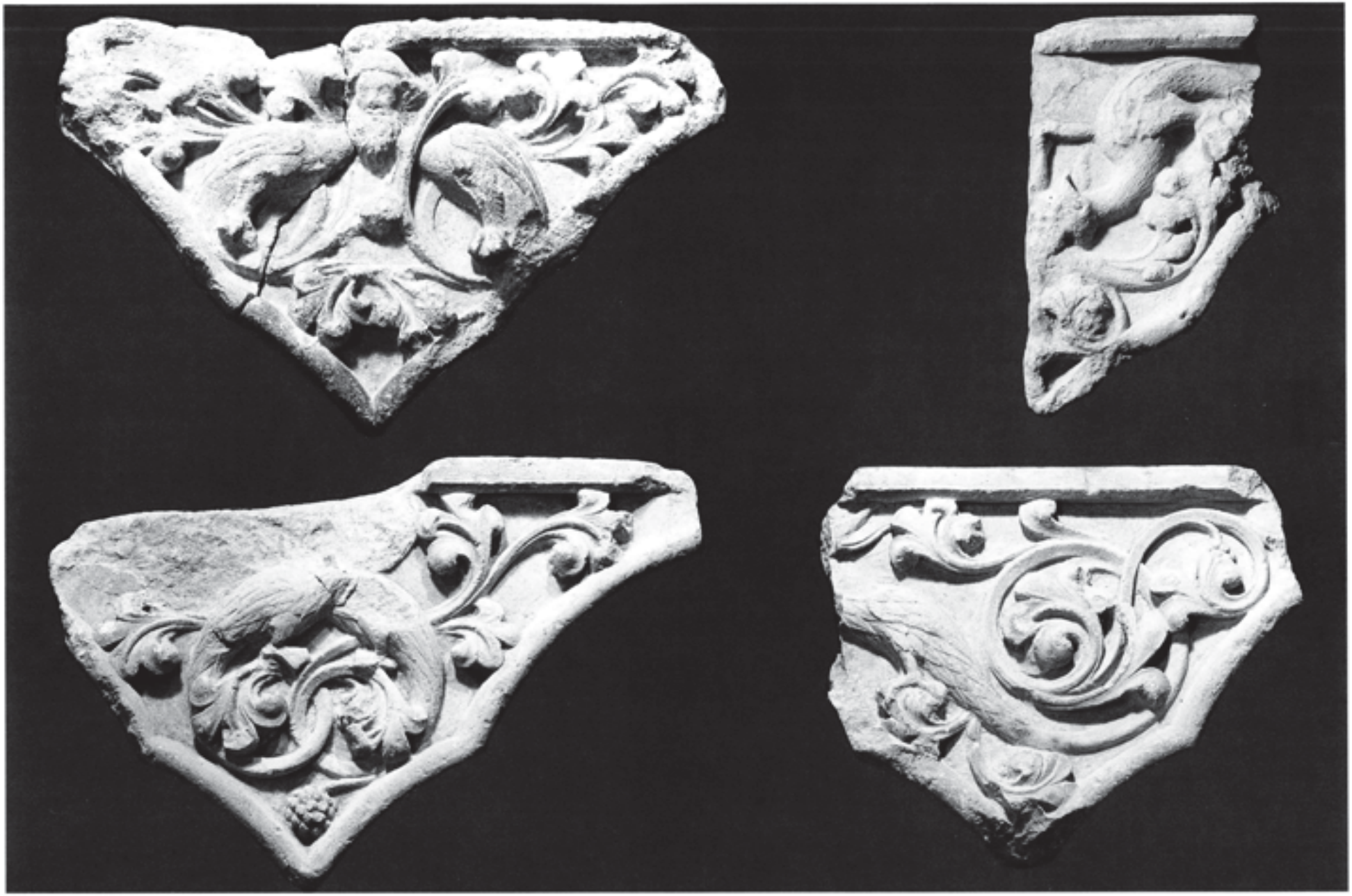


Fig. 445 Thirteenth-century spandrels, showing birds and dragons entwined with stiff-leaf scrolls. Top row Spandrel nos. 2 and 3; Bottom row Spandrel nos. 4 and 5. In nos. 2 and 4 the birds are symmetrically arranged pairs; the others are asymmetrical compositions (Jerry Sampson)

spandrel 2 is the treatment of the body and the leg. Unlike no. 2, which would seem to be intended to be a hairy dragon, this one has feathers or scales represented as bands of sharp zig-zag lines. The leg is more muscular than no. 2, and the fringing of the rear surface is absent, though here the elbow is very prominent. The foot is massive, with three elephantine toes.

The creature seems to be perched on its own tail, which curls beneath it, but the broken state of the stone has obscured this. The tail bears marks resembling 'branching-scars' just above the point where it is broken. The stem which the dragon is biting also curves beneath it, its main foliate terminal being contiguous with the dragon's perch. This branch, which could also be a monster's tail, ends in a standard quatrefoil leaf, and its top surface has a second leaf, in this case a side-view trefoil over which the main leaf laps. A subsidiary branch curls down to end with two leaves at the base of the lowest cusp.

There is good evidence for regarding this piece as a corner spandrel. First, the dexter edge is tooled (rather than broken) to a vertical line: this is a good match for the position of the centre-line of the rest of this series. Second, the composition is incomplete in a such a way as appears planned, rather than accidental. The dragon's snout ends precisely at the dexter edge, while above this is the arm of its assailant, the edge corresponding also with the turn from elbow to upper arm. The foliage down the lower third of the dexter edge also appears to be positioned to transfer to a missing dexter half. Third, the dexter edge of the block is sloped in such a way as to suggest that the spandrel fitted into an internal angle. This arrangement would imply a continuous arcade, not interrupted by corner shafts. It also casts doubt on whether such a piece could have originated in a cloister arcade, where there would be little or no scope for angles of this sort (*contra* Irvine).

We may suggest that the missing dexter half of this spandrel bore a second figure, perhaps human, perhaps composite monster, but certainly with arms and not wings, since a human arm is represented parallel to the upper centre of the dexter edge thrusting a dagger into the back of the dragon. The fact that the dragon bites the main stem that runs from the dexter block suggests that this may have been the tail of a composite merman-like monster.

Spandrel 4: 'The Web-Footed Birds' (Figs. 443 and 445)

Extant dimensions: 68 x 44 x 14.5 cm.
Provenance. Unknown: formerly displayed on the Chain Gate. Like spandrel 3, two medieval mortars are present on this block: a fine white mortar, found in restricted areas (such as the angle between the sides and the roll-moulding framing the lower part of the carving); and an orange/pink lime mortar found on the back face of the block. These probably represent remains of the fine joint mortar and the wall-core mortar, respectively, of the original building. There is, however, no doubt that the stone has been reused, since its top surface bears at least two layers of limewash from a period when this has been part of the face of a wall.

The sinister termination of the block was composed of a separate piece, the existing end surface having been worked flat and lightly pecked with a chisel to effect the joint. The smallest of the surviving spandrel-end fragments could possibly have fitted here, but since its dexter face is roughly broken it is impossible to be sure either way. No dowel was used to effect this joint (*cf.* spandrel 1, where a small dowel seems to have been used to join the subsidiary piece).

Style and composition. Like spandrel 2, this is an almost completely symmetrical design, consisting of two web-footed ?birds facing towards each other and with necks crossing, perched on curls of foliage that grow from their own tails, and then pass behind them to terminate in leaves. The breakage to the stone has removed their heads, so it is uncertain whether they were birds or dragons (though webbed feet suggest the former), but enough remains of the neck of the dexter animal to show that, unlike spandrel 2, they could not have had a single common head.

Unlike spandrels 2 and 3, but like 5, these two have large triangular scales/feathers, varied only by the long pinions of the wings, which are not otherwise distinguished from the rest of the body (all other wings in this group have some sort of three-dimensional differentiation from the body). The legs are short, and far less muscular than those of the dragons on 2 and 3, and without the fringing of 2. The feet appear to be webbed. Judging from the break-scar above the back of the sinister bird, the heads were up-turned, but there seems to have been some other, larger, element behind their heads, which, if it were foliage, must have come from a hidden springing-point. The tail of the sinister bird, at the point at which it branches, has a 'branching scar'.

The foliage is consistently composed of the standard four-lobed leaf, probably originally four leaves on each half (though two of those to dexter are now lost). The dexter stem also has a berry bunch springing from its lowest curl; this however confirms the symmetry by being centrally placed in the lowest part of the panel. Unusually, most of the four-lobed leaves conceal a berry-bunch beneath their inner two lobes, only the two minor leaves (the first and smallest of the branches behind each bird) lacking these.

Spandrel 5: 'The Eared Dragon' (Figs. 445 and 446)

Extant dimensions: 53.5 x 43.5 x 12 cm. Probable subsidiary fragment: 18 x 10 x 9.5 cm. Like most of this series, the spandrel has lost both ends, but an isolated fragment bearing the scar of the head and beard of a presumed dragon almost certainly belongs with this piece.
Provenance. Unknown: found stored in the west cloister in 1984. There are few signs of reuse on this piece, or of the original mortars. The only surface which retains evidence is the top edge, where a white mortar skim survives. Despite the absence of other fixing mortars, it is clear from organic remains (?ivy) that this stone has been reused in an exterior wall (*cf.* spandrel 8, which was recovered by Irvine; the two may have come from the same site). On the rear face of the block are patches of orange mortar, which may either be the remnants of the original wall-core material, or of the secondary fixing mortar.
Style and composition. Unlike spandrel 4, this composition is asymmetrical, though in common with spandrels 2 to 4 it is based upon foliage growing from the tail of a composite creature. Here the bird/dragon is placed entirely in the dexter half, perching on a leaf of standard design and facing to dexter, its tail turning into a circular twist of foliage with three main branches, the lower of which splits into two, one forming the perch itself.

The dragon has leaf-shaped scales or feathers, like spandrel 4, but treated in higher relief than either 3 or 4, each feather having a central ridge. The wings are of the same shape as on 1 to 4, with long flight feathers, and two ranks of shorter feathers similar to those covering the body at the top of the wing. The upper rank of small feathers is shorter with rounded ends, the next is pointed like those on the body.

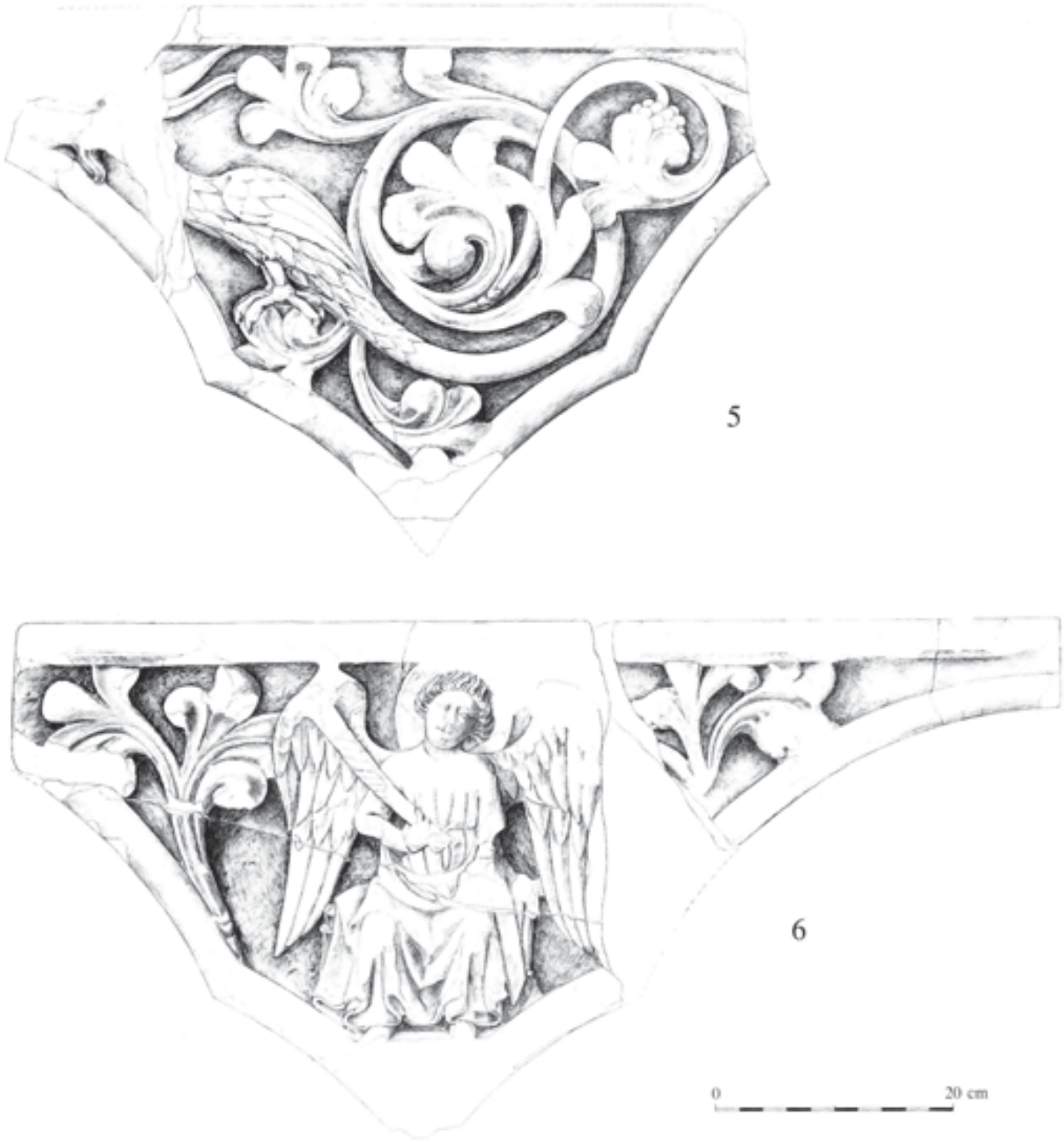


Fig. 446 Thirteenth-century spandrels, nos. 5 and 6. Scale 1:5. Drawn by Richard Bryant

There are eight ranks of feathers between the legs and the point at which the tail becomes stem; a further four remain on the upper part of the body and neck before the break.

The head has gone, but the long ears remain at top dexter (*cf.* spandrel 4). If the separate fragment of a dragon's head belongs to this composition then the head was also bearded.

The main foliage curl is placed just to sinister of centre, behind and above the dragon's back. At the centre of the curl is a large standard leaf, from whose branching point comes a second (trefoil) leaf to sinister and a second branch at the centre. The latter has a furrowed branching point. This branch curls up to the sinister corner, and curling back on itself terminates in a standard leaf which partially overlies a berry bunch which comes off the branch a little earlier. A further branch is lost with the sinister corner. An earlier branching of the central foliage curl produces first a single curled bud, and almost immediately afterwards another standard leaf positioned just behind the dragon's ears. The middle branching off this curl produces a stem running straight

down towards the base-point of the spandrel, which itself splits behind the dragon's tail to produce two standard leaves, one of which performs the function of a perch. All branching points are marked by two or three furrows.

Spandrel 6: 'The Seated Angel' (Figs. 152, 153, 444 and 446)

Extant dimensions: 49.5 × 43.5 × 14.5 cm, broken into two pieces, and with the head of the angel also separated (see Figs. 152 and 153 for condition as found).
Provenance. From the 1979 excavations: the two main parts were found together, fractured *in situ*, in the footings of the south nave wall of Stillington's chapel; and the angel's head came from a separate context to the north of the chapel.

It was to be hoped that, because the stone had been sealed since 1477, traces of pigment might have survived, but while some of the thin white layer on the angel's wing and elsewhere may prove to be white ground, a similar white layer is also found on broken stone, and may only be a mortar skim of fifteenth-century date. It would appear that any pigments were already lost by 1477. The sculpture had certainly been broken by the time it was incorporated in Stillington's foundations, since both ends of the block, as well as the scar beneath the angel's feet bear fifteenth-century mortar, and the separation of the head before the reuse of the stone shows that no great care was taken in the demolition of the building in which it originated.
Style and composition. There are close similarities between this and several of the unprovenanced spandrels. The figure style is comparable, in that the drapery here and on spandrel 7 is similar to that on the mounted knight, spandrel 8; and the treatment of the face here is reminiscent of that on spandrel 2, with the lower margins of the eyes being drawn as straight lines, and the eyes set rather wide apart in both instances. There is also a similarity in the treatment of the wings of the birds/dragons of spandrels 3 to 5 and the angel. Closest in appearance is 5, where the upper margin of the wing is bordered by two ranks of feathers, one round-ended, the next pointed with a slight mid-ridge, just as here. The foliage style is identical. The only remaining branch on this spandrel is at the dexter end, where a single stem rises from the bordering moulding at the lower dexter cusp. Not only does it spring with two branching-furrows, but the two leaves are both of the standard type found on the triforium assemblage in the cathedral. The springing of foliage from a cusp in this way is also found on nos. 1 and 8, though interestingly the treatment of the other spandrel from the excavation is slightly different, and the landscape of 7 is also distinct from that on 1 (though related to 8).

There are also superficial resemblances to the west front style. There is little similarity to the drapery of the first Dundry style, with its ribbon folds with flat faces and near 90° angles, but the heavy drapery over the fronts of the legs is similar to some of the seated figures in the quatrefoils, and in particular to the ?Jesse in a tympanum on the south tower. The bench seat is also similar to the latter.

The angel is seated, facing forward, and holding a palm in the dexter hand. The sinister hand is broken, but appears to have rested upon the sinister knee. The head is nimbed. A tunic, tied at the (rather high) waist, and mantle are worn. The mantle is swept across the lap from beneath the dexter arm. Unlike all the west front angels there is no amice. The wings are spread out beside the figure (indeed by this the figure is made almost as wide as it is high), and are treated in low relief, the upper tips curling slightly out from the plane of the background. The head, with its mid-length wavy hair, is tilted to sinister, balancing the strong diagonal of the palm. The dexter wrist is twisted sharply back, and all but two knuckles of the fingers are lost. Both feet are missing, broken away in the wreck of the lower cusp.

Spandrel 7: 'St Eustace' or 'St Hubert' (Figs. 447 and 449)

Extant dimensions: 71 × 45.5 × 16 cm, broken into two pieces.
Provenance. Recovered in the 1979 excavations from the south nave wall of Stillington's chapel, in association with spandrel 6. It still bears extensive traces of the wall-core mortar of 1477. Traces of white mortar at the back of the basal cusp-point may be thirteenth century, and the thick pink mortar on the back of the smaller fragment may be thirteenth-century wall core. In several places the carved surface has been crushed by the weight of masonry above, but in some cases the displaced stone has become refixed close to its original position: this is especially clear immediately above the crenellated wall. Refixing is the result of lime-rich water percolating through the masonry below ground level; the refixed stone is firmly bonded into position.
Style and composition. The subject is a representation of St Eustace or St Hubert riding out, hunting and being confronted by the stag with the crucifix between its antlers. On the sinister half the saint is depicted emerging on horseback from a battlemented gateway, while the corresponding area of the dexter half shows the stag partly concealed in naturalistic foliage, giving the composition considerable symmetry. The landscape which fills the lower cusps slopes down to sinister and is represented as a series of deeply indented waved ridges, similar to, but more extreme than, those of the west front Resurrection tier. These give the impression of a steep craggy landscape rising up towards the stag. It is similar to the more restricted area of landscape on spandrel 8, but the landscape on no. 1 is closer to the west front style.

There is a further resemblance (beyond that of subject matter) with spandrel 5, in that naturalistic foliage is exclusively employed. In this instance the only foliage springs from the tree near the dexter margin, beneath which the stag stands. The tree bears four main branches, each a large oak leaf, the upper dexter shown in very light relief. There are also at least nine acorns; as many as five of these cluster around the top sinister leaf. The tree trunk and the lower sinister leaf partly conceal the stag.

The differences in the depth of the relief of the leaves betrays an interest in three-dimensional effects which is also visible in the treatment of the gateway from which the saint emerges. Here, the door itself has to slope inwards behind the figure, but the side of the gatehouse is also made to slope in towards the sinister, setting the structure at a slight angle to the viewing plane. Over the doorway is a simple triangular indented spandrel with a battlement above. There are two further battlements and the break-scar of a third on the side of the gate. In the third battlement is an arrow-slit, and there are two larger, cross-shaped ones lower down, arranged parallel to the edge moulding. All three arrow slits have circular apertures at the ends of the lower and horizontal arms, but not on the upper arms. The gate-house has a slight hollow chamfer beneath the cornice, and there is a lightly incised line marking the top edge of this hollow. Architectural detail once existed around the door itself, but most of this is now broken away. The upper moulding of the door is one of those sections which has been crushed and reconsolidated, while the lower part is largely lost.

Fig. 447 Thirteenth-century spandrel, no. 7. Scale 1:5. Drawn by Richard Bryant

The saint and his horse have not yet fully emerged from the gate (though the rear sinister hoof of the horse is just visible on the extreme sinister edge of the landscape). The horse's head is badly broken, though two of the bridle straps below the sinister ear, as well as a length of the rein, are visible. The chest-band, girth and saddle with its raised back (*cf.* spandrel 8, and the Lady Chapel doorway at Glastonbury Abbey), are well preserved. The dexter foreleg of the horse was raised.

The whole central area of the saint has been disrupted by crushing and by the break, so that only the head and shoulders and the sinister leg survive with any detail. It is clear that the sinister hand held the reins, and that the dexter held up a hunting horn to the lips. The head is hooded, and there was a long tunic or cloak and boots.

The stag is better preserved than the horse and seems to have been of a similar size and shape. It stands with its forelegs on a curved eminence of the landscape, and its hind legs concealed behind the oak tree (another symmetrical feature); the hind-quarters of neither animal are shown). The stag's front feet, placed side-by-side are hoofed and fetlocked like the horse. The front corners of the eyes are rather deeply impressed into the head, and the muzzle is rounded (*cf.* the horse on spandrel 8). The ear is large, and the antlers quite short, with the cross clearly visible between them and of roughly the same height.

Spandrel 8: 'The Fall of Jerusalem' (Figs. 448 and 449)

Extant dimensions: 106 x 45 x 16 cm, broken into three pieces. This spandrel is unique in the assemblage in retaining its complete overall dimensions.

Provenance. Recovered from one of the structural adjuncts of the west cloister in 1870 by Irvine, who published a drawing (Fig. 154). Formerly displayed on the Chain Gate bridge. Orange-pink mortar, relating to the reuse of the spandrel in the fifteenth century, remains on the broken edges. Additionally the top edge and back retain patches of off-white lime mortar similar to thirteenth-century fixing mortar.

As with spandrel 5, there is on the top surface a layer of white mortar with a dark limewash over it and extensive traces of organic growth showing that this face has served as part of an exterior wall over which ivy or another creeper has grown. Indeed, the continuation of this layer around one end shows that this block acted as a quoin stone.

Style and composition. This piece has much in common with spandrel 7, in particular the use of naturalistic foliage, the deeply indented, stylized landscape, the three-dimensional treatment of architectural features, and the treatment of the horse's eye and nose. In setting out the subject the sculptor has left 22 cm at each end of the spandrel blank.

The scene consists of an armed knight, riding to dexter into the gate of a circular walled city within which is a cruciform church with a central tower and spire. To sinister is a 'maple' tree. The knight bears a shield charged with a simple cross. He wears a tilting helm and his surcoat is a little over knee-length. A sword hangs at his left side, the down-turned hilts just visible beneath the shield. His spurs are prominent, and the strapping is visible around the ankle. The stirrup can be seen around the foot, its thong passing up and disappearing beneath the saddle-cloth. The saddle itself is, like that on spandrel 7, high backed. In his right hand he carries the staff of a pennant, its spear-tip showing only as a scar, from which flutters a small flag.

The horse is thick-set and ox-like (or ?lion-like), its head carried rather low, perhaps to enter the city gate? Both its rear feet are broken, the front sinister hoof is lifted. The tail is lion-like, and the head is very thick-set, with the eye treated in the same way as that of the stag on spandrel 7, the inner corner cutting into the nose. All the straps of the bridle and bit are shown, and the reins loop down beneath the underside of the neck. The ear is partly broken away.

Fig. 448 Thirteenth-century spandrel, no. 8. Scale 1:5. Drawn by Richard Bryant

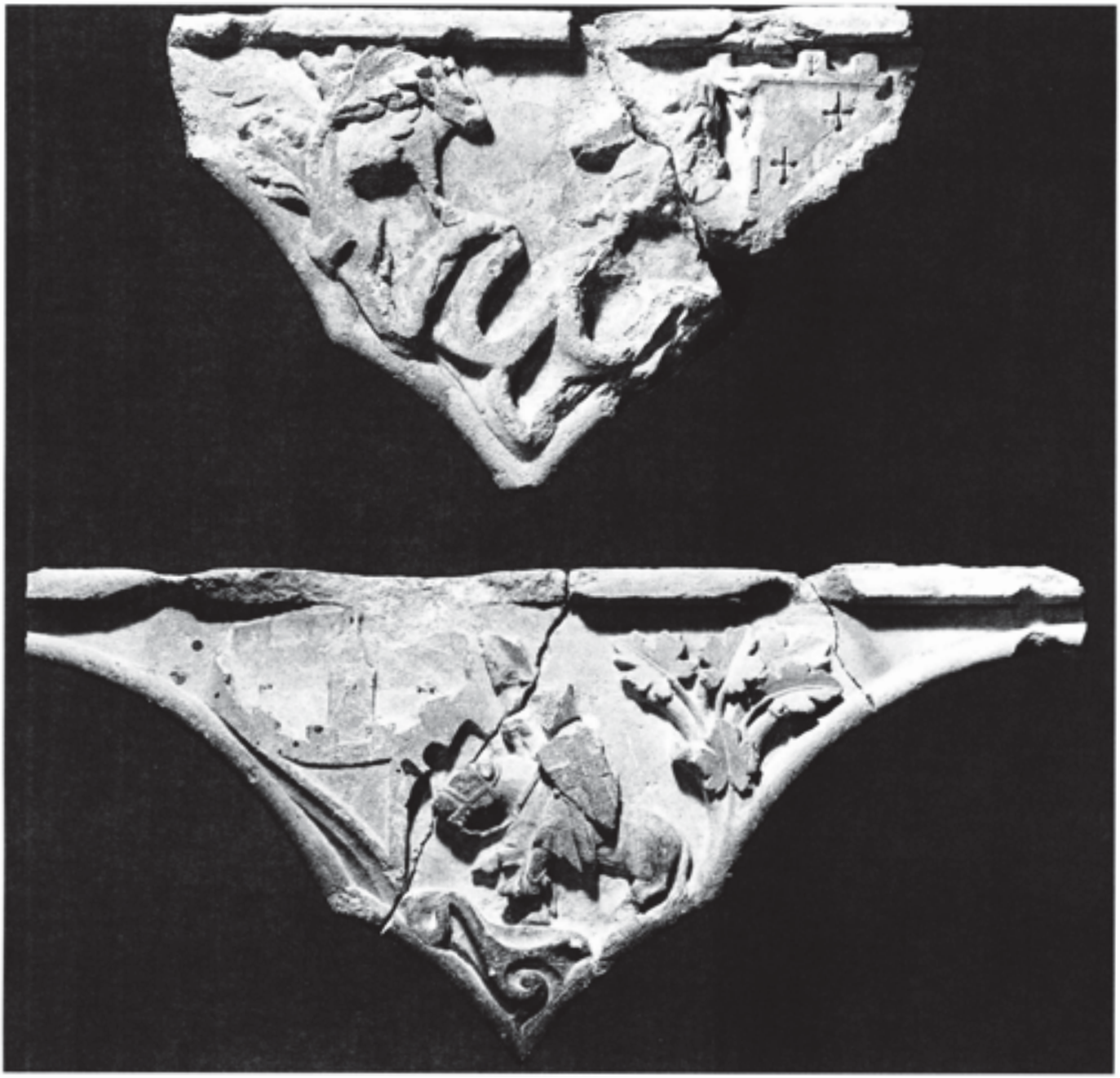


Fig. 449 Spandrels, nos. 7 (upper) and 8: asymmetrical compositions with knightly figures and naturalistic foliage (Jerry Sampson)

The city has a wall with battlements (nine in all, of which the rear sinister is missing) and a gateway with cusped head. The battlements at the ends of the walls curl up and around the back wall. The rear length of city wall is depicted in very low relief, the outer wall curves out towards the spectator, and at its centre projects beyond the depth of top and bottom mouldings by more than 1 cm. To gain a further effect of depth the outer rim of the wall curves downwards by 10 cm, while the rear wall curves very slightly upwards. The gateway is quite deeply recessed (more than 2 cm deep), and is deeply cusped, having a somewhat Arabic look.

Within the walls is a cruciform church with central tower and spire, viewed apparently end-on to its south transept, since the sinister arm (choir?) is shorter than the dexter arm (nave?). The three visible gables and the spire each bear a round finial.

The landscape beneath the knight is similar to, though much more restricted than, that on spandrel 7 with the same tall stylized 'waves'. At lower centre there is an odd curl, rather like a stiff-leaf bud. Above the point of the sinister cusp a 'maple' tree grows from the framing moulding; at the front are four leaves (largely concealing a fifth). Behind the plane of these leaves are heavier branches, the one at lower dexter apparently being a lopped bough with a cut stump. Of the leaves the two central ones have the stalk behind the plane of the leaf, the two flanking ones have the stalk in front of the plane of the leaf.

There are traces of scribed setting-out lines on the lower framing moulding, especially on the bottom face beneath the tree, and on the front face beneath the landscape and the city wall.

In view of the shield charged with a cross, and the fact that the only feature within the walled city is a great church (Solomon's temple?), this scene is surely intended as a representation of the entry of Richard I into Jerusalem?

Spandrel 9: Foliate spandrel 'A' (Figs. 444 and 450)

Extant dimensions: 82.5 x 28.5 x 13.3 cm.

Provenance. Unknown: found stored in the west cloister in 1984. This spandrel shows clear signs of having been reused in an exterior wall, and may thus have been recovered along with nos. 5 and 8.

Style and composition. The central area is filled with a symmetrical foliate design which contains significant variations from the standard four-lobed leaf form of the rest of the assemblage. This is not to say that the leaf forms are unrelated to the latter or that it does not form part of the same series, indeed the lowest of the three main leaves on each side is itself a standard leaf, but the main central leaf and the two flanking it are variants.

The foliage is arranged on three stems: a central one terminating in a six-lobed leaf with a much smaller trilobe (with central indenting stem) curling back down between the top central lobes. The side stems each support three leaves and a bud, the bud being the lowest element, above which is a standard four-lobe, then a variant on the four-lobe, and the inner leaf is largely hidden by the leaf growing from the central stem. The variant four-lobed leaves on the side stems have both the third and second lobes depressed, but in neither case (as also with the standard leaf) is there a stem running into the lobe.

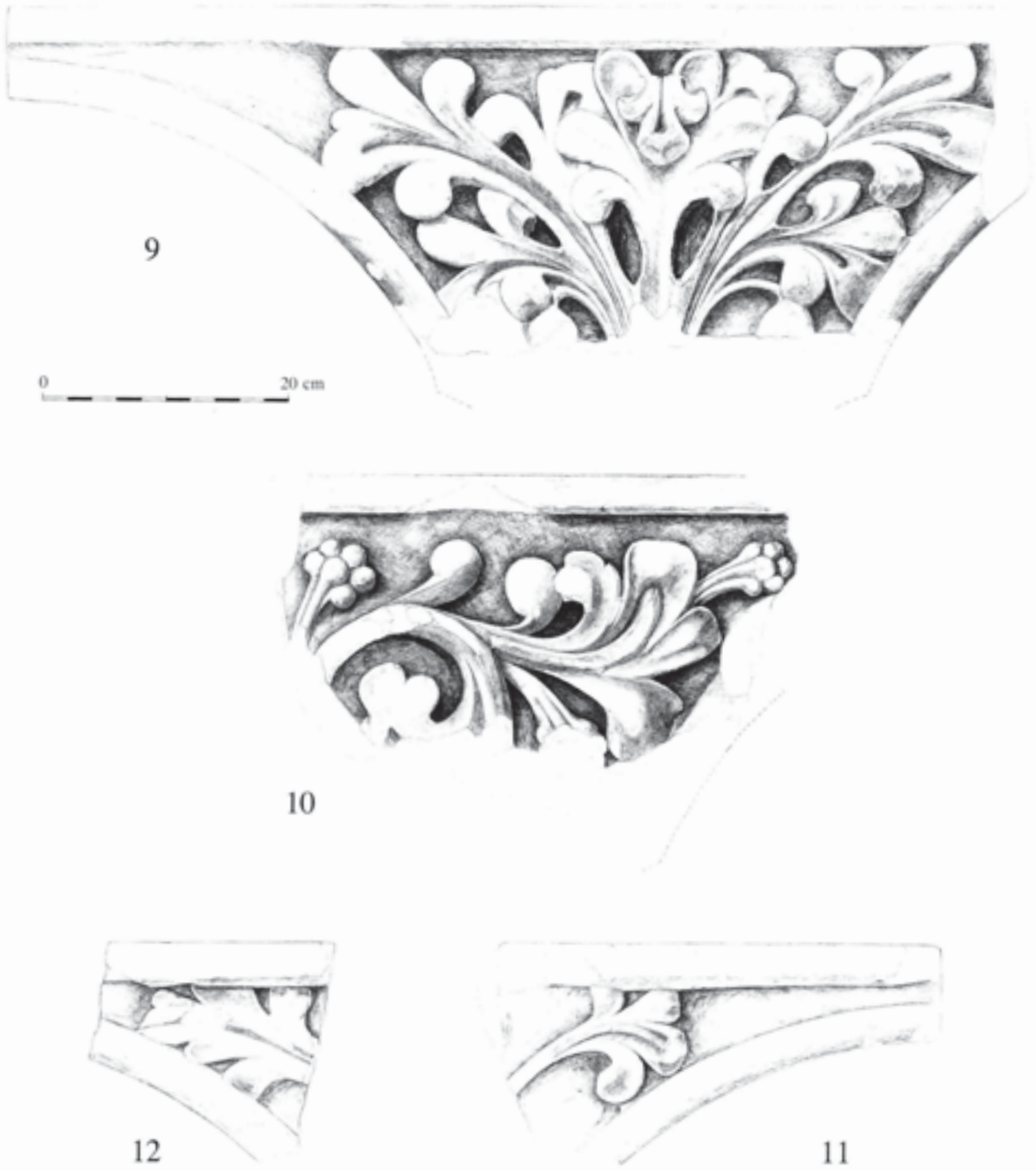


Fig. 450 Thirteenth-century spandrels, nos. 9–12. Scale 1:5. Drawn by Richard Bryant

It is likely that there was some lost element at centre base.

Spandrel 10: Foliate spandrel 'B' (Figs. 444 and 450)

Extant dimensions: 44 × 27.5 × 15 cm.
Provenance. Unknown: found stored in the west cloister in 1984. Like no. 9, this spandrel was probably derived from an outside wall.
Style and composition. The surviving fragment comprises the greater part of the sinister half of the spandrel. It would appear that this composition is asymmetrical, since a trace of the lower sinister framing moulding survives, enabling the fragment to be positioned within the overall spandrel 'template'. This shows that the vertical centre-line of the object must have run through the sinister lobe of the trefoil leaf (at what is now lower dexter).

The extant part of the design — which is generally reminiscent of some of the brackets on the south-west tower of the cathedral — consists of a curled stem containing a trilobe leaf terminal, with a shoot ending in a standard four-lobed leaf branching from almost the same point as the trilobe and running to sinister.

Despite its use of the standard four-lobed leaf form, this piece would appear to be the most archaic of the series. In addition to the normal four-lobed form there is a very plain trilobe, two (perhaps three) plain buds, and three berry bunches. There are no furrows at branching points, the branches being treated more as diverging mouldings than as organic forms.

Spandrel 11: Foliate fragment 'C' (Fig. 450)

Extant dimensions: 18.3 × 17.7 × 10 cm.
Provenance. Unknown: found stored in the west cloister in 1984.
Style and composition. Fragment from near the dexter end of a spandrel, exhibiting a five-lobed leaf of a type not represented on any other spandrel. The shape is tending towards the naturalistic.

Spandrel 12: Foliate fragment 'D' (Fig. 450)

Extant dimensions: 37.8 × 18.8 × 13 cm.
Provenance. Unknown: found stored in the west cloister in 1984.
Style and composition. The sinister end only of a spandrel, exhibiting a four-lobed leaf.

Discussion of the Cloister Spandrels

by Jerry Sampson

While these carvings have been found in a variety of contexts they demonstrate a remarkable unity of style and technique, confirming that they derive from a single historic assemblage. The stone throughout is a regular and fine grained Doulting block of the type associated with thirteenth-century carved work at Wells. The toolmarks remaining on the reverse and side surfaces are all remarkably similar. The backs have been worked with an axe, and where whole toolmarks remain these show that the blade was consistently between 8.2 cm and 8.9 cm ($3\frac{1}{4}$–$3\frac{1}{2}$ in) wide. The sides were worked with a bolster: the direction of the tooling is variable even on a single block, but the norm is vertical tooling running from front to back.

As far as can be seen from the remaining fragments, this set has a uniformity of dimensions which would strongly argue for a common origin in a building of regular bays, such as the cloister. The overall dimensions of all the fragments are 1.09 m by 48 cm (±1 cm); the thickness varies between 12 cm and 16 cm.

The figural style is generally more naturalistic than the carvings of the cathedral nave. For instance, the crane of spandrel 1, which is in many respects the earliest looking carving, is considerably more advanced than the spoonbill of *c.* 1200 on the east face of the pier at the west end of the Bubwith chantry. All the dragons and birds tend to have triangular feathers/scales. The dragons have long ears.

The human figures and the drapery style on spandrels 6, 7 and 8 are also consistent within the assemblage. In addition, the treatment of the face on spandrel 2 is very similar to that of the angel on no. 6, with the lower margins of the eyes being drawn as straight lines and the eyes being set rather wide apart in both instances.

There are superficial resemblances to some aspects of the figure style on the west front of the cathedral. While there is little similarity to the drapery of the 'first Dundry style', with its ribbon folds with flat faces and near 90° angles (Sampson 1998, 90), nonetheless the heavy drapery over the fronts of the legs on the angel of spandrel 6 is similar to some of the seated figures in the west front quatrefoils, and in particular to the seated figure in a tympanum on the south tower. Otherwise this angel bears little resemblance to the demi-angels of the west front where, amongst other differences, the amice is always worn. All in all, the style looks a little more advanced than that of the west front, suggesting a date of *c.* 1250.

The subjects chosen for the cathedral spandrel assemblage are generally repetitive: dragons and birds in foliage which grows from their own tails, a fable from Aesop, and horsemen. There is a corresponding repetition of motifs in the Mellifont Abbey group of spandrels: mermaids and monkeys with musical instruments (Fig. 452). But there is no interchange of themes between the two groups, suggesting a separate origin for them.

The typical stiff-leaf form for the cathedral group is four-lobed, with the lowest-but-one lobe bearing the narrow impressing stem, and the lowest being an almost circular curl. This leaf occurs on all the spandrels except for the two with horsemen 7 and 8, which have naturalistic foliage, the former of oak leaves and acorns, the latter with ?maple. Other than these last two examples, and some variants on no. 9, the former leaf type is almost exclusively used. Exclusivity of this kind is also found in decorative elements of the passage (now sacristy) to the chapter house undercroft. A further point of interest in this connection is that finds from the Camery excavation include fragments of vault rib of very similar form to those of the sacristy itself.

'Branching scars' occur regularly on the stems of the cathedral spandrel group. Foliage is often sprung from the framing moulding at the point of a cusp (see spandrels 1, 6 and 8). The fragmentary foliage spandrel, no. 10, bears a resemblance to some of the south tower brackets in its use of bold branching forms and asymmetry.

The landscapes beneath the figures on spandrels 1, 7 and 8 vary somewhat: 7 and 8, with the deeply curved 'waves' of the ground, are closest to each other; while the landscape of 1 — perhaps the earliest, or at least most retrospective, of the group — bears a closer relationship to the west front Resurrection tier landscapes. The deeply waved landscapes provide one of the most convincing links between the cathedral set and those on Mellifont Abbey, strongly suggesting that these are products of the same workshop.[10]

There is a strong tendency towards strictly symmetrical designs in the cathedral group of spandrels: *e.g.* spandrels 2, 4 and 9. The spandrels on the west front are without exception foliate and non-figural, and they make extensive use of stiff-leaf foliage types other than the four-lobed leaf which is standard for the carvings discussed here.

Elsewhere, the subject matter of the Bristol Cathedral Elder Lady Chapel spandrels is similar to that at Mellifont Abbey in the use of monkeys with musical instruments (Fig. 155), but the execution of the former is closer to the style of the west nave of Wells Cathedral. The Bristol spandrels appear to be the work of at least two carvers, one of whom delighted in undercutting, a feature which has not been noted on the Wells spandrels. Furthermore, the Bristol carvings are on blocks where the framing moulding is separate — a style similar to the north porch at Wells — rather than on large spandrels where the framing mouldings are integral, as here. Finally the Bristol carvers did not specialize in the four-lobed, stiff-leaf which is standard for the Wells group.

Spandrels incorporated in the Vicars' Chapel

Four similar spandrels were inverted and reused as ornamental panels in the embattled parapet on the south elevation of the chapel in the Vicars' Close. Sculptured panels cut from at least four more spandrels, but of different type, have also been reused between the ground floor windows on the same elevation. There is no particular reason to doubt that these thirteenth-century spandrels were incorporated when the chapel was built, but archaeological investigation would be needed before certainty could be claimed. The date of construction is not precisely known, but it cannot be earlier than *c.* 1430, and could be a decade or so later (Rodwell 1982d, 224–5). The first recorded mention of a chapel for the vicars is in 1447 (Colchester 1987, 177).

Why such an overt display of antiquarianism should have been embraced in the mid-fifteenth century is beyond comprehension, it being entirely out of character with the rest of the Vicars' Close. The spandrels were all in their present positions by the 1790s, and cannot therefore be dismissed as nineteenth-century intrusions. The carvings appear on illustrations by, *inter alia*, Carter, Britton and Pugin.[11]

The chapel spandrels are from two different sets, and all are entirely devoid of figural detail: their decoration consists of both symmetrical and asymmetrical foliate compositions. The four embodied in the parapet appear to be part of the 'cloister' assemblage, but are not accessible for detailed study, and two were unfortunately renewed in the 1950s or 1960s. They may be briefly listed, from west to east, as follows.

Spandrel 13: Foliate spandrel 'E' (Fig. 451)

The spandrel is inverted and both ends have been removed; it is set flush with the surrounding ashlar masonry. Partial replacement of the latter in the 1950s led to the loss of sections of the edge moulding, principally on the east. Asymmetrical foliate composition, the leaves apparently all being three-lobed. Pugin's sketch shows asymmetrical foliate, of schematic form. The heavily eroded detailing was substantially reconstituted in 1981, using lime mortar and stone-dust.

Spandrel 14: Foliate spandrel 'F' (Fig. 451)

A complete renewal in the 1950s, omitting the edge moulding. Details of the original foliate decoration are not recorded, and the replacement is a crude copy of the symmetrically composed spandrel 16. Pugin's sketch shows asymmetrical foliage.

Spandrel 15: Foliate spandrel 'G' (Fig. 451)

A complete renewal in the 1950s, omitting the edge moulding. Details of the original foliate decoration are not recorded, and the replacement is a crude copy of the asymmetrically composed spandrel 13. Pugin's sketch shows asymmetrical foliage, generally similar to that of spandrel 14.

Spandrel 16: Foliate spandrel 'H' (Fig. 451)

The spandrel is inverted and both ends have been removed; it is set flush with the surrounding ashlar masonry. Symmetrical foliate composition with bunches of berries; the leaves are apparently all three-lobed. Pugin's sketch shows a strongly symmetrical composition, albeit of schematic form. The heavily eroded detailing was substantially reconstituted in 1981, using lime mortar and stone-dust.

Between the arched window-heads on the ground floor are two complete spandrels and four half-spandrels, belonging to a separate series. All appear to be pierced, allowing light to penetrate between the carved ornament. The edge mouldings have been almost entirely trimmed away, except on the top, thus losing the presumed integral cusping, and the half-spandrels have probably been cut from whole ones. The carvings are largely unrestored and are all in poor condition.

It seems likely that the latter series is derived from a semi-freestanding structure, such as a screen or an open arcade. The foliate decoration is compatible in style with that of the 'cloister' spandrels, and the two assemblages may well have come from the same thirteenth-century building. The fact

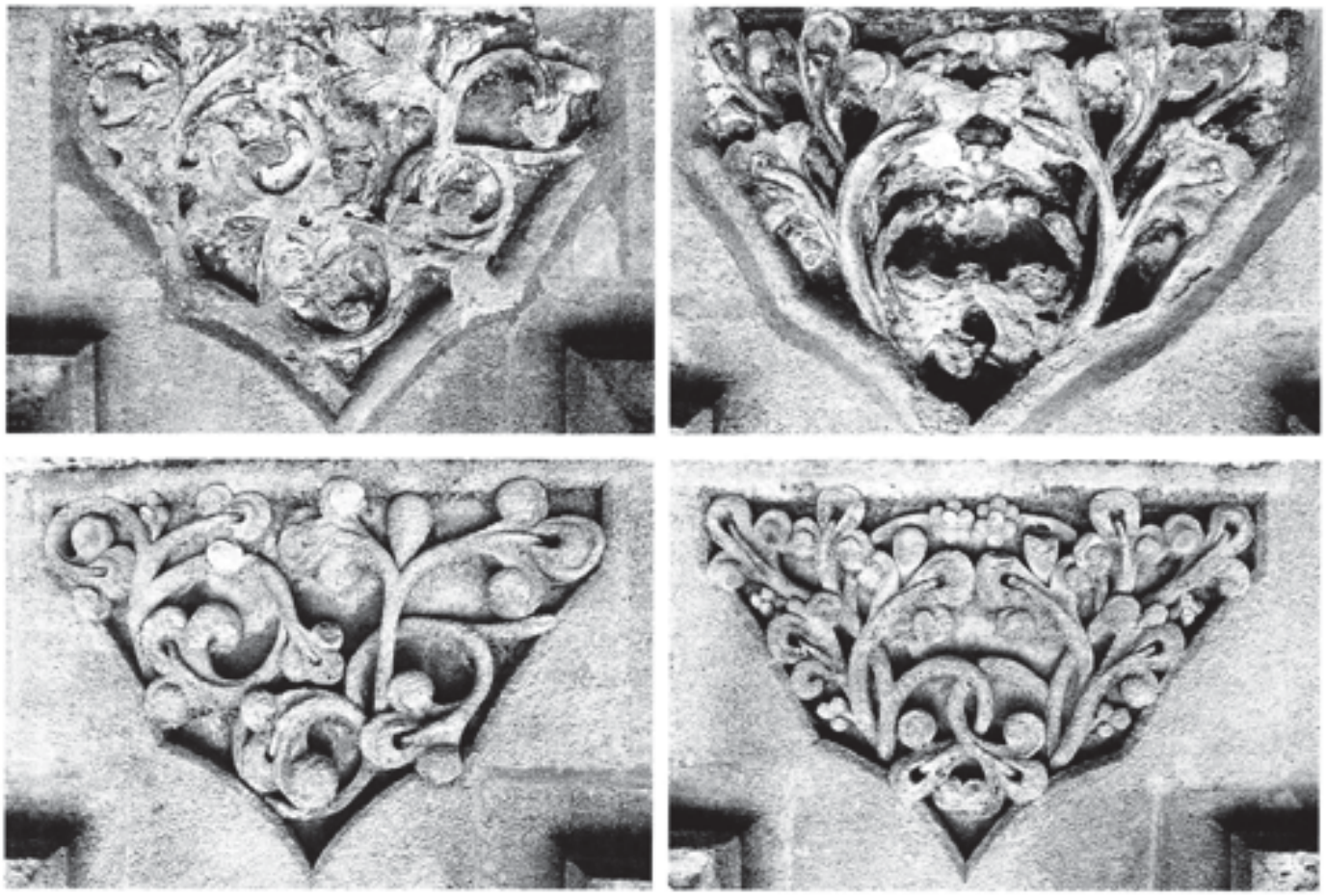


Fig. 451 Thirteenth-century spandrels, nos. 13–16, inverted and reused in the south parapet of the Vicars' Chapel (before conservation in 1981). Top row Spandrel nos. 13 and 16 are originals; Bottom row Spandrel nos. 14 and 15 are copies, made in the 1950s, replacing decayed originals. For ease of comparison, the photographs have been turned through 180°, and thus the corners of the merlons now appear at the bottom (Jerry Sampson)

that examples from two separate but related series occur here together suggests that they were released by the same act of demolition.

In addition to the examples built into the chapel, there are further fragments of openwork spandrels in the cathedral lapidary collection, at least some of which seem to be part of the same series. They have not been studied in detail (but *cf.* Sampson 1998, 48, no. 2). A single fragment of pierced spandrel was, however, found in the Camery excavations (see below).

Spandrels incorporated in Mellifont Abbey, Wookey

More spandrels — again reused as ornamental features — occur in the walls of a house at Wookey, misleadingly known as Mellifont Abbey (Pevsner 1973, 344). This house, which was formerly the rectory and has no monastic connection, lies 3 km west of Wells and is close to the site of a medieval episcopal residence (now Court Farm), built by Bishop Jocelyn.

There are ten spandrels in all, together with various other fragments of medieval sculpture. They are set at a high level in the walls, are partly obscured by creeper, and are inaccessible to close study. Nevertheless, it would appear that they are of about the same size as the Wells Cathedral spandrels, the frame is similarly moulded, and other details suggest that they originated in the same workshop. Stylistically, however, the carving differs slightly from the cathedral group. The six best preserved spandrels are illustrated in Figure 452.

The same mixture of foliate and figural subjects is present, along with symmetrical and asymmetrical compositions. The principal difference is however in the non-religious subject-matter portrayed on the figural spandrels — there are men and monkeys playing musical instruments, several mermaids, birds and a lion — which might indicate that the sculptures derive from a primarily secular context. Against this, however, is the evidence of the Bristol set, in the Elder Lady Chapel. They too have a mixture of subject-matter which includes monkeys.

In conclusion, there is nothing to indicate that the spandrels have come from Wells Cathedral, and it is more likely that they originated in Jocelyn's residence at Wookey.

Fragment of pierced spandrel (Fig. 453)

Fragment of stiff-leaf foliage possibly from an openwork spandrel. Early thirteenth century. ?Fine grained Doulting stone.

8.6 cm high × 14.8 cm wide × 5.3 cm deep

Fig. 452 Thirteenth-century spandrels reused in the walls of Mellifont Abbey, Wookey (Jerry Sampson)

Fig. 453 Fragment of thirteenth-century carving, probably from a pierced spandrel. Scale 1:5. Drawn by Richard Bryant

A slightly curved roll-moulding with a damaged keel or narrow fillet, flanked by stiff-leaf foliage. The leaf on the outer face of the curved moulding is a mere stub, but that on the inner face has three lobes of foliage.

The stone is heavily blackened on the reverse, the carved surfaces being only lightly discoloured. Found in the rubble deposit (F318) on the floor of the late fifteenth-century conduit in the Camery.

Late Gothic architectural sculpture

Roof bosses from Stillington's Lady Chapel

The principal carved stonework of late Gothic date, from the Camery, comprises a collection of sixteen roof bosses, one fragment of a springer-capital, and several pieces of cusped panelling, all derived from the vaulted ceilings of Stillington's Lady Chapel-by-the-Cloister (chapter 7). The carvings are executed in Doulting stone and were found during levelling operations and excavations in the Camery, mostly in the nineteenth century.

A study of the general vaulting arrangements was made by Buckle (1894; and Fig. 240 here), but the bosses themselves have not been published hitherto. They were carved between *c.* 1480 and 1485 (p. 226). The bosses are all displayed in the east and south cloister walks, save one which is built into the external gable

of the west cloister porch (Structure 25). Two groups of bosses were reconstructed on the wall-bench of the east cloister in 1894, as simulated vault-rings (Figs. 241 and 242).[12]

Catalogue of the Roof Bosses

by Jerry Sampson

Springer-capital 1 (Figs. 244 and 454)

Location: Fixed to the wall of cloister bay 7.
Dimensions: 26 cm wide × 29 cm high × 6.6 cm visible depth
Provenance: unknown, but found in 1894. Buckle 1894, pl. 7k.

Fragment consisting of a capital and vaulting shaft from a position between one of the panelled arches and the adjoining fan vault. Described by Buckle (who had the advantage of seeing the whole stone before it was fixed in the wall) as follows:

'The lop-sided aspect of the capital is due to its having been worked for a position between one of the panelled arches and the adjoining fan roof. The vaulting shafts generally consist of three rolls and two hollow chamfers symmetrically arranged; but next the panelled arches the sinking for the panel takes the place of one roll and hollow, and the capital assumes the curious form shown by the wavy line round the shaft' (Buckle 1894, 64).

It is decorated with a double rose over a rayed sun — a badge of Edward IV — this being placed off-centre and bent around the curiously shaped shaft.

Boss 2 (Figs. 243 and 454)

Location: fixed to the wall of cloister bay 7.
Dimensions: 50.5 cm wide × 39.5 cm high × 18.5 cm visible depth.
Provenance: found under the north transept/crossing arch in 1894; Buckle's designation, '1xx' (Buckle 1894, pl. 7j).

Fragment of a roof boss with a vault rib and cusp of panelling from a conoid at centre sinister and recessed cusped panel to dexter. The boss consists of an angel, wings spread parallel to the sides of the body, garbed in a long unbelted ?alb and amice, bearing a shield charged with a saltire cross in front of its body. Behind the wings are stylized clouds, and the alb falls in heavy folds over the feet. There is the suggestion of a central ridge down the shield, and a bridge on the dexter edge probably preserves the position of the angel's dexter hand.

The head and hands are lost, together with the tips of the outer feathers of the wings (which appear to have been free-standing), the sinister half of the shield, and most of the sinister half of the figure.

Bosses 3 to 7 are in a reassembled group, forming more than half of a ring, fixed onto the wall-bench in cloister bay 7 (Fig. 241); described from left to right.

Boss 3 (Fig. 455)

Dimensions: 55 cm wide × 73 cm high × 42 cm deep, overall; boss 31 × 30 cm.
Provenance: Buckle's designation 'C', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate roof boss from a ring with vault ribs to top, bottom and dexter, and to sinister a deeply cut socket to take the end of the rib of the central pendant, this slot sloping downwards slightly towards the back of the cut. Cusping surrounds the ribs, their flat backgrounds bearing extensive traces of original white lime plaster/limewash, the thinner limewash on the ribs being yellowish (traces of a yellower coat survive on the white of the background also, suggesting that it may have been a more general coating which has been lost from the deeper areas). A single trace of red paint on a white ground survives on the central rib of the dexter leaf.

The design of the foliage consists of asymmetrical leaves surrounding a central four-petalled flower; there is almost no undercutting and no obvious drill-work. A small drill-hole on

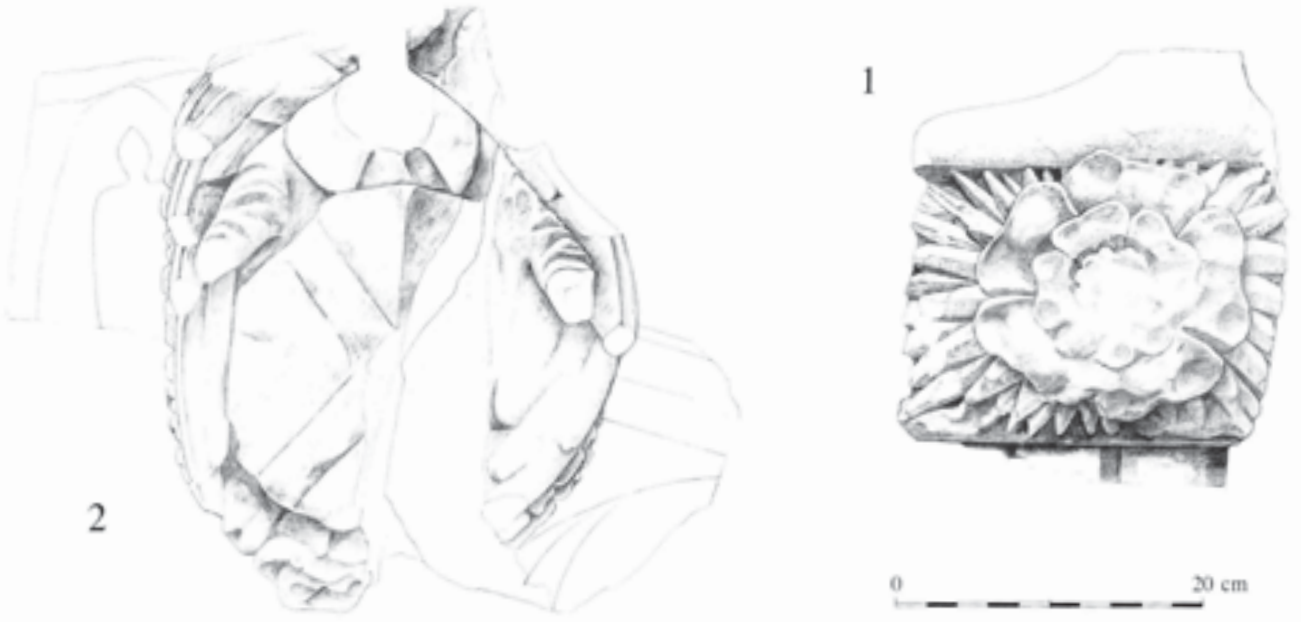


Fig. 454 Stillington's chapel: springer-capital 1, and vault boss 2. Scale 1:5. Drawn by Richard Bryant

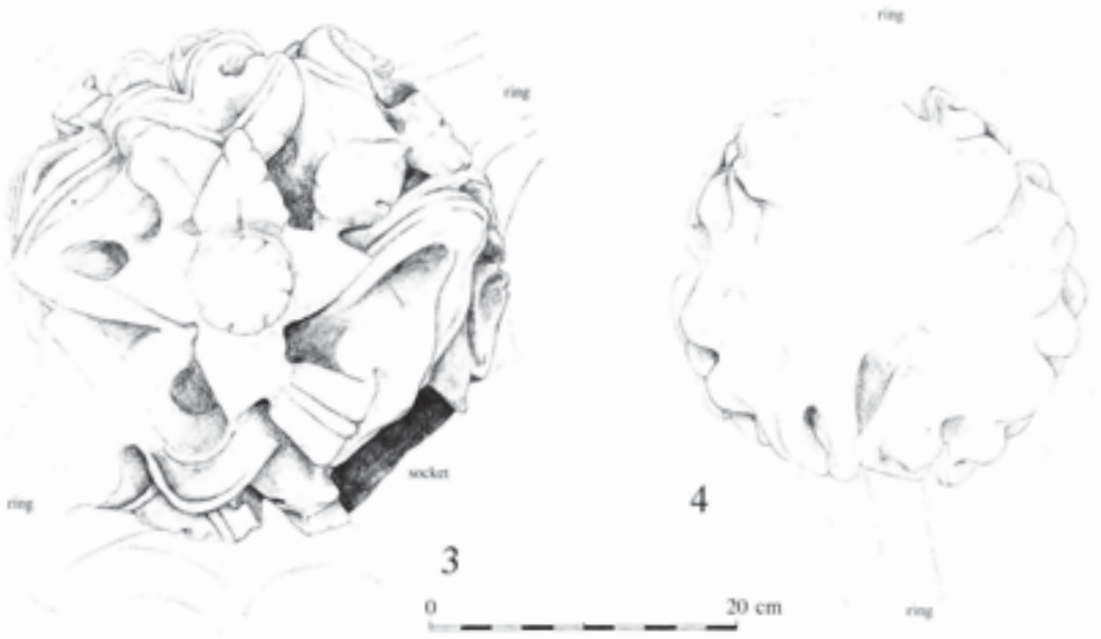


Fig. 455 Stillington's chapel: vault bosses 3 and 4. Scale 1:5. Drawn by Richard Bryant

the lower part of the dexter leaf appears to be adventitious. A setting-out line survives on the dexter side of the block, defining the centre-line of the dexter vault rib; this face bears the marks of a bolster.

There is extensive damage to the sinister side, the lower rib is broken away and survives only as a scar, and the end of the upper rib is broken. The boss has lost detail over its lower face where the rib is missing, and the central flower is damaged.

Boss 4 (Fig. 455)

Dimensions: 69 cm wide x 58 cm high overall x 38 cm visible depth; boss 25.5 x 25 cm.
Provenance: Buckle's designation probably 'D', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Small foliate boss with flat, rather heavy, knobbed leaves, wrapped over the vault rib, which runs in a strong curve beneath it. The cusped panelling of the pendant aligns with, but does not precisely fit, that of the adjoining boss 3 in the reconstruction, suggesting that this group of bosses is assembled from disparate elements rather than being composed of fitting pieces found together.

There are traces of white lime plaster/limewash on the background to the tracery of the pendant, which expands onto the topmost leaf of the boss. The raised surface of the tracery within the ring of the vault rib and its pronounced 'downward' slope gives information about the form of the pendant (see section in Buckle 1894, pl. 5).

A hole 4.1 cm in diameter cut through the blank background of the tracery was probably for the suspension of a lighting system, perhaps a corona supported by four chains. Similar holes occur in other bosses and ring-segments (nos. 6, 9, 11 and 17) though the hole in the last is slightly larger, suggesting the possibility that the crossing corona was somewhat heavier and grander.

A setting-out line on the side at dexter defines the centre-line of the cusping here.

Boss 5 (Fig. 456)

Dimensions: 62.5 cm wide x 71 cm high overall x 41 cm visible depth; boss 41 x 40 cm.
Provenance: Buckle's designation probably 'N', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Large foliate boss with alternating vine-leaves and bunches of grapes. The boss is placed so that its horizontal centre-line is along the lower face of the main horizontal vault rib, rather than along the latter's centre-line. This device seems better to unite the group of ribs at the top with the circle of the pendant below. Thus the upper half of the block contains five ribs: the two sections of the horizontal rib, one at 90° to it, and two in the angles between; and the lower half is occupied by the two curved ribs forming part of the circle of the pendant. There is a socket, 10 cm^2 for the axial pendant rib at the base of the boss (as currently mounted).

The carving shows signs of having originally been deeply undercut since, where parts of the design are lost, the bridging which remains is relatively restricted in cross-section, with considerable areas surrounding this bridging having been finished with the chisel. There is evidence that the internal angles of the vine leaves were cut with a 6 mm drill (*cf.* no. 7), and the grapes are arranged on a regular square grid. The remains of a stem encircle the composition, with a curled tendril at centre sinister.

Traces of white limewash remain on the background between the ribs, while that on the ribs is yellower. Vestiges of original white lime mortar survive on the ends of the sinister ribs.

Boss 6 (Figs. 246 and 456)

Dimensions: 64 cm wide x 46 cm high overall x 33+ cm visible depth; boss 26 x 25 cm.
Provenance: Buckle's designation probably 'D2', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

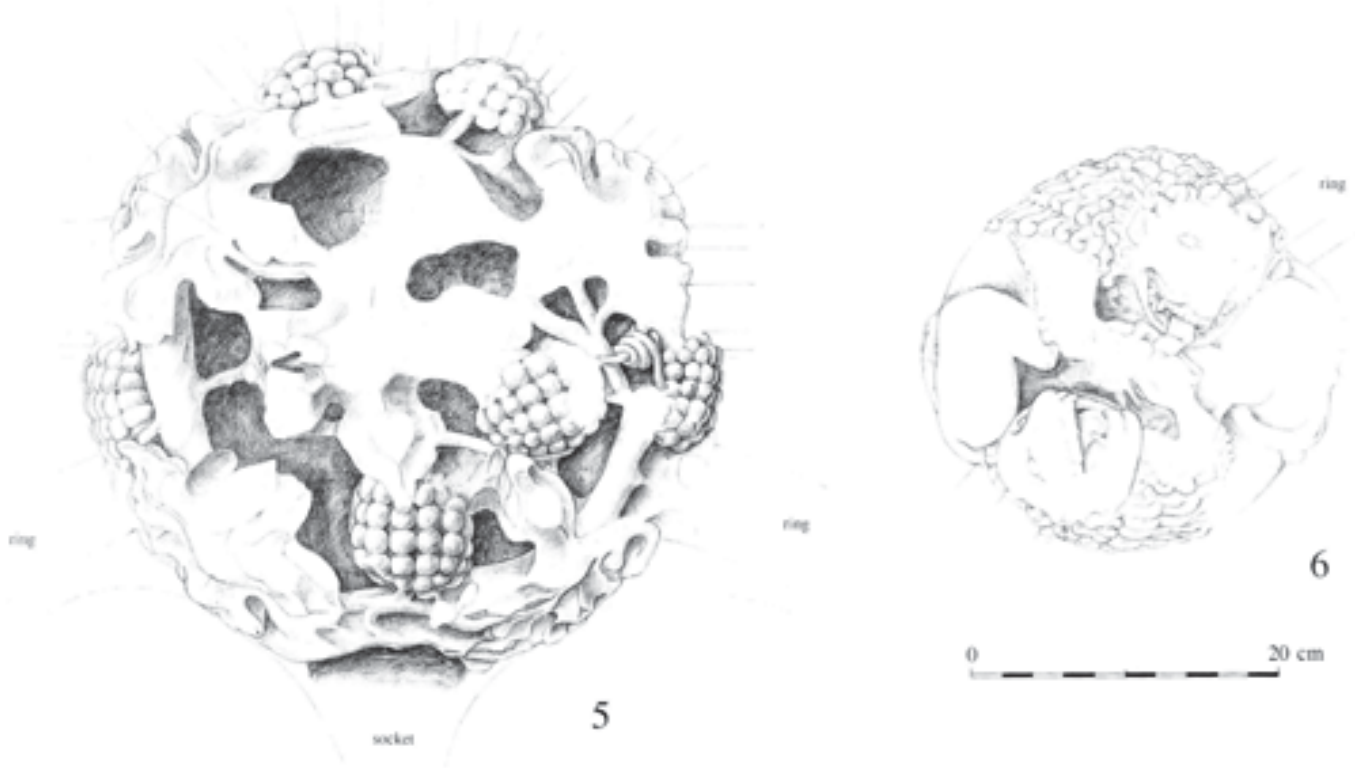


Fig. 456 Stillington's chapel: vault bosses 5 and 6. Scale 1:5. Drawn by Richard Bryant

Boss positioned on a curved rib originally surrounding a pendant (*i.e.* the central ring), the design composed of two lions, curled around with their paws at the centre and their heads facing inwards. Both have open mouths showing prominent canine teeth, that to sinister has his tongue out and is apparently licking his sinister forepaw. Both are heavily maned, the dexter with six, the sinister with seven rows of curls. Each has its tail curled up inside the dexter rear leg, terminating over the lower back in a three-fronded tassel reminiscent of a vine leaf.

There is a drilled hole 4.1 cm in diameter at upper sinister (see boss 4). Traces of white limewash remain on the tracery background, and of yellower limewash on the tracery itself. The stone is fine-grained, which was perhaps chosen for carving a more adventurous subject.

Boss 7 (Fig. 457)

Dimensions: 61 cm wide x 65 cm high overall x 43+ cm visible depth; boss 34 x 30 cm.
Provenance: Buckle's designation probably '1', and therefore found in the chancel during the 1894 excavation.

Large foliate boss decorated with vine-leaves and bunches of grapes, the leaves less knobbed than on boss 5; and the grapes freely carved, rather than being worked from a square 'grid' as on 5. The inner angles of the vine leaves were probably drilled using a 9 mm drill. There is less undercutting than on boss 5, suggesting a different carver, though using a similar tool-kit and procedure. Two bunches of grapes rise from the boss into the angles between the ribs at sinister.

The dexter face of the boss has a 10.5 cm x 10 cm socket to receive an axial rib from the pendant; and this socket was anticipated in the design of the decoration, fitting neatly between three leaves (that on boss 5 is likewise ringed by a stem, but that on boss 3 appears to cut through a leaf).

There are extensive traces of white plaster/limewash on the background of the surrounding tracery panels, with a yellower limewash over this on the tracery, and perhaps on one area of the background as well.

Stones 8 to 12 comprise a reassembled group of three roof-bosses and two ring segments from a fan-vaulting pendant. These were constructed on the wall-bench of cloister bay 8 in 1894 (Fig. 242); they are described from left to right.

Boss 8 (Fig. 457)

Dimensions: 65 cm wide x 61 cm high overall x 42 cm visible depth; boss 37 x 40 cm.
Provenance: Buckle's designation probably 'H', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate roof-boss on a curved rib, and five main ribs; decorated with trilobe (?)vine leaves with serrated edges on a running stem interspersed with multi-petalled flowers. At the centre of the design four leaves (one on each of the main axes) meet together at the tips. The centre of the boss is at the point where the exterior ribs would meet the outer face of the curved pendant rib. The undercutting of the carving is not as great as on boss 5, and there is little sign of the use of the drill. The socket for the pendant rib was clearly catered for in the course of carving, since the design above it is much less deeply cut into the stone.

There are five vault ribs intersecting with the dexter half of the boss, the two intermediate ones on each side of the axial ribs apparently trisecting the angle between it and the curved rib around the pendant. The hole for the pendant rib on the sinister side of the boss is 10 cm by 12 cm, suggesting a deeper rib on this type of bay (a transept bay, according to

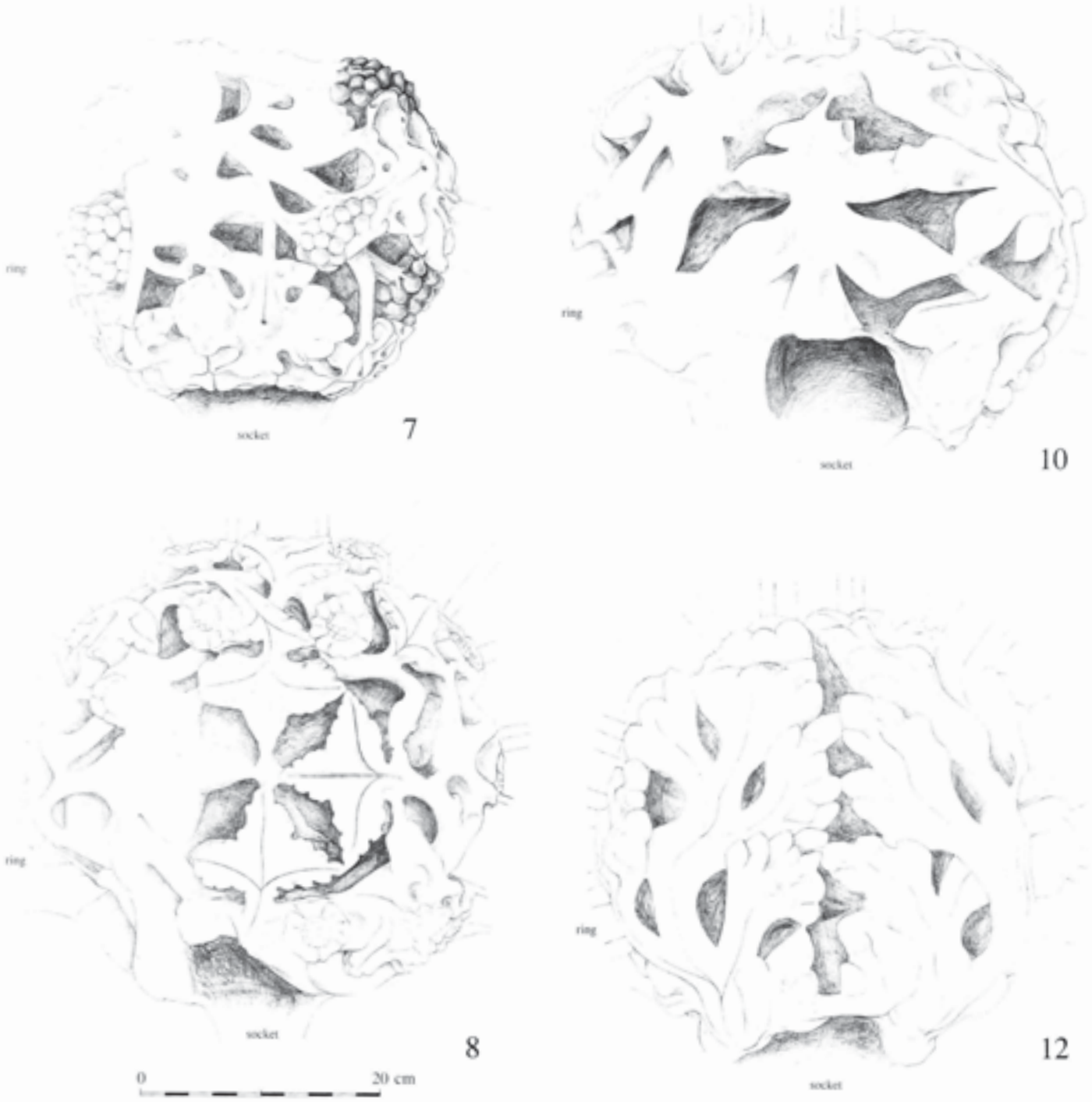


Fig. 457 Stillington's chapel: vault bosses 7, 8, 10 and 12. Scale 1:5. Drawn by Richard Bryant

Buckle) than that exemplified by Buckle's reconstruction in the cloister.

There are traces of white lime plaster on the background of the tracery, and a yellow limewash on the tracery itself.

Vault-ring segment 9

Dimensions: 50 cm wide × 46.5 cm high × 32+ cm visible depth.

Provenance: Buckle's designation probably 'A', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Curved rib running around the pendant, with an internal tracery panel, its central rib curving downwards towards the pendant boss. A cusp (or, just possibly, a rib) has been broken off the opposite face outside the ring-rib, and through this was cut a 4.1 cm diameter hole matching that in no. 11 (*cf.* bosses 4 and 6). This appears to have been drilled from behind to within 2 cm of the surface, and then broken through the face of the cusp. The drill-bit was presumably too short to reach the lower face of the block.

The upper surface of the stone is recessed behind the moulding of the vault rib to take a thinner infill panel for the tracery background of the web. Traces of a thin skin of white lime plaster remain on the background of the tracery inside the ring-rib, with yellow limewash on the upper face of the rib. There is a hint of a setting-out line between the cusps along the centre-line towards the pendant.

Boss 10 (Fig. 457)

Dimensions: 69 cm wide × 64 cm high overall × 41+ cm visible depth; boss 40.5 × 34 cm.
Provenance: Buckle's designation probably 'B', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate boss with five to seven lobed leaves and one bunch of fruit similar to black- or red-currants. Large leaves fill the angles between the three vault ribs at the top. The upper part of the block represents the junction between three large ribs. On the lower half is the curving ring-rib around the pendant, together with the deeply cut recess in the lower face of the boss to receive the flying-rib of the pendant behind which the vaulting curved down towards the central boss.

On the background just to sinister of the top rib is an incised 'V'. Some remains of a thin white lime plaster were noted, with off-white limewash retaining brush-marks.

Vault-ring segment 11

Dimensions: 49 cm wide × 58 cm high × 31.5+ cm visible depth.
Provenance: Buckle's designation probably '3x', and therefore found in the north transept during the 1894 excavation.

Section of fan-vaulting tracery from a central ring (as no. 9), although here the cusp on the outer face is complete; like no. 9, this has a 4.1 cm diameter hole drilled through it. Here too the upper side of the block is recessed to house a thin slab forming the background web of the tracery.

Minor traces of white lime plaster/limewash survive.

Boss 12 (Figs. 247 and 457)

Dimensions: 56 cm wide × 61 cm high overall × 43+ cm visible depth; boss 36 × 40 cm.
Provenance: Buckle's designation probably 'H2', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate boss with two large, many-fronded, seaweed-like leaves whose stems spring from the tracery beside the hole cut for the freestanding pendant-rib, showing that the feature had also been catered for in the design of the boss. The design did not require extensive undercutting or regular drill-work. In addition to the curving ring-rib, there are five vault ribs arranged in the same way as boss 8.

There are remains of white lime plaster on the tracery background within the ring-rib; this is overlaid with yellow limewash on the upper ring-rib, and possibly with pink on the cusp at bottom dexter. There is a small patch of a richer yellow on the upper leaf at dexter, just beside (and on the line of) the top of the cut for the freestanding pendant rib.

Bosses 13 to 18 are all loose, and are presently displayed in the south cloister walk.

Boss 13 (Fig. 458)

Dimensions: 91 cm wide × 64 cm high overall × 43 cm deep; boss 32 × 29 cm.
Provenance: found buried in a pit in the chancel during excavation in 1980 (p. 244; Fig. 260).

Severely broken and eroded vaulting boss with five vault ribs converging on its upper half, and the lower half retaining two cusps flanking a further rib which is almost completely broken away. The foliage is dominated by a series of radiating stems terminating either in oddly knobbed flowers, trilobe leaves, or tight five-lobed leaves which look like stylized fircones. There are traces of drill-work between these elements.

Of the group of five ribs at the top, the two intermediate ones have been reworked on the joint with the next block, perhaps during fixing: the middle dexter having the joint bed neatly recessed, the middle sinister being much more roughly recessed and retaining axe and chisel marks. Axe marks also appear on the central rib's joint bed, and there is a central setting-out line on the joint bed of the sinister rib.

The remnants of white lime plaster on the background of the tracery are particularly thick on this piece, with a thin yellow wash on the ribs.

Boss 14 (Fig. 458)

Dimensions: 62 cm wide × 59 cm high overall × 44 cm deep; boss 37 × 42 cm.
Provenance: Buckle's designation 'L', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate boss bearing the same form of leaf as boss 8, and having a similar composition, with four leaves meeting at the centre. Here, however, the flowers are replaced by bunches of grapes, the foliage spilling into the deep recesses beside the lowest rib.

Six ribs intersect at this boss: a group of three at the top, with two more at the sides, a little above the centre-line, and a single one at the base. The top face has a distinct curvature. There are heavy toolmarks (perhaps signs of reworking during fixing) on the dexter rib's joint bed.

Boss 15 (Fig. 459)

Dimensions: 69 cm wide × 52 cm high overall × 40 cm deep; boss 34.5 × 31 cm.
Provenance: Buckle's designation 'K', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate boss, heavily broken, its foliage consisting largely of an intricately curled stem with narrow recurled leaves, and oddly stylized acorns or hazelnuts, arranged around a central feature which is now unrecognizable. Four ribs converge almost from the cardinal points, with heavy cusps in between. The extrados surface is distinctly concave.

There are traces of a fairly thick lime plaster on the background of the tracery, with off-white to yellow limewash on the ribs.

Boss 16 (Fig. 459)

Dimensions: 61 cm wide × 55 cm high overall × 35 cm deep; boss 35 × 34 cm.
Provenance: Buckle's designation '2x', and therefore found in the north transept during the 1894 excavation.

Foliate boss probably from the boundary between the central spandrel panel and conoid of the vault. The foliage is all but lost, but a complete leaf survives between the ring-rib and the dexter rib, with another almost opposite. This shows as a highly stylized leaf with a deeply undulating surface and highly recurled edges, and with a stylized hazelnut or acorn beside it.

The ribs seem to have much the same form as nos. 8 or 12: three converging at the top, the two curved ribs forming the ring, and another rib (absent but for a short length, and flanked by heavy cusps) bisecting the arc of the ring.

There are slight traces of white lime plaster/limewash beside the dexter cusp.

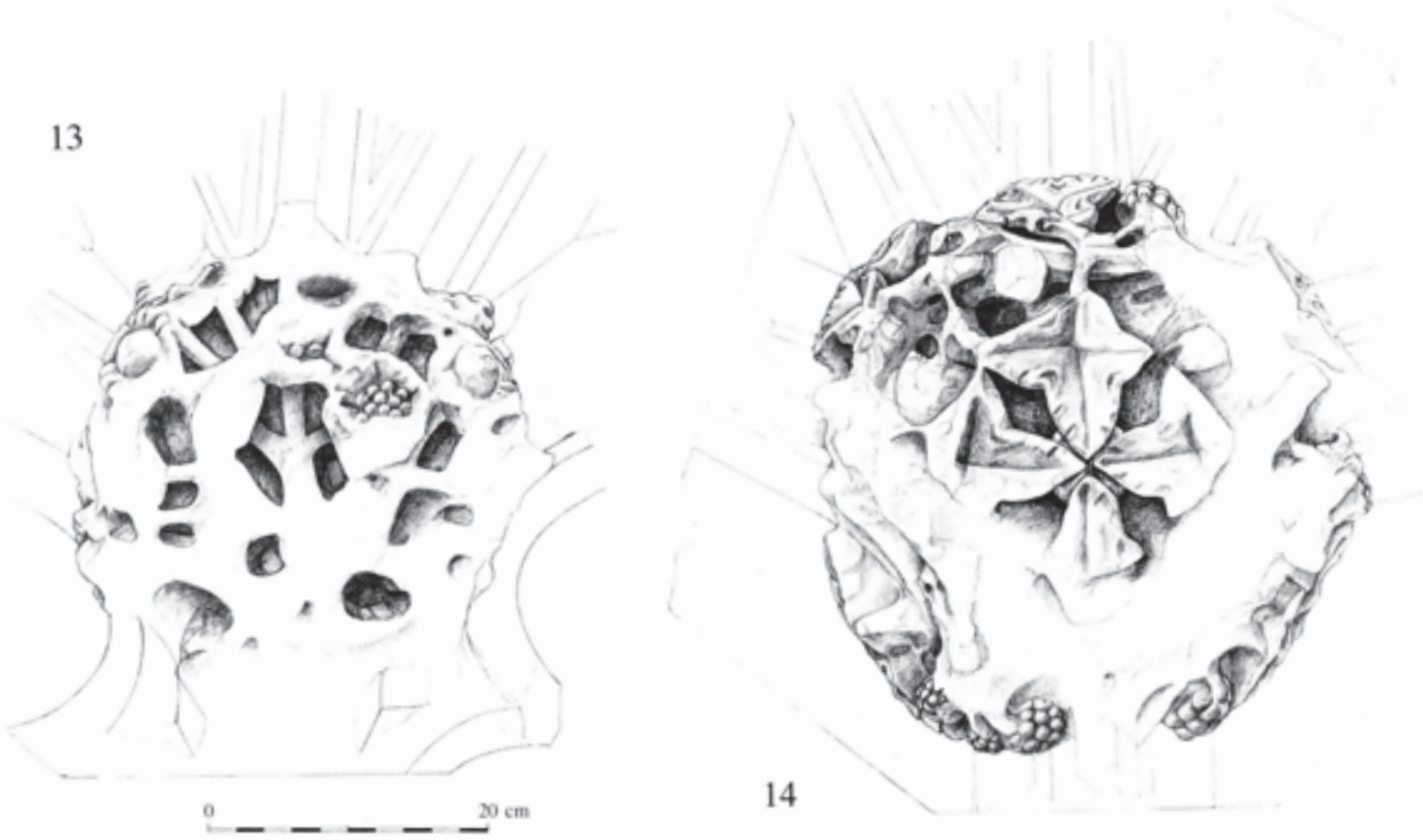


Fig. 458 Stillington's chapel: vault bosses 13 and 14. Scale 1:5. Drawn by Richard Bryant

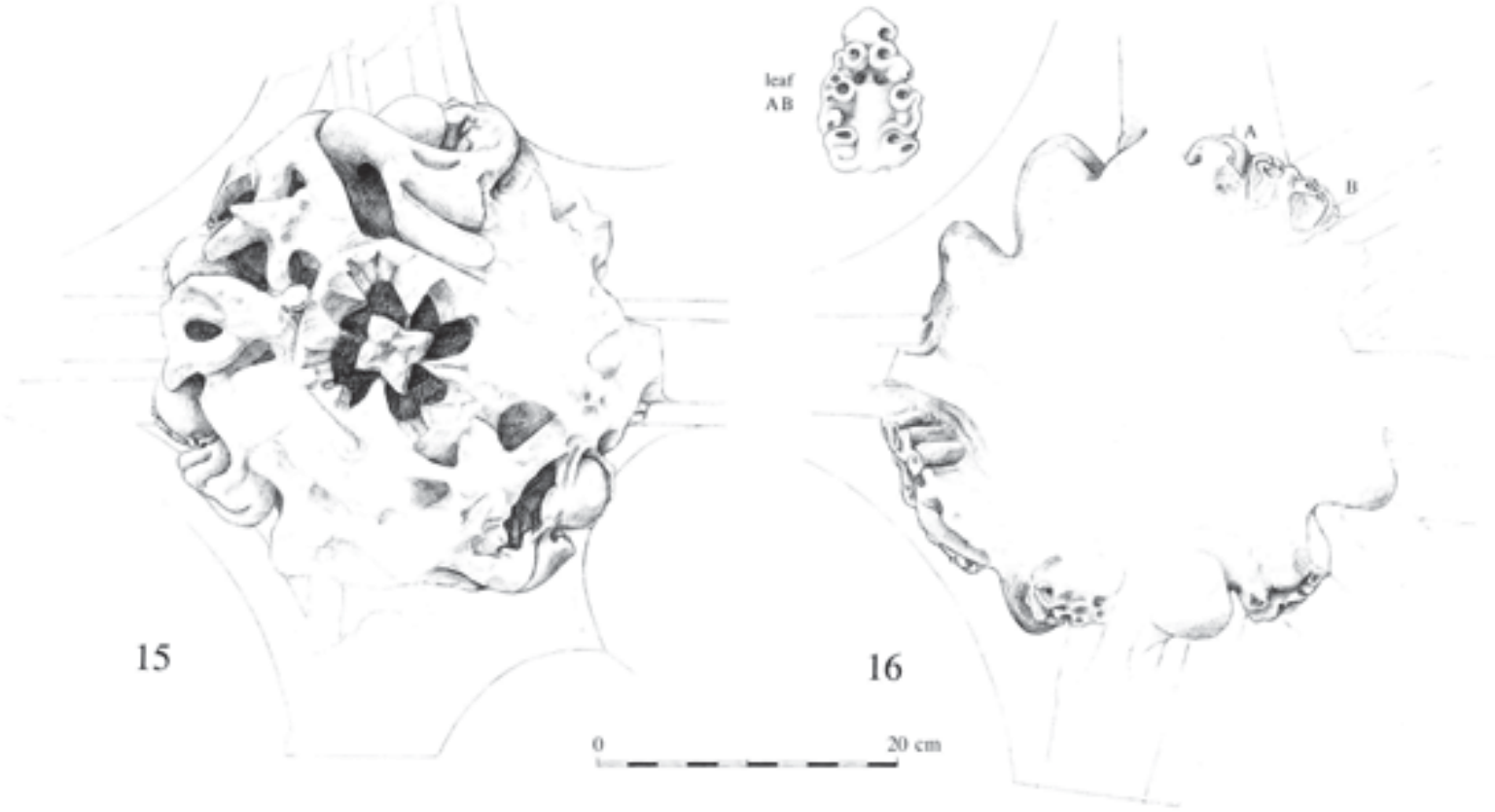


Fig. 459 Stillington's chapel: vault bosses 15 and 16. Scale 1:5. Drawn by Richard Bryant

Fig. 460 Stillington's chapel: vault boss 17. Scale 1:5. Drawn by Richard Bryant

Boss 17 (Fig. 460)

Dimensions: 61 cm wide × 81 cm high overall × 41 cm deep; boss 35 × 37 cm.
Provenance: Buckle's designation 'E', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept: he posited this to come from the central pendant over the crossing.

Foliate boss with typical late fifteenth-century stylized trilobe ?vine leaves and bunches of berries (?grapes) on a heavy interlacing stem.

The ribs have the same configuration as boss 16, and the other main bosses from pendant-rings: three straight converging ribs above, the curving ribs of the pendant-ring at the sides, and the cusped tracery at the base, with an attached flying-rib emerging from the base of the boss.

There is a 4.3 cm diameter drilled hole in the tracery background; this is in the corresponding position to those described previously. There is a setting-out line incised into the joint of the central rib and the sinister curved rib. A large area of the top bed has been roughly worked (or reworked), perhaps with a pick: this may not be original since there are areas of smooth worked surface at top dexter, suggesting that the whole extrados was originally finely finished like the others in this series.

At the lower end of this piece details of the arrangement around the pendant survive. The end-bed has been worked to a concave surface, to fit around the cylindrical keystone of the pendant, and there is a pair of square recesses cut into the side and end beds, presumably to receive lugs projecting from the keystone.

Boss 18 (Fig. 461)

Dimensions: 41 cm wide × 59 cm high overall × 48 cm deep; boss 37 × 36 cm.
Provenance: Buckle's designation 'M', and therefore found 'when the ground was levelled some years ago'. Thought by Buckle to derive from the nave, crossing, or south transept.

Foliate boss with stylized trilobe vine leaves arranged over deep ribs and running from the tracery background, so that there is an overall depth of foliage of some 35 cm. The design is based around a group of five leaves meeting at the centre (*cf.* bosses 8 and 14, where four of the same type of leaves meet in similar fashion); there seem to have been no grapes in this composition (no. 8 has small flowers; 14 has grapes).

Four main straight ribs intersect here, three on the dexter, one to sinister. The joint bed of the central dexter rib has been recessed slightly, leaving a rough toolmarked surface, either as a joggled joint or to locate an oversized neighbouring block. The extrados is convex along its long axis. There is evidence for the possible use of a drill in carving, where a roughly circular straight hole runs across beneath the stem of the top-centre leaf. This has subsequently been opened up with a chisel.

There are slight traces of white lime plaster/limewash on the upper rib and the tracery background to sinister of it.

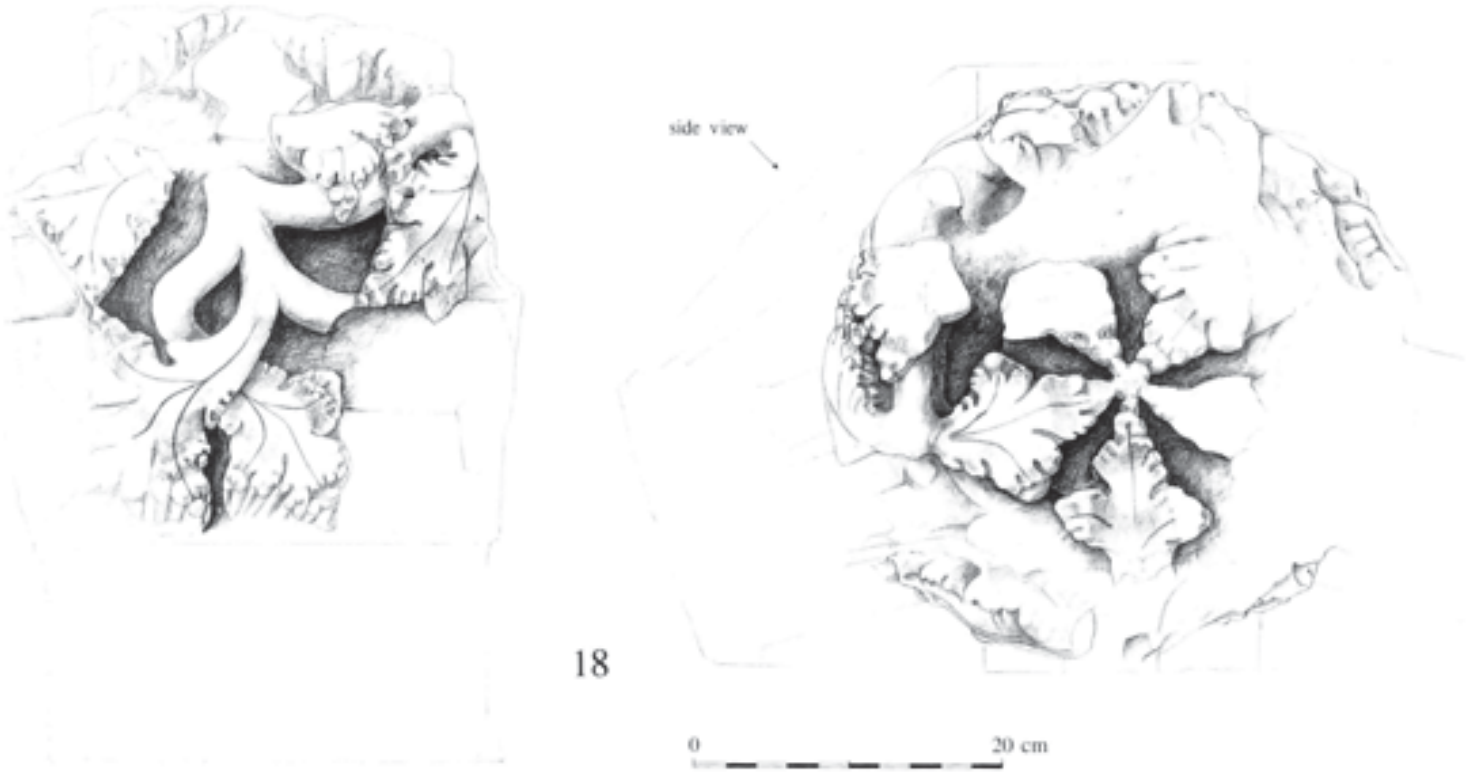


Fig. 461 Stillington's chapel: two views of vault boss 18. Scale 1:5. Drawn by Richard Bryant

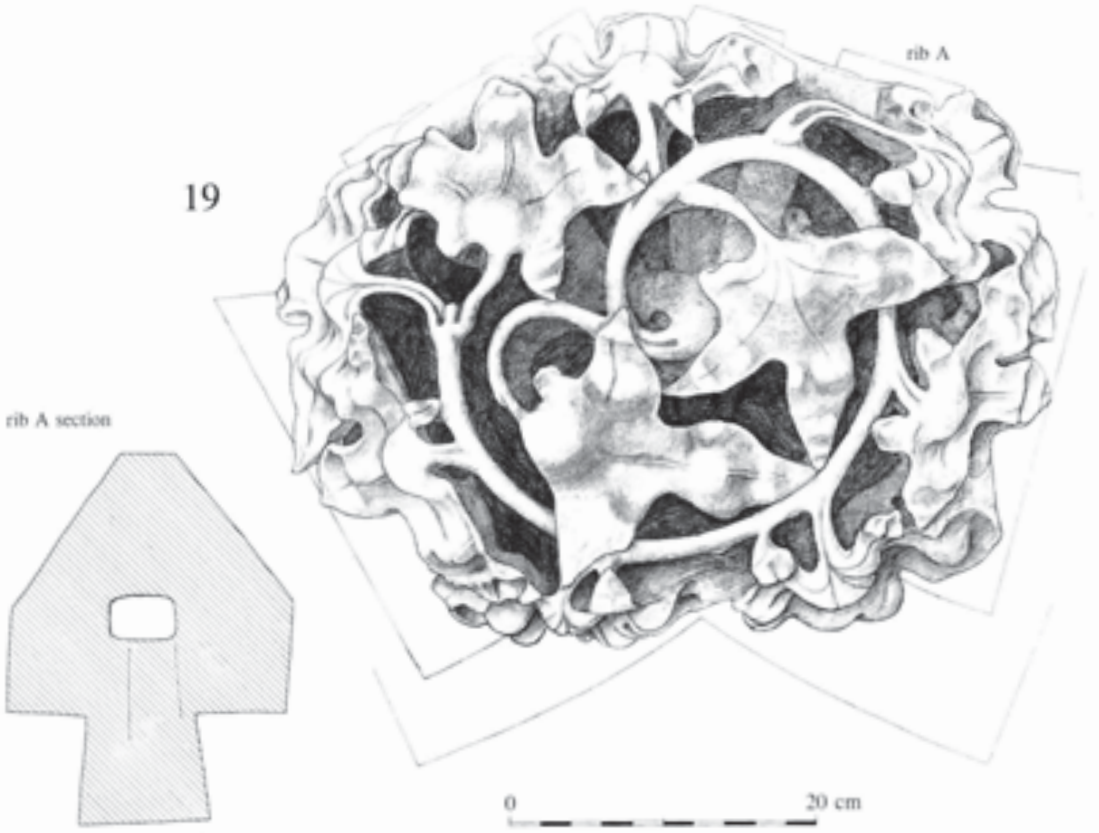


Fig. 462 Stillington's chapel: vault boss 19. Scale 1:5. Drawn by Richard Bryant

Boss 19 (Figs. 345 and 462)

Dimensions: 55.5 cm wide × 42.5 cm high × 23 cm deep.
Location and provenance: built into the external gable of the porch (Structure 25; Fig. 345) leading into the west cloister from Cathedral Green. In its present position, the boss serves as a decorative 'roundel', having been set within a square stone frame defined by a bold moulding. This feature was probably created as part of the Tudor rebuild of the porch; the boss was first recorded here in the 1790s (p. 334). When the porch was restored in 1990, the boss was temporarily removed, cleaned and reset. The boss is presumed, on size and stylistic grounds, to be derived from Stillington's Lady Chapel.

Foliate boss with large corrugated vine leaves on an irregularly shaped 'back-plate' worked to a squared finish, which, as presently set, forms the lower half of the background and projects on both sides at the base at approximately 35° to the horizontal, to form two wings. At upper dexter and upper sinister there are flat areas which could merely be weathered surfaces, or could represent the working back of a vault-rib; the inner parts of these areas are now obscured by considerable areas of crudely applied epoxy resin (perhaps to act as watersheds in recesses). On the sinister side of the foliate block two areas appear to have been worked back leaving a fairly roughly finished surface on the side of the block, but a smooth finish on the projecting 'back-plate'. On both sides this background appears to have been worked with a fine claw-chisel, the good state of preservation of these marks after long exposure suggesting that this may be recent reworking of the stone, perhaps done when the boss was adapted to its present position by cutting off the ribs of the vaulting. It may thus have had two ribs entering at the top of the stone, and probably two on each side, there being recessed areas (though more convincingly part of the design) also on the dexter. The lower part of the stone, with the V-shaped profile of the background seems never to have possessed a rib.

The design of the foliage consists of a single curled stem running in towards the centre, where two large leaves dominate the composition, and a sequence of identical trefoil vine leaves branch off the stem to form the edges of the block.

Unlike the general run of the Stillington bosses, the stone is less deeply recessed, and it is difficult to see how, even with the working-off of the vault-ribs, the lack of projection of the stone could have matched the Stillington series where leaves are often set back deeply between the converging ribs. The best parallels are with the larger bosses of the pendant-rings, but there is no sign of the deep circular recess for the insertion of the pendant rib. Working back the roll and fillet of the pendant ring could, however, have left the projecting forms of the background, and cutting the top of the stone back square would have removed the upper ribs. No. 5 is the best parallel, since there the leaves do not run back particularly far between the ribs, and the general form of the decoration is also very similar, though that boss includes grapes as well as vine leaves.

Medieval tile pavements and floor tiles

During the course of excavation in the Camery some thousands of fragments of glazed medieval floor tiles, both plain and decorated (inlaid), were recovered from grave fills, demolition rubble, and other deposits. Unfortunately, no substantial portions of pavement survived intact, but nine small areas of *in situ* tiling were found within the thirteenth-century Lady Chapel-by-the-Cloister (Structure 11), and a few border tiles remained in its late fifteenth-century successor (Structure 15).

The only other tile paving known to survive *in situ* at Wells is in Corpus Christi chapel, which occupies the north-east transept of the cathedral. This fragment of early fourteenth-century pavement has not hitherto been recorded, although brief notes and sketches of its heraldic tiles have been published (Pereira 1888, 52–3; Jewers 1892, 115–17, pls. 4–5; Colchester 1977a).[13] In 1982 a keyhole excavation in the north quire aisle, two bays west of Corpus Christi chapel, yielded a few further tile fragments.

In the early nineteenth century, a small patch of medieval tile flooring was recorded in the Lady Chapel of the cathedral, but that was lost when the Victorian Minton tile pavement was laid. Finally, a small excavation undertaken in 1970 on the site of the ruined great hall of the Bishop's Palace yielded a collection of tile fragments which, although not *in situ*, clearly belonged to the original floor of the late thirteenth-century hall (Cherry and Draper 1981).

Wells has not hitherto been noted for its medieval floor tiles, and there do not appear to be any preserved in tile collections outside the city. Although many hundreds of fragments were found in the 1894 excavations in the Camery, only the more complete specimens were retained. It would appear that these were arranged in trays and were possibly displayed in the then cathedral museum over the west cloister (p. 14). A manuscript catalogue of the tiles was compiled in 1914 by Dean Armitage Robinson, with the assistance of the Reverend P.B. Clayton (whose detailed study of the tiles from Glastonbury Abbey remains unpublished), and a series of watercolour drawings was prepared by several local artists in 1913–14. Thirty-two designs were described, all but five of which were illustrated.

Unfortunately, most, if not all, of the material that was then extant is now lost, although it is possible that a few of the items listed are among the tile collection in Wells Museum. The catalogue and watercolour drawings have recently come to light at Glastonbury, and have now been returned to Wells, where they are in the Cathedral Library.[14] Although Wells Museum has tiles which were certainly found during the 1894 excavations in the Camery, there is very little correlation between the 1914 catalogue and what is now in the museum. There is no accompanying documentation at the museum.[15]

Wells Museum holds the material recovered from the Bishop's Palace in 1970, and also has a few other tiles which appear to have come from the cathedral, although certainty is not now possible.[16] There is a vague record that some of these fragments were found in the road outside the Deanery in 1890.[17] Tiles were dug up in the cloister garth, sometime before 1888, but their fate is unrecorded.[18] Finally, the alleged finding of medieval tiles in the Vicars' Close is uncorroborated.[19]

The medieval floor tiles of Somerset have yet to receive serious study, as a corpus, although Ward-Perkins (1941) wrote an introductory essay on the subject.[20] Hitherto, they have principally received notice for their heraldry (Way 1853). It is thus not surprising that there has been no more than an interim discussion published concerning the tiles from Wells (Eames 1981).

Taken together, the Wells material constitutes a highly significant collection, the second largest from Somerset. The largest assemblage of decorated tiles comes from Glastonbury Abbey, and is unpublished. Unfortunately, the tiles there are without stratigraphic provenance, and the excavators discarded all the undecorated material. Excavations at Keynsham Abbey have yielded the third largest collection (Lowe 1978), and the well-known pavement at Cleeve Abbey probably ranks fourth in importance (Ward-Perkins 1941), and there is much more material held by English Heritage from that site and from Muchelney Abbey. Excavations at Bath Abbey in 1979 yielded a significant quantity of tiles which compare closely with those from Wells (Bluer and Eames 1991), and several lesser sites have similarly contributed to the general picture.[21]

The great majority of the floor tiles from Somerset are products of the widespread and amorphous 'Wessex School' of tilers. Clarendon Palace in Wiltshire, where a tile kiln has been excavated, provides one of the type-sites. The corpus of designs indicates, however, that other regional tile-making traditions also exercised some influence in the Somerset area. The potential sites of three tileries, all producing Wessex-type material, have been pinpointed, but no actual kiln has yet been excavated in the county. Fused wasters found in St James's churchyard, Taunton, may indicate a tilery for the priory there (Hallam 1950); a dump of tile waste in the precinct ditch at Silver Street, Glastonbury, points to the site of the abbey's workshop (Elias and Ellis 1982); and a layer of fused and distorted tile fragments was found at Keynsham Abbey (Lowe 1978, 19–20). Additionally, waster tiles have been found at Glastonbury Tor: they were obviously not made there, but need not have travelled far from the kiln (Eames 1970, 76).[22]

Although there is an acknowledged need for a general appraisal of the Wessex tilers, the present study is confined to the material from Wells. All the tiles there are assignable to four groups, which can be categorized on fabric, size and style of decoration: the kiln source

of one group has been positively identified, and another may be suggested on circumstantial evidence. The excavations in the Camery yielded two visually distinct groups of decorated tiles (groups 1 and 2), and a few plain specimens belonging to group 4. Some of the excavated group 2 tiles correlate with examples in the floor of Corpus Christi chapel in the cathedral (where there are also a few tiles of a different type, group 3), and others with the *ex situ* material from the great hall of the Bishop's Palace. Group 2 tiles are represented in two distinct sizes, here designated 2A and 2B.

It is therefore logical to consider the tiles from Wells *in toto*, beginning with the evidence of the pavements themselves, followed by a discussion of the four factory groups represented by the material. For descriptions of the groups, see the relevant sections of the catalogue (below), and for the corpus of designs see Figs. 468–82.

Tile pavements at Wells

Pavements in the Lady Chapel-by-the-Cloister

The nine small areas of tile paving found *in situ* in the nave and aisles of the chapel have been described in chapter 6 (pp. 177–81). Although scattered and very fragmentary, the patches of surviving floor tiling exhibit a level of coherence that suggests they belonged to a contemporary paving scheme which extended throughout the nave and aisles. The exceptions to this are area G, and a small part of area E, which were both relaid.

Several design arrangements were employed in the tile carpets. In area A the carpet was laid with single rows of tiles in continuous lines; between each row was a broad, plain black border, with interspersed rosettes. In area B two types of diagonally laid paving formed adjacent carpets: in one, single tiles of simple design were individually framed by a lattice of narrow borders; in the other four-tile groups of birds and beasts were likewise framed. In both cases the borders were black with yellow squares at the intersections. A variation on this last theme was recorded at Beckery Chapel, Glastonbury, where four-tile groups were square-set and framed by, alternately, single and double-row black borders with yellow intersections (Eames 1974b, fig. 24). In area J plain black borders were set alternately between border tiles decorated with annulets. This aberrant use of a tile type — which was obviously designed with a view to laying continuous borders of annulets — was not confined to Wells: it was recorded also at Keynsham (Lowe 1978, pl. VIb; and *cf.* pl. Vb).

The number of designs found *in situ* in the Lady Chapel was small, and was composed as follows:

square tiles — designs 23, 26, 31, 38, 39 and 40
border tiles — designs 3, 4, 5, 8a–b and 12

Sufficient remained at the west end of the north aisle to suggest the general arrangement that may have obtained. There were probably two carpets of diagonally set tiling, flanked by narrower strips that were, in effect, composite borders (Figs. 159–61).

The tiles are all of Wessex type, in the same fabric, and belong to group 1 as defined on p. 455. They indicate a general paving of the nave and aisles in the third or fourth quarter of the thirteenth century. It is interesting to note that the tiles are all based on a quarry size of *c.* 125–130 mm², whereas some of the designs were clearly made for use on quarries 140 mm², or more. The larger format is a feature of earlier production in this group, and the implication of this uniform use of smaller tiles is that the Lady Chapel floor was laid towards the end of the currency of this particular Wessex tile series.

Study of the provenances and condition of the *ex situ* decorated tiles recovered from the Camery has shed further light on paving that has long since been broken up. Numerous examples of the tile designs listed above, as being *in situ*, were also found in medieval graves, demolition layers and sundry post-medieval deposits in the general vicinity of the nave and aisles. These tiles were mostly well worn, had bedding mortar adhering, and few exhibited signs of serious overfiring.

Other group 1 tiles that occurred prolifically in the same area were designs 1, 9a–b, 10, 23, 24, 27, 35, 42–44 and 47. Present, but less common, were designs 2, 12, 13, 25, 28, 32 and 41, while there were just a few examples each of designs 15–20, 22, 34, 45 and 46. Indeed, all the tile designs so far listed, with one exception (design 35), were represented in the late fifteenth-century demolition layer (F432) that covered the chapel. It therefore seems reasonable to regard all of these designs as once having been elements of the paving in the nave and aisles. By contrast, few of these tiles, in the condition described, were found in the area of the chancel, from which it seems clear that the eastern arm of the Lady Chapel was not paved at the same time as the other parts (for the problem of dating, see p. 195).

However, the construction deposits associated with the eastern arm (as well as diverse later features that had penetrated them) yielded hundreds of fragments of group 1 tiles. The majority were found in a dump of rubble (F1347) used to level the interior of the chancel during construction. It was over this and other infill layers that the chancel floor was laid, although none of it survived. It seems most unlikely that the floor itself was tiled: stone paving is the plausible alternative.

The tiles recovered from the dump (F1347) differed markedly from those found in the nave and aisles. The vast majority were overfired, some to the point of being obvious 'seconds', if not wasters. While exhibiting little or no sign of wear, some tiles had mortar adhering, although not in the form of demonstrable bed or joint material. Since mortar was sometimes present on the upper surface of the tile, as well as on broken edges, it seems clear that its presence was

purely fortuitous. Almost certainly the occurrence of mortar is a consequence of the tile fragments having been mixed up with builders' débris.

The composition of the dump is especially interesting, since not only did it contain stone rubble and mortar derived from the demolition of the Saxo-Norman chancel, but it also yielded material from another source. This formed a blinding layer (F1320) which overlay, and merged with, the dump. The layer comprised a mixture of burnt, crumbly red clay (derived from the local natural), small nodules of burnt lias, nodules and crumbs of free lime, charcoal fragments, and unused floor tile. There can be little doubt that this was a dump of builders' débris. The possibility was considered of the burnt material and overfired tiles having come from a nearby tile kiln, but that is not sustainable, since the source of the tiles has now been traced to Nash Hill, Wiltshire. What we have here are the rejects and waste material discarded by the pavers.

The assemblage of unused tiles from the dump and blinding layer included designs 1, 13, 24–27, 35, 38–40, 42 and 44, as well as a large number of plain border and corner tiles, in both black and yellow. Overfired tiles of group 1 from other features in the area of the eastern arm included many more examples of the same designs and a few pieces of design 4; correctly fired tiles of designs 22, 23, 28, 32 and 41 were also found. What is most striking about this assemblage is the total absence of decorated borders of designs 8 and 9, the common corner rosettes (3–5), and certain other common designs such as 31. Although this débris is wholly consistent with the products of group 1, as defined above, it was plainly not a dump associated with paving the nave and aisles of the Lady Chapel. It must therefore have been the detritus remaining from another flooring campaign elsewhere in the cathedral.

A possible link may exist via the distinctive series of riser-tiles (designs 16–20), depicting hunting scenes. These were overfired and generally similar in appearance to the material from the builders' dump, although the designs were not represented there. The risers had been used, as the attached mortar bedding showed, and the limited distribution of their findspots suggests that these tiles had formed a step in the Lady Chapel, possibly between the nave and the chancel.

Tiles of group 2 found in the Camery did not include any overfired material, and most examples exhibited obvious signs of wear, indicating that they had been used in floors. Some designs were represented by only a few fragments, and these were widely scattered across the excavation, suggesting that those particular tiles had not been employed in the Lady Chapel. Other tiles of group 2 were, however, found in more concentrated areas and had potentially been laid in the chapel. Design 59 provided the most obvious instance, with several examples being found in the chancel. A few fragments of design 63 occurred in grave fills in the nave of the chapel.

In sum, the nave and aisles of the Lady Chapel appear to have been paved in a single campaign; the chancel was probably never tiled. The dump of builders' débris found in the substructure of the chancel was derived from another, unrecorded, project at the cathedral. There is no sustainable evidence for the extensive use of group 2 tiles in the Lady Chapel, but a few tile designs were found in restricted areas, presumably where secondary paving had been laid over graves, or possibly in front of altars.

Paving in the Great Hall of the Bishop's Palace

The great hall of the Bishop's Palace stands in ruins, having been unroofed in 1552. It was built by Bishop Robert Burnell (1275–92). Stylistically, it is likely to date from the end of Burnell's episcopate, and thus the tiling of the floor — one of the last tasks to be carried out — may be no earlier than *c.* 1290, and could even be a little later.

Keyhole excavations carried out in 1970, for the purpose of locating the position of the aisle piers, revealed a compact deposit of lias rubble which was evidently the bed for a tile pavement. No paving was found *in situ*, but a layer of broken tile above the bed indicated the nature of the flooring material, at least in part (Cherry and Draper 1981).

The assemblage of tile fragments recovered from the excavation shows remarkable consistency, suggesting that the material is derived from a single floor, and is not contaminated by extraneous débris. The tiles are all in the same fabric, and belong to group 2. This fabric is found at Glastonbury, on the Abbey, Silver Street and Tor sites, the last including the wasters mentioned above. Seven or eight designs are represented. In the smaller format (140 mm²) are designs 52A, 53 and 68. The larger format (200 mm²) seems to have been devoted to a display of heraldry: designs 69 (England), 70 (Cornwall), 71 (Clare) and 72. The last is but a tiny fragment, and is unidentified.

The group 2 assemblage finds ready analogues elsewhere in the locality: thus five of the designs are die-matched in the small group of tiles from Glastonbury Tor (Eames 1970), and six each at Cleeve Abbey (Ward-Perkins 1941) and Glastonbury Abbey (unpublished).

Pavement in Corpus Christi Chapel

Its architectural setting

The north-east transept of Wells Cathedral houses Corpus Christi chapel (Fig. 463).[23] The chapel is part of the extended eastern arm of the cathedral, the construction of which was in hand during the first quarter of the fourteenth century, and was substantially complete by 1325, when stalls were being ordered (Colchester and Harvey 1974, 208 and references). The earliest mention of Corpus Christi chapel is in

1328, when there was a reference to the impending dedication of its altar: *ad altare in honorem corporis et sanguinis Christi constructum et adhuc dedicandum* (HMC 1907, 220–1). Since, however, the Feast of Corpus Christi was introduced into the liturgical calendar at Wells in 1318, it seems highly likely that that was the occasion when the chapel formally came into existence (Klukas 1981, 31). The first mention of the corresponding chapel of St Katherine, in the south-east transept, was in connection with masses in 1330 (HMC 1914, 597).

It is thus reasonable to assume that the fabric of the new quire and its adjacent chapels was at least partially complete, and in usable condition, by the end of the second decade of the fourteenth century, implying that the windows were glazed and the pavements had been laid. A *terminus ante quem* of *c.* 1320 is thereby provided for the manufacture of the floor tiles. How extensive the tiling was in the eastern arm is unknown, and all that now survives is a triangular patch in the north-west corner of Corpus Christi chapel. It represents a series of 'carpets' laid east–west. Moreover, only part of that area contains original tiling *in situ*. Fragments of similar tiles were found in a small excavation in the fifth bay of the north quire aisle in 1982, indicating that the early fourteenth-century scheme was not confined to the chapel.

Antiquarian study

The existence of the pavement in Corpus Christi chapel has long been known, and has been commented upon, chiefly for its heraldic interest, on several occasions. The first notice of it appears on a plan of the cathedral drawn by John Carter in the early 1790s.[24] Parts of three parallel carpets of tiling are sketched, each beginning at the west wall, but truncated after a short distance. A watercolour drawing of part of the floor was made in 1824 by Carlos.[25] The tomb chest of Bishop Berkeley — not in its original position — stood on the northernmost carpet, obscuring about half of it.[26]

Sometime in the first half of the nineteenth century, the remains of the southernmost tile carpet were destroyed, perhaps by grave digging, but more likely as part of a tidying-up operation when the chapel was refurbished. At the same time, the other two carpets were slightly extended to the east by laying down extra tiles, some of which were almost certainly remnant from the destroyed third carpet. The rearrangement was recorded by Pereira (1888, 52): '... a small set of encaustic tiles, which, after having been left in a state of neglect and confusion in some external locality, were some years ago carefully collected and fixed on the floor of this chapel near its western wall.' Other 'spare' tiles were also used on the altar step in the same chapel. The most likely time for the formation of the step and the resetting of the floor tiles was during the general restoration of the eastern arm under Anthony Salvin, *c.* 1850.

Two studies of the heraldry of Wells Cathedral made mention of the tiles in Corpus Christi chapel, in so far as they were relevant to the subject material. Pereira listed nine heraldic tile-types, and sketched their shields, omitting the supporting detail (Pereira 1888, 52–3 and fig.). Jewers described nine armorial bearings, and illustrated eleven tiles, two of which displayed the same arms; a further two he regarded as non-armorial (Jewers 1892, 115–17, pls. 4 and 5). One of the latter had, however, been included by Pereira. Jewers's illustrations show supporting detail outside the shields, albeit crudely sketched.

The identification of several of the arms was disputed, and Jewers made the mistake of assuming that all the tiles were early fourteenth century in date: he was consequently lured into claiming implausible heraldic identifications. He described, but did not illustrate, a tile with arms that he attributed to the family of Braunche; Pereira made no mention of such a tile.

In 1976 the Berkeley tomb-chest was removed from Corpus Christi chapel, re-exposing the hidden area of flooring; this led to the next study of the tiles, by Colchester (1977a). He illustrated all the tile patterns then present in the floor, heraldic and otherwise. By this time, the tile with the supposed Braunche arms was lost, as was a tile bearing the arms of France, which had been noted by both Pereira and Jewers. Colchester, relying on an archaeologically uninformed opinion,[27] accepted the tiles as being wholly *in situ* and therefore of early fourteenth-century date. Consequently, he repeated Jewers's unacceptable attributions of the heraldry.

Description of the pavement (Figs. 463–5)

Just over three square metres of tile paving remain in the north-west corner of the chapel, and of this slightly less than half was laid, or relaid, in the nineteenth century, using lime-ash mortar and Portland cement.

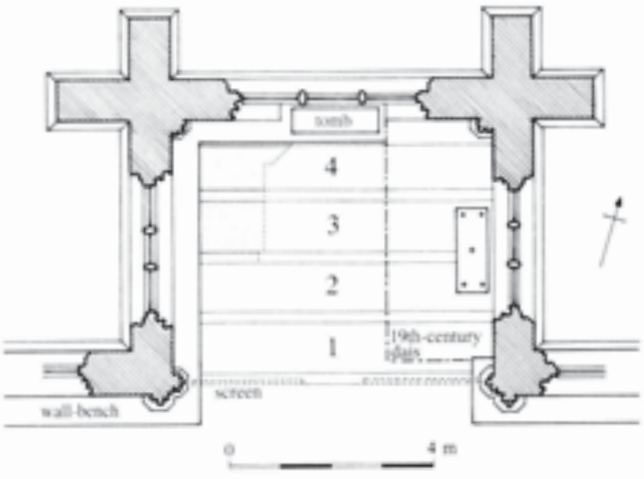


Fig. 463 Ground plan of Corpus Christi chapel (north-east transept of Wells Cathedral), showing the area of extant medieval tiling (shaded). The suggested original arrangement of four medieval tile carpets is indicated. Scale 1:150

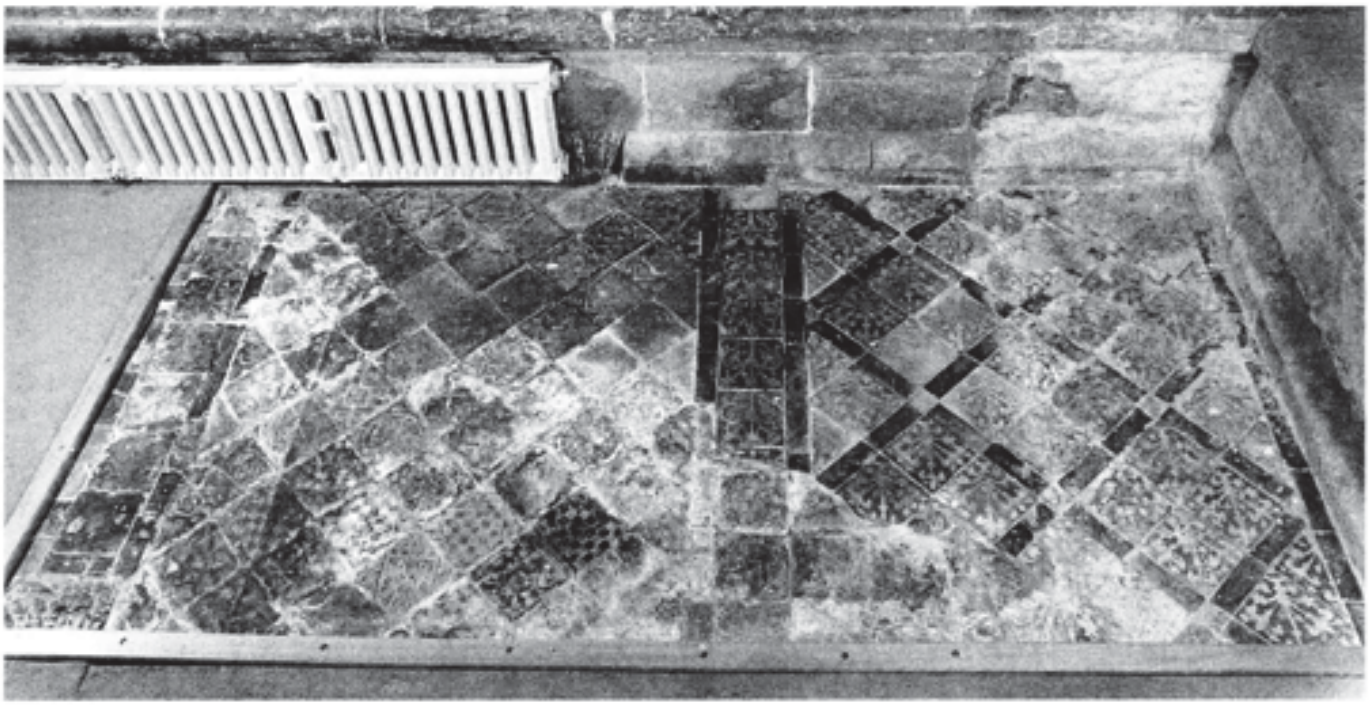


Fig. 464 Medieval tile paving in Corpus Christi chapel; view west. The pale, rectangular area at the right-hand end marks the former site of the Berkeley tomb-chest, and the pronounced salt eruption on the lower left-hand half of the pavement (diagonally) reveals the area where Portland cement has been used to re-bed the tiles (Jerry Sampson)

The junction between the two periods of work is startlingly clear as a result of chemical efflorescence (Fig. 464). Moreover, the laying technique of the medieval pavers was vastly superior, and the patterns of surface wear displayed in the relaid patch are inconsistent from tile to tile.

The original paving of the chapel probably took the form of four parallel carpets of tiling, laid east–west, beginning at the screen and working northwards. There was a narrow separating band between each carpet. Nothing is known of the first carpet, part of the second was still represented in the late eighteenth century, and the ends of carpets 3 and 4 survive today. The tiles used all belong to group 2 and are 140 mm^2. The borders are of plain black tiles measuring 140 mm by 45 mm, with plain yellow squares at the diagonal intersections.

Carpet no. 3 is composed solely of the arms of England, diagonally laid for viewing from the west (design 65). Carpet no. 4 again uses only one design (58), a foliate spray laid diagonally. The tiles are in groups of four, surrounded by black borders with yellow corners. Although design 58 was intended for use in four-tile compositions, with the sprays radiating from a common centre (Fig. 479), in this instance the tiles have been laid singly, all pointing towards the east.

The separating bands between carpets 2, 3 and 4 are identical: each comprises a single row of tiles of design 51 (a semi-naturalistic 'tree'), set between narrow black borders. Again, the tiles 'read' from the west. The emphasis placed on linearity and orientation suggests the likelihood of the two lost carpets having been similarly treated. It may be possible at some future date to recover knowledge of the designs used in the lost carpets, by excavating the fills of the post-medieval graves that cut through them. Each grave fill is likely to yield specimens of the tiles from the destroyed area of carpet.

Meanwhile, a hint of what may have been in carpet 2 — the one that survived in part in Carter's day — can probably be gleaned from the tile assemblage in the relaid area. Four components are detectable here, indicating different provenances for the tiles. First, a high proportion of the total comprises heraldic tiles of group 2. Such tiles are found at other sites in association with the same designs as survive here in the original part of the pavement. Second, other tiles of group 2 belong to a florid four-tile pattern (design 60) which is not stylistically in harmony with the heraldic group. Third, there are three, much later, tiles belonging to group 3 (designs 74–76). Fourth, two strays of earlier tiles from group 1 have crept in (designs 31 and 44).

It is therefore not unlikely that about half of the tiles in the relaid area were derived from the destroyed carpet 2, and that it was essentially an heraldic composition, with the arms of Richard of Cornwall (design 66), the badge of Cornwall as King of the Romans (68), and the arms of de Warrene (63), and de Clare (67).

No tangible evidence survives to suggest which designs might have been employed in the long-lost carpet 1. They could have been purely foliate, forming a visual balance to carpet 4, but if so one significant element would have been missing from the chapel, namely the arms of ancient France. Tiles bearing these arms

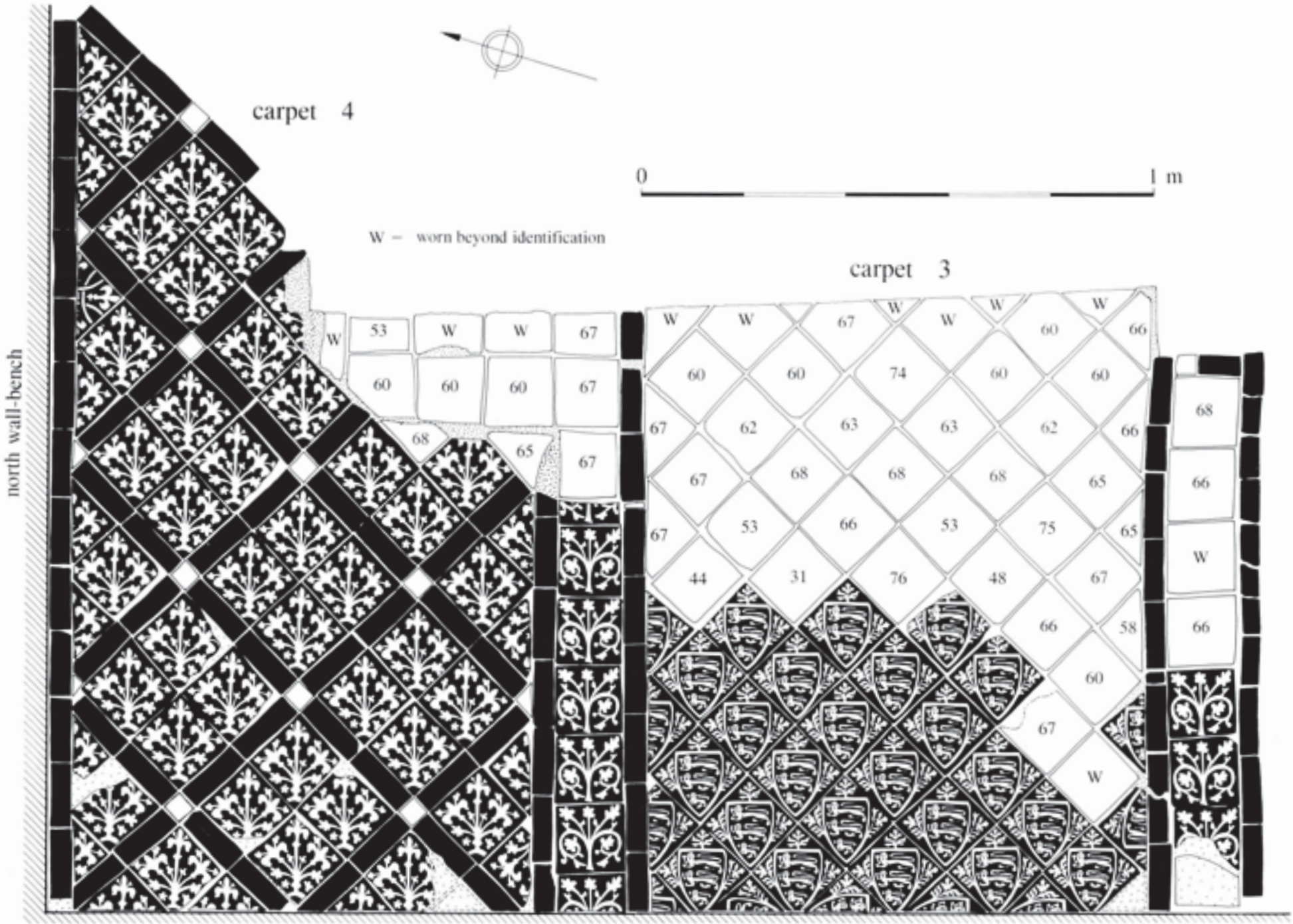


Fig. 465 Plan of the medieval tile pavement in the north-west corner of Corpus Christi chapel, differentiating between original and relaid work. The latter are indicated by their design numbers. Scale 1:10. Drawn by Christine Rodwell

were usually part of the heraldic 'set' found in Somerset, and examples of one of the designs (64) have been found in the Camery. Hence their presence at the cathedral, as part of the group 2 assemblage, is established. Moreover, there was, until less than a century ago, a single tile bearing the French arms, embedded in the altar step of Corpus Christi chapel, and it was clearly of the right size and type to be part of the early fourteenth-century heraldic set (but *cf.* lost tiles from the Lady Chapel, below).

Jewers's sketch of the lost tile is inadequate to be sure that it was from the same die as other examples of design 64 at Wells, although it is probable that this was the case.[28] It would not be surprising to discover that there was once a whole carpet of the French arms in Corpus Christi chapel. They also occur in the medieval glazing.

There is no merit in speculating as to the former provenance of the other (*i.e.* non-heraldic) group 2 tiles in the chapel. One interesting enigma must, however, be recorded. Jewers noted, but regrettably did not illustrate, a tile displaying three bars and a canton, which he read as the arms of Braunche, and cited a transaction involving Sir Nicholas Braunche in 1304 (Jewers 1892, 117, no. 9; HMC 1907, 416). The tile is lost, and it is unknown whether it was intended for square or diagonal setting in the floor; its size is also unrecorded.

Finally, come the three heraldic tiles assigned to group 3 (designs 74–76). Failure to recognize that they are some two centuries later than the remainder of the tiles in the chapel has confused past dating, although the record has now been set right by Eames (1981, 42). One tile is matched by an unprovenanced example in Wells Museum (design 74). The tiles, which may perhaps have come from a small area of paving associated with a late medieval tomb, are all unparalleled outside Wells, although their stylistic affinities appear to be with the Bristol region. Examples of generally similar designs occur at Bath Abbey.[29]

Design 74, a chevron between three eagles displayed, occurs also in stone at Bath Abbey, in the roof vault, where it is of early sixteenth-century date (Britton 1825, pl. 2.8). The arms are attributed to William Bird, who was prior from 1499 to 1525.[30] Design 75 shows two keys, crossed with a sword, representing Saints Peter and Paul. This is almost certainly a representation of St Peter's Abbey, Bath. When Jewers illustrated this tile the corners were decorated with foliage, but this had worn away by 1977, when Colchester recorded it. Design 76 is more problematical, and remains unidentified. The shield contains a cross *pommée*, although it has been incorrectly described as a cross *botonnée*, and thereby linked to the arms of Glastonbury Abbey (Pereira 1888, 53; Colchester 1977a, 21). There is no justification for making such a connection. Jewers recorded that the terminal annulets each contained a small cross: although most of the evidence has been worn away, it can be seen that the terminals actually contained quatrefoils.[31] Since this shield of arms is also found in the stone vault of Bath Abbey, a third link with that church is implied.

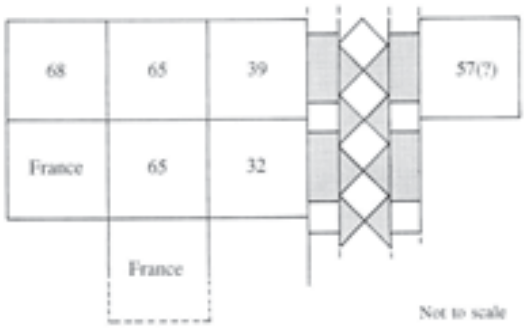


Fig. 466 Reconstructed plan of a patch of medieval tile paving, formerly in the Lady Chapel. Redrawn from a sketch by D.J. Powell, 1810 (British Library). Scale c. *1:10*

Former paving in the Lady Chapel

The Lady Chapel of the cathedral church was also tile paved, at least in part. Two small patches survived, and were recorded by the Reverend D.J. Powell in 1810[32] (Fig. 466). The location of the patches is unknown, and their loss occurred at or before the time of Salvin's restoration.

Powell's first sketch shows a block of seven tiles, a plain border with lozenges, and then another decorated tile: we probably see here parts of two adjacent carpets of squarely laid tiling. His second sketch depicts a single tile with a plain border around all four sides, an arrangement seen also in one of the carpets in the Lady Chapel-by-the-Cloister (Fig. 159). Sufficient detail is given to permit close identification of the designs.

It is immediately apparent that, from the mixture of designs, ages and the non-conforming alignments, these areas of tiling must have been relaid. Tiles of group 1 were represented by designs 32 and 39, and group 2 designs included 57, 65 (2 examples), 66 and 68. Two tiles bearing the arms of France were also present. The arms were squarely set on the tile — not diagonally (as in 64) — and were thus of a design that has not been recorded among the extant tiles of Wells.

Discussion of the Wells tiles, their affinities and dating

by Paul Drury

Group 1: Wessex School: Nash Hill products

The fabric and manufacturing details of this group exactly match, visually, the material recovered from the kiln site at Nash Hill, near Lacock in Wiltshire (Eames 1974a; Griffiths and Robinson 1991). Given that more than twenty of the designs found at Wells also occur at Nash Hill, there can be no doubt that these tiles were indeed manufactured there, despite its lying some 45 km (28 miles) to the north-east (Fig. 467).

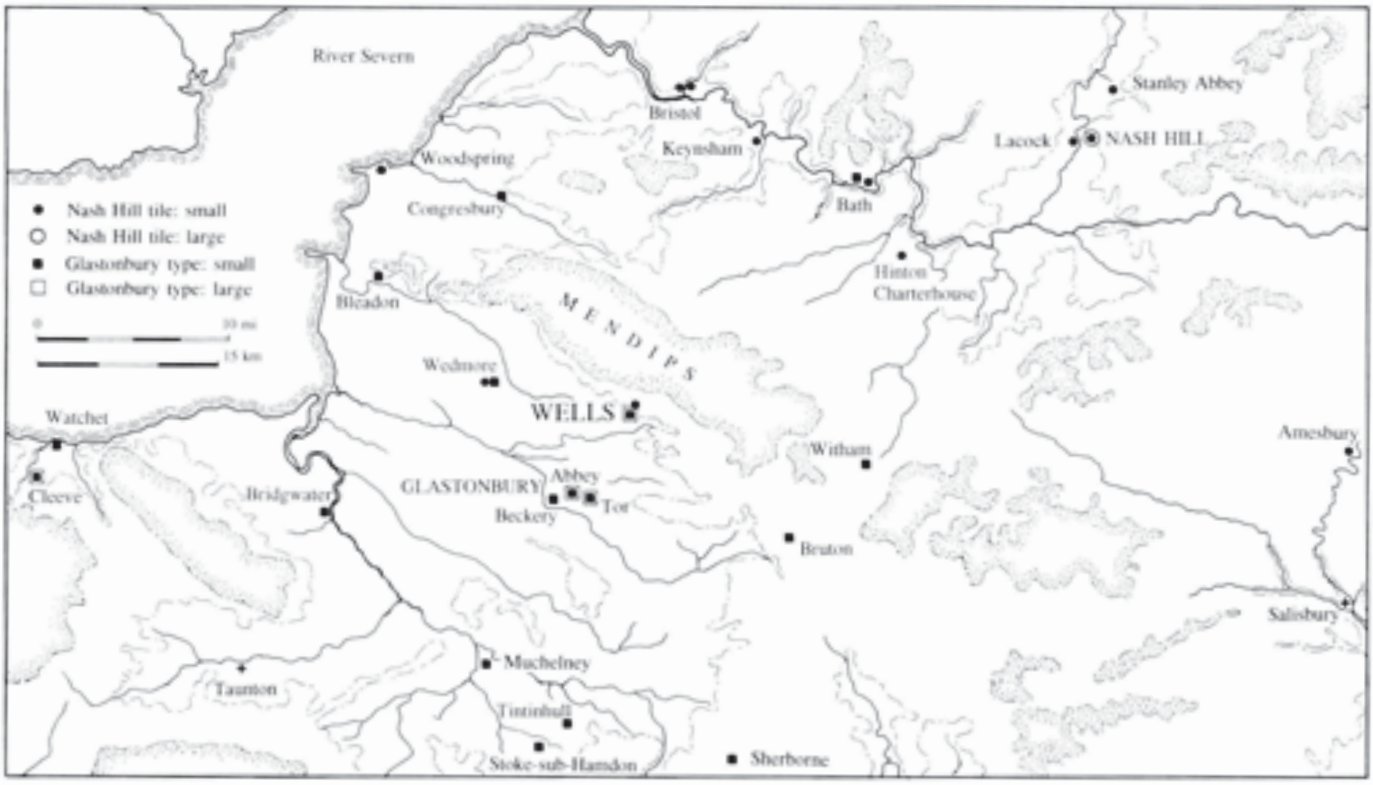


Fig. 467 Map showing the Nash Hill tilery and other sites yielding tiles related to the Wells series

The technique of inlaying patterns into floor tiles was almost certainly developed in Normandy by the 1230s, since there is clear evidence in that region of tiles produced by experimental techniques developing from mosaic pavements (Norton 1986, 276). A common Norman source probably lies behind both a pavement in the abbey church of Saint-Pierre-sur-Dives, in the lower Seine valley, and the first pavements of the 'Wessex School' in southern England, for which exceptionally good dating evidence survives. There are documentary references to pavements being laid at Winchester Castle in 1241–42, and ordered for the King's chapel at Clarendon in 1244, and tiles from both pavements survive. The latter were made at a kiln set up for the purpose within the palace, whilst the former were probably made at Marwell, just south of the city (Norton 1983; 1986, 264). Both were probably produced by itinerant craftsmen moving from site to site, like most early commissions of English tile pavements from royal or major ecclesiastical patrons (Drury 1981, 132). Other tiles belonging to this 1240s phase have been found at Winchester Cathedral, Beaulieu Abbey, Christchurch Priory and, particularly relevant here, Cleeve Abbey in Somerset (Norton 1986, 264). A second group or die-set of Wessex tiles, closely derived from the first, appeared *c.* 1250, not only at the royal sites of Winchester (1249–53) and Clarendon (1250–52), but also at several non-royal sites (Norton 1986, 265) including Salisbury Cathedral; and another set in the 1260s at, particularly, Winchester and Salisbury (Norton 1996, 101).

From the later thirteenth century, tile production was increasingly centred in factories which could supply tiles over a surprisingly wide area. One such factory was located at Nash Hill in Wiltshire, which continued the stylistic traditions of the Wessex School, originating, it will be suggested here, by *c.* 1270. It is clear from the stratigraphic sequence that the Nash Hill factory was in use for a considerable period but, as usual on kiln sites, it is difficult to calibrate the sequence. The life of such a factory could, however, be considerable; Danbury, Essex, appears to have been in use for about half a century (Drury and Pratt 1975). Whilst stylistic indications can be helpful, the best evidence tends to come from associations with dateable building campaigns at sites supplied by the tilers.

At Wells, the Nash Hill tiles were used to pave the cloister Lady Chapel floor after its enlargement, ascribed to a date in the 1250s or, at the latest, 1260s (p. 195), and since there is no evidence of any earlier floor to the extended chapel, it is likely that the tiles were laid around that date. The new eastern arm was the last part to be built, and it seems to have been paved with stone rather than tiles: a make-up of builders' rubbish beneath the floor contained many fragments of broken tiles including designs not used in the body of the chapel, and lacking some, especially border tiles, which were commonly used there. Thus it seems that there was a campaign of paving at some other location at Wells which closely followed the paving of the body of the Lady Chapel, and also involved tiles supplied by Nash Hill. A third, minor, campaign may be represented by design 47, since the quarries are, uniquely in this assemblage, 150 mm rather than 130 mm square.

Stylistically, the Nash Hill tiles at Wells are compatible with this dating, and in particular, the foliage is all stiff-leaf, although it must always be borne in mind that conservatism tends to be a characteristic of floor tile design. Our no. 22, a bird designed for use on a quarry *c.* 140 mm⁻ — *i.e.* rather larger than here — appears to be from the same die as a design ascribed to group 1, *c.* 1240–44, at Clarendon Palace (Eames 1988, 149, fig. 46.42), and is also recorded from Nash Hill (Eames 1974a, fig. 26.16) but now lost (Griffiths and Robinson 1991, 65). The majority of group 1 designs at Wells find close parallels at Clarendon, in the second phase of usage there, *c.* 1250–60. The mythical beasts in roundels, nos. 23–28, are closely analogous to Clarendon fig. 49.61–9. The addorsed regardant birds (40 in a roundel, 41 and 68 not) compare with Clarendon, fig. 50.70–72, 77–78; whilst our 43 compares with Clarendon 10 without the frame. Similar analogies can be drawn with the 1250s and 1260s material at Salisbury (Norton 1996).

Whilst the early itinerant workshops tended to produce a rather limited range of design themes, giving each a distinctive stylistic 'signature', the basic repertoire of the settled factories of the late thirteenth to early fourteenth century tended to become much more generalized as tile production grew and usage became more widespread. Not surprisingly, therefore, there are stylistic strands which are absent from the early tiles at Clarendon, but which had been absorbed by the Nash Hill factory by the time it came to supply Wells. One is illustrated by tiles produced in the Paris basin *c.* 1240–85 (Norton and Horton 1981, 76). Particularly characteristic of this school, at St Germain des Près, is the use of simple rectilinear mosaic, represented here by the scoring of tiles for breaking into small elements, including triangles as small as one-sixteenth and one-eighteenth of the whole (compare Fig. 483 with Norton 1992, figs. 61–72). There are simple and bold two-colour designs, including the castle (*cf.* 39), fleur-de-lys (*cf.* 38), rosette (*cf.* 1 and 2) and chevron (*cf.* 34). In France, these together made specific heraldic reference to the royal family: the fleur-de-lys for Saint-Louis; the castle for Blanche de Castile, his mother; the rosette or marguerite for Marguerite de Provence, his wife; and bars for Provence, replaced here, as at Canterbury (to which some members of the school migrated *c.* 1285), with a chevron or zigzag. Associated with these designs at Canterbury are typically the double vesica (35) and the diagonal gyronny (33) (*cf.* Norton and Horton 1981, fig. 8.26). Such simple designs, common to stained glass borders, for example, as well as tile designs, could have been absorbed into the Nash Hill repertoire at any time during the third quarter of the century.

The second minor stylistic influence is exemplified by the four-tile patterns with bold stiff-leaf foliage within round frames, often pelleted, exemplified here by designs 44–47. Such designs formed an important component of the Chertsey–Westminster school, also established under royal patronage by the 1250s, and became commonplace in many regional styles. Certainly they dominated some workshops, for example the Central Essex Group (Drury 1977, especially figs. 22–3), originating in the 1260s or later (Drury and Pratt 1975, 151–2).

An early date for the Wells assemblage within the production period of Nash Hill is suggested by a number of factors, Firstly, all the designs have stiff-leaf foliage; secondly, the dies present at Wells account for only about a quarter of the decorated fragments found at the kiln site; thirdly, the 200 mm⁻ heraldic and developed architectural designs (Eames 1974a, designs 1–6 and 12–13) are not represented at all; and fourthly, one die dating from 1240–44 was still in use. We can, then, be reasonably certain that Nash Hill was in production by about 1270.

Consistent with this relatively early date, and the derivation from the itinerant Wessex *atelier(s)*, are the number of border, or more likely riser, tiles including hunting scenes. These are represented only by tentative fragments at Nash Hill (particularly Eames 1974a, fig. 26.20). At Wells, there are several fragments, of which nos. 15 and 16 are the best preserved. No. 16 is a hound, which is common enough, but from its feet and general form, no. 15 appears to be a boar. Representations of boars in hunting scenes are rare on English tiles, but more common on French ones, as, for example, at Saint-Martin des Champs, Paris (Norton 1992, fig. 91: fifteenth century).

The distribution of tiles produced at Nash Hill has yet to be comprehensively mapped, but Fig. 467 illustrates those which can be readily identified from published sources, and serves to indicate the extent of their occurrence. One group of particular interest is that published from Bath Abbey, recovered from levels which must relate to the north quire aisle or an adjacent chapel (Bluer and Eames 1991). This series is broadly similar to that from Wells, but the latter does not include the large heraldic and architectural tiles, or the sinister and dexter cockerels (*ibid.*, fig. 25.10–11). Similar designs are also present in the Corsham Court collection (Eames 1959, pl. II), but there the plumage is rendered in more detail and there are roundels in the background; they are associated in the Corsham collection with our no. 34 and there can be little doubt that they too are Nash Hill products. The design is most unusual, but for a contemporary parallel from Montcenis (Saône-et-Loire) in Burgundy, see Pinette 1981, 38, no. 205.

An indication of a substantial lapse of time between the Bath and Wells groups is the fact that, whilst there are a number of beasts within roundels at the former (Bluer and Eames 1991, fig. 26.12–15), only one (*ibid.*, 13) is from the same die as examples at Wells (no. 28 here). Unfortunately there is no clear dating evidence for the reconstruction of the Romanesque east end of Bath Abbey, but with the introduction of

naturalistic foliage, the date of the tiles is likely to lie towards the end of the thirteenth century. The apparent derivation of our group 2 from the later stylistic elements of Nash Hill indeed suggests that these had emerged during the mid-to-late 1280s (see below). That the Bath collection does represent the remnants of a cohesive paving scheme, however, is hardly in doubt; an examination of the material in connection with this report suggested that of the illustrated designs, only fig. 25.6 (Bluer and Eames 1991) is a stray of later date, whereas excavations elsewhere in the Abbey precinct have revealed a predominance of late medieval tiles.[33] The appearance of the paving in the crossing of the Abbey church is clear from Irvine's watercolour of 1869 (O'Leary and Rodwell 1991, 35, fig. 34), which shows how small and large tiles could be combined in the same pavement in the late thirteenth century.

A group of tiles at Keynsham Abbey based on Lowe's fabric 2 may represent the latest phase of Nash Hill production, including not only our designs 2, 10, 28, 32, 41, 43 and 47, but also small, crude versions of some of the large heraldic tiles (compare Lowe 1978, design 43 with Eames 1974a, fig. 24.1; and 45 with fig. 24.2, England; complemented at Keynsham by design 46, France).

Group 2 : Wessex School: Later Glastonbury Series

Despite the two size groups (2A and 2B), the similarity of fabric, technique and designs suggests a common source. The presence of definite wasters on the Tor at Glastonbury, including tiles which fractured in the kiln and thus have glaze on the broken edges (Eames 1970, 76), makes it all but certain that these tiles were produced in the immediate vicinity of Glastonbury. Such material would only be useful as building rubble and would not travel far. Moreover, the fine fabric characteristic of these tiles suggests an alluvial source for the clay. Wells is only some 7 miles from Glastonbury, but die-links with Cleeve Abbey (Ward-Perkins 1941) suggest a more extensive distribution, probably based on water transport through the Levels and along the coast (Fig. 467).

The designs of this group remain characteristic of the Wessex School, and can be seen to derive and develop from those represented by group 1. There is a single beast in a roundel (53), but this motif was no longer the dominant element it had been, with no less than six designs represented in group 1. The addorsed regardant birds (52 and 52A) and foliate patterns (51) are recognizably derived from group 1 designs (41 and 43), but the foliage is now becoming naturalistic. The castle has been transmuted into an elaborate ecclesiastical west front in two variations (54 and 55), and there are rather more conventional patterns based largely on the fleur-de-lys (49, 56, 57 and 58). An architectural fret has appeared (60), and something similar surrounding foliage is represented on 59. Two elements have entirely disappeared: patterned borders or risers with hunting scenes, and the bold four-tile stiff-leaf patterns represented by 45–47.

The major innovation was the introduction of the large and small heraldic series, stylistically very similar, and incorporating now-familiar Wessex School motifs like the castle in the borders (see 62). This reflects the growing popularity of heraldic tiles in the later thirteenth and early fourteenth centuries.

At Wells, there are no common dies between Groups 1 and 2. However, one die used in the production of group 2 tiles was also used at Nash Hill (55 here; *cf.* Eames 1974a, fig. 26.14). But the development of the group 1 style, represented by the innovations in group 2, is exactly paralleled at Nash Hill in designs which there predominate numerically and were therefore almost certainly produced in the phase 4 kiln towards the end of the life of the factory (or at least as represented by the excavated area). There are conventional fleur-de-lys designs comparable to our group 2 (*e.g.* Eames 1974a, figs. 28.35 and 29.39; compare 50 and 56 here); elaborate architectural designs on 200 mm^2 tiles (Eames 1974a, fig. 25.12–13); and, most interestingly, a series of 200 mm^2 heraldic tiles closely comparable to ours in composition, the shields set diagonally and having a mixture of naturalistic and stiff-leaf foliage in the margins. Indeed, it seems clear that the Wells series are artistically crude copies of them: 69 derives from Eames 1974a, fig. 24.2; 70 from fig. 24.3, and 71 from fig. 24.1. The relative crudity of the Wells equivalents appears to establish the derivation more compellingly than the ratio of stiff-leaf to naturalistic borders considered by Eames (1974a, 136–7) to suggest the opposite relationship; tile design generally tends to conservatism.

The probability seems to be, then, that the production of our group 2 tiles at Glastonbury was the result of a tiler moving from Nash Hill, taking with him the die of no. 55, and knowledge of other patterns, particularly the large heraldic series, which then became the basis of the new factory's style. Some of the 200 mm^2 designs were subsequently also approximately reproduced on the smaller quarries: compare 66 and 70; 65 and 69; 67 and 71. There was little by way of stylistic innovation within the new workshop.

The dating of the development of the style at Nash Hill and its transmission to the new factory at Glastonbury can be suggested both on stylistic evidence and from the contexts within which the tiles were used at Wells. The use of naturalistic foliage suggests the end of the thirteenth or beginning of the fourteenth century. Ward-Perkins (1941) argued that the heraldic set commemorated the marriage of Edmund Duke of Cornwall to Margaret de Clare in 1284. That would certainly accord with the use of the large series made at Glastonbury around, say, 1290, to pave Bishop Burnell's great hall at Wells, apparently

completed before his death in 1292 (p. 451), and suggests the establishment of the Glastonbury factory in the later 1280s. It would certainly be reasonable to see the workshop still flourishing in the mid-1320s, supplying tiles for the floor of Corpus Christi chapel in Wells Cathedral before its dedication in 1328, including the smaller versions of the large heraldic series originally derived from Nash Hill prototypes.

Group 3: Bristol–Lower Severn tiles

There are three heraldic designs on quarries *c.* 140 mm², all with foliage in the margins, although this is largely worn away on the specimens surviving reset in the Corpus Christi chapel floor. The designs include the arms of William Bird, Prior of Bath Abbey 1494–1525 (74), and the crossed sword and keys, for St Peter, therefore presumably Bath Abbey (75). Both the heraldry and the stylized foliage in the borders of 74 date this series to the end of the fifteenth or early in the sixteenth century. Close parallels to the layout and foliage, respectively, are provided by panel xvii in the Canynges pavement from Bristol, and an heraldic four-tile arrangement from Gloucester (Eames 1951, pls. XXV, XXIIIj). The associations with Bath suggest that production of these tiles may have been primarily linked with the extensive reconstruction of the Abbey church from *c.* 1500 onwards. They are typical of the early Tudor revival of decorated tile manufacture in the region.

The quarry size would enable these tiles to be readily incorporated in repairs to floors originally paved with group 2A tiles, as the reset patch in Corpus Christi chapel well demonstrates.

Group 4: Late Medieval plain tiles

These tiles are *c.* 30 mm thick, and although no complete sides survive, they were probably in the order of 200–240 mm².

The surviving fragments come from the vestry added to Bishop Stillington's chapel, where they formed its floor. They are comparable to the standard plain-coloured, Flemish-type floor tiles found extensively in eastern England during the fifteenth and early sixteenth centuries (see, for example, Drury 1993, 165–6). The tiles were generally used to form plain chequered floors, although the lack of contrast between brown and yellow, compared to the more normal dark green and yellow, must have resulted in a rather muted pattern. The Wells tiles lack the holes near the corners, resulting from the use of a nailed board for guiding the trimming knife, characteristic of Flemish tiles, and would seem to be a relatively local product in the same style.

Conclusions

In the thirteenth and fourteenth centuries, the decorated tiles used in Wiltshire and Somerset were overwhelmingly of the Wessex School. This stemmed from the royal patronage of tilers, probably from Normandy, in the 1240s, and initially developed through commissions in the 1250s and 1260s largely at important royal and ecclesiastical sites. Certainly in the 1240s, and perhaps, but by no means certainly, later, the tiles were produced by itinerant makers at or near the sites for which they were commissioned. The 'Richard and Saladin' tiles evidently manufactured at Glastonbury, from dies represented at Clarendon Palace (Elias and Ellis 1982), belong to this phase, as, probably, does the early series at Keynsham Abbey, broadly equivalent to Lowe's Fabric I (Lowe 1978).

The realization that tiles made in the Nash Hill kilns were sent to sites as far distant as Wells (and Glastonbury?) emphasizes its importance as a commercial tilery, established by about 1270, and supplying the western part of the region dominated by the Wessex style. However, by the mid-to-late 1280s not only had the Nash Hill style developed to include heraldic tiles, but it had also spawned at least one separate production centre in or near Glastonbury, supplying the south-western part of the region with products essentially similar to those which were still being produced at Nash Hill itself. Not surprisingly, these tend to occur on more local sites. The collections from Stanley Abbey (Brakspear 1907) and Lacock Abbey, as recorded in the literature, give no indication of the use of the identifiable Nash Hill tiles either spatially or temporally at those sites. However, it is clear from the excavated assemblage and Irvine's records that the eastern end of Bath Abbey church was paved with this later style of Nash Hill tiling, probably late in the thirteenth century (p. 457). The full picture will only emerge with the study and publication of the major site collections, as the precursor to a regional study.

Catalogue of the decorated tiles

Unless otherwise stated, dimensions are within the range noted for the relevant group and each full tile has four keying scoops on the underside. Many decorated tiles were scored diagonally to facilitate breaking: usually the scoring bisected the vertical axis of the design, if the tile had such an axis and was intended for diagonal setting, but there are instances where the cut was made awkwardly across the pattern. Very occasionally, a tile was quartered into triangles, by scoring both diagonals.

In noting the provenances of tiles, a distinction has been drawn between those found *in situ* in the Lady Chapel-by-the-Cloister, and those recovered from other deposits in the Camery. Likewise, tiles which are associated with the primary floor in Corpus Christi chapel have been distinguished from those that were relaid in the nineteenth century. The numbers of examples recorded are based on a simple count of the identified fragments.

Provenances (Wells)

Camery	The Camery — *ex situ* tiles from excavations, 1978–80.
CCC	Corpus Christi chapel (cathedral, north-east transept) — extant paving. Secondary tiling denoted as 'relaid'.
Lady Chapel	Cathedral, eastern Lady Chapel — lost paving.
LCC	Lady Chapel-by-the-Cloister — *in situ* paving, excavated 1978–80.
Palace	Bishop's Palace — tiles in Wells Museum, from 1970 excavation.
Wells Mus.	Tiles in the general collection of Wells Museum, mainly unprovenanced.

References (comparative material)

BM Cat.	British Museum — Eames 1980 (citing design number).
Bath	Bath Abbey — Bluer and Eames 1991, figs. 25–7.
Bristol	Bristol Cathedral — Warren 1901–02.
Clarendon	Clarendon Palace — Eames 1988, figs. 41–51.
Cleeve	Cleeve Abbey — Ward-Perkins 1941.
Glaston. A	Glastonbury Abbey — P.B. Clayton, unpublished ms and drawings (1920s) in the Abbey Museum.
Glaston. B	Glastonbury, Beckery chapel — Eames 1974b, fig. 25.
Glaston. C	Glastonbury, St John's Church — Ellis 1982, fig. 4.
Glaston. S	Glastonbury, Silver Street — Elias and Ellis 1982, figs. 9 and 10.
Glaston. T	Glastonbury Tor chapel — Eames 1970, fig. 32.
Keynsham	Keynsham Abbey — Lowe 1978.
Nash Hill	Nash Hill, Lacock — Eames 1974a; Griffiths and Robinson 1991.
Wells Cat.	'A Catalogue of the Tiles in the Possession of the Dean and Chapter of Wells' (1914), ms by J.A. Robinson and P.B. Clayton, in WCL; together with a portfolio, 'Tiles from Wells Cathedral', being a series of watercolour drawings, dated 1913–14, annotated to accompany the catalogue.

For other sites noted, where no bibliographic reference is given, the tile in question has either been seen by the writer, or information about it has kindly been supplied by Mrs Barbara Lowe.

Tiles of Group 1

Very sandy, rather friable fabric with numerous inclusions, comprising small pebbles and angular red material 2–3 mm across; generally heavily reduced, dark grey, with red to reddish-brown surfaces, but the reduced core often extends to the surface. The pattern is formed by an inlay of white clay to an irregular but shallow depth (rarely exceeding 1 mm), giving yellow/brown vivid colour to the glaze where the fabric is not reduced. The edges are knife-trimmed, varying from sharply undercut to almost square; generally, the thicker the tile, the more square the cut. The thickness varies from *c.* 20 mm to 30 mm, and bases retain sand from the form. Most have four knife-cut circular keys; a few have one, and a very few none.

Borders (Fig. 468)

1. Cinquefoil, impressed four times on a tile 130 mm², scored for breaking. Normally broken into four border-corners; a few examples were further sub-divided, to make triangular half-corners. Individual quarters average 65 mm².
   Die-links: Nash Hill 53; Bath 32.
   Provenance: Camery, 146 exx., including 26 overfired, all quartered.
   Wells Cat., type 21, refers to a complete tile with 4 impressions; illustrations of this and a quartered example (both lost).

2. Octofoil, impressed four times on a tile 130–135 mm². Frequently scored and broken into four border-corners, 67 mm²; a few tiles were halved diagonally instead, while many were not scored at all and were evidently laid complete. Most tiles had only one keying scoop, suggesting that quartering was not generally intended. One of the examples from Bath had a corner trimmed off at 45°, before firing, for use in a mosaic composition (overlooked in Bluer and Eames 1991); for a similar feature at Wells, see design 22, below. Reconstructions of both patterns are given in Fig. 471.
   Die-links: Nash Hill 82; Bath 31; Glaston. A 66; Keynsham 17; Tintern Abbey; *cf.* Bristol 20. BM Cat. 1098.
   Provenance: Camery, 20 exx.

3. Seven-petalled rosette, angular and irregular. Presumably impressed four times on a tile *c.* 125 mm², scored for breaking, but no multiple impression survives. Normally broken into four border-corners, 62 mm²; a few further sub-divided to make triangular half- corners. Most full tiles had only one keying scoop, but a few had four.
   Die-link: Bath 34b. BM Cat. 1101.
   Provenance: LCC, 2 exx.; Camery, 25 exx.

4. Six-petalled rosette, angular and regular. Presumably impressed four times on a tile *c.* 125 mm², scored for breaking, but no multiple impression survives. Broken into four border-corners, 62 mm². Most full tiles had only one keying scoop, but a few had four.
   Die-link: none found.
   Provenance: LCC, 4 exx.; Camery, 29 exx.
   Wells Cat., type 22: illustrated together with an example of design 5, as two quarters on a single rectangular tile, scored between. Whether this is an artist's amalgam, or it represents the genuine occurrence of the two dies together is now uncertain since the tile is lost. The use of two dissimilar rosette stamps on a single tile is known at Keynsham (Lowe 1978, design 33), but there is no supporting evidence from Wells. *Cf.* also Eames 1980, designs 1108–9.

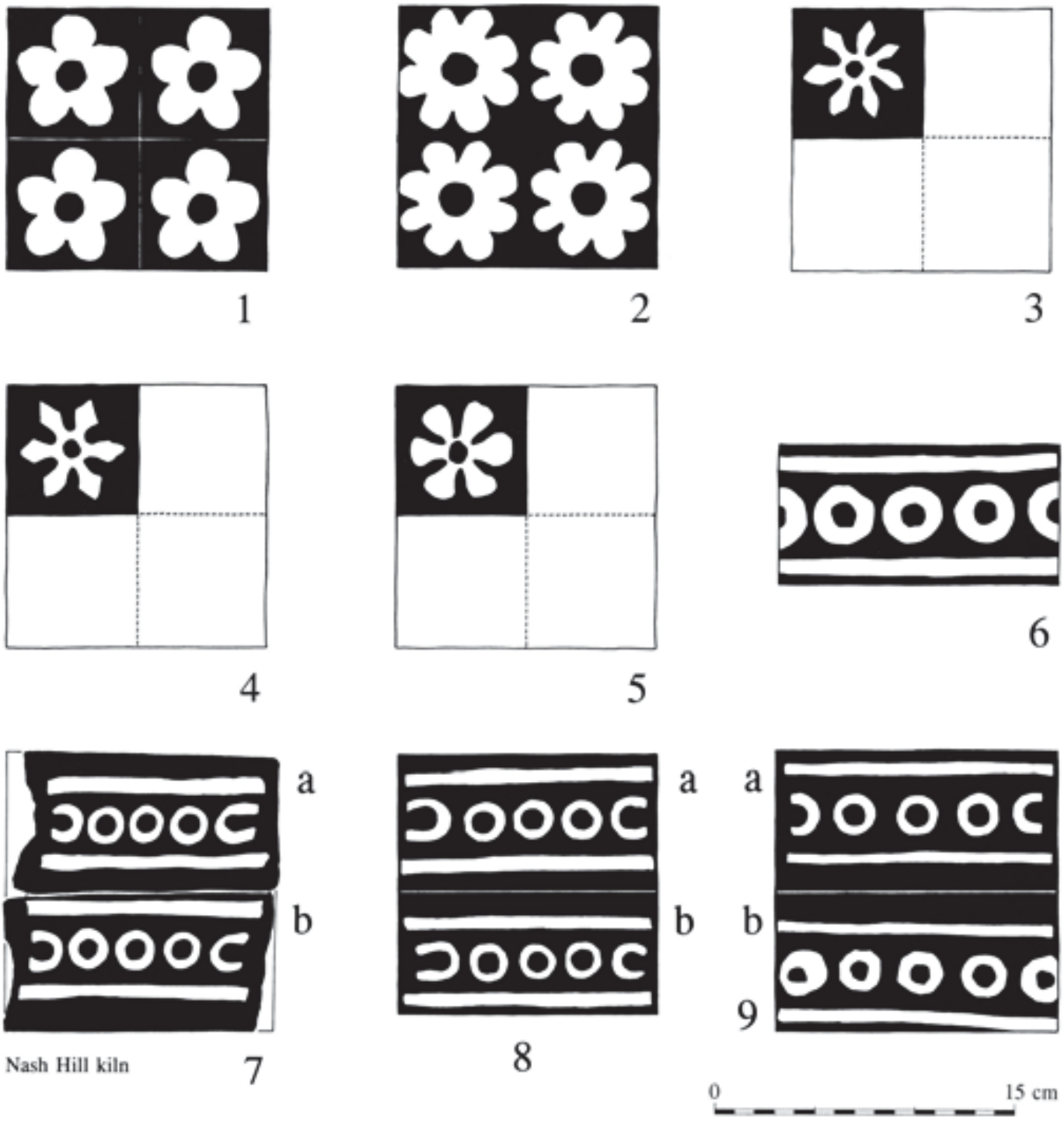


Fig. 468 Medieval floor tiles, group 1. Designs 1–9: border tiles. Scale 1:3

5. Six-petalled rosette of rounded form. Presumably impressed four times on a tile 125–130 mm², scored for breaking, but no multiple impression survives. Broken into four border-corners, 63 mm².
Die-link: Bath 34a. BM Cat. 1091.
Provenance: Camery, 46 exx.
Wells Cat., type 22; see also comment on design 4.

The next four tiles are part of a widespread series, which began at Clarendon, and was made at Nash Hill, and probably elsewhere. Die-links are not easily established from published drawings: failure to appreciate the method of manufacture of these borders, and to distinguish the different die impressions, has generally led to compromise illustration (*e.g.* Bristol 33, Keynsham 30). The earliest examples of this border type (no. 6) were made singly, whereas the later ones were produced in pairs and broken after firing. Unlike the rosette tiles just described, where four identical impressions were made using a single stamp, the two halves of a border tile were never mirror images. It would appear that a composite die was used, which comprised two visually similar, but not identical, units.

A complete waster tile, with two dissimilar impressions, is known from Nash Hill (54; no. 7 here). No complete tile has been found at Wells, but in every example one long edge has been scored and broken, proving beyond all doubt that these borders were also made as double units. Four dies are represented: these can easily be paired on the basis of dimensions and layout. It may therefore be accepted that two double units were in use at Wells (nos. 8 and 9). It may also be noted that one impression on the Nash Hill tile (7b) *seems* to be identical to one on a Wells tile (8b), but their counterparts (7a and 8a) do not match.

6. Framed border of annulets. This is not in the fabric of group 1, but is included for comparison. Made as a single unit, 140 x 70 mm, with true half-annulets at the terminals. The annulets are much bolder than in later examples.
Die-links: Clarendon 51; Glaston. A 70. BM Cat. 1245.
Provenance: Wells Mus., 1 ex., unprovenanced (the only one at Wells), but possibly associated with a label referring to a discovery in the road outside the Deanery in 1890.

7a–b. Framed border of annulets. Complete unit intact, 140 mm².
Provenance: Waster from the Nash Hill kilns (after Griffiths and Robinson 1991, fig. 4, no. 54).

8a–b. Framed border of annulets on a tile 125–130 mm². The distance between the border and the uncut edge of a half tile is usually less than that between the other border and the cut edge. Individual tiles average 127 x 63 mm. The terminal annulets are open-sided, and three are markedly U-shaped: a border with continuous decoration could not therefore be laid. In the cloister Lady Chapel these tiles were used alternately with rosettes in the north aisle, and with plain coloured borders in the south aisle (Figs. 162E, J, 164 and 165). Most tiles had no keying scoops, although a few had four. Some were overfired, but were nevertheless still laid.
Die-link: Bath (die 8a, unpublished). BM Cat. 1248 (die 8a).
Provenance: LCC, 7 exx. of die 1a; Camery, 58 exx. of die 8a; 73 exx. of die 8b; Wells Mus., 7 exx. of die 8a.
Wells Cat., type 15; with an illustration of die 8a.

9a-b Framed border of annulets. As design 1, but using larger dies on larger tiles, 140 mm²; also with different treatment of the terminal annulets, which are semicircular. This pattern could be laid more successfully as a visually continuous border. Individual tiles average 140 x 65 mm. A distinctive batch of heavily overfired tiles is identifiable: these are only 135 mm long, and the inlay has cracked and shrunk away from the matrix: the tiles were nevertheless used in flooring. There are several examples of one end of the die being double-impressed: both impressions are slip filled, resulting in a confused image. Most tiles had no keying scoops, although a few had four.
Die-links: Bath 36 (possibly die 9b; also die 9a, unpublished); Hinton Charterhouse. BM Cat. 1247 (die 9b).
Provenance: Camery, 20 exx. of die 9a; 9 exx. of die 9b.

Riser-tiles and wide borders (Fig. 469)

10. Octofoil in a square border, diagonally set. Each tile carries an identical pair of impressions. These tiles, which were not scored for breaking, measure 180 x 90 mm, and have two keying scoops. They could not be mixed with other tiles and were therefore intended for use as risers to steps, or for wide borders.
Die-links: Nash Hill 19; Keynsham 34.
Provenance: Camery, 26 exx.
Wells Cat., type 20, illustrates two half-tiles, now lost (one with a large open centre, probably an artistic misreading).

11. Circle, possibly containing a rosette. The fragment suggests a tile *c.* 85 mm² or, if a double unit, 170 x 85 mm.
Die-link: none found. For the type generally, see BM Cat. 1104–5, 1110 and 1236–8.
Provenance: Camery, 1 ex.

12. Running scroll. Rectangular border or riser-tile, 170 x 90 mm, with two keying scoops. It occurs in the cloister Lady Chapel as a divider between two tile carpets.
Die-link: Nash Hill 55. The design is slightly simplified from Clarendon 1, which is on a segmental tile.
Provenance: LCC, 2 exx.; Camery, 13 exx.

13. Running scroll. Similar to design 12, but smaller, 155 x 80 mm.
Die-link: none found.
Provenance: Camery, 24 exx., including 2 overfired.

14. Complex running scroll, framed. Single corner fragment of a riser or large border tile, 130–140 mm wide.
Die-link: none found. The design is generally similar to Keynsham 25, and may possibly be from the same die as Nash Hill 67.
Provenance: Camery, 1 worn fragment.

Nos. 15 to 21 are all closely similar in detail and finish, although varying somewhat in thickness. Most, if not all, are riser-tiles and are noticeably thicker than floor tiles (27–30 mm). They have steeply undercut edges, are overfired, but have nevertheless been used; they were evidently set in a vertical position, and are unworn. There are further, small, fragments which are not illustrated. Sherds of generally similar tiles are known from Nash Hill, but these have not been precisely matched to the Wells material. None of the Wells tiles has the rebated top edge, which is often found on riser-tiles.

15. Boar running to sinister, framed. Riser-tile, with a fillet of mortar adhering to the lower edge, confirming its use in a vertical position. The apparent closing of the frame on the left, by the stem supporting a leaf, suggests that this is the end tile of a designed set. The dimensions are 220 x 120 mm. Three large keying scoops.
Die-link: none found. Part of an unusual hunting scene. For the leaf, *cf.* Nash Hill 78.

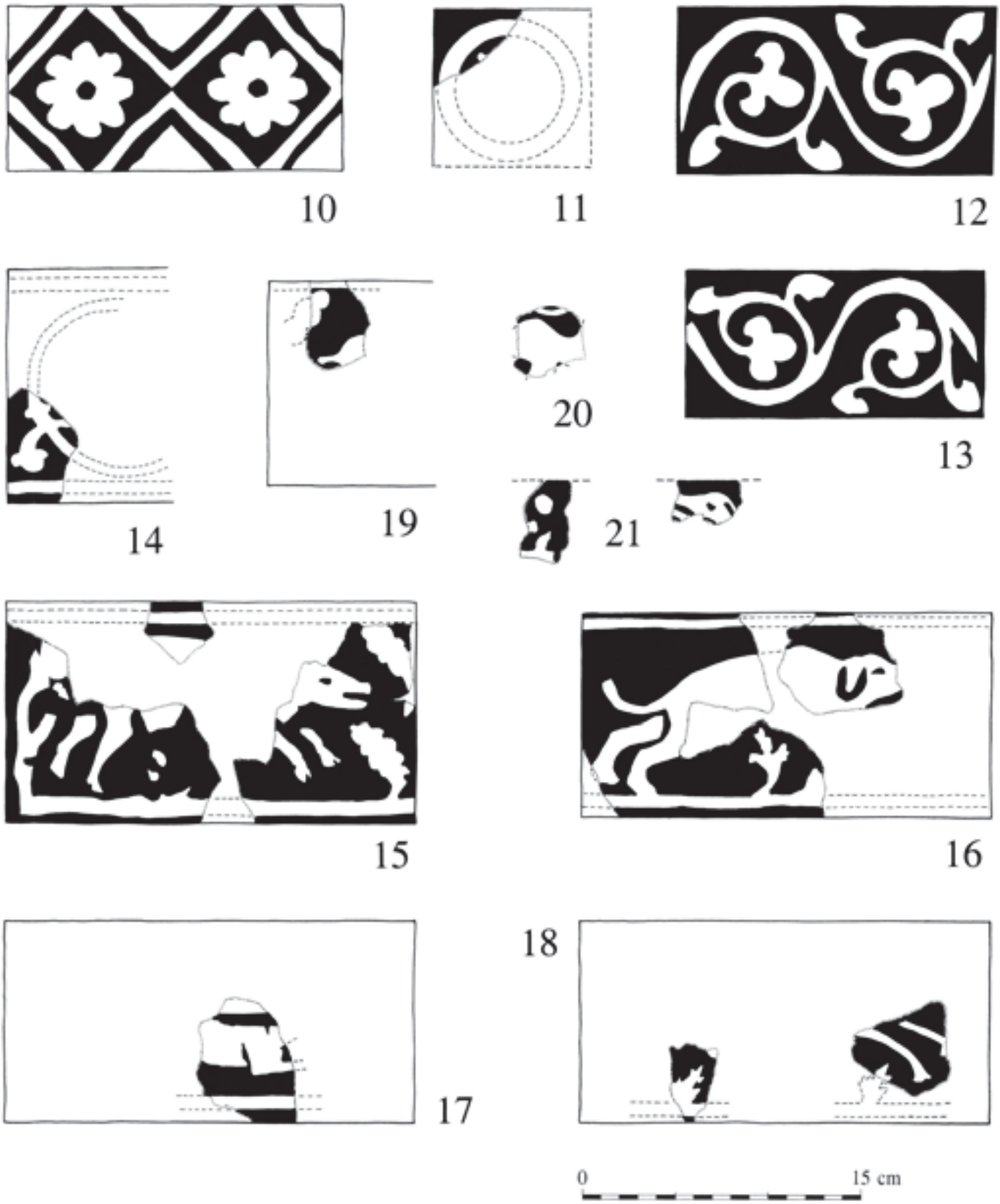


Fig. 469 Medieval floor tiles, group 1. Designs 10–21: riser tiles and wide borders. Scale 1:3

Provenance: Camery, several pieces of 1 tile, slightly overfired.

16. Hound running to sinister, framed. Riser-tile, 110 mm wide and probably *c.* 220 mm long. Three large keying scoops. The smaller size, and different leaf type used, suggest that this and the previous tile may not have been intended to form part of the same series.
Die-link: none found. Again, an unusual hunting scene.
Provenance: Camery, several pieces of 1 tile.

17. Body of an animal running to dexter, framed. Riser-tile, dimensions unknown. The tall neck suggests a deer. Part of a hunting scene, related to no. 15 or 16.
Provenance: Camery, 1 ex.

18. Legs of a running animal, probably a dog to sinister, framed. Riser-tile, dimensions unknown. Two further fragments, linked by the identical leaf type. Related to 15/16. For the leaf, see Nash Hill 66.
Provenance: Camery, 1 ex.

19. Fragment of another riser-tile, showing a leaf and, probably the hind-quarters of an animal. Related to 15/16.
Provenance: Camery, 1 ex.

20. Body of an animal?
Provenance: Camery, 1 ex.

21. Two pieces, almost certainly from the same tile, with an edge that was scored before firing, and broken after. It is difficult to see how these could be part of a normal square tile, severed on the diagonal. One fragment shows the head of a dog(?) to dexter; the other is uncertain, apart from a pellet. Presumably this is part of a hunting scene, and related to 15/16.
Provenance: Camery, 1 ex.

Birds and beasts (Fig. 470)

22. Mythical bird to dexter. Die intended for a larger tile size than that used at Wells (*c.* 130 mm²); hence the extremities of the bird are usually clipped. One example had the lower left-hand corner carefully trimmed at an angle of roughly 45° before firing, indicating that this tile was part of a pre-planned mosaic composition: for a possible reconstruction of its use in a four-tile

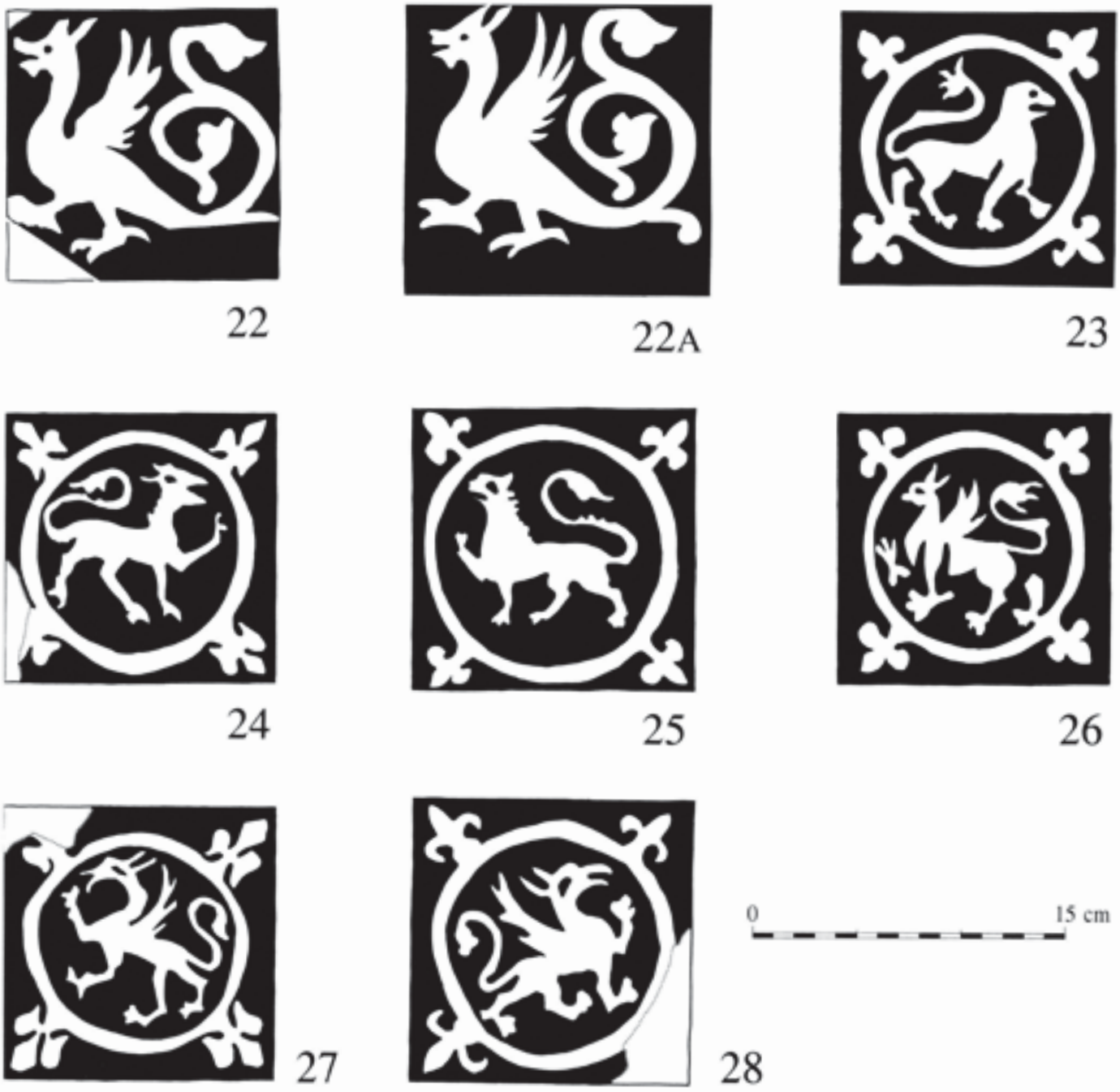
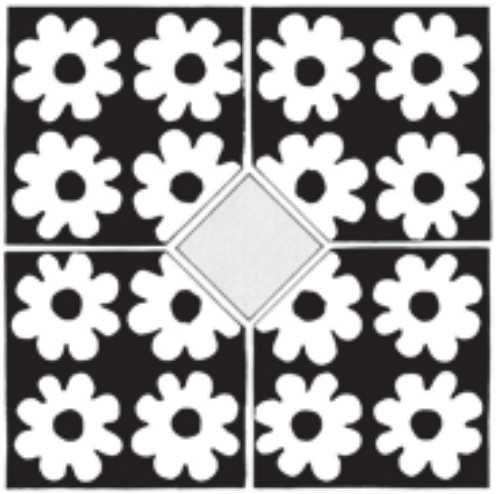
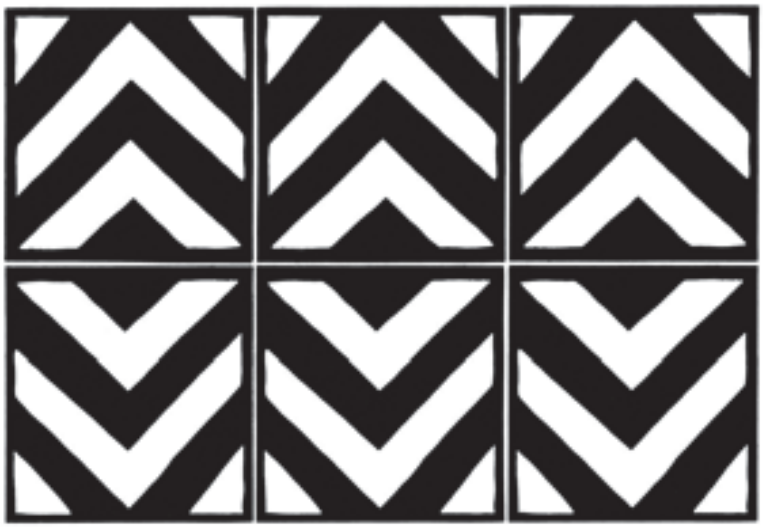


Fig. 470 Medieval floor tiles, group 1. Designs 22–28: mythical beasts. Scale 1:3



2

22

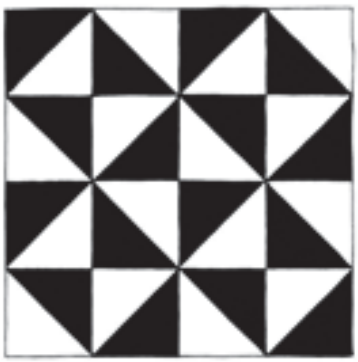


34A

34B

0 15 cm

34C



33

Fig. 471 Reconstructions of medieval tile arrangements, group 1. Designs 2 and 22: corners trimmed to make four-tile patterns with plain centres (probably yellow). Design 33: suggested original symmetrical design of diagonal gyronny, prior to its reduction by one square's width. Design 34: A–C, three ways of using a simple chevron tile to form complex patterns. Scale 1:4

pattern, see Fig. 471, and for a similar example of mosaic use at Bath, see design 2.
Die-links: Nash Hill 16; Clarendon 42 (160 mm² tile); Bath 9 (145 mm²) tile. BM Cat. 1857.
Provenance: Camery, 12 exx., including 7 overfired.
Wells Cat., type 27; illustration of a three-quarters complete tile, 130 mm² (now lost).

22A. The same die used on a larger tile (145 mm²) at Bath. There are several examples and one has a rebated top edge, showing that it was specially made for use as a riser. Apart from the size, there are significant differences between the Wells and Bath tiles, demonstrating chronology. By the time it was used for Wells, the die had been broken and partly recut. The top of the 'stiff-leaf' tail is flattened in both instances, indicating that a slither had broken off the die early on; but at Wells the lowest part of the tail is also flattened, as well as having lost its first curl. Again, this is the result of the wooden die splitting along the grain. The points of the ears are also missing at Wells, and the furrow between the neck and the wing has been recut.
Provenance: Bath.

23. Lion(?) in a medallion, to sinister, 130 mm².
Die-link: Nash Hill 31.
Provenance: LCC, 5 exx.; Camery, 84 exx., including 9 overfired; Wells Mus., 1 ex.
Wells Cat., type 16, illustrated.

24. Mythical beast in a medallion, to sinister, 130 mm².
Die-link: Nash Hill 29.
Provenance: Camery, 89 exx., including 36 overfired; north quire aisle, 1 ex.
Wells Cat., type 16, illustrated (now lost).

25. Lion in a medallion, to dexter, 135–140 mm².
Die-links: Nash Hill 32; Bath 12; Tintern Abbey; Wedmore.
Provenance: Camery, 38 exx., including 3 overfired.

26. Winged griffin in a medallion, to dexter, 130 mm².
Die-link: none found.
Provenance: LCC, 5 exx.; Camery, 108 exx., including 5 overfired; Wells Mus., 2 exx.
Wells Cat., type 16.

27. Winged griffin in a medallion, to dexter, 130 mm².
Die-link: Nash Hill 30.
Provenance: Camery, 83 exx., including 23 overfired.

28. Winged griffin in a medallion, to sinister, 135 mm².
Die-links: Nash Hill 33; Bath 13; Tintern Abbey (Lewis 1976, fig. 11); Wedmore; *cf.* Bristol 5.
Provenance: Camery, 24 exx., including 4 overfired.

29–30. Not used.

Formal designs (Fig. 472)

31. Quartet of fleurs-de-lys. A few have a single keying scoop instead of the usual four; tile 125–130 mm².
Die-link: Nash Hill 50.
Provenance: CCC, 1 ex. (relaid); LCC, 23 exx.; Camery, 117 exx., including 5 overfired; Wells Mus., 3 exx.
Wells Cat., type 24, illustrated.

32. Quartet of fleurs-de-lys. Similar to the previous, but larger, 140 mm². One keying scoop.
Die-links: Nash Hill 49; Bath 29; Keynsham 14; Tintern Abbey (Lewis 1976, fig. 3); Wedmore Church. BM Cat. 2195.
Provenance: Camery, 47 exx.; Wells Mus., 1 ex.; Lady Chapel, 1 ex. (lost).

33. Unusual gyronny, set diagonally on the tile.
All other recorded gyronnies appear to be square to the tile. Only one keying scoop; if this was central, as seems inherently probable, it suggests a tile size of *c.* 130 mm². This design does not constitute a true gyronny, since opposites do not match. It is therefore suggested that the design may originally have been created for use on a square of 180 mm, as reconstructed in Fig. 471. There is no evidence that this particular die has been cut down.
Die-link: Nash Hill 44; Stanley Abbey (Brakspear 1907, pl. LVI).
Provenance: Camery, 1 ex.

34. Chevron. This is not heraldic, but part of a continuous pattern. It may have been intended for use as a border, or as part of a more complex chevron-based pattern, as seen in thirteenth-century French pavements. For potential reconstructions, see Fig. 471. Tile 130 mm²; seemingly only one keying scoop.
Die-link: none found, but closely similar to Bath 5; *cf.* also Stanley Abbey (Brakspear 1907, pl. LV; 1908).
Provenance: Camery, 2 very worn exx.

35. Double vesica with quatrefoil and annulets. This tile, 130 mm², is clearly related to the border tile, design 9a. The annulets and half-annulets on both are identical, as though produced from the same dies, although it is difficult to envisage how that could have happened, unless a discarded die was cut up for its component parts. Most examples have only one keying scoop; a few have four.
Die-link: none found, but *cf.* BM Cat. 2371, which is larger and has pellets instead of annulets.
Provenance: Camery, 62 exx., including 22 overfired.
Wells Cat., type 26, illustrated (now lost).

36. Double vesica with cinquefoil. Tile 135–140 mm²; fabric uncertain.
Die-link: BM Cat. 2370.
Provenance: Wells Mus., 1 ex. Unprovenanced, but presumed to be from Wells.

37. Intersecting vesicae and radiating stems. Fabric uncertain, heavily reduced, but possibly consistent with group 1. No keying scoops. The full tile was *c.* 125 mm², but the die was made for use on a tile 140 mm².
Die-link: Oxford Cathedral and Dorchester Abbey (Haberly 1937, no. 1).
Provenance: Wells Mus., 1 ex. Unprovenanced, and hitherto presumed to be from Wells, but this is questionable in view of the Oxfordshire die-link, and the lack of local parallels.

Axial designs for diagonal setting

38. Large fleur-de-lys. Tile 125–130 mm²; thickness varies from 21 to 30 mm; several batches probably represented.
Die-links: Nash Hill 47; Bath 30.
Provenance: LCC, 6 exx.; Camery, 131 exx., including 25 overfired.
Wells Cat., type 23, illustrated (now lost).

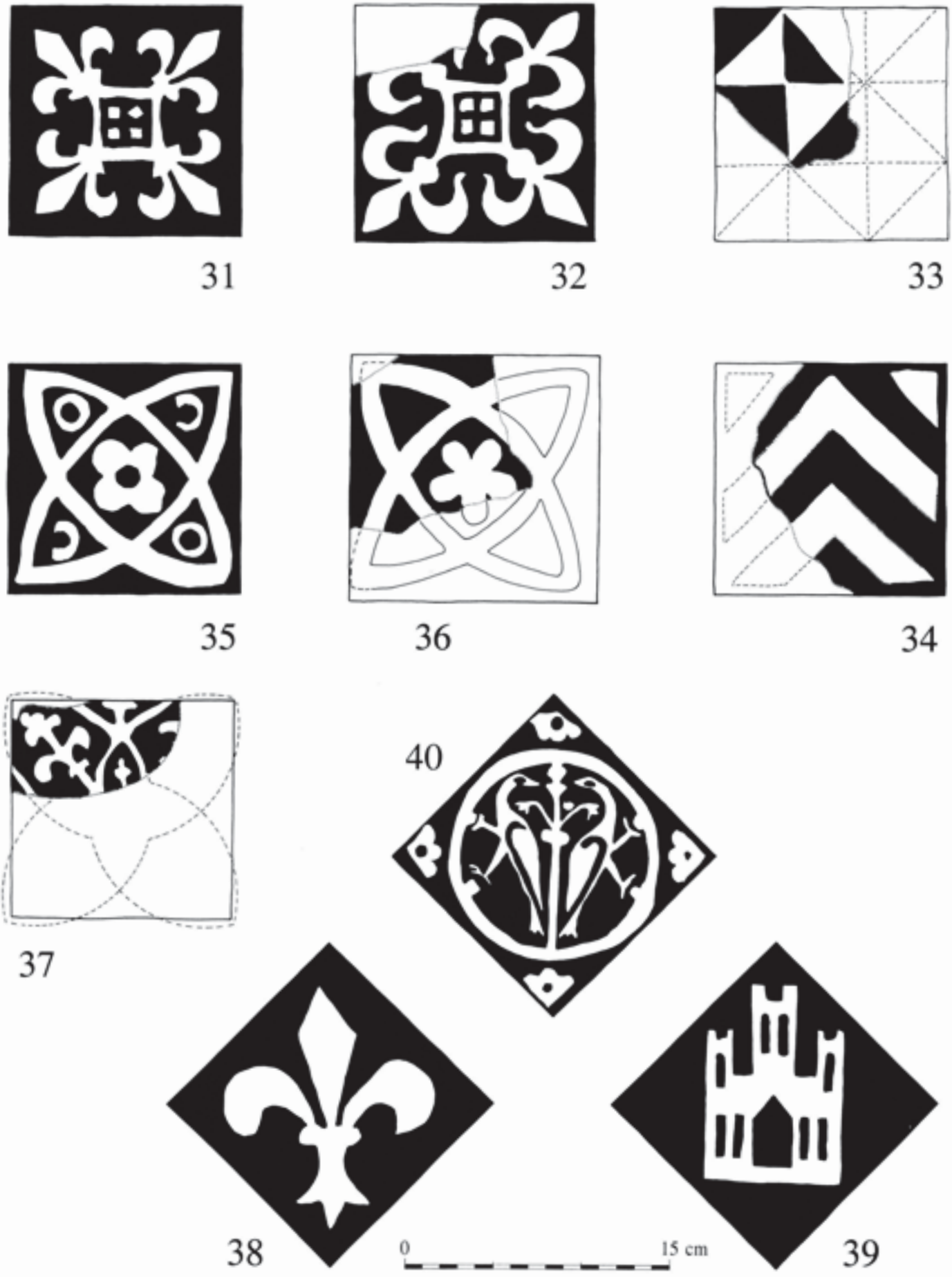


Fig. 472 Medieval floor tiles, group 1. Designs 31–40: formal designs. Scale 1:3

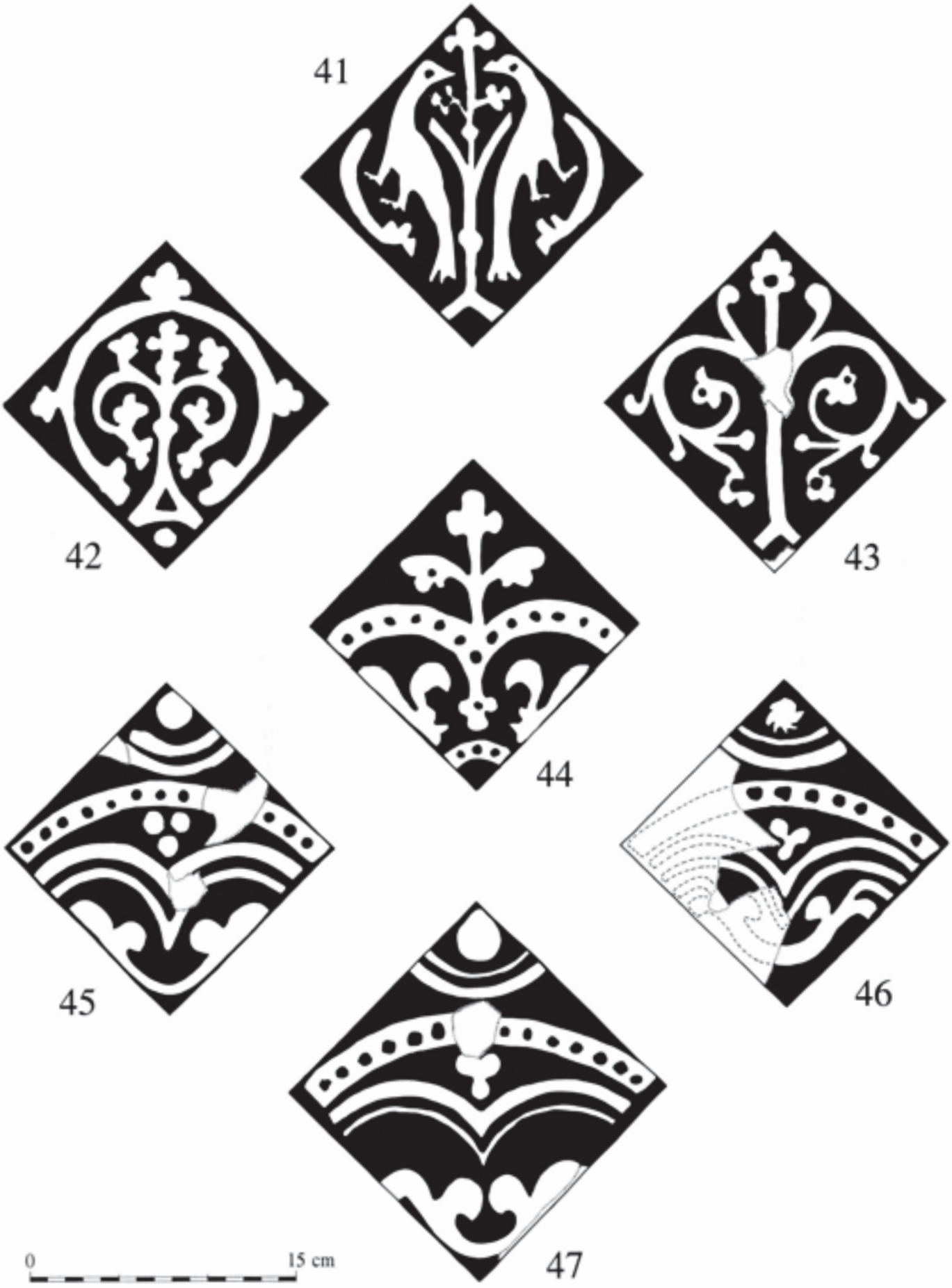


Fig. 473 Medieval floor tiles, group 1. Designs 41–47: four-tile patterns. Scale 1:3

41

43

42

Fig. 474 Reconstructions of four-tile patterns, group 1, designs 41–43. Scale 1:4

39. Castle or church with three towers. Tile 125–130 mm²; some have only a single keying scoop.
Die-links: Nash Hill 48; Bath 7; Hinton Charterhouse.
Provenance: LCC, 3 exx.; Camery, 107 exx., including 20 overfired; Lady Chapel, 1 ex. (lost).
Wells Cat., type 11, illustrated.

40. Stem with addorsed regardant birds, encircled. Tile 130 mm².
Die-links: Nash Hill 28; Glaston. A (Museum); Stanley Abbey.
Provenance: LCC, 4 exx.; Camery, 170 exx., including 41 overfired.
Wells Cat., type 10, illustrated (now lost).

Formal designs composed of four similar tiles (Fig. 473)

Although intended for use in four-tile patterns, designs 41–43 could have been used singly, in a diagonal setting. For reconstructions of the four-tile units, see Figs. 474 and 475.

41. Stem with stiff-leaf and addorsed regardant birds. Tile 135 mm²; single keying scoop.
Die-links: Nash Hill 21; Bath 23; Bristol Cathedral 2; Tintern Abbey; possibly Keynsham 12. BM Cat. 1966.
Provenance: Camery, 40 exx.

42. Stem with stiff-leaf foliage, encircled. Tile 130 mm².
Die-link: Glaston. A (Museum). Close copy of Clarendon 74, Nash Hill 23 and Keynsham 10.
Provenance: Camery, 83 exx., including 19 overfired.
Wells Cat., type 30, illustrated (now lost).

43. Stem with stiff-leaf foliage. Tile 135 mm²; single keying scoop.
Die-links: Nash Hill 25; Bath 20; Hinton Charterhouse; Keynsham 9; Wedmore; Exeter Cathedral; *cf.* Bristol 3. Note the break in the die in the lower left leaf, present on all examples.
Provenance: Camery, 113 exx.
Wells Cat., type 28, illustrated (now lost).

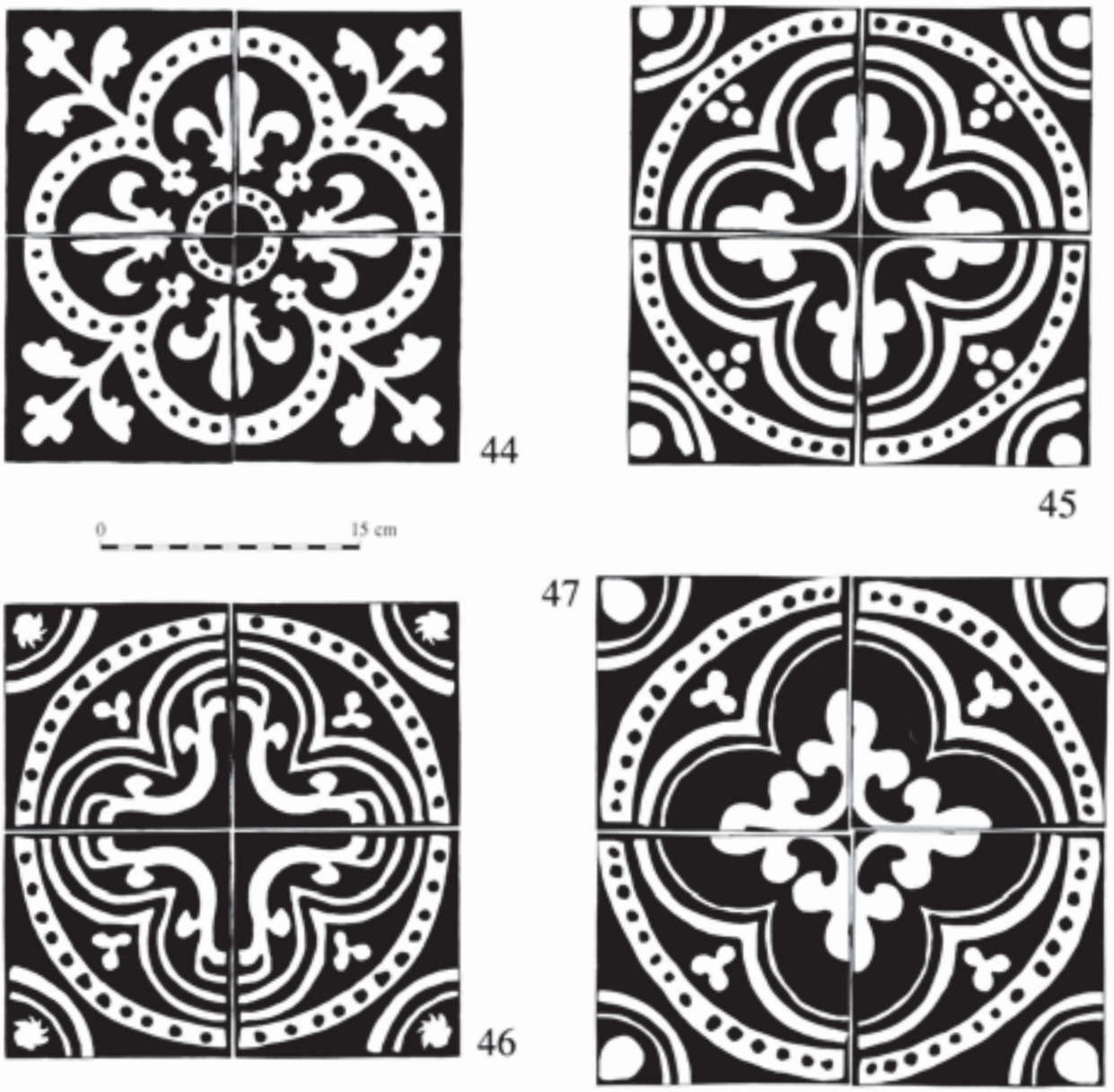


Fig. 475 Reconstructions of four-tile patterns, group 1, designs 44–47. Scale 1:4

44. Quatrefoil containing fleurs-de-lys. Tile 130 mm². Die-links: Nash Hill 26; probably Bath 18. Provenance: CCC, 1 ex. (relaid); Camery, 83 exx., including 22 overfired. Wells Cat., type 13. Unillustrated, but described in detail, and recorded as being in CCC.

45. Encircled quatrefoil. Tile 130 mm². Die-link: Nash Hill 9. *Cf.* BM Cat. 2782. Provenance: Camery, 13 exx., including 3 overfired.

46. Encircled quatrefoil. Tile 130 mm². Die-link: none found. Provenance: Camery, 13 exx., including 2 overfired.

47. Encircled quatrefoil. Tile 150 mm², a size that is otherwise unmatched at Wells. Die-links: Nash Hill 8; Bath 17; Hinton Charterhouse; *cf.* Keynsham 36. Provenance: Camery, 39 exx. Wells Cat., type 17, illustrated (now lost).

Tiles of Group 2

Very fine orange-red fabric with small dark red inclusions. Pattern formed by a shallow inlay (1–2 mm) of white clay, giving vivid yellow/brown colour under the glaze, of higher quality than group 1 tiles, with less evident reduction. The edges are knife-trimmed, almost square; the bases generally smooth, with four knife-cut keys. There are two main size groups.

Sub-group 2A

Size: *c.* 130–140 mm², 25 mm thick.

Formal designs, birds and beasts (Fig. 476)

48. A quartet of fleurs-de-lys. Tile 140 mm². Die-link: Bruton; Glaston. A 15; Muchelney Abbey; Sherborne Abbey (Emden 1977, no. 85). BM Cat. 2344. Provenance: CCC, 1 ex. (relaid); Camery, 28 exx.

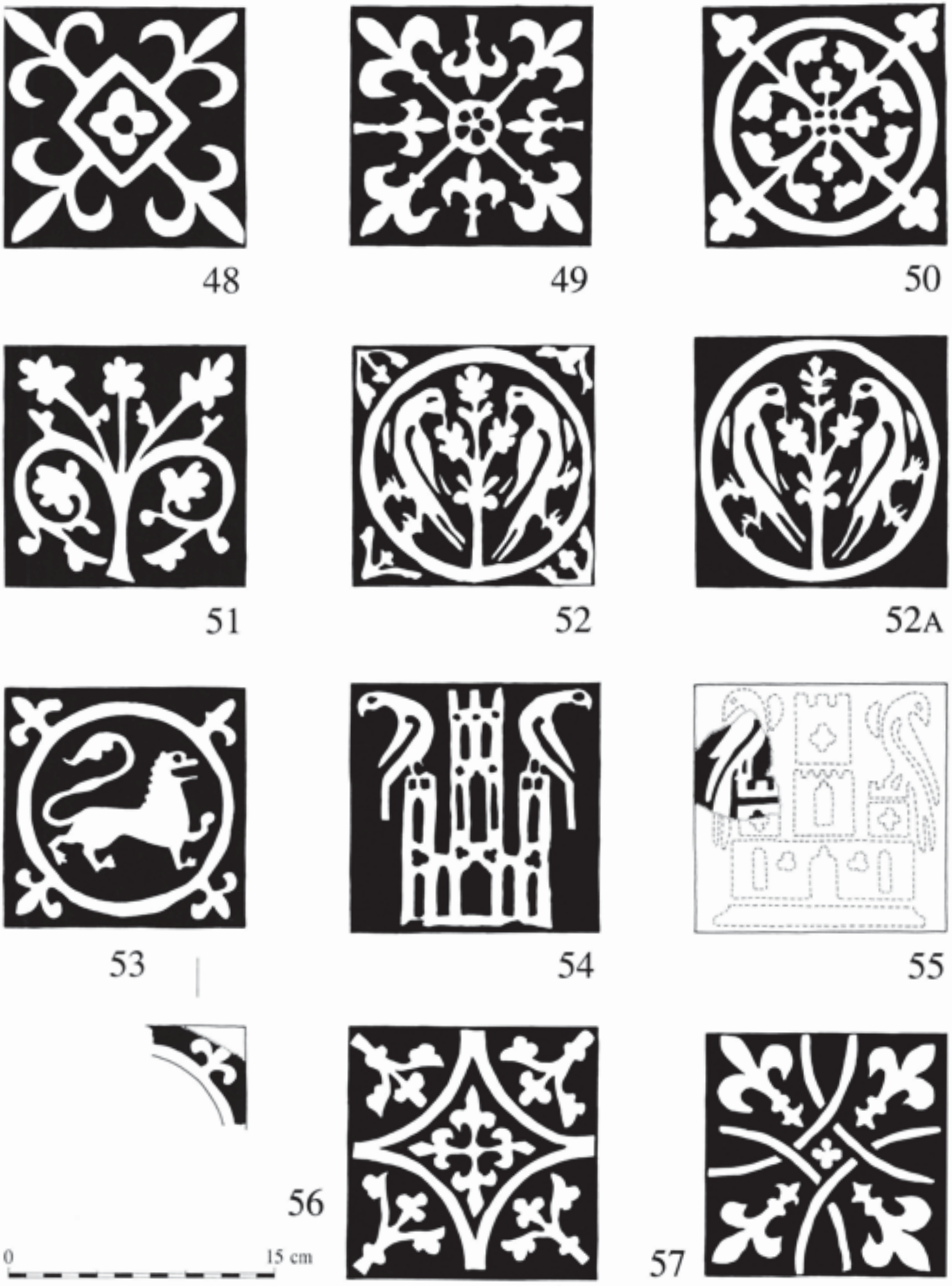


Fig. 476 Medieval floor tiles, group 2. Designs 48–57: formal designs, birds and beasts. Scale 1:3

49. Four fleurs-de-lys, radiating. Tile 140 mm².
Die-link: Glaston. A 16; Glaston. B 16; Stoke-sub-Hamdon.
Provenance: Camery, 37 exx.; Cloister garth, 1 ex.; Wells Mus., 12 exx.

50. Radiating sprigs of stiff-leaf foliage, encircled. Tile 140 mm².
Die-links: Glaston. A 21; Glaston. B 11; Cleeve 7; Stoke-sub-Hamdon; Tintern Abbey (Lewis 1976, fig. 12).
Provenance: Camery, 1 ex.; Wells Mus., 1 ex.
Wells Cat., type 14, illustrated.

51. 'Tree' of semi-naturalistic leaf foliage. Tile 135 mm².
Die-links: Bleadon; Bridgwater friary; Glaston. A 35; Stoke-sub-Hamdon; Tintinhull; Wedmore.
Provenance: CCC, 9 exx. (at least 6 *in situ*; north quire aisle, 1 ex.; Camery, 2 exx.

52. Sprig of semi-naturalistic leaf foliage and addorsed regardant birds, encircled. Tile 135 mm².
Die-link: Bath 15; Bruton; Glaston. A 25; Glaston. B 15.
Provenance: Camery, 17 exx.; Wells Mus., 3 exx.
Wells Cat., type 9, illustrated.

52A. The same die as 52, but with the foliage removed from the spandrels; hence later. Tile 135 mm². Uncertain fragments are listed under design 52.

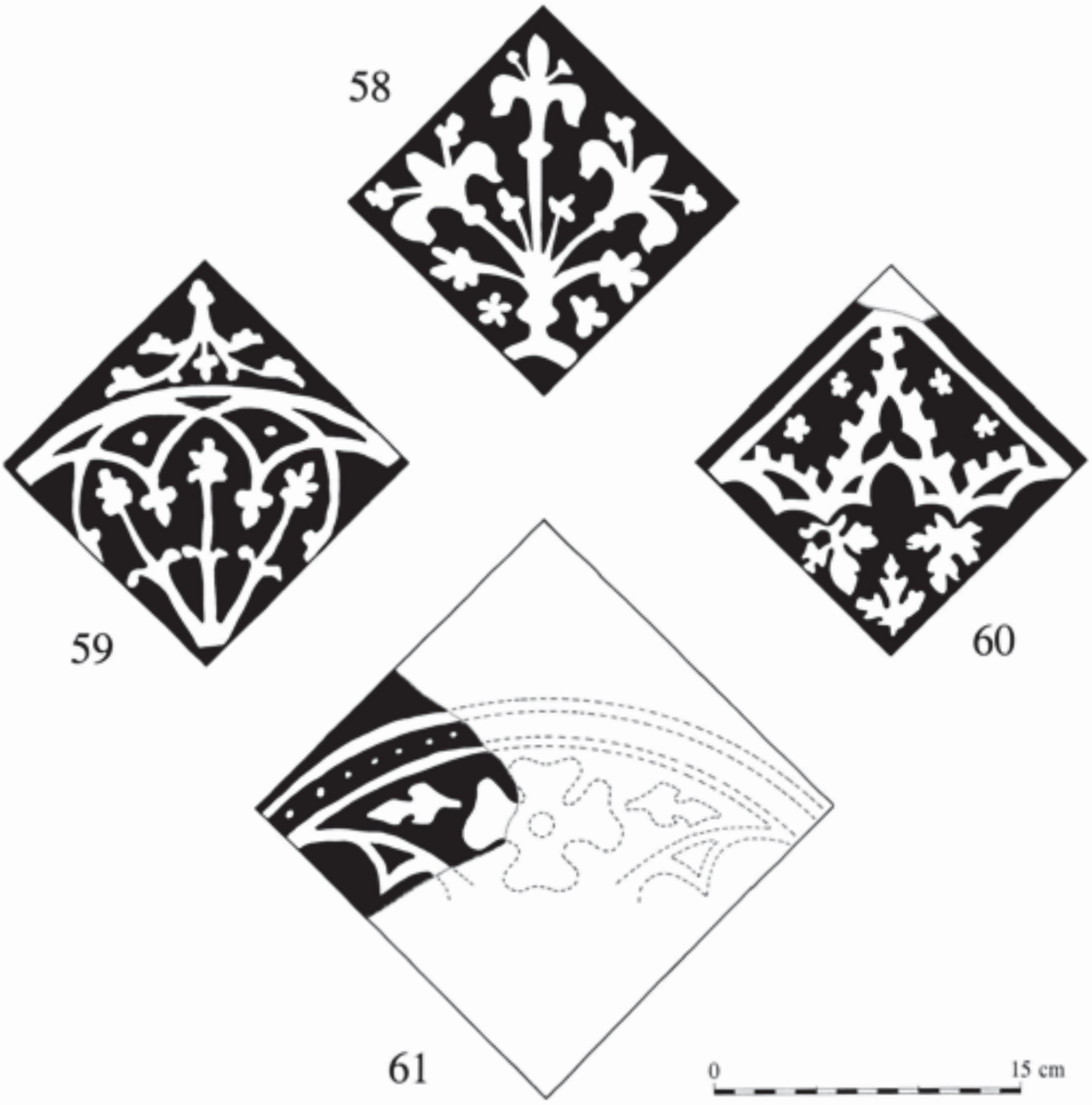


Fig. 477 Medieval floor tiles, group 2. Designs 58–61: four-tile patterns. Scale 1:3

Die-link: Bleadon; Cleeve 25; Glaston. B 14; Glaston. C 1; Glaston. T 6; Sherborne Abbey (Emden 1977, no. 63); Stoke-sub-Hamdon; Tintern Abbey (Lewis 1976, fig. 15); Watchet; Wedmore. BM Cat. 1979.
Provenance: Palace, 13 exx.; Camery, 1 ex.; Wells Mus. 1 ex.

53. Encircled lion, to sinister. Tile 135 mm². The upper right fleur-de-lys became damaged on the die; both forms are present at Wells.
Die-links: Bleadon; Cleeve 11; Glaston. A 8; Glaston. B 13; Muchelney Abbey; Sherborne Abbey (Emden 1977, no. 2); Tintern Abbey (Lewis 1976, fig. 10); Wedmore. BM Cat. 1793.
Provenance: Palace, 1 ex.; CCC, 4 exx. (relaid); Camery, 23 exx.; Wells Mus., 2 exx.

54. West front of a great church, with birds on the towers (Pl. XII). Tile 140 mm².
Die-link: Glaston. A 26. Muchelney Abbey and Stoke-sub-Hamdon (Ward-Perkins 1941, 54, pl. 9.6). This tile has been incorrectly attributed to the Nash Hill kilns: Alexander and Binski 1987, 309, no. 260.
Provenance: Camery, 21 exx.

55. Similar theme to 54, but more elaborate. Tile probably 140 mm².
Die-link: Nash Hill 14. Generally similar to Glaston. A 27, but the bird's wing on the Wells and Nash Hill tiles has a marked step which is not present at Glastonbury (compare the reconstruction shown on the right). Could be a recut die.
Provenance: Camery, 1 ex., but not in the Nash Hill fabric.

Four-tile patterns (Figs. 476–9)

Although intended for use as components in four-tile patterns, designs 56–58 were capable of being used singly; design 58 needed to be set diagonally. For reconstructions of the four-tile patterns, see Fig. 479.

56. Invected circles and sprigs of foliage. Tile 140 mm².
Die-link: Glaston. A 33; Glaston. B 15.
Provenance: Camery, 4 exx.

57. Intersecting quadrants and fleurs-de-lys. Tile 140 mm².
Die-links: Bleadon; Glaston. A 52; Glaston. B 17.
Provenance: CCC, 1 ex. *in situ*; Lady Chapel, 1 ex. (lost); Camery, 24 exx.; Wells Mus., 3 exx.
Wells Cat., type 25, illustrated.

58. Spray of foliage. Tile 135 mm². Used singly in Corpus Christi chapel. Note how the rosette at the lower right is missing one petal, indicating a damaged die (Fig. 477).
Die-links: Bleadon; Cleeve 6; Congresbury; Glaston. A 23; Tintinhull; Watchet; Wedmore; Witham Friary.
Provenance: CCC, 54 exx. (2 relaid); north quire aisle, 2 exx.; Camery, 19 exx.

59. Radiating sprigs within a cusped circle, forming a duodecafoil. Tile 140 mm².
Die-links: Glaston. A 48; Tintern Abbey (Lewis 1976, fig. 7). BM Cat. 2767.

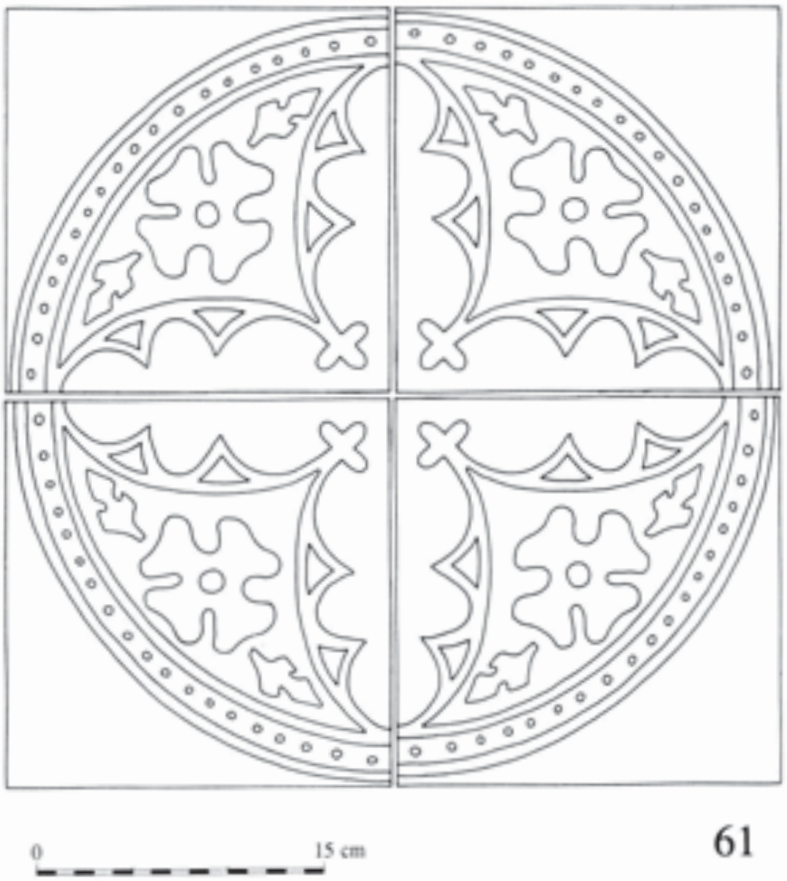


Fig. 478 Suggested reconstruction of the cusped quatrefoil, design 61. Scale 1:4

56

57

58

59

60

Fig. 479 Reconstructions of four-tile patterns, group 2, designs 56–60. Scale 1:4

Provenance: Camery, 60 exx.
Wells Cat., type 12, illustrated (now lost).

60. Eight-pointed star of cusped and crocketed canopy work, enclosing fully naturalistic leaves. Tile 135 mm². Die-link: Glaston. A 49. *Cf.* BM Cat. 2694.
Provenance: CCC, 13 exx. (relaid); Camery, 1 ex.; Wells Mus., 1 ex.
Wells Cat., type 31, illustrated.

61. Quatrefoil within a circle, *bezantée*. The quatrefoil appears to be composed of cusped vesicae; a four-petalled rosette fills the internal spandrels. Tile 200 mm², the only example from Wells of a four-tile pattern based on such a large format; for suggested reconstruction, see Fig. 478.
Die-link: none found.
Provenance: Wells Mus., 1 ex. (unprovenanced, but more likely to be from the Bishop's Palace than elsewhere).

Heraldic designs on small tiles (Fig. 480)

62. Checky, for de Warrene; supported by two castles. Tile 135 mm².
Die-links: Dunkeswell; Glaston. A 1; Muchelney Abbey.
Provenance: CCC, 2 exx. (relaid); Camery 2 exx.

63. Checky, for de Warrene; surmounted by one castle. Tile 135–140 mm².
Die-links: Bridgwater Friary; Cleeve 5; Glaston. A 3; Glaston. S 10; Glaston. T 5; Sherborne Abbey (Emden 1977, no. 153). BM Cat. 1619.
Provenance: CCC, 2 exx. (relaid); north quire aisle, 2 exx.; Camery, 18 exx.
Wells Cat., type 7, illustrated (now lost). Jewers 1892, 116, no. 3.

64. Six fleurs-de-lys; supported by griffins. Arms of ancient France. Tile 140 mm².
Die-link: Glaston. A 10; Tintinhull.
Provenance: Camery, 10 exx. CCC, probable example (lost).
Wells Cat., type 27, illustrated; reference also to an example in Wells Mus. (both now lost). Jewers 1892, 116, no. 5 (reproduced here as 64A on Fig. 481).

65. Three leopards to dexter. Arms of England, Henry III. Tile 135–140 mm².
Die-links: Bath; Bleadon; Glaston. A 11; Tintinhull; Wedmore. BM Cat. 1503.
Provenance: CCC, 36 exx. (3 relaid); Camery, 14 exx.; Lady Chapel, 2 exx. (lost).
Wells Cat., type 2, illustrated (now lost). Jewers 1892, 116, no. 4.

66. Rampant lion to sinister, within a border *bezantée*. Arms of Richard Plantagenet, Earl of Cornwall (reversed). Tile 135 mm².
Die-links: Bath; Bridgwater Friary; Glaston. A 56; Stoke-sub-Hamdon; Tintern Abbey (Lewis 1976, fig. 21).
Provenance: CCC, 6 exx. (relaid); Camery, 2 exx.; Lady Chapel, 1 ex. (lost); Wells Mus., 2 exx.
Wells Cat., type 4, not illustrated. Jewers 1892, 116, no. 2.

67. Three chevrons, for de Clare. Tile 135–140 mm².
Die-links: Bleadon; Bridgwater Friary; Glaston. A 6; Luccombe; Milton Abbey (Emden 1977, no. 139); Stoke-sub-Hamdon; Tintinhull. BM Cat. 1649.
Provenance: CCC, 10 exx. (relaid); Camery, 1 ex.; Wells Mus. 1 ex.
Wells Cat., type 33, illustrated. Jewers 1892, 115, no. 1.

68. Double-headed eagle displayed. Badge of Cornwall, borne by Richard Plantagenet as King of the Romans. Tile 140 mm².
Die-links: Bridgwater Friary; Cleeve 4; Glaston. A 61; Glaston. C 2; Milton Abbey (Emden 1977, no. 165); Stoke-sub-Hamdon; Tintern Abbey; Watchet; Wedmore. BM Cat. 1730.
Provenance: Palace, 1 ex.; CCC, 5 exx. (relaid); Camery, 3 exx.; Lady Chapel, 1 ex. (lost); Wells Mus., 4 exx.

Sub-group 2B

Size: *c.* 200 mm², 35 mm thick.

Heraldic designs on large tiles (Fig. 481)

69. Three leopards to dexter. Arms of England, Henry III.
Die-links: Cleeve 1; Glaston. A 60; Glaston. T 4.
Provenance: Palace, 16 fragments; Camery, 1 ex.
Wells Cat., type 1, illustrated (now lost).

70. Rampant lion to dexter in a border *bezantée*. Earl of Cornwall (reversed).
Die-links: Bath 1; Cleeve 2; Glaston. A 69; Glaston. T 2.
Provenance: Palace, 3 exx.; Camery, 1 ex.
Wells Cat., type 3, not illustrated (now lost).

71. Three chevrons, for de Clare.
Die-links: Cleeve 3; Glaston. A 71; Glaston. T 3.
Provenance: Palace, 3 fragments.
Wells Cat., type 5, not illustrated (now lost).

72. Unidentified, not necessarily heraldic.
Provenance: Palace, 1 fragment.

73. Not used.

Tiles of Group 3

Brownish-red fine fabric. Pattern formed in *c.* 1–2 mm deep cream inlay. Tile 140 mm²; no keying scoops.

Heraldic tiles (Fig. 482)

74. A chevron between three eagles displayed. Almost certainly the arms of William Bird, Prior of Bath Abbey, 1499–1525. Jewers (1892, 116, no. 6; reproduced here as 74A) refuted the identification, based on his belief that the tile had to be early fourteenth century. The same arms occur several times, in stone, in Bath Abbey.
Die-link: none found.
Provenance: CCC, 1 ex. (relaid); Wells Mus., 1 ex.
Wells Cat., watercolour only, labelled 'North Choir Aisle' (possibly referring to Corpus Christi chapel, which adjoins the aisle).

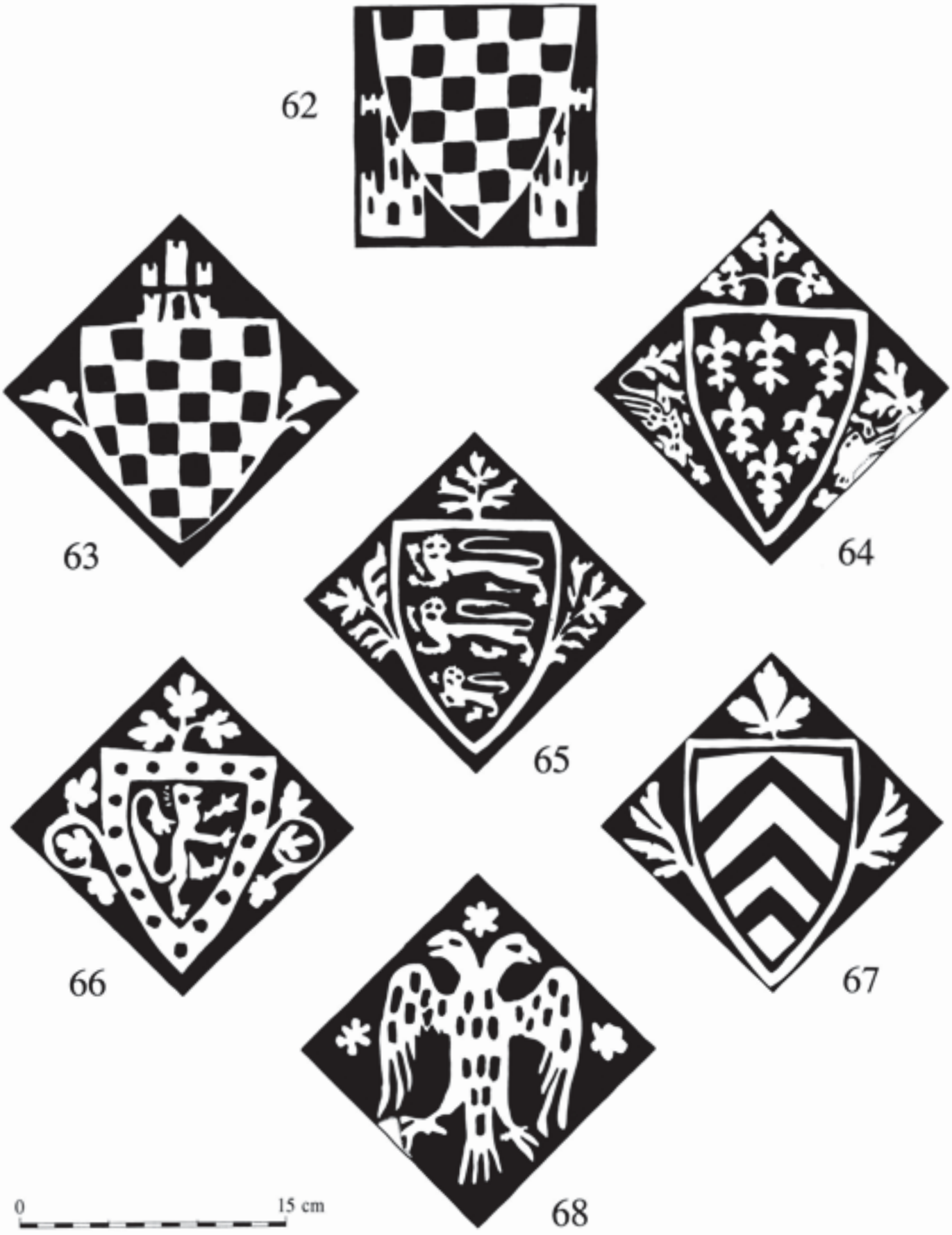


Fig. 480 Medieval floor tiles, group 2A. Designs 62–68: heraldic designs on small tiles. Scale 1:3

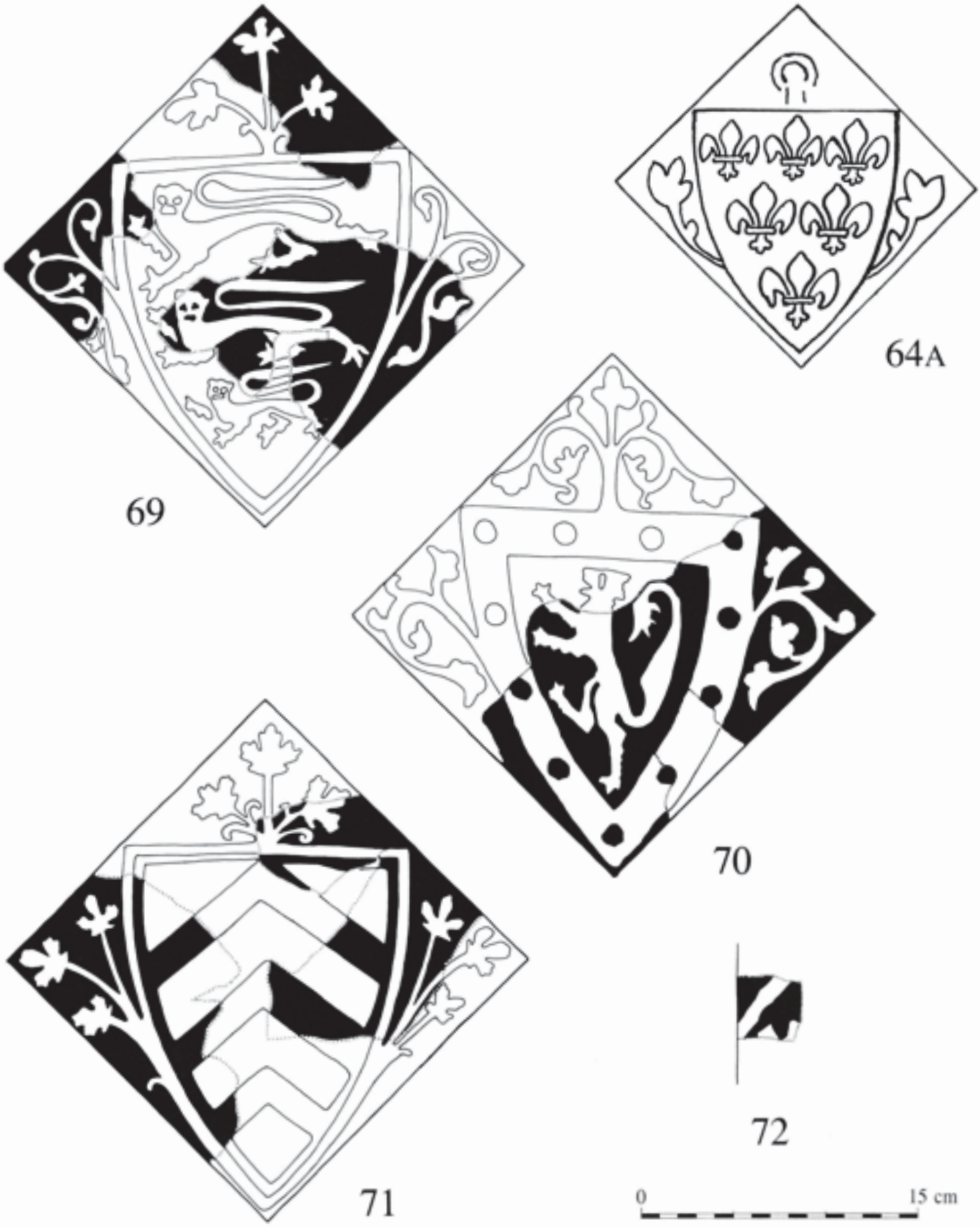


Fig. 481 Medieval floor tiles, group 2B. Designs 69–71: heraldic designs on large tiles. Design 72: unidentified. Design 64A: arms of France, after Jewers 1892. Scale 1:3

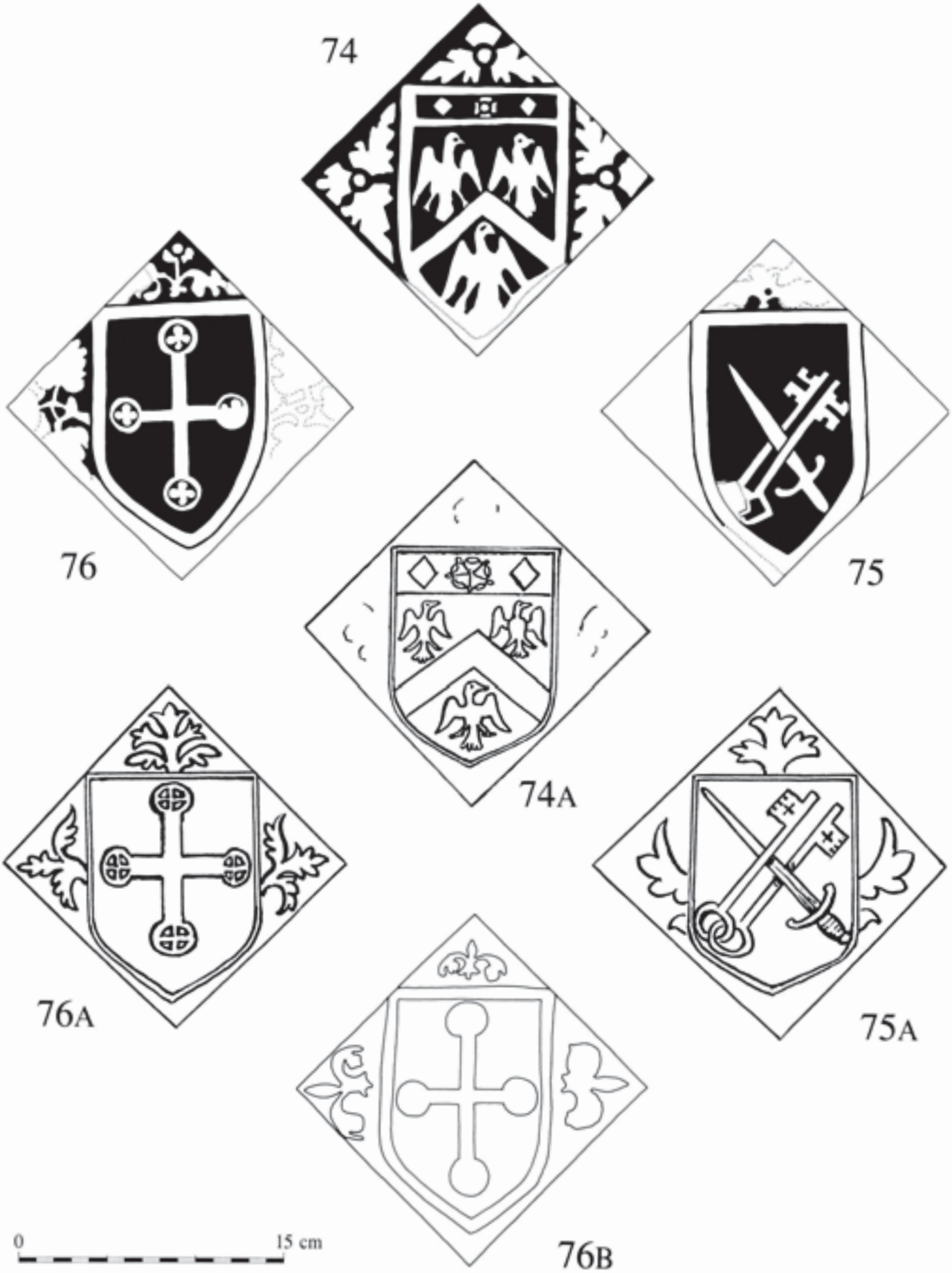


Fig. 482 Medieval floor tiles, group 3. Designs 74–76: heraldic tiles. Design 74A–76A after Jewers 1892. Design 76B after Colchester 1977a. Scale 1:3

75. Crossed keys and sword, for SS Peter and Paul. In this case probably representing St Peter's Abbey, Bath. The tile is very worn, and has lost virtually all traces of the foliage in the corners, which was illustrated schematically by Jewers (1892, 117, no. 8 and pl. 4.5; reproduced here as 75A). No foliage was illustrated by Colchester (1977a), although a trace remains at the top corner.
Die-link: none found. *Cf.* Keynsham 59, and BM Cat. 1576 for related designs.
Provenance: CCC, 1 ex. (relaid).

76. Cross *pommée*, with ringed quatrefoils in the terminals. Slight traces still remain of the foliage in two of the corners, but this does not agree closely with the illustrations by Jewers and Colchester (reproduced here as 76A and 76B, respectively). It would appear that Colchester was influenced by Jewers, and the resultant foliage is thirteenth century in style, whereas the surviving traces show clearly that it was naturalistic, as would be expected. However, the surface of the tile has almost entirely disintegrated since 1977, and only two arms of the cross now remain. More detail was recorded by Mrs Barbara Lowe in the early 1970s, and is included here.
Jewers proposed that the arms were those of Bishop William de Marchia (d. 1302), but that is untenable on grounds of date, the tile being some two centuries later (Jewers 1892, 11, no. 7 and pl. 4.6). Pereira and Colchester suggested that the arms were for Glastonbury Abbey, despite the Virgin and Child being omitted from the first quarter (Pereira 1888, 53; Colchester 1977a, 21). Also, it may be noted that the abbey's arms employed the cross *botonnée*, not cross *pommée*.
Die-link: Hinton Charterhouse: a fragment, on which the foliage at the top and sinister corners partly remains. This evidence, recorded by Lowe, has been used to reconstruct the sinister corner here.
Provenance: CCC, 1 ex. (relaid).

Plain glazed tiles

Some thousands of fragments of plain-glazed floor tiles, of various shapes and sizes, were found in association with the decorated tiles, both in pavements and *ex situ*. On grounds of fabric and dimensions, the plain tiles are almost all assignable to groups 1 or 2, as defined above. There are none associated with group 3. Group 4 comprises only a handful of examples, relating to an entirely plain, late medieval sacristy floor (p. 217). All but a few of the plain tiles of groups 1 and 2 are in the form of rectangular borders, square border-corners, and triangular half-corners, which were employed to provide framing within and around decorated tile carpets.

All these border pieces were cut from tiles of standard sizes: 120–125 mm², *c.* 130 mm² and *c.* 140 mm². These sizes complemented those of the sub-groups and batches represented amongst the decorated tiles, showing that the same forms were used in production. Indeed it was essential that dimensional correlation should exist between the plain and decorated tiles prepared for any given contract, since discrepancies would have played havoc with the setting out of borders, particularly in diagonally laid paving. Decorated and plain components can be matched, and are therefore broadly identifiable as 'kits'. The fabrics and finishes are identical.

Complete plain tiles were invariably scored to create the required shapes before firing. Scoring took the form of a knife-cut which penetrated the tile to about half its thickness. Tiles were only broken into smaller components after firing. Tiles intended for breaking were not given keying scoops.

So few whole and unscored tiles were found that it seems certain there was no significant use of plain-tile flooring at Wells in the thirteenth and fourteenth centuries.[34] Also the complete absence of curved and angled tiles indicates that there were probably no mosaic floors either. The sole curiosity in this respect is one specimen of design 2, which had the lower left corner trimmed off at an angle of roughly 45° before firing. This could not have been for a true mosaic floor, but was part of a four-tile pattern with an inserted plain square (50 mm) at the junction (Fig. 471). Similar evidence has been noted at Bath Abbey (p. 460).

Plain tiles, generally, have received very little recognition in print. Indeed, until recently, all undecorated tiles found at Glastonbury Abbey were discarded, without record, by their excavators; and at other sites in the region yielding large assemblages no attempt seems to have been made even to list the types of plain tile present. Some from Keynsham have been illustrated and referred to as 'assorted tile shapes' (Lowe 1978, 17, pl. 4a). By grouping all the border tiles from Wells into sizes, types and fabrics, and analyzing the disposition of edge-cuts, it was possible to reconstruct the dimensions of the original full-sized tiles, and to show how these had been broken into the various smaller units. The basic sizes, divisions and subdivisions recorded are summarized diagrammatically in Fig. 483.

Hitherto, it would appear that the only similar exercise to have been attempted on plain Wessex tiles is at Bath, but the results lack conviction.[35]

Group 1

The vast majority of these have a black syrupy glaze, directly over the tile-fabric, and were used to form monochrome borders. A small proportion of tiles have a plain yellow finish, which was achieved by applying a slip to the tile before glazing. These were almost entirely used for corners. There is also a distinctive group of green border tiles with an underglaze slip. These vary in colour from a deep green, to yellow speckled with green.

The average thickness is 30 mm, and the full range 27–32 mm. There were many ways in which tiles could be cut to form rectangular borders, square corners, and triangular half-corners. Basic divisions were into

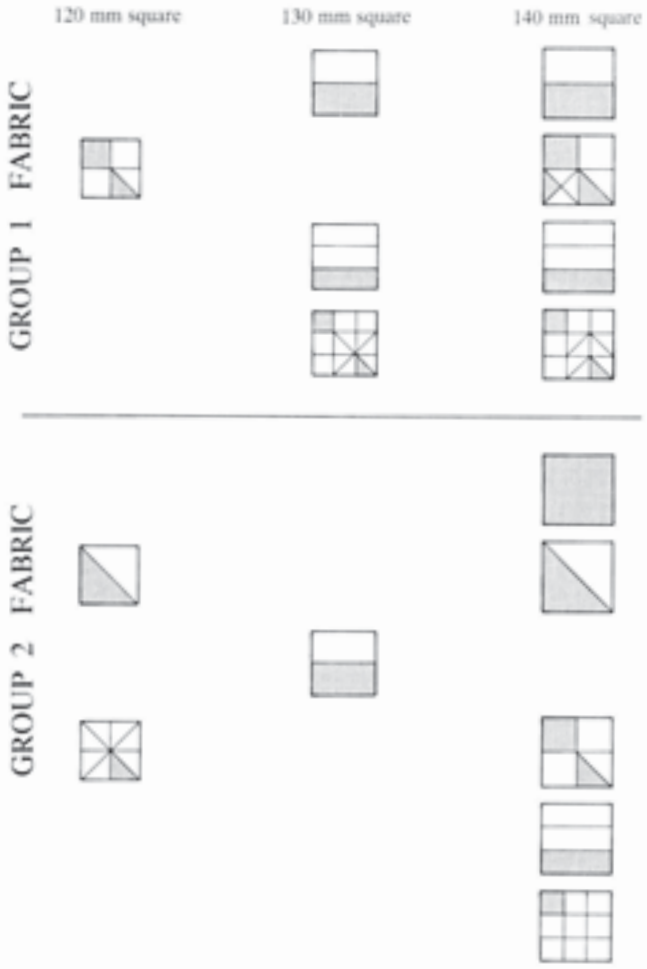


Fig. 483 Medieval floor tiles. Diagrammatic representation of the methods employed for dividing plain tiles into rectangular borders, square corners, and half-corners

halves, quarters, thirds and ninths. In order to form half-corners, subdivisions into eighths, sixteenths and eighteenths were made.

120 mm² tile

(i) Corners, four per tile, *c.* 60 mm². Black, common. A few subdivided diagonally, forming eight half-corners. Used also as rectangular border tiles (by breaking only once), interspersed with rosettes, between straight rows in the Lady Chapel nave: area A (Fig. 156). Some badly distorted specimens, unused. A few examples from waste dump F1347.

130 mm² tile

(i) Borders, two per tile, *c.* 130 × 60 mm. Black, uncommon. Some distorted, unused.

(ii) Borders, three per tile, *c.* 130 × 42 mm. Black, very common. Used in the Lady Chapel nave and north aisle, in diagonal borders: areas A and B. Many distorted and unused; some from waste dump F1347. Similar borders also in green, with an underglaze slip; they are relatively uncommon but not scarce. A few examples from waste dump F1347.

(iii) Corners, nine per tile, *c.* 40 mm². Black very scarce; yellow moderately uncommon. A few scored diagonally, to form eighteen half-corners.

140 mm² tile

(i) Borders, two per tile, *c.* 140 × 65 mm. Black, fairly common. A few from waste dump F1347.

(ii) Borders, three per tile, 45–50 mm wide. Black, fairly common.

(iii) Corners, four per tile, 65–70 mm². Black, uncommon; yellow, very rare. Some black examples from waste dump F1347.

(iv) Corners, nine per tile, 45 mm². Black and yellow, scarce.

(v) Half-corners, eight per tile. Black, very scarce; yellow, fairly common. Many from waste dump F1347. A few of the latter colour were subdivided to make even smaller corners: *i.e.* sixteen per tile.

(vi) Half-corners, eighteen per tile. Black, very scarce; yellow, moderately common. A few examples from waste dump F1347.

Group 2

Numerically, there are far fewer than group 1 tiles. The majority of these tiles have a dense black glaze, and were made for borders. There are also some yellow tiles with an underglaze slip, and these were all used for corners. Average thickness is 25–27 mm, with some as thin as 23 mm. The techniques of production were the same as for group 1, and the three basic tile sizes were again used, but much more restrictively. Thus there was scarcely any use of the 130 mm² tile, and fewer subdivisions of the 140 mm² tile, no sixteenths or eighteenths being recorded. A few whole and diagonally cut half-tiles are present, whereas there are none in group 1. In addition to the classified forms listed below, a few curiosities occurred, such as borders up to 35 mm thick. There are no wasters, and relatively few tiles that seem to be unused.

In group 2, generally, the only common tiles are the narrow (one-third) black borders.

120 mm² tile

(i) Half-tiles (diagonal). Yellow, scarce.

(ii) Half-corners, eight per tile. Yellow, very scarce.

130 mm² tile

(i) Borders, two per tile, 65 mm wide. Black, very scarce.

140 mm² tile

(i) Full tiles. Black, uncommon but not scarce; yellow, scarce. Apparently four keying scoops per tile.

(ii) Borders, two per tile, 70 mm wide. Black, very scarce.

(iii) Borders, three per tile, 42–45 mm wide. Black, very common.

(iv) Corners, four per tile, 70 mm². Black, very scarce.
(v) Corners, nine per tile, 45 mm². Black and yellow, very scarce.
(vi) Half-tiles (diagonal). Yellow, very scarce.
(vii) Half-corners, eight per tile. Black and yellow, both very scarce.

Group 4

Fine brick-red fabric with small voids, purple flecks and other small inclusions; 30 mm thick. The glaze appears orange-brown where applied direct to the fabric, but some examples have a white slip, firing yellow under the glaze. No decoration. Edges very slightly undercut, and fine sand adheres to the bases.

Eighteen fragments were found. Although some had been used as borders in the sacristy of Stillington's chapel, they had all been cut out of larger tiles. There was no scoring or subdivision of the tiles before firing. Date: *c.* 1500.

Window glass

Anglo-Saxon glass

A single piece of pre-medieval window glass was found (Pl. XIII). It is small, quadrangular in outline, and averages 15 mm by 22 mm. It is crown glass and tapers slightly in thickness, the maximum being 3 mm; there are innumerable tiny air bubbles in the metal. The colour is a rich light-blue, and three of the edges are grozed. The sherd was found in Area 9, in a spread of rubble (F1401) of late Saxon date. This glass is comparable with that which is found sparingly on early ecclesiastical sites of high status throughout Britain: for a recent discussion, in relation to Whithorn, see Cramp 1997.

Medieval glass

by Jill Kerr

The glass was examined after excavation, but before any conservation was carried out. The selection of material for publication was made on the basis that the best and most complete examples of all design types should be illustrated.

All the glass was smashed before burial: not one completely grozed piece has survived, and much of the material is very fragmentary. The medieval glass is all devitrified; none is still translucent or stable throughout. Rotting has destroyed the stability and matrix of all the material, whether pot metal, white fired or unfired. Many of the edges have fissured and shaled off, but where grozed edges survive there are a few lead shadows discernible. Where the original surfaces of the glass have not shaled off it is possible to observe corrosion pits on the exterior of the medieval glass, indicating that it was glazed *in situ* for sufficient time for these to develop.

Post-medieval glass is consistently patinated from burial where chemical reactions have caused the surfaces to iridize and shale. Plain glazing of the sixteenth to nineteenth centuries does however retain a number of cut edges, some of which have lead shadows of 4–6 mm, indicating an 8–12 mm flange of lead.

All the glass is consistent with destruction débris. There is no evidence of construction detritus, no glass in lead, and only one plain white fragment which showed signs of fire damage. The sole exception is a collection of four rounded edges of cylinder glass which are broken, not grozed, and which bear no signs of surface differential or grozing. These pieces do not appear to have been glazed, and may have been discards during a reglazing programme.

Notes on the illustrated pieces (Fig. 484)

1 Serpentine border in geometric grisaille. Thirteenth century. F85.

2 Stiff-leaf foliage. F620.

3 Fragment of a band of fleurs-de-lys. Thirteenth century. F85.

4 Border? Thirteenth century. F620.

5 Border of contiguous circles, picked out of matt black background with the paint acting as the cut-line. Thirteenth century. F404.

6–7 Beaded borders. Thirteenth century. F85.

8 Fragment with drapery painting lines, on thick glass (6 mm). Thirteenth century. F1262.

9 Architectural fragment. Thirteenth century. F1262.

10 Cursive painting of a flower. Fifteenth century. F1262.

11 Half-quarry, with floppy foliage. Fifteenth century. F85.

12 Black letter inscription: *IHC*. Fifteenth century. F392.

13 Near-complete quarry with formalized foliage; high quality work. Fifteenth century. F341.

14–15 Tudor roses flashed red on white glass with yellow stain. High quality work on unusually thick glass. Potentially part of a decorative presentation of heraldic devices. Fifteenth century. F85.

16–23 Oak leaves and stems entwined with serpentine borders. Fifteenth century. F85.

Comment

Some of the thirteenth-century glass was recovered from demolition levels associated with the early

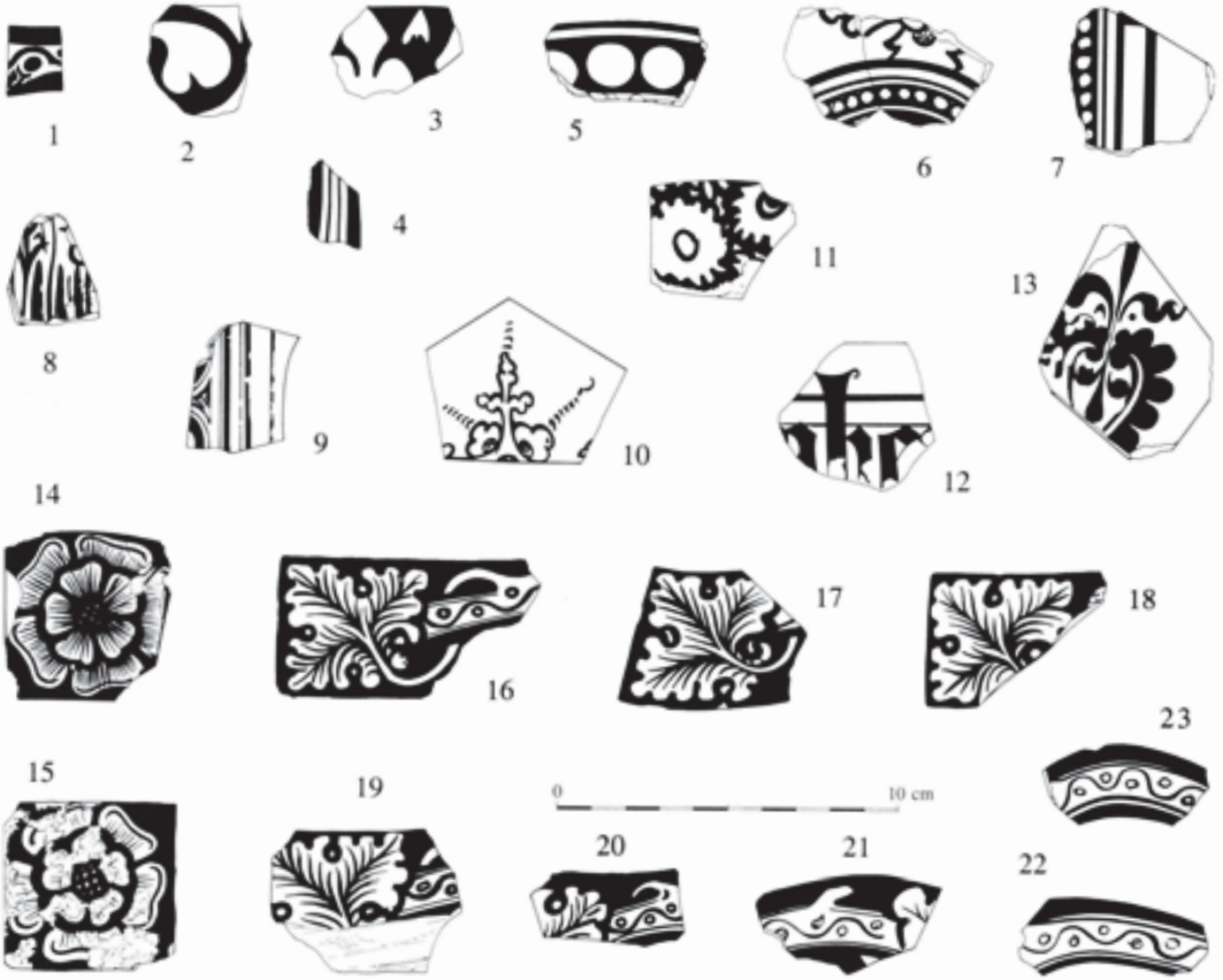


Fig. 484 Medieval painted glass. Scale 1:2. Drawn by Richard Bryant

medieval Lady Chapel-by-the-Cloister, which was destroyed in 1477. The architectural zenith of this structure was *c.* 1250, when the chapel was greatly extended.

Of the fifteenth-century fragments, nos. 12 and 13, are likely to derive from the south transept windows of the cathedral, and were knocked out in the sixteenth century. The remaining fifteenth-century pieces that are illustrated all came from destruction levels associated with Stillington's chapel. This glass is likely to have been installed in *c.* 1485, and was removed in 1552.

Plumbing

Lead objects, which were sparsely scattered through the later medieval and post-medieval levels, were virtually all associated with structural plumbing, principally roofing and glazing. The only plumbing still *in situ* was the medieval lead water-pipe which ran through the Camery.

Roofing

About twenty lead clips were found of the kind used to anchor the lower edges of lead sheets on pitched roofs. The clips vary in width from 5 cm to 8 cm and were usually fixed to the battens with two clout nails apiece, although in some cases only one nail was employed. A few of these clips were recovered from the 1477 destruction deposits associated with the early Lady Chapel, but the majority came from post-medieval layers, and were presumably derived from the demolition of Stillington's chapel in 1552.

A few examples of longer and narrower lead clips, averaging 2 cm wide, were found in post-medieval levels. These were tingles, used for refixing slipped slates. They doubtless derive from repairs to the east cloister roof.

Many trimmings from roofing lead were also found, often bearing the cut-marks of the plumber's knife; several pieces are curved in outline, and are probably derived from the formation of outfalls to parapet and valley gutters.

Glazing

Several hundred fragments of window cames were found in later medieval and post-medieval deposits. Most of the fragments were small and in a relatively poor state of preservation. Apart from several fragments of nineteenth-century diamond-pattern glazing, none of the cames retained any glass *in situ*, and thus patterns of ancient leading were not recoverable.

A few pieces of lead wire (made from clippings), used as ties for securing glazing to saddle-bars or tying-bars, were found.

Window ventilators (Fig. 485)

1. Nearly half of a diamond-shaped cast lead ventilating panel, now distorted. The design is based upon two concentric circles, linked together by eight trefoil-headed lancets; the centre is open. Filling the space between the outer circle and the rectilinear border is a circlet of twelve graduated, cinquefoil-headed lancets; four additional foiled lancets fill the apices of the lozenge. A reconstruction of the complete panel is also given (1A): it measured *c.* 15.3 × 11.6 cm overall.
   Unstratified find in the topsoil, Area 7, close to the south transept of the cathedral.

   The original wooden pattern for the ventilator was very carefully carved, even to the point of including tiny sinkings in the spandrels between cusps. The mould for this particular panel was, however, carelessly made, or damaged during pouring, and the profile and detail of some of the cinquefoils have become obliterated amidst excess metal. The tracery pattern indicates a fifteenth-century date, and probably in the first half of the century. A somewhat simpler arrangement of this basic design, incorporating only one circle, is seen in a ventilator found at Glastonbury Abbey (Woodforde 1946, pl. L); and a spoked, wheel-like arrangement between concentric circles is known from Keynsham Abbey (Lowe 1987, fig. 14.1).

   It is likely that this ventilator fell from one of the transept windows. The main lancets in the transept had been modified to receive Perpendicular tracery sometime before *c.* 1424 (Harvey 1982, 92). The ventilator therefore probably dates from the early fifteenth century.

2. Complete diamond-shaped ventilating panel, measuring 15.5 × 11.5 cm. Simple reticulated pattern, comprising a grid of nine identical diamond-shaped sub-units; each has four inwardly projecting 'points' in crude simulation of cusps.

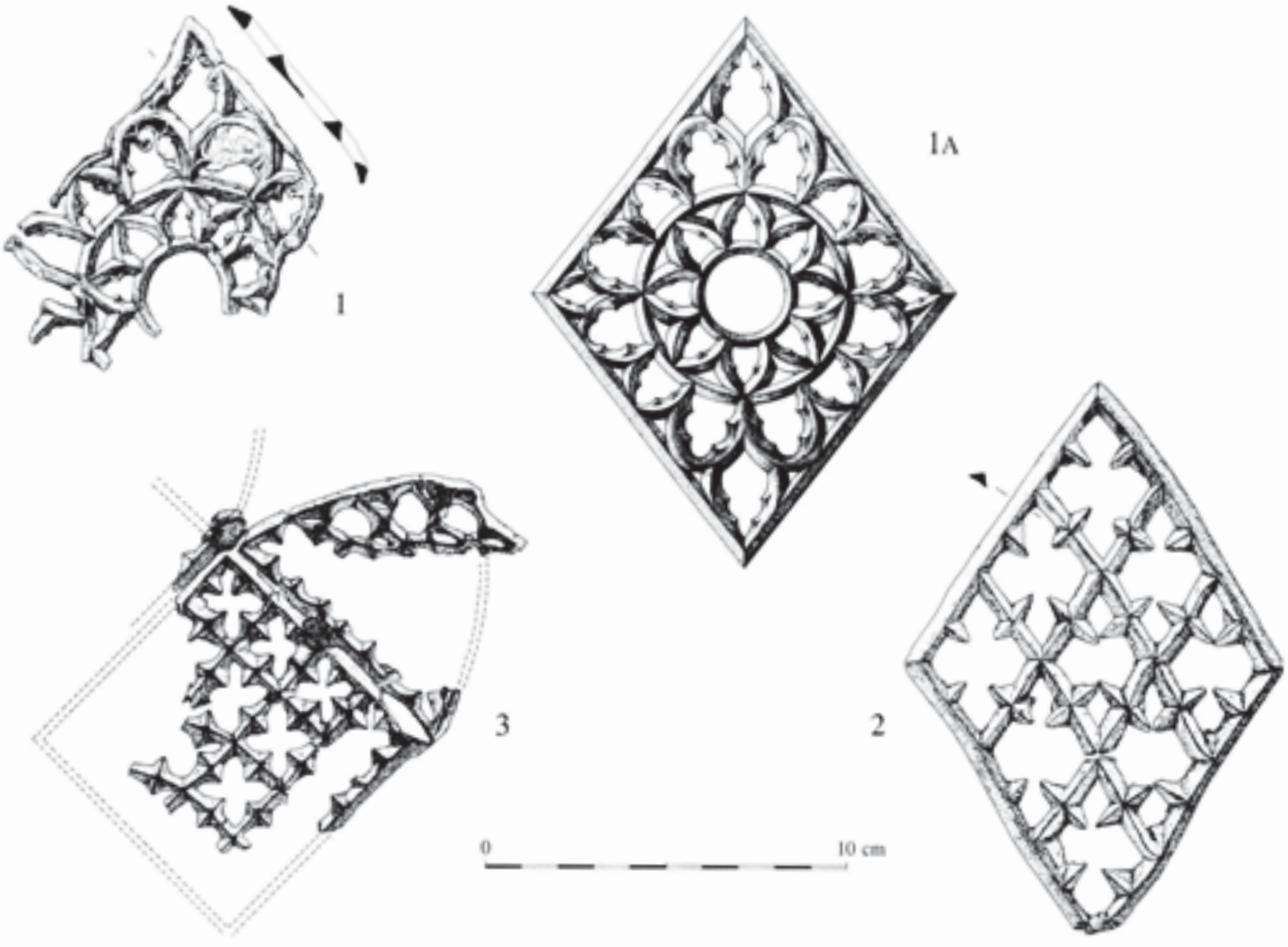


Fig. 485 Lead window ventilators, nos. 1–3. Surviving fragments and reconstruction of no. 1 (1A). Scale 1:2. Drawn by Richard Bryant (1 and 1A), and Christine Rodwell (2 and 3)

Found in 1927, along with medieval glass and came fragments, when cleaning out the vault pockets in the north-west tower of the cathedral. Now kept in the cathedral library.

The pattern suggests a date around the middle of the fourteenth century. It is impossible to be certain that these fragments belonged to the glazing of that tower, or that its window openings were glazed at all. On balance, it is likely that old glazing materials were simply stored there at some time. The panel is certainly earlier than the north-west tower, which was erected after 1424, but before 1436 (Colchester and Harvey 1974, 209–10).

It has been noted by Woodforde, who illustrated it with a colour-wash drawing (Woodforde 1946, 278, pl. L).

2A. Not illustrated. Three-quarters of an identical ventilating panel, cast in the same mould as the last. Same provenance.

3. Badly broken fragments representing slightly less than half of a square ventilating panel, to which is attached part of a second panel of curving outline. Reticulated pattern, filled with small quatrefoils: there were sixteen to a complete panel, the sides of which would have measured 7.8 cm^2 (11 cm across corners).
Found in 1927, with no. 2 above; kept in the cathedral library.

The pattern indicates a mid-fourteenth-century date. Noted and incompletely illustrated by Woodforde (1946, 278, pl. L). This composite ventilator was clearly made for a cusped tracery light, and could either have been set square, or diagonally. An example containing nine quatrefoils within a square of 7.7 cm is known from Keynsham Abbey (Lowe 1987, fig. 14.2).

4. Not illustrated. Woodforde (1946, 278) records the finding of another ventilator, along with nos. 2, 2A and 3, but this passed into private hands. It was diamond-shaped, with sides measuring 8.3 cm, and filled with a reticulated pattern of small quatrefoils.

Woodforde noted the ventilator as being of identical pattern and dimensions to one found at Glastonbury Abbey, which he illustrated (Woodforde 1946, pl. LI). Whether it was cast in the same mould cannot now be established. This is a diamond-shaped variant of no. 3, and of the same period.

Water piping

The lead piping of *c.* 1451/53 and 1477 is discussed in its archaeological context in chapter 11 (pp. 402–8), and is illustrated in Figs. 419–22 and 425. A small section of pipe with a joint was requested by, and has been donated to the museum of, the Worshipful Company of Plumbers, London.

Miscellaneous materials

Roman brick and tile

Several hundred small fragments of brick and tile were found throughout the Anglo-Saxon and medieval levels, and some larger pieces were recovered from wall cores. In addition, brick chips with lime-mortar adhering — being the degraded remains of construction mortar and *opus signinum* flooring — were numerous in the earlier levels. No tesserae were found. Of the larger and more readily identifiable ceramic building materials, the following were noted, although no dimensions apart from thickness were recoverable.

Bricks. These were the most common materials in the ceramic category, and ranged between 35 mm and 42 mm in thickness.

Pila tile. One probable example, 32 mm thick.

Box flue tiles. Three combed pieces, all in different fabrics.

Tegulae. Two flanges.

Imbrices. Two pieces.

The range of fabrics exhibited by the Roman building materials is striking, demonstrating that these are not derived from a single-period structure. Analysis of such a small and poorly preserved collection would be pointless; suffice it to note that five fabrics are readily identifiable.

(i) The commonest is identified by its pronounced yellow/orange/red streaky cross-section; mostly hard in texture.
(ii) Orange-red all through, usually soft and powdery.
(iii) Reddish-brown with sandy surfaces, well fired, and sometimes having a grey core.
(iv) Brownish-red, well fired and strikingly vesiculated as a result of the burning out of vegetable inclusions. One of the tegulae is in this fabric.
(v) Very dense, deep red and slightly sandy fabric. Only one battered example; this is more likely to be from an architectural embellishment, rather than a common brick.

Roman mortar and plaster

Structural mortar

Cream coloured, lime-based mortar, containing an aggregate of crushed brick/tile, was found both adhering to Roman building materials and loosely scattered throughout the lower levels of the site. The size of the

brick aggregate varies considerably, presumably reflecting the particular use to which the mortar was put. Brick fragments measuring between 3 mm and 10 mm across were common, although the range extended up to 15 mm. Likewise, the sand used in mortar mixes varied considerably; grains of grey and red sandstone measuring up to 3 mm across were not uncommon.

Opus Signinum flooring

Although only one recognizable piece of *opus signinum*, with a clearly worn surface, was found, it seems likely that many of the other lumps of 'mortar' containing very coarse aggregate were derived from broken-up flooring.

Wallplaster

Several small pieces were recovered with plain white surfaces, and one with deep red paint (only *c.* 10 mm in diameter).

Structural daub

A few shapeless lumps of burnt clay were found, evidently the remains of structural daub, and almost certainly of Roman date. The structural use of this material is confirmed by the fact that one piece exhibits a lime-plastered surface, and is thus probably derived from an internal partition wall.

Post-Roman mortars and plasters

with Jerry Sampson

The excavations yielded a large quantity of construction mortar and fragments of wallplaster of post-Roman date. Detailed listings of these, together with visual analyses, were made by Jerry Sampson and are held in the site archive.

Apart from those mortars which were used in foundation construction, unfortunately none of this material is *in situ*, and it is therefore difficult to correlate the many types present in the stratigraphic record with identifiable structures, and more particularly with datable phases. It is very common in buildings of all ages to find that the mortars used below ground are not identical to those employed in the superstructure. Furthermore, it was usual practice in ashlar-construction for the masons to work with two markedly different mortars simultaneously: a fine mix (often lime-putty) for bedding the facing stones, and a coarse mix (sometimes 'earthy') for core-work.

Often, it is only by studying the adhesion of mortars to readily identifiable, *ex situ* mouldings that correlation with a lost superstructure can be achieved. At Wells, this was straightforward in respect of Stillington's Lady Chapel, but considerable uncertainty obtained in respect of all the earlier structures.

Many thousands of fragments of wallplaster were recovered from the ground, but none was attached to any *in situ* structure. Some of the plasters bore distinct family resemblances to structural mortars, but most did not. No wallplaster was found in a position where it might be regarded as having fallen directly from a particular wall, and thereafter lain undisturbed. The size of the fragments was small, very few achieving a maximum dimension of 5 cm or more. The most prolific type, and best preserved, wallplaster belonged to Stillington's chapel: it had a plain limewashed finish. Earlier plasters tended to be softer and more fragmentary; they frequently bore traces of polychromy, mostly of an enigmatic nature.

A brief summary of the more significant groups of wallplaster is given below. The initial analysis of the finds of plaster from the 1978–80 Camery excavations defined 37 type-fabrics, of which 27 bore some pigmentation in addition to plain white limewashes.

Pre-1175 buildings

Amongst the plaster fabrics isolated are two which bear a striking resemblance to the grey mortars recognized from early contexts associated with the Anglo-Saxon and Romanesque buildings.

The first (A) is mostly derived from contexts in Areas 10 and 11, suggesting an origin in the eastern end of the Anglo-Saxon complex: the mortuary chapel or the chancel of St Mary's chapel (*i.e.* Structures 3 or 6). It is a grey-coloured sand/lime plaster, the aggregate consisting almost entirely of fine, angular sand grains and yellowish-orange quartz, with occasional red conglomerate. The date is likely to be tenth or eleventh century.

The second (B) has the same grey coloration and composition, but its colour is more variable, with pink and pale green types. It has a wider distribution than (A), much of it deriving from Areas 4 and 5.

In general, the two fabrics tend to bear only white limewash (22 out of 27 painted fragments of type A; 15 out of 16 of type B); ochre, buff, dull orange and red washes are recorded. In addition, one moulded piece of the latter type has a single red line on it.

The best surviving decorated plaster from an Anglo-Saxon or, more likely, Norman context is found on an entirely different fabric (C). It is a light grey lime/sand plaster with red ?conglomerate dust. The sand aggregates are more varied in size than in the previous types; there are occasional charcoal flecks and lumps of unmixed lime up to 5 mm. The surviving decorated fragment depicts a loose interlace in red on a white ground with a delicate incurling foliage terminal (F1435; Pl. XI). A date in the first half of the twelfth century is proposed.

Lady Chapel-by-the-Cloister

The bulk of the plasters in the corpus appear to derive from the pre-1477 Lady Chapel, but their distribution

and decoration suggest that a general division can be made between the mid-thirteenth-century chancel and the earlier nave/aisles of this structure.

The two fabrics together represent exactly two-thirds of the 5539 plaster fragments recovered (type E: 2130; type D: 1556), and in the case of the latter more than half of these are painted. The general distribution pattern suggests that the former (E) is associated with the nave and aisles of the Lady Chapel, while the latter (D) belongs to the rebuilt chancel.

The nave and aisles

The construction trenches for Stillington's nave yielded copious quantities of type E wallplaster, and nearby contexts were also rich in it. This suggests that the plaster was present in the immediate vicinity, as rubble resulting from the demolition of the Lady Chapel nave and aisles. It is a pale grey lime-plaster, with a bubbly texture and occasional charcoal flecks, incorporating aggregates up to 3 mm, mostly of gravel. Some red conglomerate and ?ironstone are present, together with some fine sand, though this is not obvious. Lumps of unmixed lime, up to 3 mm across, give a characteristically mottled surface; the mix is soft and easily crushed. The skim-coat is very thin, or absent, the white ground for the painting being applied direct to the smoothed surface.

The decorative scheme represented by these fragments indicates a concentration on red ashlar lining, often defined by double lines. Just over half of the surviving painted fragments — some 404 out of 798 — support ashlar lining in red, and of these 159 bear double lines. Double ashlar lining is rare in other fabrics and the overall total is only 167, so that fabric type E has a near monopoly at 95%. It is also noteworthy that the other fabrics which bear double ashlar lining are closely related.

Within the type-fabric there are a further 217 fragments which may bear some form of pattern. The great majority of these are impossible to define in any meaningful way, but many of the fragments appear to come from foliage patterns similar to those surviving on the cathedral's nave and transept vaults: narrow, curving fronds in red and a variety of other colours. In confirmation of this there are occasional foliage terminals closely similar to those on the cathedral vaults, and an instance of diverging lines in red and blue which is directly comparable to the springing of such fronds.

The palette used in this decorative scheme is fairly extensive, all the pigments recorded for the entire plaster corpus being represented in fabric E. In date, it is assignable to the first half of the thirteenth century. There is evidence of repainting on this plaster and its associated types.

The chancel

The other major type-fabric on the site, type D (1556 examples), is concentrated in contexts from the 1980 excavation season, primarily from Areas 10 and 11. This distribution suggests that the plaster derives from the destruction of a building east of the nave/chancel division in the Lady Chapel, presumably the chancel itself. This yellowish lime-plaster contains limestone aggregates, but is generally yellower than Doulting stone dusts. It exhibits very occasional charcoal flecks, and there is little sand aggregate; the plaster has poor cohesion.

The strong difference between the grey lime-flecked fabric of type E and the yellow grainy type D shows that the nave of the Lady Chapel was not replastered when the chancel was rebuilt.

The pigmentation of the surviving fragments points to a rich treatment of the new eastern termination. Plain (single) ashlar lining makes up only 36% of the decorated pieces, and there is a great emphasis on ochre and blue as well as the ubiquitous red. Blues are relatively rare on site — there are only eight in the whole of type E, for instance — and type D has 76% of them (197 out of 259). Blue is often found in direct association with a rich brown ochre (77% of the ochre on site is on type D plaster).

Amongst the larger pieces are several which show part of the original arrangement of these pigments. Areas of blue and ochre, white and ochre, blue and white are separated by 'ashlar' lines in red. In other examples the line which separates the two colours is expanded into a 2-inch wide red and yellow border. In some cases this probably represents separate areas of colour divided by a fictive string-course, but elsewhere there is a suggestion of geometric patterning. In one instance, red lines intersect at a 60° angle to separate blue and white areas; another has red lines forming a 135° angle between ochre and white areas; and other complex geometrical patterns are hinted at.

Often associated with type D are type-fabrics F1 and F2 (which are probably one and the same) and type fabric G. These are finer greyer fabrics and most bear much more delicate decoration than the rather heavy work on type D. For all the richness of coloration in the latter the work appears to lack finesse, and much of the red lining is painted over scribed lines, as if it were being done 'by the yard'. These associated fabrics, however, bear delicate painting on a fine white plaster facing 2–5 mm in thickness. Thus, it may be that the lower part of the chancel walls bore the rather heavy geometric designs in red, white, blue and ochre, while the upper parts were decorated with finer work.

The relative ranges of the palettes of these types tends to confirm this view. The 33 yellows recorded for fabric D are almost all of the coarse type associated with the red-yellow border strips; other colours make up only 2%. However, colours outside the type D range occur on 18% of examples of F1; 14% of F2; and a massive 48% of type G.

Other post-1175 buildings

It is difficult to associate particular buildings with other plaster types. There is, however, one fabric type

(H) which must come from a discrete building. The great majority of this fabric is found to bear a pale yellow-orange wash and the bulk of the pieces comes from the area around Structure 12 (office or Consistory Court?). It is a yellowish-grey lime plaster, with rounded sand aggregates, mostly fine but including some up to 3 mm. Grey and red quartz gains are the characteristic aggregates, together with some green ?pennant and occasional ironstone.

Other type-fabrics may be variations of the main Lady Chapel nave type E, possibly deriving from the addition of the aisles. For the rest, it is noteworthy that a number of type-fabrics not so far accounted for occur mainly in the first two seasons of excavation and only sporadically or not at all in the third. Thus it may be that these plasters were associated with the earlier phases of the east cloister.

Stillington's Lady Chapel

It was noted during the excavation that all plaster associated with the destruction sequence of Stillington's chapel was plain, and not all of it was retained. This is a fine white lime plaster (type J) with a slightly yellowish tint (limestone dust); it contains rounded stone fragments and sands of pale colour. There are occasional small charcoal flecks, and lumps of unmixed lime up to 4 mm.

However, some painted fragments are also present in this type-fabric, which may or may not have come from the chapel: such plain fine plasters must have been in use throughout the later Middle Ages. There is no distinguishing characteristic for defining the Stillington chapel plasters alone, except the fine white fabric and the apparent absence of decoration.

13 Funerary Monuments and Devotional Sculpture

Anglo-Saxon sculpture

by Jeffrey West

Apart from the font (p. 149), Wells has yielded only three fragments of Anglo-Saxon sculpture, all from the Camery. One piece (no. 2) was found in 1894, the others in 1979–80. It is convenient to consider the three pieces together, although one (no. 3) is probably not from a grave-cover.

Grave-cover (Figs. 486 and 487)

1. Fragment of a panel of Bath stone of approximately rectangular form decorated with an axially positioned tree 'scroll' carved in low relief against a recessed field, framed by a rounded-band moulding. At the lower end, the panel is broken diagonally across its width. Each of the original sides is slightly bowed and, like the reverse of the panel, retains no distinctive tooling marks. The tree motif comprises a central stem, overlaid at the lower end by a trefoil leaf which shields the junction of two lateral stems: at its upper end the central stem is terminated by a second trefoil that is seated in a semi-circular cup from which a second pair of laterals emerge. Although the axial stem is rounded, the border moulding and both the lateral stems and the voluted side-shoots which break from them are facetted on their outer edges. The junctions of the side-shoots and the lateral stems are marked by two curved, incised lines. The trefoil leaves on the central stem and the foliate terminals or the upper lateral stems are grooved at a shallow angle to indicate a central vein. At the lower dexter side the side-shoot terminates in a pointed leaf with a voluted apex.

   Traces of deep red pigment were noted in two places, in the interstices between the decoration. The surviving pigment, which covered only a few square millimetres, had been applied directly to the surface of the stone (Rodwell 1990, 161–2, pl. 1).

The fragment was recovered from the lowest level of the pitched foundation (F839) of the east wall of Structure 8, where it had been reused as building stone. It has been argued that the foundation dates from the early twelfth century, and was part of Bishop Robert's cloister (p. 99).

Discussion

Although the context of this fragment provides no evidence of its original function or date, its form, decoration and general similarity to the slab excavated at St Oswald's Priory, Gloucester (West 1980; 1983; 1984, cat. no. 24) suggests that it too may have been an early tenth-century grave-cover. In both its overall design and in the particular details of its ornament, the Wells panel may be compared to the tree motifs on the back of the Alfred Jewel (found at North Petherton, Somerset), or the early tenth-century Gloucester and Braunton slabs. While these artefacts also share some points of detail with the Wells panel, geometrically similar ornaments occur in the frontispiece borders of the Cambridge copy of Bede's Life of St Cuthbert;[1] a manuscript recently attributed to either Glastonbury or Wells (Keynes 1985, 184–5). If this manuscript was indeed produced at either of these centres, rather than at Winchester, it is important to note that, like the earlier

Fig. 486 Anglo-Saxon decorated grave-cover, no. 1. Scale 1:4. Drawn by Richard Bryant

Fig. 487 Anglo-Saxon decorated grave-cover, no. 1

Alfred Jewel, the Wells tree motif displays none of the acanthine features which characterize its ornament. The same conclusion holds true for a comparison between the Wells panel and either the Gloucester or Braunton slabs, and as the Wells panel displays a high quality of carving, the relative simplicity of its ornament may be explained in terms of an earlier or transitional example of the tree 'scroll' motif.

A second possibility is that the Wells panel is a derivative piece which reflects, in a simplified form, the sophisticated repertoires of more progressive artists active in the second quarter of the tenth century. In this case, although the possibility that the Cambridge Life was made in Wells (or Glastonbury) may be taken to illustrate the local artistic milieu, there is no compelling evidence to indicate the date of the panel relative to the *c.* 934 date of the manuscript. When viewed in the broader context of the development of foliate ornament in southern England during the tenth century, the absence of acanthine features in the ornament of the Wells panel and its general similarity with the Alfred Jewel suggest that it not only pre-dates both the Gloucester slab and the Cambridge manuscript, but also that it should be assigned to the first quarter of the tenth century, rather than the second.

Cross-shaft? (Fig. 488; Pl. XIV)

2. Fragment of Bath stone: the one remaining carved face is decorated with a loose arrangement of median-incised stems which interlace with two short, curved sections of diagonally striated ornament set between double contours; the latter is consonant with the so-called 'ribbon beast' style. At the upper end of the ribbon beast, on the dexter side, the ornament is cut

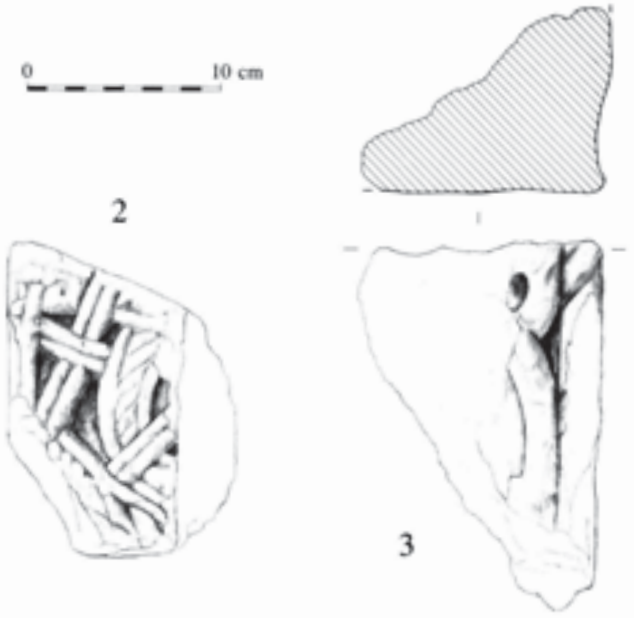


Fig. 488 Fragments of Anglo-Saxon interlaced sculpture, nos. 2 and 3. Scale 1:4. Drawn by Richard Bryant

across by an unidentifiable element, the majority of which has been broken away. There is evidence of further features — possibly foliage — at the upper end of the sinister side. The interlacement of stems in this area suggests the continuation of the ornament beyond the sinister edge, and as the adjacent face shows rough tooling marks, it is possible that the fragment once formed part of a larger object — perhaps a cross-shaft — rather than a panel.

The fragment, now in the cathedral library, was found in the Camery during the excavations of 1894, but no further details are recorded. Its discovery was noted by Browne (1894, 275), and the stone was illustrated by Robinson (1914, 112, n. 4; pl. XII, fig. 14).

Discussion

The ornament of this fragment, though not directly comparable to the ribbon beasts of the Colerne or West Camel cross-shafts, may be compared to the ninth-century shafts from Glastonbury and St Oswald's Priory, Gloucester (Cottrill 1935; Rodwell

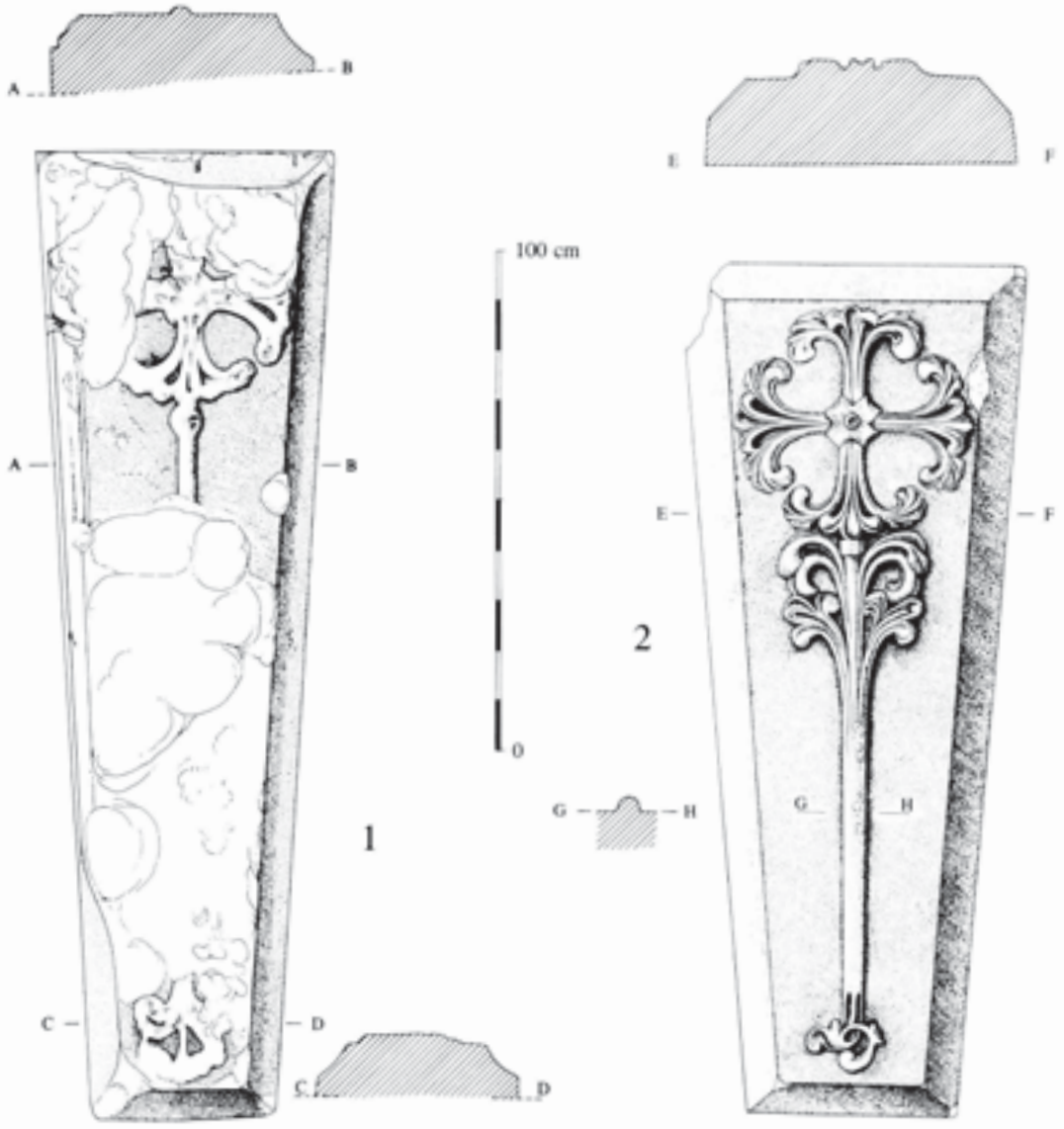


Fig. 489 Thirteenth-century floriated grave-slabs in Doulting stone: no. 1, in the Camery; no. 2, in the cloister (provenance unknown). Scale 1:15. Drawn by Richard Bryant

1982b, 19; Foster 1987). For the sites of two potential standing crosses at Wells, see p. 74.

Panel or grave-cover (Fig. 488)

3. Fragment of Bath stone decorated with plain, rounded stems in low relief set within a recessed field bordered by a plain cable moulding. While the side of the fragment beneath the cable moulding is smooth, the reverse surface is roughly tooled, indicating an original function as a decorated panel, or possibly a grave-cover. Although there are no distinctive features to indicate the date of this fragment, both the general form and the use of plain stem and cable ornaments suggest a date in the late ninth or early tenth century.

The fragment was recovered from the mortared rubble foundation (F1435) of the late Saxon mortuary chapel (Structure 3). It is likely to have been deposited there in the mid-tenth century (p. 79).

Medieval grave-covers and stone coffins

Leaving aside the effigies and floor slabs which form part of the assemblage of funerary monuments in the cathedral church — many of which are probably *in situ* — there are six medieval grave-covers that have been discovered at various times outside the building, five of which are now displayed *ex situ*. The sixth is lost. The slabs form a distinct group which may be conveniently described here, along with five stone coffins that have also come to light over the course of the past two centuries, or so, and which are now displayed in the cloister.

Grave-covers

Slab 1 (Figs. 489 and 490)

1.92 m by 60 cm, tapering to 36 cm. Doulting stone.

This complete slab is now displayed in the Camery at ground level, *c.* 2 m south of the south-east transept of the cathedral (for location, see Fig. 16). The slab was found at this spot, in 1903, when a trench was being dug to lay a storm-water drain. It was encountered at a depth of *c.* 75 cm and was covering a stone coffin (Anon. 1903). The latter was not disturbed or its contents investigated; however, the cover-slab was raised to the modern ground surface, where it forms an inconspicuous monument amidst a large number of semi-recent tombstones.

The slab is decorated in relief with a floriated cross which is now severely damaged. The condition of the stone has deteriorated markedly since its exposure, after centuries of lying buried in a stable environment.[2] Some of the damage is, however, more ancient and is the result of the surface of the stone having been hacked with an implement; this applies most particularly to a large patch in the central region, where a hollow has been scooped out. It seems probable that this, and perhaps some of the other damage, was caused by the digging of holes for the erection of scaffolding around the transept at an unknown date, the slab being on a line where poles are likely to have been placed between the buttresses.

Fig. 490 Medieval grave-slab, no. 1. Scale c. *1:20*

The alignment of the stone does not follow that of the cathedral, but relates to the thirteenth-century Lady Chapel-by-the-Cloister, with which it was contemporaneous. The grave was presumably a component of the surrounding cemetery. The slab must have been buried by *c.* 1310 at the latest, when the eastern arm of the cathedral was being extended, and a general raising of the ground level was carried out by dumping a large quantity of soil hereabouts (p. 356).[3]

Slab 2 (Figs. 489 and 491)

1.72 m by 72 cm, tapering to 43 cm. Doulting stone.

This slab, with a magnificently preserved floriated cross in bold relief, is displayed in the south cloister walk. Nothing is recorded concerning its place or date of discovery, although its existence has received mention in several antiquarian works. At the end of the eighteenth century the slab was exhibited in the vestibule to the undercroft, where it was sketched along with two coffins by Carter in 1794 (Carter 1795, pl. LXIX, D2); he also illustrated the slab individually (Carter 1795, pl. LIX, K).[4] The Carter drawings are reproduced here as Fig. 6. The slab cannot have been the cover for any of the known stone coffins.

In 1826, Skinner sketched the slab and described it as 'a most beautiful foliated cross, the most perfect I have anywhere seen'.[5] Bishop Law had the slab transferred from the chapter house undercroft, to his private museum at the Bishop's Palace (p. 13; Wicks 1932). A few years later it was returned to the cathedral.

The sculpture of the slab is in remarkably fresh condition, and the tooling of the edges and chamfers shows no signs of wear. There is modern abrasion to some parts of the decoration in highest relief. The top dexter corner is broken and a large chip is missing from alongside one of the lateral arms of the cross; these damages are ancient. The entire surface of the

Fig. 491 Medieval grave-slab, no. 2

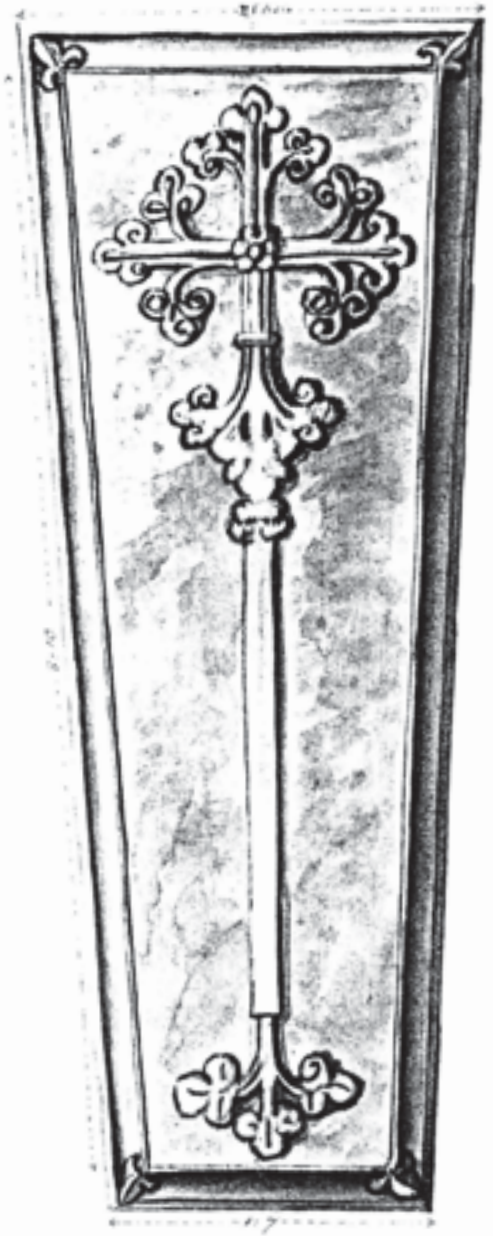


Fig. 492 Medieval grave-slab no. 3, formerly in the chapter house undercroft but now lost. Drawn by Carlos, 1824 (Dean and Chapter of Wells)

stone exhibits a pinkish-orange hue, which includes the two ancient fractures, but not the areas of modern abrasion. The colour is quite strong in some of the deeper recesses between the decorative elements, and at the bottom right-hand corner a tiny patch of limewash overlies this colour. The slab may thus have been limewashed at some stage in its history as an exhibit, presumably to disguise its previous colour. The latter clearly cannot be a medieval ground for painting because it is continuous over the fractures.

There are two possible explanations for the pinkish-orange coloration. First, it could have been applied to 'decorate' the stone for exhibition. Alteratively, it could be an entirely natural occlusion, resulting from the burial of the slab in an iron-rich deposit. For example, if the stone had been recycled as a paving slab and laid, face down, on a bed of red clay, it could easily have absorbed the coloration. Examples of this phenomenon were noted on pieces of broken sculpture recovered during the excavations. Unfortunately, it is not currently possible to examine the back of the slab, to ascertain whether it has a worn surface.

Slab 3 (Fig. 492)

c. 1.95 m by 76 cm, tapering to 48 cm. Doulting stone?

This slab is known only from two antiquarian illustrations, both with accompanying dimensions. The first is a watercolour drawing made in 1824 by Carlos, who saw the cover in the crypt, and implied that it accompanied a stone coffin in which a mortuary chalice had been found. The second is a drawing by Dollman, which was probably made in 1844.[6] Carlos's drawing, which gives an impression of accuracy and verisimilitude, is reproduced here. The slab would be a perfect fit for coffin no. 3 (Fig. 496); for the identity of the accompanying chalice, see p. 524. Since coffin no. 3 was found in the eighteenth century, the cover (if correctly

identified) must also have been somewhere to hand when Carter visited. However, he did not illustrate it, and hence almost certainly did not see it: we can only presume that it was concealed from view.[7]

The material of the slab is unknown, but since it bore close similarities to slabs 1 and 2, Doulting stone would seem the most likely. The slab was evidently fairly thick and intended to stand proud of the floor: it had bold hollow chamfers around the edges, with spurs in the form of fleurs-de-lys at the corners. The magnificent floriated cross on its upper surface evidently stood in relief.

There can be no doubt that this is not a confusion with the slab seen and illustrated by Carter and Skinner (no. 2), both on account of the differences in decoration, and also because the dimensions are so radically dissimilar. Slab 3, which was considerably larger than no. 2, was close in length to no. 1, but considerably broader. Stylistically, too, it compares well with the latter, but was clearly richer in detail. The loss of slab 3, evidently the finest of the group, is much to be lamented. How and when it disappeared is equally mysterious.

Later copies of slabs 2 and 3 (Fig. 493)

Among the post-medieval burials in the northern part of the Camery, there are several monuments of Gothic inspiration. Three are of particular interest in relation to the medieval grave-covers of Wells.

The form and decoration of slab no. 2 clearly provided the inspiration for the memorial stone to Walter Farrer, Archdeacon of Wells, who died in 1934. The only significant difference on the copy-slab is that a ball of stiff-leaf, rather than an asymmetrical sprig, was provided at the lower end of the shaft of the cross (Fig. 493A). The slab is made from a hard and dense composition material, greyish in colour, and cast in one piece.

Confirmation of the survival of slab no. 3 into the early twentieth century is forthcoming from the fact that no less than three copies of it were made. The earliest is the memorial to Eleanor Freeman, widow of the historian Edward Augustus Freeman; she died on 26th November 1902. The floriated cross appears to be a faithful copy of that on the lost original; the slab has been increased in length by 10 cm, and the width of the foot-end by 6 cm. The edge moulding appears to be similar, but the spurs have been omitted from the corners (Fig. 493C). The inscription is carried on the hollow of the moulding.

Freeman's slab is made from a composition material, somewhat akin to Coade stone, but much coarser. It is yellowish-brown in colour and superficially resembles Ham stone; it contains coarse aggregate. The slab was cast in two pieces, and it is likely that the floriated cross was moulded off the original, but this cannot now be confirmed. The surface of the slab has recently begun to weather badly, and large flakes have become detached, including part of the shaft of the cross.

No ready explanation is forthcoming as to why Mrs Freeman should have been given such an archaeologically interesting memorial: it might possibly have been arranged by Edward Freeman himself (prior to his death in 1891), or by another antiquary.[8]

Closely similar, is the one-piece slab commemorating Florence Cronshaw (d. 1925). It is slightly smaller in scale, and the foliate embellishment on the shaft,

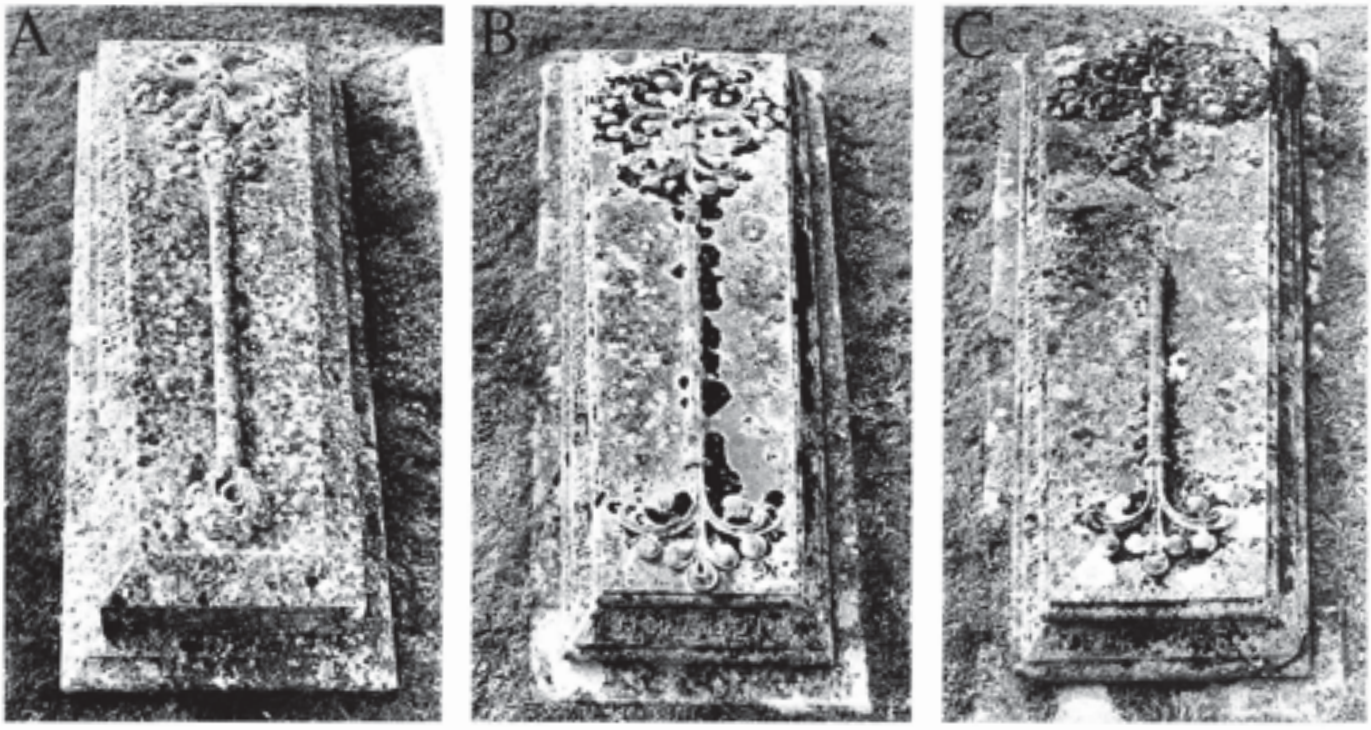


Fig. 493 Early twentieth-century copies of medieval grave-slabs, in the Camery. A Walter Farrer (d. 1934); B Florence Cronshaw (d. 1925); C Eleanor Freeman (d. 1902). The design for A may be derived from slab no. 2, while B and C are based on the design of slab no. 3

just below the head of the cross, has been omitted (Fig. 493B). Otherwise, the detailing is identical. This slab is in the same composition material as the Farrer memorial.

Yet another copy of slab no. 3 exists in the cloister garth cemetery (west side). This may be of Doulting stone. The long inscription is partly illegible, but includes the date 1902.

Slab no. 4 (Fig. 494)

Incomplete: 1.36 m by 45 cm, tapering to 36 cm. Lias limestone (pale, blotchy grey surface).

This incised slab, which is displayed in the south cloister walk, has no recorded history of discovery. It appears to have come to light sometime in the later nineteenth century, but before the excavations of 1894. Circumstantial evidence may, however, be invoked to provide a possible origin for the item. Although the full length of the slab is not preserved, the extant part fits perfectly in its dimensions (and its angle of taper) with the upper end of the smallest of the *ex situ* stone coffins in the cloister (Fig. 497, no. 5). It has been suggested that this slab was unearthed either in the 1870s, when a gas-pipe was laid through the Camery, or in 1893, when a water-pipe was laid. The slab may thus have been associated with a thirteenth-century coffined burial in the nave of the Lady Chapel-by-the-Cloister (F532; p. 185).

The upper surface of the slab is well worn, but the edges are only roughly dressed, showing that it was set flush with the floor. The stone has several fractures which would be consistent with damage resulting from the fall of masonry when Stillington's chapel was demolished.

Slab no. 5 (Fig. 494)

Incomplete: estimated maximum width *c.* 64 cm. Lias limestone (medium grey colour).

Three fitting fragments of a badly damaged lias slab similar to the last, except that it has chamfered edges and was not therefore intended to be laid flush with a floor surface. The pieces were recovered from fifteenth-century demolition rubble in the nave of the Lady Chapel-by-the-Cloister (p. 202).

Slab no. 6 (Fig. 494)

Incomplete: width 50 cm. Chilcote stone.

This, the earliest of the grave-slabs, must have originated in the Norman church and was reused in *c.* 1190 in the construction of the north transept of the present cathedral. The stone would have been reclaimed during the demolition of the old church.

The slab is built into the fabric of the cathedral, where it serves as the lintel to the internal embrasure of a small window in the north face of the north transept. It lights the triforium over the eastern aisle. A trapezoidal portion of the decorated face of the slab is visible on the soffit of the window head, and one edge of the stone forms part of the wall face. The slab's use here is integral with the late twelfth-century construction, and this is the sole instance in the cathedral of a decorated

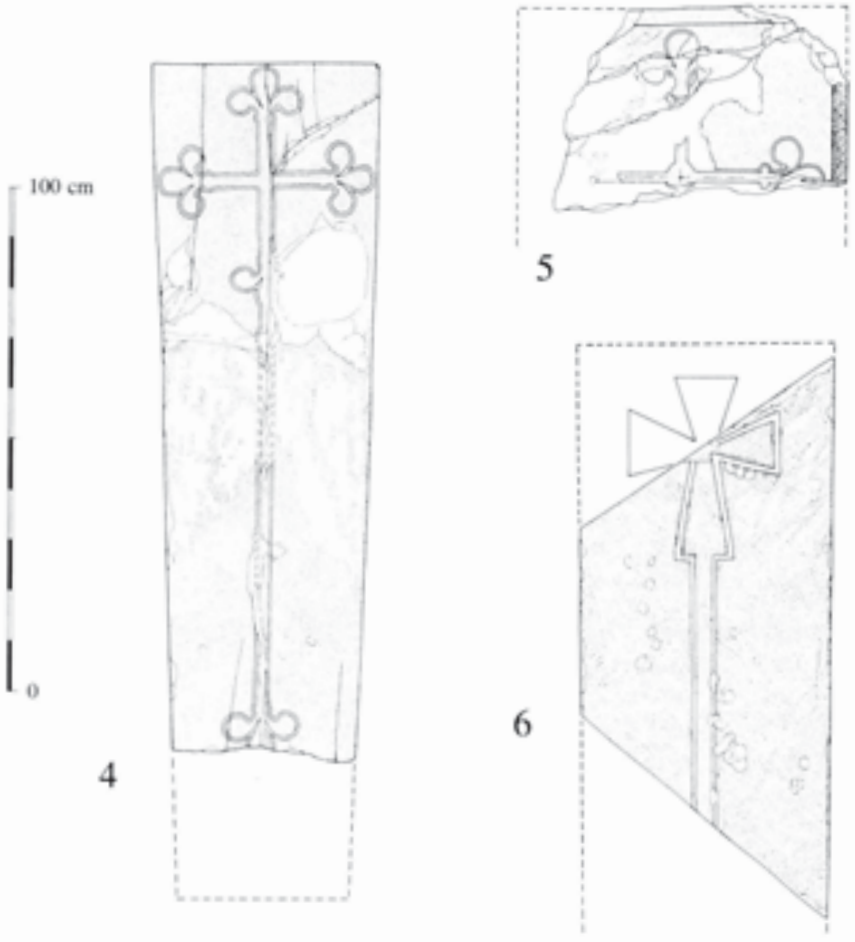


Fig. 494 Incised medieval grave slabs: nos. 4 and 5, lias, thirteenth century, from the Camery; no. 6, Chilcote conglomerate, c. 1100, now built into the north transept triforium. Scale 1:15. Drawn by Richard Bryant

Romanesque stone being reused in the Gothic fabric in such a way that it could be seen and recognized as such.

The slab, which is of rather coarse conglomerate, is 23 cm thick and has pronounced tool-marks of diagonal dressing on its decorated face and the visible edge. The back is very roughly dressed. The upper end of the slab appears to be complete, although embedded in the masonry of the adjacent stair-turret; the lower end is cut off where it meets the slope of the aisle roof.

Discussion and dating

by Brian Gittos and Moira Gittos

The six cross-slabs under consideration fall into three distinct categories, based on the cross design and the type of stone used. These groupings also have relevance to their probable dating.

Slab no. 6, the first to be considered, has a crudely and imprecisely incised splayed-arm cross.[9] This type of cross head, in all its forms, was a design commonly employed in the pre-Conquest period[10] and which remained popular during the twelfth century. It may even have survived, in isolated examples, into the fourteenth century.[11] The *terminus ante quem* provided by the reuse of this slab in a context of *c.* 1190 is therefore an important factor in its interpretation.

In Somerset, a relatively early example, of this cross form is to be found on a grave-slab fragment at Muchelney Abbey. This appears to be from the lower part of a slab which presumably had crosses at both ends.[12] At Glastonbury Abbey there are related crosses on stones which may have been churchyard grave-markers. At Wells itself comparison can be made with the shape of the leaden mortuary cross from the tomb of Bishop Giso, who died in 1088 (p. 147; Fig. 124). The arms of this splayed-arm cross are shorter and broader than that on the slab but it demonstrates the local use of this form of cross in association with a memorial of the eleventh century.

Preserved in the church vestry at Lullington, Somerset, is a complete coffin-shaped slab with a splayed-arm cross in low relief. Carved from lias limestone, it bears other detail, including the hand of God issuing from a cloud, a stepped calvary, a floriated boss in the cross centre, and beading around the margins of the arms. This elaborate later twelfth-century design can be contrasted with the plainness of the Wells example, and there are many possible reasons for the latter's simplicity. It may reflect, for example, the need for economy, the lack of a sufficiently capable craftsman, or the express wishes of the patron. The unadorned tomb chest erected as the monument to Edward I at Westminster Abbey and the choice of modest cross-slabs to commemorate two thirteenth-century archbishops of York are, presumably, examples of the latter. On the other hand, there should be a strong relationship between a monument and the styles of art and architecture current at the time it was set up and such an affinity can be traced throughout the development of the cross-slab.

The most appropriate architectural context for the plain angular cross under consideration would be, perhaps, the early years of the Norman period, *c.* 1100, when the severity of line and sparing use of decorative motifs were the norm.[13] The choice of material (Chilcote conglomerate) would also be in keeping with such a date for the slab, as this seems to have been the preferred material for the Romanesque work at Wells.

From such a simple memorial it is difficult to deduce anything about the identity of the person commemorated, but burial in a coffin with a decorated lid would indicate either a cleric or a patron of some status. However, the lack of any concern about the monument's preservation would tend to eliminate high ranking ecclesiastics, since shortly after its reuse as a lintel, an expensive series of retrospective monuments was set up by the canons in an attempt to establish an ecclesiastical pedigree for the cathedral (pp. 146–7).

The lost slab (no. 3) and the two grave-covers of Doulting stone, in the cloister (no. 2) and in the Camery (no. 1), are closely associated by their design, which is based on the decorative motif of stiff-leaf foliage. This is best seen on the fine monument which stands upright against the south cloister wall.[14] The sinuously curving stiff-leaf is both bold and graceful and harmonizes with the carving of the nave capitals in the cathedral. Aspects of the design, particularly the clasping central boss and short collar immediately below the head, are reminiscent of metalwork.

Although the two Doulting slabs are very similar in concept and date, there are significant differences in the design. The cloister slab has a plain chamfer while that of the Camery slab is largely hollow-moulded. The slab in the cloister has an additional pair of branches below the cross-head, where there is a simple knop on the Camery slab. Considering the cross-bases, it is the Camery slab which has the more elaborate carving, with additional sprays of foliage. In contrast, the cross of the cloister slab stands on a single spray of stiff-leaf, deftly turned back upon itself as a more modest foil to the drama of the cross-head. The common form of cross-base, over a long period, was the stepped calvary, usually of three orders, although alternative forms are found, particularly in parts of south-west England and as special groupings elsewhere, for example in the East Midlands.[15] A stylized copy of this slab was laid down in the Camery to commemorate Archdeacon Farrer (d. 1934).

The poorly preserved slab (no. 1) in the Camery is apparently in its original location and orientation, but raised up to modern ground level, leaving the stone coffin *in situ* below. It is badly weathered and appears to have suffered local impact damage. However, despite this its general outline and the form of its foliate cross, once carved in high relief, can be distinguished sufficiently clearly to establish that the monument is coeval with the Doulting slab in the cloister. The hollow chamfer on the Camery slab is irregular, on the dexter side being deliberately transformed,

over most of the length of the side, to a chamfer which may originally have been slightly convex. This has had the effect of increasing the area of the upper surface and at this point the slab is also noticeably thicker. It is clearly not the case that the cutting of the chamfer was unfinished because towards the bottom of the slab there is a smoothly blended transition from the chamfer to the bulge.

Presumably the purpose of this anomaly was to accommodate a feature on the top of the slab which is now lost. This is a highly unusual feature because there would normally have been adequate room beside the cross-shaft for a symbol such as a sword or chalice. In northern England symbols were commonly used on cross-slabs to denote the occupation, sex, or other details of the deceased, but this practice was rare in the south.[16] It would also be unnecessary to build up the chamfer in order to display an inscription as there are many examples where inscriptions are set within the hollow chamfer.[17] One possible explanation for the feature is that there were originally branches of foliage springing from the cross-shaft and that this restricted the space available for the inclusion of a symbol.

The uncertainty as to the provenance of the Doulting grave slab (no. 2) in the cloister renders any identification of the deceased person problematic. However, the Camery slab appears still to be at its original location and must therefore have covered a high status burial of someone eligible to be buried in the Camery in the second quarter of the thirteenth century. Following the reorganization of the cathedral cemeteries in 1243, the vicars choral would have been buried in the area where the coffin is sited. In the absence of other evidence, it is difficult to deduce whether the slab was laid down before or after 1243 but if it were earlier then it would most probably commemorate the burial of one of the canons, and its envelopment by raising of the ground level by *c.* 1310 adds credence to this supposition.

The lost slab (no. 3) was clearly related to the Doulting slabs (nos. 1 and 2) but, assuming that the antiquarian sketches provide reliable information, exhibited some important differences. The chamfer appears to have been hollow-moulded, and fleur-de-lys spurs are shown at the corners. The base comprised a symmetrical sprig of foliage with a stem issuing from the lower end of the cross-shaft, and of reduced thickness. The thin double line around the upper edge of the stone suggests that the lost slab had a raised or beaded edge above the chamfer. The fleurs-de-lys at the corners are extremely unusual and difficult to parallel on thirteenth-century memorials of this type. Indeed, they are most reminiscent of the Romanesque practice of embellishing column-bases with foliate or animate spurs. However, the fact that they are shown on only one of the two antiquarian sketches raises doubts as to whether they were present on the original monument.

Hollow-moulded chamfers are a thematic feature of Purbeck marble coffin lids, but stepped calvaries or architectural moulding profiles were the usual bases shown on such products. It is probable, therefore, that the lost slab was a local product related to the Doulting slabs, but reflecting more strongly the work of the marblers of Corfe. However, if the stiff-leaf has been accurately rendered in Carlos's drawing, then a somewhat later date than that of slabs 1 and 2 would be indicated.

The two remaining slabs still to be discussed are both of blue lias with incised crosses.[18] Slab 4, mounted against the south cloister wall, is more complete, although broken. In comparison with the bold rendering of the Doulting slabs, it is singularly unassuming. The cross is simply treated with straight arms and round-bud trefoil terminals. The base is merely a repetition of the cross terminals. Behind each terminal is a discrete knop and there are barely perceptible curves at the intersections of the cross-shaft and the arms. The carving is relatively shallow and of V-section. There is no other decoration and no inscription.

The second lias slab (no. 5) is only fragmentary but is closely related to the slab in the cloister. The differences lie in the provision of a slight chamfer at the edge of the slab, the greater prominence of the knops behind the cross terminals and the swelling of the cross arms where they join each other, to produce a small roundel at the centre. The incising is of V-section, and there are traces of the setting-out lines along one arm at the centre.

On comparison with examples elsewhere, a wide date-range is possible for the cross-head type, from the second half of the thirteenth century into the fourteenth century. Straight-arm crosses with rounded buds are relatively common in the south-west but rarely found in the north. A good example is the sword slab at Muchelney Abbey, and there is a series of fragments of this type built into the porch at Ditcheat, Somerset. The heart-burial of Maude de Merriete (perhaps *c.* 1275), at Combe Florey, bears an incised cross with this form of terminal. Another example, of red sandstone, has been reused as the lintel of a fireplace at Cleeve Abbey. These slabs all lack inscriptions, the occurrence of which, on English monuments, becomes progressively more common after *c.* 1300. A dated example of this type of cross in Europe, was recorded at Ratisbon (Germany), commemorating Dominus Ekpertus Drauchpeoh who died in 1300 (Creeny 1891, 30).

Crosses of this form were also used on early brasses and of particular relevance is the indent of such a monument set into the floor of the nave of the cathedral (Connor 1970, pl. 34.26). This is in a very hard blue lias and it has been suggested that it is of local work, with a date range of *c.* 1300–50, although no specific dating evidence has been presented (Blair 1987, 162–3). The absence of an inscription on the cloister slab, together with the existence of a closely related brass matrix within the same building would suggest a

date for the lias cross-slabs in the late thirteenth century, perhaps as late as *c.* 1300. The blue lias cross-slabs at Wells may have been produced as less expensive alternatives to their brass-inlaid counterparts.

In 1993, exploratory excavations of the site of the old church at Shapwick, 15 km south-west of Wells, revealed a broken blue lias coffin lid (possibly *in situ*) with an incised straight-arm cross of similar form and proportions to the Wells slabs (nos. 4 and 5). The base of the slab was not uncovered. Although the cross-head was superficially very similar to the Wells examples, it displayed an important difference, in that the buds of the terminals were circular rather than shaped as leaves growing out of the stem (Aston and Gerrard 1995, fig. 5.6). The less sophisticated form of draughtsmanship could indicate that the monument was the work of a less skilled artist imitating, but not reproducing, the more accomplished style of products typified by the slabs at Wells. The new church at Shapwick was consecrated in 1331, and it is likely that the excavated slab would have been laid down prior to the abandonment of the old church.

The five grave-slabs at Wells Cathedral thus span some two hundred years, from the Norman period to the beginning of the Decorated style. Some features of the designs show local influence and others relate them to their architectural contexts.

Stone coffins

Six medieval coffins, each hewn from a single block of limestone, have been excavated at Wells, and five are now displayed in the south cloister walk. Three were allegedly discovered in the cloister in the eighteenth century and were formerly exhibited in the chapter house undercroft, one was probably removed from the Camery in the 1870s (or 1893), and two were excavated in the Camery in 1979. A seventh coffin, probably of Romano-British origin but recycled in the Middle Ages, remains in the ground in the Camery. It is discussed on p. 48 and illustrated in Figs. 37 and 38.

Carter's plan of the cathedral, *c.* 1795, shows two coffins (nos. 1 and 3) and the floriated grave-cover (slab no. 2) lying in the vestibule to the undercroft (plan reproduced in Reynolds 1881 and Paul 1891). He also illustrated the items individually in 1794,[19] and his drawings are reproduced here in Fig. 6. Coffin no. 1 was also sketched by Skinner in 1826,[20] and nos. 1 and 2 are captured in Coney's illustration of the undercroft which dates from *c.* 1814 (Fig. 7).[21]

Coffin 1 (Fig. 495)

Doulting stone. Reputedly found in the cloister in the eighteenth century: illustrated by Carter in 1794 (Fig. 6) and Skinner in 1826, and seen in Coney's drawing (Fig. 7).

The coffin is only slightly tapered along its length, and has unequally canted corners at the upper end, flanking the head-recess. The stone is roughly hewn and externally has an irregular, boat-shaped base. Pick-marks are clearly visible internally. There is a continuous bevel around the inner arris of the rim. Two drainage holes in the floor are drilled through an axial channel, which is fed by lateral channels arranged in St Andrew's cross and herringbone formation. This may be compared to an incomplete coffin from Westbury-on-Severn, with drainage channels in St Andrew's cross formation (Willmore 1939, M26).

On the dexter side, at upper-arm level, is a carefully made niche to receive a mortuary chalice and paten (apparently vessel nos. 5 and 6, for which see p. 526 and Fig. 516). The profile of the niche is itself chalice-shaped. Close to the mid-point, two opposing vertical slots, or pockets, in the inner wall have been cut down from the lip of the coffin. These are rectangular, 8.5 cm high by 2.5 cm square in section. Two more pockets of similar type — but not an opposing pair — are sited towards the upper end; one is opposite the chalice-niche, the other alongside it. Three of the pockets and the chalice-niche roughly line-up with the drainage holes in the floor, which suggests a methodical setting-out of the features by the mason. It is likely that a coffin such as this was manufactured at the quarry, as a commercial product.

The purpose of the four pockets is not known. The fact that two of them do not constitute an opposed pair demonstrates that they were not intended as housings for transverse bars, to support something above the void. Since the pockets were sited towards the head-end of the coffin, where the greater mass of stone lay, it is tempting to suggest that they were connected with the practicalities of lifting the block. When moving the coffin about, and particularly when it was being manoeuvred into the grave, it was necessary for the block to be approximately balanced. However, since the pockets are not wedge-shaped in profile it would be impossible to insert iron lifting-keys, attached to chains: there is seemingly no way that a grip on the stone could be achieved by this means (but *cf.* coffin no. 4).

The coffin probably dates from the thirteenth century.

Coffin 2 (Fig. 495)

Doulting stone. Reputedly found in the cloister in the eighteenth century. This was not recorded by Carter, but the coffin is seen in Coney's drawing of *c.* 1814 (Fig. 7).

The coffin is more markedly tapered than the last, and also has canted corners flanking the head-recess. The latter is unusual in that its floor has a concentric recess *c.* 5 mm deep, and in the centre is a slight hollow of roughly circular plan. There are two basal drainage holes, but no interconnecting channel. The provision of a chalice-niche in the dexter wall is a primary feature for which an excrescence was left on the side when the coffin was hewn out. In this instance the recess is not profiled to match the outline of the chalice, but is rectangular in plan, and is less well finished.

An arrangement of four pockets in the inner faces of the side walls is akin to that seen in coffin 1, but they are more widely spaced. Again, two pockets form an opposed pair, the third is opposite the chalice-niche, and the fourth is alongside it. In this instance the pockets and chalice-niche bear no relationship to the positioning of the drainage holes. One of the pockets demonstrates the method employed for cutting it. In plan, the feature is slightly horseshoe-shaped. A vertical hole was drilled down from the rim of the coffin, close to the inner wall-face, and then the side of the hole was broken away, after which the interior of the pocket was squared-out to give it a rectangular cross-section.

Chalice and paten nos. 1 and 2 may have come from this coffin (p. 524; Fig. 514). The coffin probably dates from the thirteenth century.

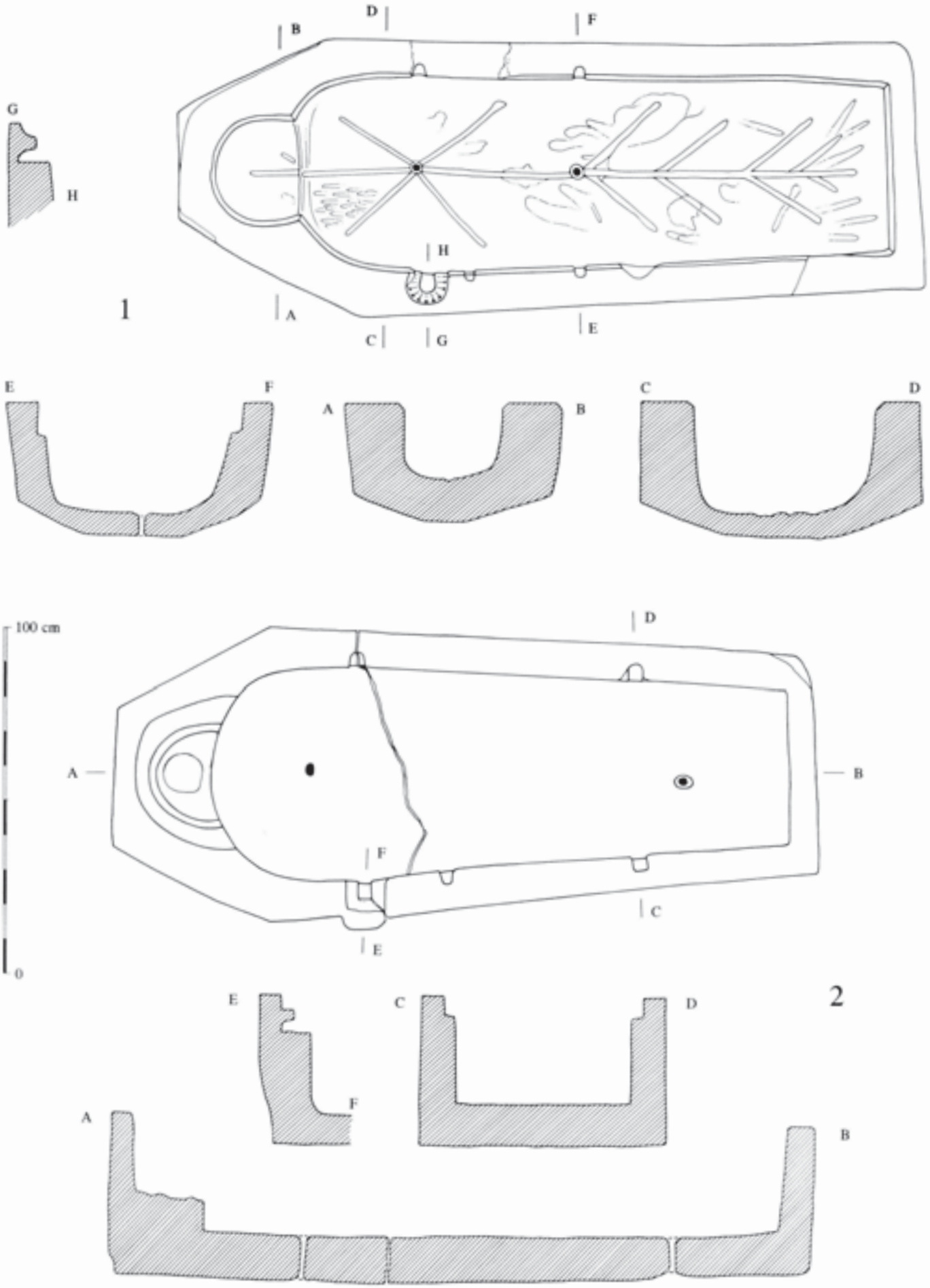


Fig. 495 Medieval stone coffins: nos. 1 and 2, reputedly found in the cloister garth. Scale 1:15. Drawn by Richard Bryant

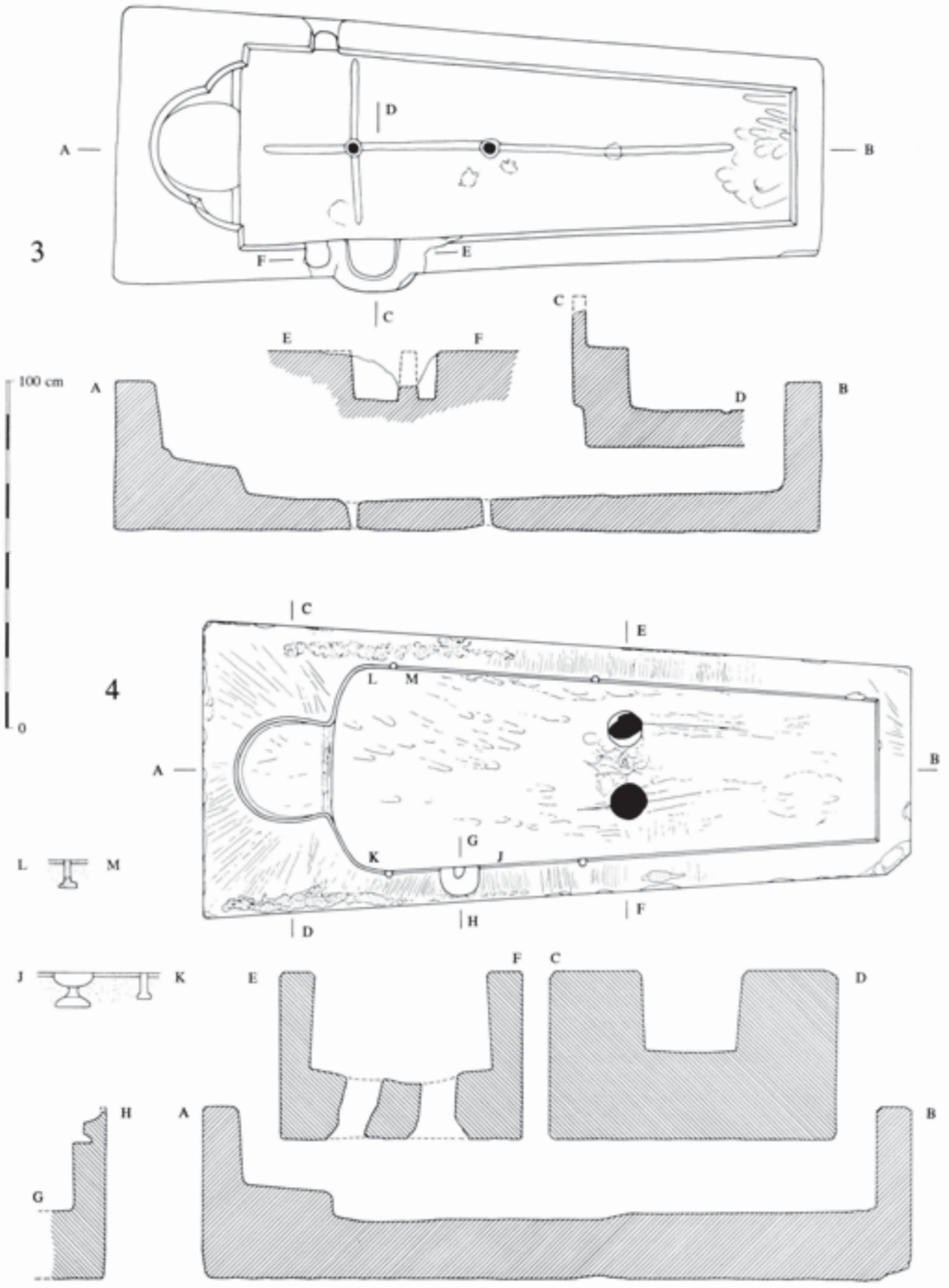


Fig. 496 Medieval stone coffins: no. 3, found in the cloister; no. 4, excavated in the Camery, 1979. Scale 1:15. Drawn by Richard Bryant

Coffin 3 (Fig. 496)

Doulting stone. Reputedly found in the cloister in the eighteenth century: illustrated by Carter in 1794 (Fig. 6). The proportions are a perfect match for the lost grave-slab (no. 3), which would seem almost certainly to have been its cover. This being so, the coffin may be attributed to the later thirteenth century, a date supported by the broad, trefoil-shaped head-recess.

It is hewn from a tapered block with an excrescence on the dexter side for a chalice-niche; the external angles are not canted. The internal arris of the rim is neatly bevelled all round. In this case the chalice-niche takes the form of a simple pocket, semicircular in plan, and is not chalice-shaped in profile. The head-recess is trefoiled in plan, and its floor is both hollowed and raised to form a 'pillow'. There are two drainage holes in the floor of the coffin and interconnecting channels in the form of a simple cross. A single, opposed pair of pockets in the side walls lies well towards the head-end of the coffin (again reflecting the approximate centre-of-gravity of the block). These pockets are considerably larger than the two previous examples. As with coffin 2, they were created by drilling down from the rim, and breaking through the side wall.

It is uncertain which mortuary vessels accompanied this coffin, but chalice 7 may be related (p. 528; Fig. 516). A somewhat similar coffin, but without a chalice-niche, has been found at Tewkesbury Abbey (Willmore 1939, M22).

Coffin 4 (Fig. 496)

Doulting stone. Excavated in 1979 in the north aisle of the Lady Chapel-by-the-Cloister (Area 6). The coffin (F586) contained burial 30 and was covered by plain stone slabs, mortared in place (p. 183; Figs. 168 and 170–73). It is attributed to the fifteenth century.

The coffin is hewn from a tapered block with a disproportionately thick base; as with no. 3, the corners are not canted. There is a small bevel around the internal arris of the rim. Two large and very crudely cut drainage holes lie side by side in an unusual position, and there are no channels in the floor. The head-recess is stepped to form a 'pillow', and a chalice-niche is cut within the thickness of the dexter wall (Fig. 520). Considerable care was given to profiling the niche.

Again, pockets have been cut into in the inner wall faces, but this time they are arranged as two opposed pairs. These pockets are much more slender than those in the other coffins, and careful attention was given to their form. They are T-shaped in profile, and there is no doubt that iron lifting-keys could have been inserted into them.

Coffin 5 (Fig. 497)

Doulting stone. Probably found in the Camery in the 1870s, or in 1893, and potentially associated with the incised lias grave-slab, no. 4 (p. 494; Fig. 494). The coffin is broken into

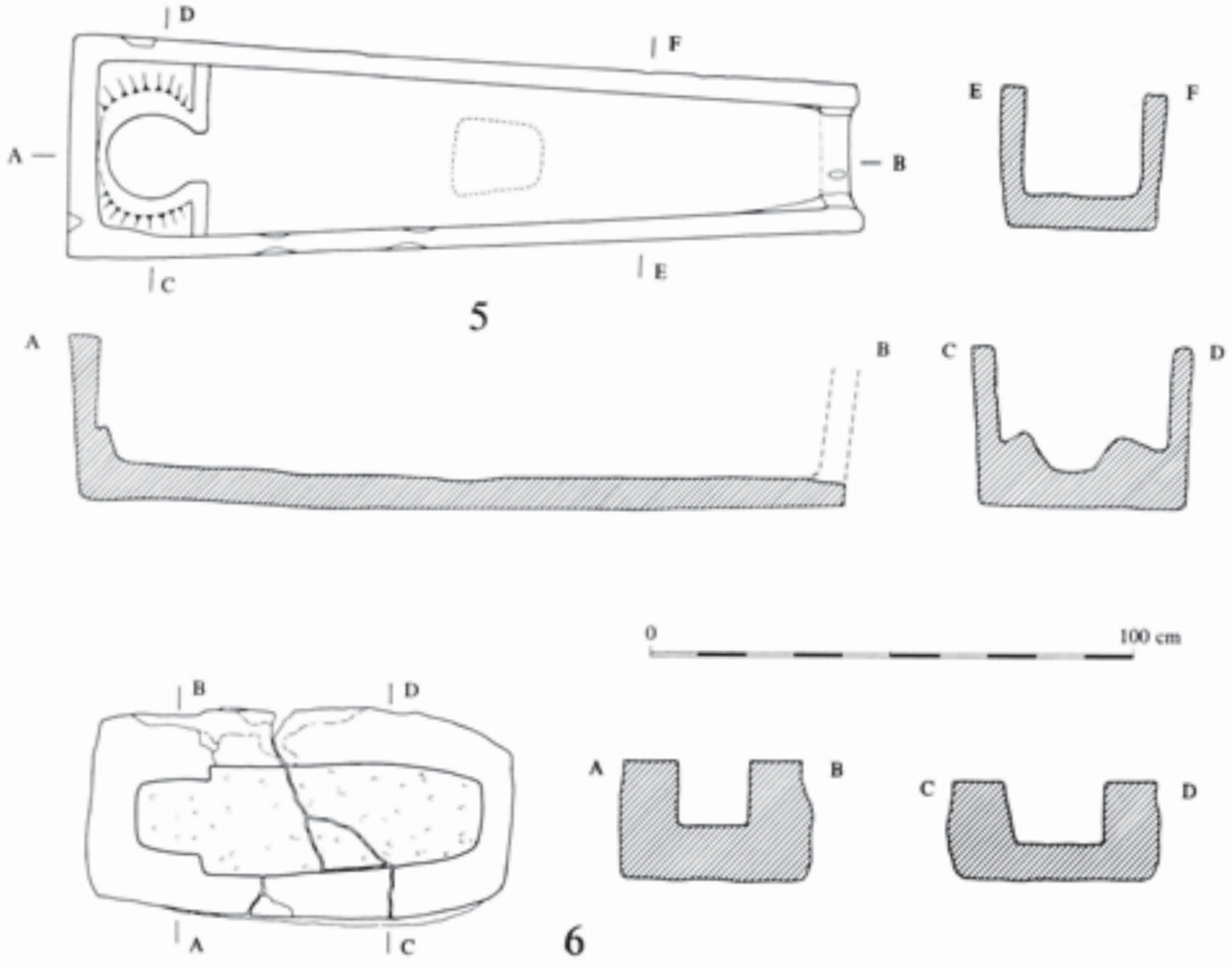


Fig. 497 Medieval stone coffins: no. 5, probably found in the Camery, 1851; no. 6, excavated in the Camery, 1979. Scale 1:15. Drawn by Richard Bryant

two pieces, and the foot-end has been entirely knocked out. A late thirteenth- or fourteenth-century date is suggested. It is similar in form to a thirteenth-century coffin excavated at Deerhurst, Gloucestershire (Rahtz and Watts 1997, fig. 72).

This is a lighter-weight and altogether more slender coffin than the others. It tapers in plan, both externally and internally, and there is a keyhole-shaped head-recess formed as a shallow feature in the base of the coffin, at the broad end. There are no drainage holes or pockets in the side walls.

Coffin 6 (Fig. 497)

Chilcote stone. Excavated in the Camery in 1979, close to the south side of the cathedral transept (Area 7). The coffin (F793) contained an infant, burial 43, and was covered by rough stone slabs (p. 106; Fig. 100). It is attributed to the late eleventh or twelfth century.

The coffin, which is broken in half, is hewn from a rough block of stone, with no attempt to shape or dress the exterior. There is a simple head-recess, but no drainage features.

Coffin 7 (not illustrated)

Chilcote stone. Half of another one-piece coffin (F1531) for a baby was found in Area 9. It had been disturbed, and only the east (foot) end survived, which was of rounded plan both internally and externally. It is of the same period as no. 6.

Medieval architectural monuments

by Jerry Sampson

1. Head of a bishop (Figs. 498–9). Mid-fifteenth century.
Doulting stone. Dimensions: 21.5 cm high × 12 cm wide × 14.5 cm deep. F394/5.
Head of a bishop wearing a mitre with its border and central orphreys decorated with square, circular and triangular 'jewels', the triangular front panels enclosed by these containing decoration consisting of fifteenth-century foliage. The hair is cut in mid-fifteenth-century style; the nose, mouth and dexter eye are lost, and the dexter ear is damaged. The remaining, sinister, eye is bulbous. The back of the amice survives to sinister. The position of the flat, uncarved surface on the back of the sculpture shows that the head was turned to sinister.

2. Head of an angel(?) (Fig. 498). Fifteenth century.
Fine grained limestone (?Doulting). Dimensions: 16.5 cm × 14 cm wide × 13.5 cm deep. Provenance unknown (cathedral lapidary collection).
Head (possibly a label-stop, since mortar on the flat top of the head shows that it supported some lost element) broken off at the neck, the break-line rising to dexter and removing part of the hair. The tip of the nose is also lost. A circlet is worn with an ornament at the front, composed of four spheres arranged as a quatrefoil. The long curling hair is blown back over the circlet at the sides of the head.

2A. Fragment from the diadem of an angel(?) (Fig. 498). Fifteenth century.
Doulting stone. Dimensions: 5 cm high × 5.5 cm wide. F1195.
An ornament similar to that on the circlet of the head of the angel described above, but with only three conjoined spheres arranged around a triangular ridge.

2B. Fragment from the diadem of an angel(?) (Fig. 498). Fifteenth century.
Doulting stone. Dimensions: 4.2 cm high × 5.3 cm wide × 3.6 cm deep. F1219.
Stylized jewel from the front of the diadem of an angel similar to that described above. It consists of four conjoined spheres, the back surface worked flat, and just a fragmentary trace of the flat top of the head at the under edge.

3. Hand from a small statue (Fig. 498). Probably fifteenth century.
Bath stone. Dimensions: 5.2 cm high × 9 cm wide × 6.1 cm deep. F394.
A dexter hand drilled to receive a staff or sceptre. It seems likely that either Bishop Stillington's tomb or the choir screen was constructed from Bath stone, since very fine canopy work (some of it retaining extensive traces of polychrome) is of the same material and may derive from this source. If so, it is likely that this fragment comes from a sculpture adorning the tomb. The lower two fingers and the index finger are damaged.

4. Badly damaged fragment of the head and shoulders of an angel (Fig. 500). ?Later fifteenth century.
Doulting stone. 24.5 cm high × 16.5 cm wide × 12 cm deep. F14/F15.
Fragment of the head and shoulders of an angel wearing amice and ?alb. All the detail of the head is lost except for the two lower dexter curls of hair. Elsewhere on the head the only remaining carved surface is at the sides of the neck where the musculature at either side of the larynx is still visible.

The majority of the collar of the amice survives, the soft material between the apparels at the front showing some resemblance to the forms of the stylized clouds seen on fragment no. 14.

Unlike the fragments of wings from no. 18, the tines of the feathers are not shown. There is an area of the chest 4 cm high surviving below the amice, suggesting that this figure may not have held a shield: the boss from the vaulting of Stillington's chapel (Fig. 500 inset, and Fig. 454.2) has its shield cutting the lower edge of the amice (though the angels of Sugar's Chantry hold their shields considerably lower, being carved to be viewed at an oblique angle: Fig. 505).

Behind the head on the dexter side are the remains of three ranks of feathers from the leading edge of the dexter wing. These do not show carving of the feather tines, unlike those from no. 18 and from Sugar's Chantry, but like that on the Stillington chapel roof boss. The sinister side is broken and retains no traces of the wing. The shape of this much-damaged piece suggests that it may have come from the outer corner of a structure, since the extant fragment of dexter wing runs sharply back behind the head, and the extent of the amice to sinister suggests a similar sharp angle on that side also.

5. Fragment of the dexter side of an amice and dexter shoulder from an angel (Fig. 500). Later fifteenth century.
Doulting stone. Dimensions: 10.4 cm high × 7.2 cm wide × 4.3 cm deep. F1219.
Piece from the dexter side of the collar of an amice, showing approximately half the apparel and 4 cm of the front of the collar below it. There is a fragment of the dexter front of the chest, and the deep cut at the dexter side of the neck just survives.

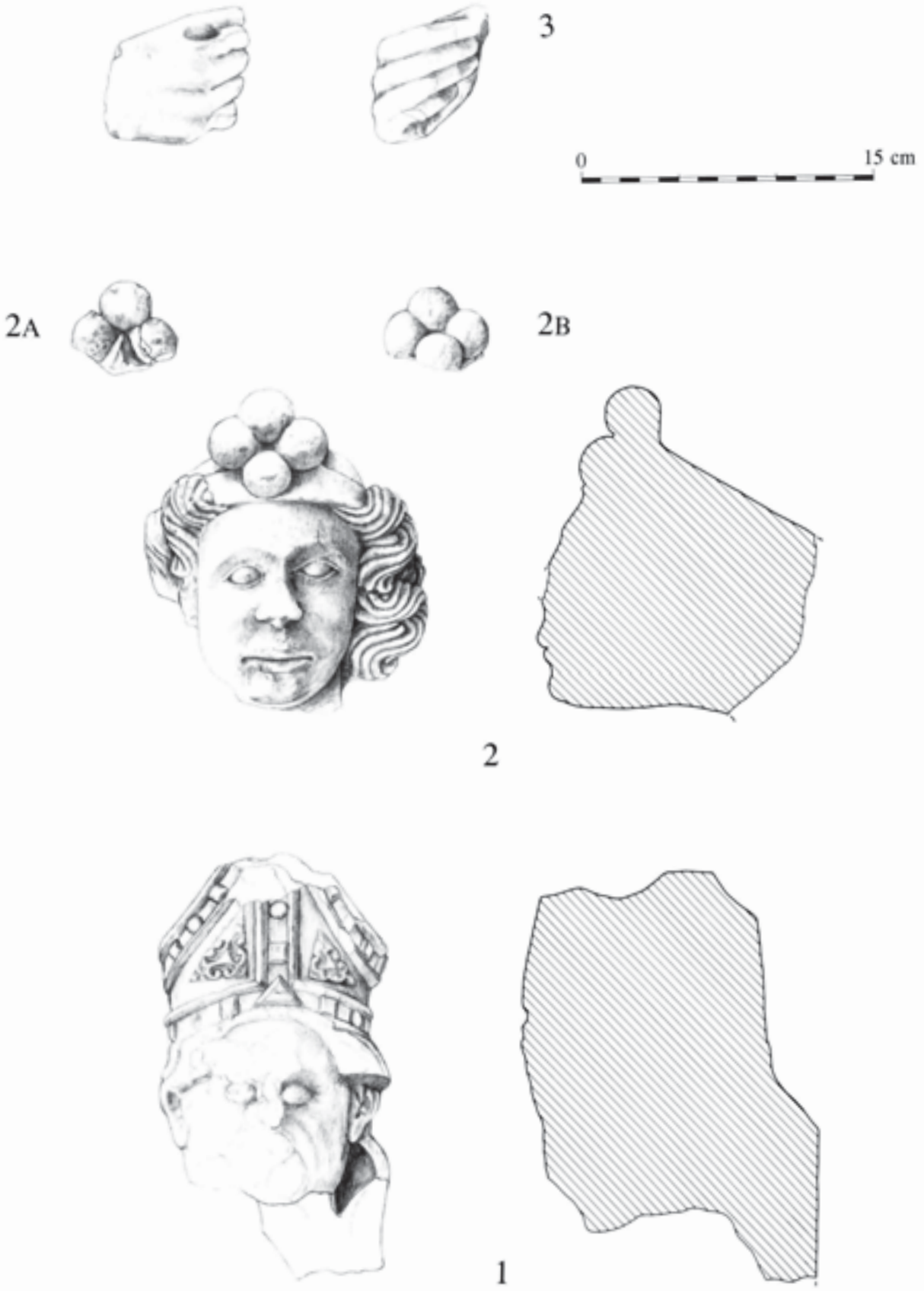


Fig. 498 Fifteenth-century figure sculptures. 1, Head of a bishop wearing a 'jewelled' mitre; 2, Diademed head, probably of an angel; the head-dress may be indicative of archangel status; 2A and 2B, Fragments of other similar diadems; 3, Dexter hand, drilled to receive a staff or sceptre. Scale 1:3. Drawn by Richard Bryant

Fig. 499 Frontal and sinister views of the head of a bishop from a statuette (no. 1)

6. Fragment of the dexter shoulder of a figure, probably an angel (Fig. 500). Later fifteenth century.
Doulting stone. Dimensions: 8 cm high × 8.5 cm wide × 4.5 cm deep. F119.
The dexter shoulder and a fragment of the upper dexter section of the chest of a figure. There is a break-scar in the position to be expected for an amice, and the scar down the back of the shoulder suggests the proximity of a wing, making identification as an angel the likeliest attribution. Drapery folds appear on the top of the arm, and the division between arm and chest is indicated, with one further fold at the side of the chest. The remaining surfaces are broken.

7. Fragment of the dexter forearm and wrist of a draped figure, possibly an angel (Fig. 500). Later fifteenth century.
Doulting stone. Dimensions 8.2 cm high × 7.9 cm wide × 6.5 cm deep. F1219.
Comparable in size and form to the fragment from a sinister arm described above; this has a flat inner and bottom surface, with carved drapery folds over top and front, and the turned-back hem of the garment at the wrist. It is broken at the wrist and to sinister of the elbow.

8. Fragment of drapery, probably from the sinister arm of an angel (Fig. 500). Later fifteenth century.
Doulting stone. Dimensions: 14.5 cm high × 9.3 cm wide × 5 cm deep. F1219.
Fragment of drapery with three long, slightly curving folds, the outer two traversed at their base by a horizontal fold — probably the drapery over the sinister upper arm to the inner angle of the elbow — in which case the flat raised area at the top would represent the lower edge of the sinister apparel of the amice, suggesting an attribution as an angel of the same type as those described above. The remaining surfaces are all broken: that at upper sinister could be from the loss of the sinister wing.

9. Sinister arm of an ?angel (Fig. 500). ?Later fifteenth century.
Doulting stone. Dimensions: 16 cm high × 11 cm wide × 7 cm deep. F1218.
The arm is represented in high relief, there being flat stone to dexter, and a tiny flat area beside the elbow to sinister. The hand is lost at the wrist, and most of the upper arm is gone. A single garment seems to be represented, with a fairly wide turned-back cuff, which is turned back again at the hem. There are no traces of feathers on the sinister side, so it cannot be certainly identified as deriving from an angel, but its similarity to the known fragments of angels suggests such an origin.
There are possible slight traces of white ground in the fragmentary arris above the wrist to sinister.

10. Fragment of the sinister wing of an angel (Fig. 500). Later fifteenth century.
Doulting stone. Dimensions: 13.5 cm high × 14.5 cm wide × 6.5 cm deep. F1197.
Fragment of the upper part of the sinister wing of an angel, with two ranks of short leaf-shaped feathers on the leading edge, and the curve of the outer part of the wing. The feathers are raised along their centre-lines, but lack the representation of the tines found on no. 18 (Fig. 504). The flat background to dexter of the wing suggests that this piece was carved in low relief, possibly on a roof-boss, since the treatment of the feathers is very similar to that of the surviving angel boss from Stillington's chapel (Fig. 454.2).

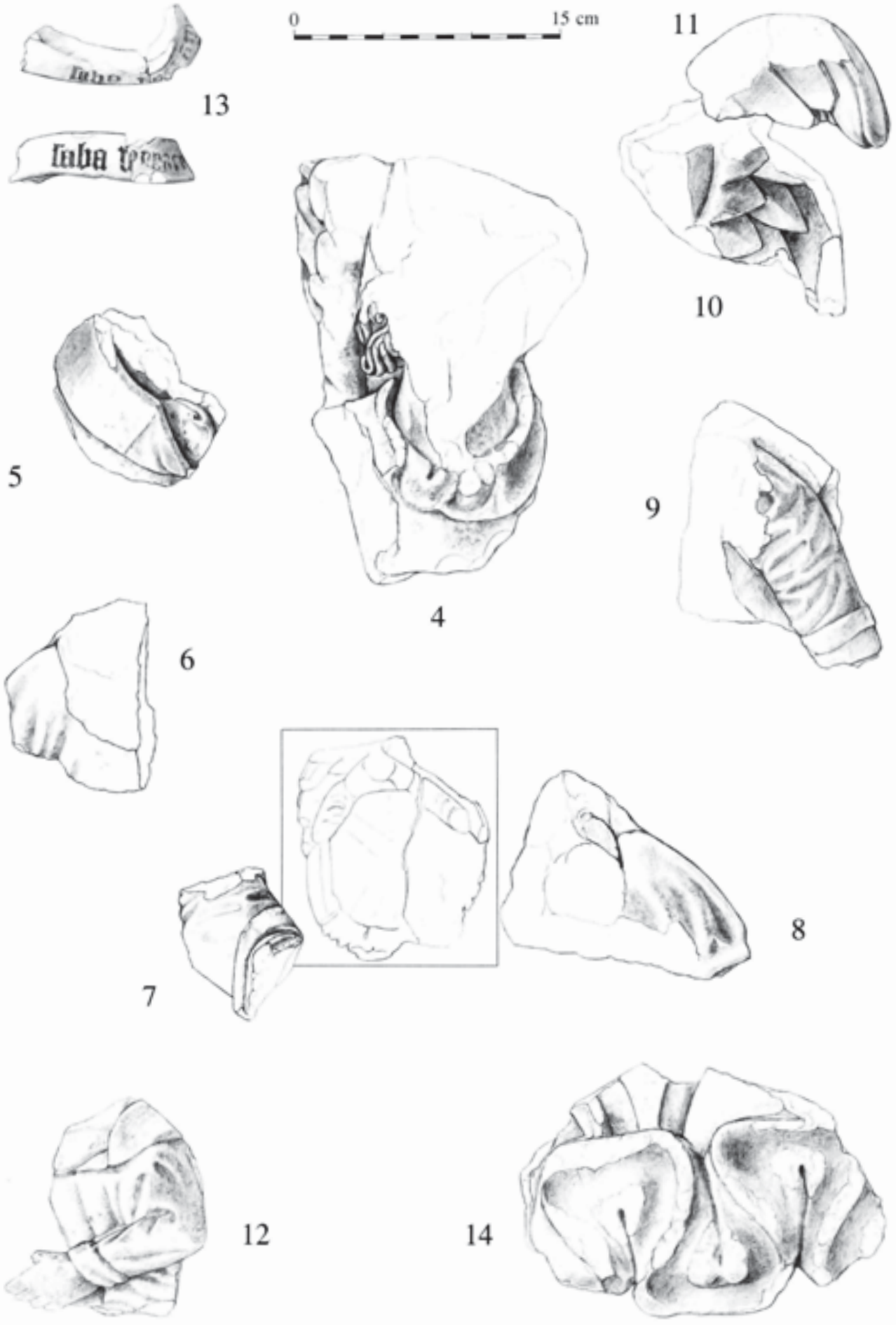


Fig. 500 Fifteenth-century sculptures, 4–14 Fragments of angels, probably all from the architecture of Stillington's chapel. The inset shows the angel boss from the vaulting of the chapel (see Fig. 454.2 for detail). Scale 1:3

The other surfaces are all broken or rough-cut, there being three clear marks from a 1.3 cm (½ in) wide chisel on the back face.

11. Fragment from the upper sinister wing of an angel (Fig. 500). Fifteenth century.
Doulting stone. Dimensions: 10.5 cm high × 11.2 cm wide × 5.5 cm deep. F1, unstratified.
Fragment of an angel wing of different design from both that described above and the tined-feather variety. Here the feathers are longer and overlapping, with bluntly pointed ends unlike the generally leaf-shaped types of both the other varieties. For the relative size of the feathers the relief is also lower.
This fragment must derive from the top of a sinister wing, since the back surface, though broken at the top and the upper dexter edge, is domed and curved over. The outer sinister edge is curled forward as the outer edge of the wing is brought back around to frame the figure.

12. Sinister arm and upper torso of a small figure (Figs. 500–1). Fifteenth century?
Doulting stone. Dimensions: 12.3 cm high × 11 cm wide × 4.3 cm deep. F341.
A thin fragment from the sinister side of a figure wearing a long-sleeved robe and ?amice, the arm bent at the elbow. The hand is complete but for the ends of the thumb and fingers, and there is little or no sign that it ever held an object.

13. Two fragments (probably adjoining) of a scroll bearing a painted inscription, later fifteenth century (Fig. 500).
Soft white limestone, probably Beer stone. Dimensions: (a) 2.6 cm high × 7 cm wide × 2.3 cm deep; (b) 2.6 cm high × 4.6 cm wide × 2.3 cm deep. F394.
Two fragments from an inscribed scroll '*laus* ....' and '....*et*', the letters painted in black on an orange background similar in appearance to the bole used on the small angels carved from this stone, though there is no trace of gilding apparent here.
If the two pieces do indeed adjoin, then the scroll bends abruptly after the joint in such a way as would have rendered it difficult to read. There is a broken bridge to hold the scroll back to the body of the stone (a figure sculpture?) at the dexter end of (a); there is no bridging on (b). Both edges of (b) have been chipped in antiquity, and there is a fresh break on the upper edge of (a). The orange pigment covers the undersurface, though not the top of the triangular-sectioned rear face of (a); on (b) the top is painted, the bottom not, suggesting that the apparent matching-break between (a) and (b) may be adventitious.

Fig. 501 Sinister arm of a fifteenth-century angel (no. 12)

14. Fragment of stylized clouds (Fig. 500). Later fifteenth century.
Doulting stone. Dimensions: 13 cm high × 19.8 cm wide × 7 cm deep. F1197.
Fragment of stylized clouds, consisting of three almost complete curved folds, with a fragment of a fourth at the sinister edge. Above are fragments of further forms, probably deriving from the drapery of a demi-angel. Those at dexter may possibly be the base of wing feathers, though if so they lack any carving of the detail of the tines. The form of the clouds is very similar (though not identical) to those surrounding the roof boss of an angel holding a shield from the Stillington chapel vaulting. In this example the scale seems to be considerably greater than in the boss, as well as lacking the nicks in the outer corners of the cloud curves which the latter exhibits. The angel inside the Sugar Chantry, supporting the cut-away eastern mouldings of the western nave pier, has stylized clouds of the same general outline, but different in detailing and execution. The angels around the entablature of Sugar's Chantry simply emerge from the string-course and its foliage without any stylized clouds.
The traces of two narrow bridges on the underside of the central curl of cloud suggest that this piece may have been bridged onto a string-course or similar architectural element.
It is reasonable to speculate that the fragment represents a survival of the general form of angel from Stillington's chapel. Its geological type suggests that it was associated with the primary structure of the chapel — *viz.* basic screen-work or architectural detailing — rather than the choir screen or the tomb of Bishop Stillington, which appear to have been carved from Bath stone.

15. Two conjoining fragments of a four- or six-winged angel carved in relief (Figs. 502–3). Later fifteenth century.
?Beer stone. Overall dimensions: 15.2 cm high × 7.4 cm wide × 3.7 cm deep. F392.
(a) The whole height of the angel remains from above the top of the head to the waist. The face, sinister hand, and object(?) to sinister of the head are broken, the rest retains its coating of slightly powdery orange bole with occasional specks of gilding. The unidentified (?architectural) object beside the head bears extensive traces of red paint. Under the dexter elbow is a trace of white ground with rich blue pigment.
The figure is carved on a thin block, its dexter edge squared; the wings are carved into a flat masoned background. The dexter hand is held across the waist, the sinister upraised; the head is turned to dexter.

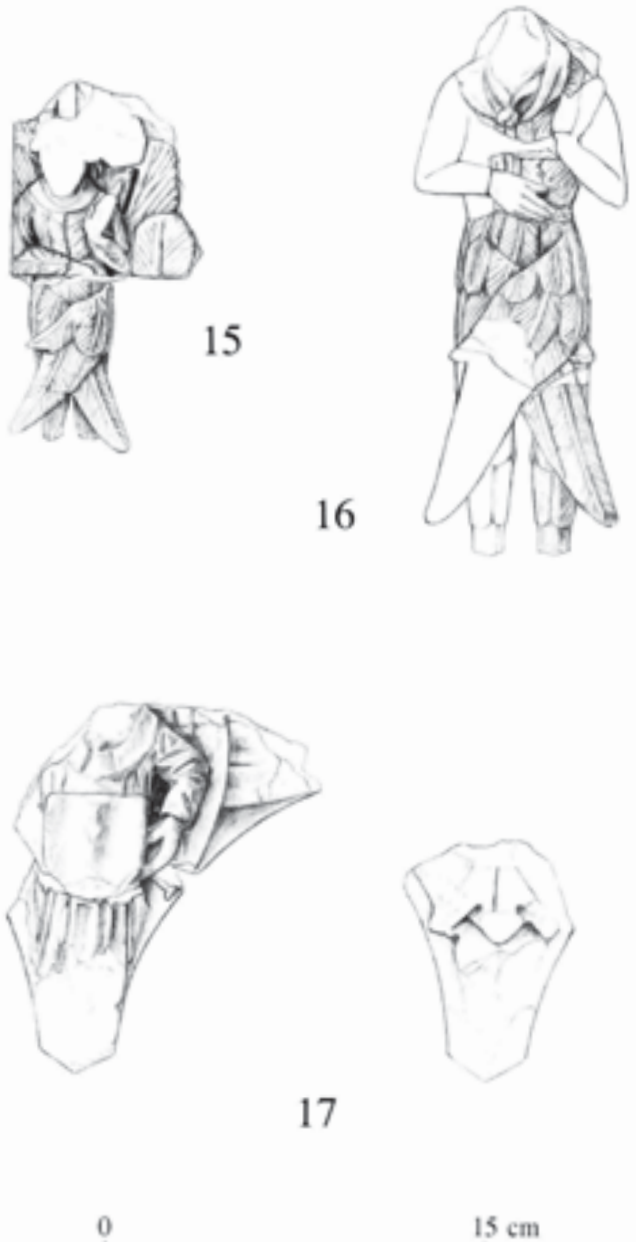


Fig. 502 Fifteenth-century tomb sculptures, 15–17 Fragments of finely carved angels from canopies and side panels. Scale 1:3. Drawn by John Atherton Bowen

(b) The lower torso, with crossed-over wings, and part of the lower sinister leg. The whole is covered with orange bole.

16. Fragments of a four- or six-winged angel (Fig. 502). Later fifteenth century.
Soft greyish white limestone, probably Beer stone. Overall dimensions: 21.5 cm high x 6.5 cm wide. F394.

(a) Neck and shoulders of an angel. Around the neck is tied, or held with a small trilobe brooch, a kerchief, and the angel is clothed with feathers over the shoulder and chest. There is a knob of amorphous stone in front of the sinister shoulder which, by analogy with the smaller Beer stone angel (no. 15), is probably the remnant of the sinister hand held up in front of the shoulder. The head is broken off at the base of the neck, the sinister arm at the shoulder (where the feathers run down the line of the arm), and the dexter side of the chest is lost.

Most of the surface of the feathers is covered with an orange, slightly dusty bole which still supports a few tiny fragments of gilding at the back of the sinister shoulder; there, the carved and painted surface rises, indicating the position of the sinister wing.

(b) Dexter hand and fragment of the central torso, fitting that described above. The dexter hand is held almost horizontally at waist level, the fingers running slightly downwards. The feathers survive above and to sinister, with a tiny survival at lower dexter. As with other fragments of this type, the feathers are covered with an orange bole which supports fragments of thin gold leaf. The tips of the fingers are broken.

(c) Lower torso. More than half of the carved surface is covered with orange bole bearing occasional traces of gilding (best preserved on the sinister side). The two wings are crossed over below the waist, and the 'garment' above is also feathered. There is a small knob of stone on the sinister thigh which may have been a bridging point, or an upturned feather-tip from the top of the dexter wing where it emerges beneath the sinister one. The division between the legs is carved at the back behind the wings, suggesting that the lower part was in the round, though the back of the figure higher up had been part of a larger member, extending 3 cm into the body of the stone behind the end of the carved surface.

(d) The lower part of the sinister leg and the end of the dexter (crossed-over) wing, the latter with bridging to the background to sinister of the leg. The leg is feathered. The whole is covered with an orange bole bearing traces of gilding, especially on the sinister side.

Fig. 503 Panel fragment from a fifteenth-century tomb, showing an angel (no. 15)

17. Pendant or cusp terminal (?from a traceried doorway or screen-work) with an angel holding a shield (Fig. 502). Later fifteenth century.
Fine Doulting stone. Overall dimensions: 16.5 cm high x 11 cm wide x 7.3 cm deep. F1197.
Two conjoining fragments comprising the lower sinister of a pendant very similar in size and form to those on the door into the Sugar Chantry. On the obverse is an angel in amice and ?alb, holding a shield. The surviving fragment of the base of the reverse side bears foliage.

The lower part of the angel is broken away, so that only the drapery over the waist and thighs survives, falling in parallel vertical folds, with one kinked fold at extreme sinister. Immediately below the break at sinister top is the base of the wing, showing as the stub of two feathers.

On the upper fragment the torso, neck, sinister arm and wing are well preserved, the head and dexter arm being broken away. There is a faint scar of the shape of the dexter hand adjacent to the shield, showing the separation of the thumb and forefinger. The shield has a central ridge, the two sides being slightly concave. The sinister wing shows the shape of the upper feathers just above the upper arm, but there is no further detailing. To the sinister of the wing is a leaf running horizontally out along the sinister arm of the diamond-shaped pendant.

The curving outline of the sinister wing is more reminiscent of the angel on the Stillington chapel boss than those on the Sugar Chantry, though the shape of the architectural element of which it forms a part probably contradicts this.

18. Group of 29 fragments of angels' wings (Fig. 504). Later fifteenth century.
Doulting stone. F1201, F1219, F1236; and two fragments from the cathedral lapidary collection.
These fragments are all from the wings of angels similar to those on the Sugar Chantry. Being of Doulting stone, they probably derive from screen-work or some other architectural context, rather than from Stillington's tomb, which may have been carved in Bath stone. Two further major fragments from the cathedral collection (of the apices of wings) belong to this group and have been incorporated into the composite illustration. All are characterized by the carving of the tines and main ribs of the feathers, the former as a series of parallel grooves.

Among the most significant fragments are a group of five pieces from F1219 which fit together to form what

Fig. 504 Fifteenth-century sculpture, 18 Reconstructed figure of an angel bearing a shield, based on fragments recovered and on a similar arrangement preserved in Hugh Sugar's chantry. Scale 1:3. Drawn by Richard Bryant

Fig. 505 Detail of the angel and cresting at the south-west corner of Canon Hugh Sugar's chantry (Jerry Sampson)

Fig. 506 Fifteenth-century sculptures from tombs or screens. 19, Agnus Dei*; 20, Fragment of shaft; 21, Octagonal annulet or base. Scales: 19 and 20, 1:3; 21, 1:6. Drawn by Richard Bryant*

appears to be the junction between the dexter wing of one angel with the sinister wing of another angel to dexter of it: thus there would appear to have been a series of angels whose wings just touched. The shape of the two wing apices suggests more broadly set wings than those of the Sugar Chantry angels (Fig. 505), a form also indicated by a fragment of feathers from a dexter shoulder top.

19. *Agnus Dei* roundel (Figs. 506–7). Fifteenth century.
Bath stone. Dimensions: 12.5 cm high × 10 cm wide × 5.5 cm deep. F394.
Sinister half of a roundel, the lamb complete but for the head and the front legs, with cross and standard. The lamb is shown with tail and cloven hooves on the rear legs.

There are several traces of white ground with brownish-grey overpaint. Traces of pale red paint on the flag and on the border, the latter also bearing pale orange (?bole) and some specks of gilding. There are occasional traces of black-lining, especially on the inner edge of the rim.

The bridging-point on the lower edge of the rim of the roundel suggests that it may come from the centre of an openwork canopy. Alternatively it could derive from a statue of St John the Baptist. The stone type suggests that it could belong with the canopy fragments which may derive from the choir screen, chantry, or monument of Bishop Stillington.

Fig. 507 Agnus Dei *(no. 19) carved in Bath stone; fifteenth century*

20. Freestanding pinnacle with bridgework (Fig. 506). Fifteenth century.
Bath stone. Dimensions: 12 cm high × 3.6 cm wide × 10.2 cm deep. F394.
Oval-sectioned freestanding shaft bearing plentiful gilding over an orange bole. It rises from a moulded collar (with orange-brown paint/bole) which is part of a bridge. This bridge is almost horizontal and slopes down slightly to the shaft; it is irregularly hexagonal in section, and bears black paint traces on the regularly hexagonal dexter face. At the inner end of the bridge there is a fragment of roll (?and fillet) moulding with red paint on white ground overpainted brown-buff.

The stone type suggests that it could belong with the canopy fragments which may derive from the choir screen, chantry, or monument of Bishop Stillington.

21. Octagonal annulet or base for a 6 cm diameter shaft (Fig. 506). Fifteenth century.
Bath stone. Dimensions: 7.7 cm high × 14.8 cm wide × 16.4 cm deep. F355.
The carving of this fragment from Bath stone suggests a common origin with the fine canopy work possibly

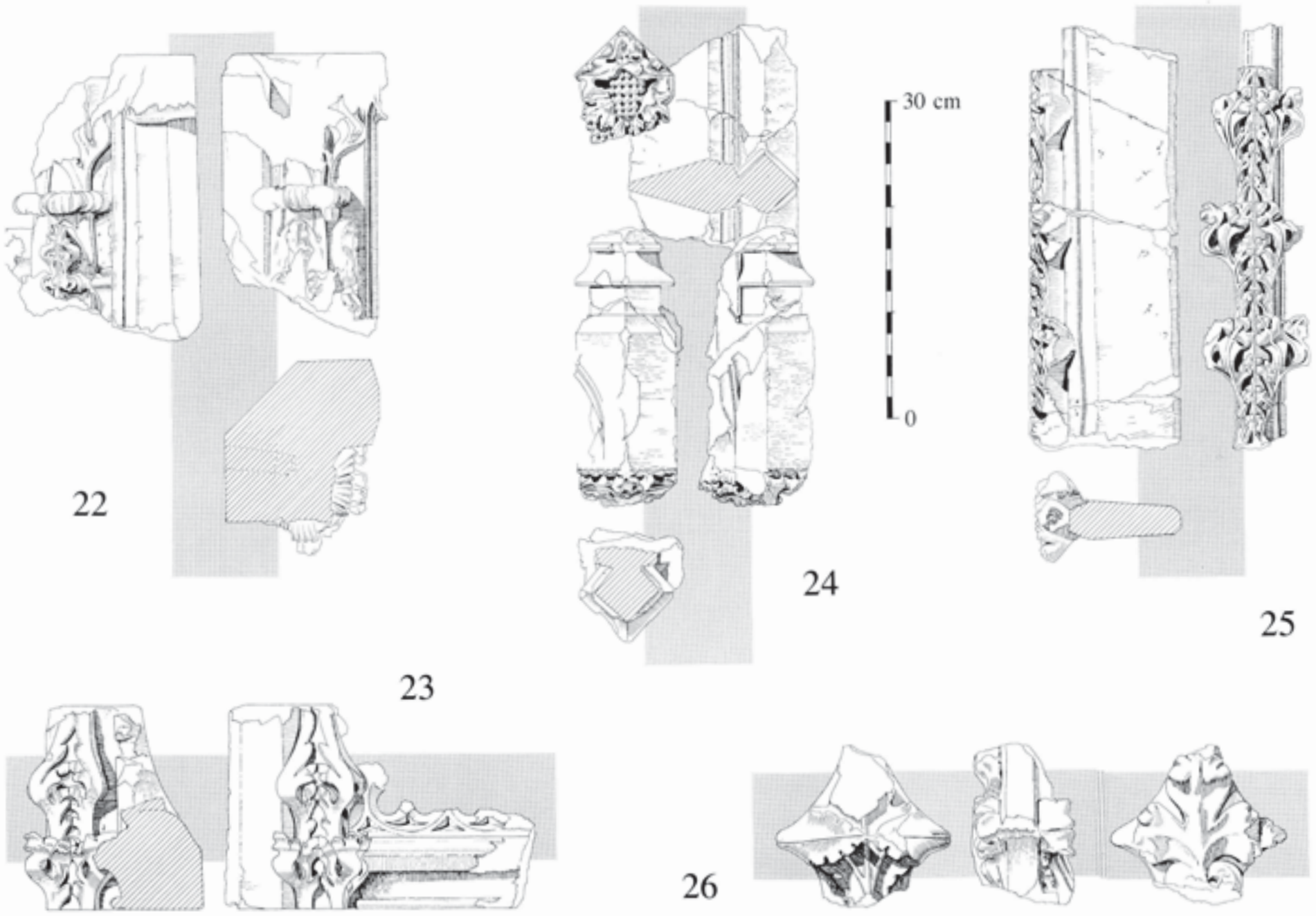


Fig. 508 Fifteenth-century architectural sculpture, 22–26 Fragments of canopy work from tombs and screens in Stillington's chapel. Scale 1:5. Drawn by John Atherton Bowen

associated with Stillington's tomb, chantry or the choir screen. It consists of an octagonal annulet or base 14.8 cm in diameter, cut to receive the end of a freestanding shaft 6 cm in diameter. The loss of the whole lower face of the stone makes it difficult to be sure whether this is a base with a deep locating socket, or an annulet drilled from both sides with a small thickness of stone left at the centre between the holes. The back face where the block fitted against, or into, the jamb has a roughly cut horizontal groove which extends onto the dexter side, but is not present to sinister. There is also a slight groove on the top surface defining the back edge of the octagon. The whole under-surface and much of the sinister side is broken away.

22. Fragment from the jamb/canopy of a richly polychromed tomb or screen (Fig. 508). Later fifteenth century.
Bath stone with polychromy and gilding. Dimensions: 26.7 cm high × 15.7 cm wide × 14.9 cm deep.
This fragment is so similar in design, execution and polychromy to that described below (no. 23) that it must be considered to derive from the same object, perhaps the choir screen, or the canopy of Stillington's tomb. The fragment appears to be part of the same or a similar pinnacle situated either one block down, or immediately below no. 23. It consists of a plain jamb with a section of crocketed pinnacle bridged to it. This area of pinnacle represents the neck (formed of tightly curled foliage) and one set of crockets of the finial, and below this the apex finials and traces of the uppermost crockets of the miniature canopies on the front and dexter faces of the pinnacle. On the sinister edge of the block is the jamb of an open light with a single cusp surviving towards the top. Presumably the openwork above the canopy heads consisted of a series of such narrow lights forming the infill between the pinnacle/jamb and the curving canopy, above which was the heavier horizontal entablature.

Both the top and bottom edges of the block are severely broken, but the position of the top bed survives at the back of the block. A vertical slot near the line of the dexter edge of the pinnacle probably held a vertical dowel, and traces of a slot behind this suggest a horizontal dog-cramp.

The surviving polychrome consists of orange bole supporting gilding on the foliage of the pinnacle, with pale red on the background.

23. Fragment from the entablature of a richly polychromed tomb canopy or screen (Fig. 508). Later fifteenth century.
Bath stone with polychromy and gilding. Dimensions: 19.5 cm high × 28.2 cm wide × 16 cm deep.
The fragment is L-shaped with the finial and uppermost set of crockets of a canopy pinnacle at dexter bridged onto the plain stone of a jamb to dexter. Joining this and running horizontally to sinister is a moulding which supported openwork cresting, the greater part of which is broken away. The latter consists of cusps, but the bridging on the jamb and the broken dexter edge shows that it was a more complex design than mere openwork quatrefoils.
Much original polychromy survives: an orange bole supporting gilding on the pinnacle, the cresting and the roll at the base of the horizontal moulding; pale red in the deeply cut areas of the foliage and background of the pinnacle, and on the central fillet of the horizontal moulding.

The bottom bed beneath the jamb is slightly recessed, perhaps a joggle for locating the block beneath, or, more likely, to accommodate a staple or dog-cramp in the top of the next block below.

24. Projecting corner pinnacle-base in two pieces (joining), possibly from a niche for a near life-size figure sculpture (Fig. 508). Later fifteenth century.
Bath stone. Dimensions: (a, top) 14.7 cm high × 8.3 cm wide × 9.9 cm deep; (b) 19.1 cm high × 9.9 cm wide × 9.3 cm deep. F1172 and F1175.
Two fragments of a square-sectioned (4.6 cm) projecting pinnacle-base, supported on a foliate corbel finely carved with vine-leaves surrounding a bunch of grapes. 13 cm above the corbel the mouldings of a base begin, and the pinnacle narrows to 4.2 cm square. To dexter, against the base is the springing of a richly moulded and ?cusped arch, while higher up to sinister is the springing of the crocketed arch which surmounted this (the outline of the latter is just visible also to dexter).

25. Three conjoining fragments of a crocketed canopy finial, possibly from a niche for a near life-size figure sculpture (Fig. 508). Later fifteenth century.
Bath stone. (a, top) 20.2 cm high × 8.7 cm wide × 13.5 cm deep; (b) 20.3 cm high × 9.8 cm wide × 14.1 cm deep; (c) 5.2 cm high × 3.8 cm wide × 14.2 cm deep.
On the front face of a heavy, probably structural, supporting-keel is the vertical finial of a canopy, preserving three pairs of crockets of diminishing width. The canopy work is positioned to dexter of centre of the supporting-keel, suggesting that the fine carving could have been executed after the blocks were fixed, or possibly that there was some structural reason for making the dexter face of the keel flatter, such as placing it against the corner blocks of the 'end' elevation.

Fragment (a) has the top and rear surface of the canopy stem worked flat, and ending 4 cm below the (broken) top edge of the block. On the flat top of the stem is a small near-circular patch of lead, presumably associated with fixing the stone above.

Marks of a 1 cm wide flat chisel survive on the rear face of the keel. No traces of polychromy were observed.

26. Cusp-terminal or pendant from the head of a door or screen-work opening (Fig. 508). Later fifteenth century.
Doulting stone. Dimensions: 15.5 cm high × 16.5 cm wide × 9 cm deep. F1195.
This piece is probably from the same screen-work as the other pendant bearing an angel holding a shield on its obverse (Fig. 502.16). Not only are the general overall dimensions of the two very similar, the uncarved ridge at the centre of the sides being the same in both cases, but the leaf emerging from behind the sinister wing of the angel is much the same (though necessarily thinner) as that on one face of this piece, and the fragmentary leaf on the reverse of the angle is almost identical to that on the other face of this piece.

This lozenge-shaped pendant is relatively complete. The obverse bears a three-lobed leaf with serrated edges, the ends of the lobes being turned back so that the tips meet at the centre. There is a prominent central vein on the body of the leaf running down the centre-line of each lobe, with a corresponding groove on the centre-lines of the turned-back tips. The reverse has a typical mid-fifteenth-century stylized trilobe leaf.

14 Loose Artefacts

Flint and chert artefacts

by Alan Saville

Introduction

In total, 1773 pieces of struck flint and chert were collected during the excavations. Table 2 gives a breakdown of this collection in terms of the typology of the artefacts and the raw materials used in their manufacture. The collection is undoubtedly mixed in date but the predominant element, as shown by characteristic implements and débitage, is a Mesolithic blade industry. Most of the artefacts were recovered from contexts of Anglo-Saxon or later date, however, and must be regarded as residual finds, which may have been disturbed and redeposited several times since their original period of manufacture.

Post-excavation analysis concentrated on the production of a catalogue list of every artefact, recording the context, type, raw material, weights, and whether or not it was complete. This catalogue forms part of the site archive. The total weight of the collection was 5.6 kg, and the archive contains a table giving the breakdown by weight to complement Table 2. The significant retouched pieces are also listed separately in the archive, with accompanying sketch illustrations. Only complete retouched pieces were measured. The material illustrated in Fig. 509 is listed in the appendix (p. 516).

Table 2 Flint and chert artefact totals

type	*flint*	*Greensand chert*	*other chert*	*totals*
unretouched flakes, complete	381	24	2	407
unretouched flakes, broken	834	48	6	888
unclassified burnt fragments	149	8	4*	161
cores	32	2	2	36
core fragments	18	2	1	21
flaked lumps	7	–	–	7
edge-trimmed flakes	60	1	–	61
microliths	18	–	–	18
microburins	10	–	–	10
scrapers	15	–	1	16
piercers	14	1	–	15
splintered flake	1	–	–	1
backed blade	1	–	–	1
?burin	1	–	–	1
barbed-and-tanged arrowhead	1	–	–	1
gunflint	1	–	–	1
miscellaneous retouched pieces	121	5	2	128
totals	**1664**	**91**	**18**	**1773**

Note: * = these burnt fragments are of uncertain material, and could be Greensand chert

Raw material

As Table 2 indicates, flint is the chief raw material. Only a very few pieces of flint (*e.g.* cat. no. 71, F359/1: a Mesolithic double-end scraper) have a smooth pale cortex, which could indicate the use of gravel- or even beach-pebble flint. Otherwise the cortex is slightly rough and reddish-brown in colour, probably indicating derivation from a clay-with-flints deposit. The flint was available in a relatively large size (cat. no. 1099, F1162: a non-cortical core rejuvenation flake, 58 mm long) but the cores are all worked down to small size, perhaps indicating a scarce resource.

The chert used is mainly Greensand chert, a common raw material in Somerset assemblages, derived ultimately from the Upper Greensand of south Somerset and Devon. Also included are a small number of pieces of fine-textured, dark grey/black chert. The cherts are represented on site by cores, so, as with the flint, the raw materials and not just finished pieces or blanks were being brought to this site.

Flint was used for both Mesolithic and later implement types, whereas the Greensand chert seems only to have been used for artefacts of Mesolithic character.

Technology

The assemblage is too small and mixed for any detailed assessment of the technology or technologies involved, although classic Mesolithic blade/bladelet production from single-platform pyramidal and opposed-platform bipolar cores is evident. The presence of microburins shows the use of this technique of blade segmentation for producing blanks for microliths. The unusually high proportion of microburins to microliths in this collection is probably a reflection of the comparatively large size of many of the microburins, which has biased their recovery relative to the microliths.

The profile of the débitage is shown in Tables 3 and 4. The average weights of the secondary and tertiary unretouched flint flakes are only 4.1 g and 1.9 g, respectively, reflecting the many small flakes and chips which are the result of knapping having taken place on site, as is borne out by the presence of the cores. Nevertheless, in considering this profile of the débitage it must be remembered that sieving was not used as part of the recovery strategy during excavation, so very small flakes and chips will inevitably be under-represented.

Context

The collection offers little scope for meaningful contextual analysis, since the artefacts were either residual in later deposits, or were absent (or present in only

Table 3 Complete unretouched flakes
Weights are given in grams

	flint		*Greensand chert*		*other chert*		*totals*	
flake type	*no.*	*wt.*	*no.*	*wt.*	*no.*	*wt.*	*no.*	*wt.*
primary	5	34.7	–	–	–	–	5	34.7
secondary	186	767.0	5	23.3	–	–	191	790.3
tertiary	190	367.5	19	75.1	2	4.0	211	446.6
totals	**381**	**1169.2**	**24**	**98.4**	**2**	**4.0**	**407**	**1271.6**

Note: primary flake = dorsal surface wholly cortical
secondary flake = dorsal surface partly cortical
tertiary flake = dorsal surface wholly non-cortical

Table 4 Analysis of cores by platform class, dimension, weight and maximum flake scar length
Note: core platform classes follow Clark (1960)

maximum	*core plateform class*					
dimension in mm	*A1*	*A2*	*B2*	*B3*	*C*	*totals*
20–29.9	–	3	3	–	4	10
30–39.9	1	7	8	1	1	18
40–49.9	–	4	3	–	1	8
totals	**1**	**14**	**14**	**1**	**6**	**36**
weight in grams						
00–09.9	–	1	1	–	3	5
10–19.9	1	9	7	–	2	19
20–29.9	–	4	5	–	1	10
30–39.9	–	–	–	1	–	1
40–49.9	–	–	1	–	–	1
totals	**1**	**14**	**14**	**1**	**6**	**36**
maximum flake scar length in mm						
10–19.9	–	1	4	–	2	7
20–29.9	1	10	8	1	4	24
30–39.9	–	3	2	–	–	5
totals	**1**	**14**	**14**	**1**	**6**	**36**

Table 5 Lithic artefacts from context F1167
Weights are given in grams

type	*flint*		*Greensand chert*	
	no.	*wt.*	*no.*	*wt.*
unretouched flakes, complete	11	17.2	–	–
unretouched flakes, broken	8	14.8	5	5.6
unclassified burnt fragments	6	39.7	1	1.0
cores	2	38.9	–	–
core fragments	–	–	1	19.5
microlith	1	0.5	–	–
totals	**28**	**111.1**	**7**	**26.1**

Table 6 Lithic artefacts from context F779
Weights are given in grams

type	*flint*		*Greensand chert*	
	no.	*wt.*	*no.*	*wt.*
unretouched flakes, complete	8	38.2	1	4.3
unretouched flakes, broken	20	39.6	–	–
unclassified burnt fragments	2	2.3	–	–
flaked lump	1	17.1	–	–
edge-trimmed flakes	2	2.0	–	–
microlith	1	0.5	–	–
microburin	1	0.6	–	–
scrapers	2	7.2	–	–
piercer	1	3.6	–	–
miscellaneous retouched pieces	1	9.3	1	15.5
totals	**39**	**120.4**	**2**	**19.8**

very small numbers) in potentially contemporary contexts. Nor does there appear to have been any significant clustering of the lithic finds in any one part of the excavated area. As an indication of this situation the contexts of the most diagnostically Mesolithic pieces — the 18 microliths and ten microburins — are as follows:

Microliths: F582; 616; 718; 779; 803; 905 (×2 exx.); 919; 926; 983; 1006; 1143; 1166; 1220; 1260; 1434; 1482; and 1 unstratified.
Microburins: F616; 779; 813 (×2); 875; 908; 984; 993; 1006; 1010.

There was one feature, a pit or posthole (F1167; Fig. 25), which the excavator regarded as definitely prehistoric, so the contents were analyzed separately (Table 5). This group contains nothing definitely post-Mesolithic in character, but nevertheless has a mixed appearance. There are no conjoining pieces and there is a considerable variety of surface discolouration among the flints. Context F779 was also examined, because it was the most artefactually prolific of the scoops or posthole-bases recorded in the surface of the 'natural' (Table 6). Again, there are no conjoins, though it is thought probable that one of the flakes came from the same nodule as the flaked lump. Despite all artefacts being acceptable as Mesolithic, there is again a wide variety of surface discolouration, and it is hard to believe that the artefacts from either

F779 or F1167 could represent a single-phase deposit of contemporary material. A further context group (F1162) was studied because it contained 57 artefacts, including two Mesolithic bladelet cores and a series of seven similar bladelets. No conjoins were found, though the raw material type of the blades and cores is very close, and they have the same surface discolouration. Other surface discolourations are present from this context, however, and again it was concluded that this was not a deposit of single-phase material.

Typology

This section is limited to discussion of the main implement categories, with particular reference to the pieces illustrated in Fig. 509, and listed in the appendix.

Microliths and microburins

Few of the microliths are complete and classifiable as standard types, but obviously recognizable are an obliquely blunted point (2), a double-edge-blunted needle point (8), and geometric crescentic (9) and scalene triangular (10) forms. Nos. 3–6 are blunted on the left-hand edge, with or without ancillary trimming, while no. 7 is a medial blade segment with an upper oblique truncation. No. 1 stands out because of its size (maximum thickness 5.5 mm) and surface colour (dense ochreous cream). It is not clear if it is a proximal or distal segment, but there is a distinct possibility that this could be a fragment of a late Upper Palaeolithic blunted-back point rather than a microlith. All ten microburins are illustrated to show the range of blanks involved. They can be subdivided into butt types, notched on the left-hand (12–17), or right-hand (11) side, and tip types, notched on the left (19, 20) or right (18). The only other microlith-related form in the collection is the distal segment of a thin blade (21), with blunting retouch down the right-hand edge.

Blades and edge-trimmed forms

The complete flakes were not measured so no accurate division can be made between flakes and blades but, subjectively, the débitage had a predominantly 'bladeish' character. Two unretouched flakes (22, 23) of Greensand chert are illustrated to show something of the technology employed in this material. Although no microliths of Greensand chert were present it seems probable that they were an intended end-product of working the Greensand chert on site. The edge-trimmed flint blade (24) has shoulder-like blunting at the base of the right edge, and oblique blunting on the right at the distal tip. This piece is of completely undiscoloured grey flint. Many of the other edge-trimmed pieces in the collection are on amorphous flake blanks, representing the *ad hoc* usage of any flake with a convenient working edge.

Scrapers

The 16 implements with convex-retouched edges of scraper type could be subdivided approximately into the following scraper classes: end (7); double-end (1); extended end (1); end-and-side (2); side (4); and unclassified 'button' type (1). At least seven of them are readily classifiable as Mesolithic types, including the two illustrated scrapers (25, 26), even though one of these (26) has a more shallow scraping edge than is usual on Mesolithic examples. The miscellaneous retouched category probably includes numerous scrapers which are too damaged to classify as such.

Piercers

The piercers are mostly *ad hoc* forms capitalizing on naturally pointed flakes and do not include any extensively retouched examples which might be typologically datable.

Other retouched forms

The splintered flake (cat. no. 70; F419/1) has what are probably use-induced removals across the distal ventral face of a squat blank, and could be simply a damaged end scraper. The possible burin (cat. no. 78; F472/11) is a chunky flake with two substantial, parallel spalls removed from a broad (12 mm) edge. As is often the case, it is difficult to decide whether this is simply an irregular core with unusual platform-edge preparation or an intentional burin. In this instance the nature of the facet-edge removals suggest use in a burin-like fashion even if the piece is a *burin de fortune*. The barbed-and-tanged arrowhead (27) is a small, slightly lop-sided form with complete bifacial flaking. It can be classified as a common Sutton b type (Green 1984), which has a currency from 2500–1500 cal. B.C. The gunflint (28), obviously of seventeenth-century A.D. or later date, is the only post-prehistoric item in this flaked lithic collection.

Discussion

The interest and importance of the present collection lies in its demonstration of a clear Mesolithic presence at Wells. The Mesolithic material may not, strictly speaking, be *in situ* in contemporary contexts, but it has not moved far and must point to a local encampment (or more probably a series of encampments). Hunter-gatherers were probably attracted by the water source, and stopped over at least long enough to re-equip themselves with new lithic tools from a supply of raw material that they carried with them.

The fragmentary large backed piece (1) raises the possibility of late Upper Palaeolithic activity, but on its own cannot substantiate this. However, it is worth pointing out the general similarity with Upper Palaeolithic backed forms from the Mendip caves

Fig. 509 Flint and chert artefacts. Scale 1:1. Drawn by Alan Saville

(Campbell 1977, figs. 116–29) and recalling Jacobi's comments (1986, 76) about the Gough's Cave assemblage and the frequency of transverse breakage among the backed pieces.

The remaining microburin types point to a later Mesolithic phase, that is seventh millennium B.C. or later, and this dating probably applies to most of the collection. Given the chance circumstances of discovery while investigating a site of later date, the relatively small area excavated, and the lack of sieving, the collection can be considered quite a substantial one, pointing to some intensity and, or, longevity of occupation. At a guess, there is probably a palimpsest effect, created by small groups returning to the same spot over long periods which could stretch to millennia.

The evidence for Mesolithic archaeology in Somerset has been reviewed by Norman (1982). This collection from Wells adds another findspot to the later Mesolithic distribution and is of some interest in confirming the occupation of the surrounding lowland as well as the slopes and interior of Mendip.

The presence of the single Bronze Age barbed-and-tanged arrowhead (like the post-medieval gunflint) could have any number of explanations, but in the absence of other cultural material of this period a casual loss is much more likely than any funerary or settlement activity.

Appendix: Catalogue and concordance of the artefacts illustrated in Fig. 509

All artefacts are flint unless otherwise specified.

	Description	*archive cat. no.*	*site context no. (F)*
1.	Microlith/backed point, fragment, ancient break	1018	983
2.	Microlith, obliquely blunted point	428	919
3.	Microlith, fragmentary	431	905
4.	Microlith, edge-blunted	1147	1220/1
5.	Microlith, fragmentary	1689	779
6.	Microlith, fragmentary	1773	1260/1
7.	Microlith, obliquely truncated	820	1143
8.	Microlith, needle point	593	–
9.	Microlith, geometric crescentic	1774	718/1
10.	Microlith, geometric scalene triangle	430	905
11.	Microburin, butt type	1515	616
12.	Microburin, butt type	222	813
13.	Microburin, butt type	1739	984
14.	Microburin, butt type	223	813
15.	Microburin, butt type	1753	1006
16.	Microburin, butt type	1716	1010
17.	Microburin, butt type	1016	993
18.	Microburin, tip type	1748	908
19.	Microburin, tip type	1690	779
20.	Microburin, tip type	427	875
21.	Blunted-edge blade, fragmentary	55	391/3
22.	Unretouched tertiary blade, Greensand chert	1401	547/9
23.	Unretouched tertiary blade, Greensand chert	79	779/5
24.	Edge-trimmed blade, with blunting retouch at top RHS and basal RHS	1146	1200
25.	Scraper, end (proximal)	1686	779/2
26.	Scraper, end (distal), heat damaged	1694	779/2
27.	Barbed-and-tanged arrowhead	1696	218(?)
28.	Gunflint	1398	318/1

Coins, jettons and tokens

by Marion M. Archibald

Altogether, twenty-one coins, jettons and tokens were found in the Camery during the excavations of 1978–80. No specific records survive concerning previous discoveries of coins in the immediate vicinity of the cathedral, apart from the alleged finding of a Roman coin in the garden of Wells Museum, on the north side of Cathedral Green (p. 14).

Grain weights are given for English medieval coins; the metal identification is from sight only, not analysis.

★ — small rosette (see jettons and tokens)

Coins

1. *Sceat*, Anglo-Saxon copy of 'Woden/monster' type (Series X, BMC 31), *c.* 720–30. Fig. 510.
   Obv.: Facing moustached bust, ears shown.
   Rev.: Beast to right, head turned back, X above, pellets in field.
   Wt.: 1.10 g (16.9 gr)
   Die axis: 90°
   Metal: base silver
   Prov.: Grave fill F967 (burial B140)

Although this specimen has the basic designs of the Continental 'Woden/monster' coins, it is not in their characteristic and consistent style. It is in lower relief,

Fig. 510 Anglo-Saxon sceat, obverse and reverse. Scale 2:1 (Gordon Kelsey)

drawn in firmer lines, has 'ears' instead of crosses by the head, and has three-pellet detail on the bust. The reverse beast is similarly in a finer style. These characteristics are indicative of an Anglo-Saxon rather than a Continental origin. Although the dies of this piece cannot be matched exactly, there have been recorded quite a number of such insular pieces, sometimes muled with Anglo-Saxon *sceatta* designs. The English origin is supported by the coin's small size, light weight and visibly base metal. Where these copies were made is not known.

Few *sceattas* have been found in western Wessex. Only three from Somerset (Portishead, Glastonbury and Ilchester) were recorded by Hill and Metcalf (1984).

2. Penny of Anlaf Sihtricsson, King of the Viking Kingdom of York; struck at York, 941–44. Fig. 511.
   Obv.: +ANLAF CVNVNC (inverted A for both Vs). Small cross in centre with a pellet in each angle, all within inner circle.
   Rev.: +R•ADVLF MONET (inverted A for V). Small cross within inner circle.
   Wt.: 1.25 g (19.3 gr), slightly bent, but no test-marks.
   Die-axis: 0°
   Metal: silver
   Ref.: Group VI (q) this coin (not illustrated) in Blunt *et al.* 1989, 231.
   Prov.: F1493, fill of mausoleum (Structure 1)

The coin is fresh and unworn and was probably deposited within a short time of its issue. The bending, which was probably deliberate rather than accidental, had, most likely, been done to test that it was made of good silver before it left Viking territory, but it could have been carried out by an Anglo-Saxon recipient who recognized it as not being an issue of his own kingdom and wished to be reassured of its fineness.

Wells is the most southerly findspot in England for coins of the Hiberno-Norse kings of York. The other British findspots are virtually all in Viking-held areas of the north and east, in the Scottish isles and in Ireland; the finds in Anglo-Saxon Chester are explained by its location and close relations with the Viking area.

At first sight, therefore, it would appear that this coin had reached inland Wells via a coastal route from the Viking world to the north. But the lack of findspots in the heartlands of Anglo-Saxon England may be partly the result of the absence of large hoards of the relevant period from those areas. Two of the large hoards found in Rome dating from the mid-tenth century — Rome, Forum, deposited *c.* 945 (found 1883), and Rome (location unknown) deposited after 946 (found 1846) — both included coins of the Hiberno-Norse kings of York. These finds were, apart from a few strays, entirely of Anglo-Saxon coins, and have been very plausibly associated with the payment of Peter's Pence. They certainly represent the contemporary currency of Anglo-Saxon England and show that York issues had infiltrated the circulating medium in small numbers. The circle could, however, be completed if these coins had themselves been part of Peter's Pence collected in Viking-adjacent areas. On balance, therefore, it seems more likely that the Wells coin had come directly from the Viking world, although an over-land route from the east cannot be ruled out. Numismatically, the Wells coin is interesting in providing obverse and reverse dies not previously recorded, underlining evidence that these York issues

Fig. 511 Penny of Anlaf Sihtricsson, king of the Viking Kingdom of York, struck 941–44, obverse and reverse. Scale 2:1

were probably on a larger scale than the few surviving examples would suggest. There are only two other coins known of the cross *pattée* (type VI) group for Anlaf. The present is closest to the Copenhagen specimen (Galster 1964, 639) which also has the *gamma*-like letter after MONETA, while the Rome, Forum, hoard specimen (Blunt *et al.* 1989, pl. 27, 12) has an R. The type with pellets in the angles of the obverse cross was not previously recorded.

3. Small silver coin
   Wt.: 1.10 g
   Prov.: Grave fill F665; possibly derived from grave F975

This coin is heavily corroded, one side in particular encrusted with soil and corrosion products. The edges show that the corrosion has penetrated deeply into the coin and is bursting it apart. In these circumstances it seemed that removing the material adhering could result in the coin disintegrating, so no further cleaning was attempted. It is, however, possible to go a considerable way to identifying the coin. It is now *c.* 20–21 mm in diameter, and may have lost a little at the edges. A small cross *pattée* within an inner circle is just visible on the exposed side. This is surrounded by an inscription but virtually nothing of it is securely legible, possibly a D. The size and design make it certain that this is a tenth-century Anglo-Saxon penny struck before the reform of *c.* 973. The exposed side is most probably the obverse, with the king's name and title, but a circumscription type is sometimes also used for the reverse.

The plentiful green corrosion products show that the coin is of base silver. The silver of the coinage became decidedly baser early in the reign of Edgar and, therefore, while an earlier date in the century cannot be entirely ruled out, it is most likely that the coin is of that reign, produced between *c.* 959 and *c.* 973. The *terminus ante quem* is a firm one as the recoinage of *c.* 973 was comprehensive, so this coin must have been deposited before that date.

4. Cut farthing of 'William I', Paxs type (BMC VIII), uncertain mint, moneyer AElf[ ], struck in the 1080s.
   Obv.: [+]PILLI[=LM REX]
   Top left-hand side of crowned bust facing.
   Rev.: +IELI[ ]
   Wt.: 0.33 g (5.1 gr)
   Prov.: Brown earth F716
   Ref.: North 1994, type 848

There are many moneyers in this prolific type with names beginning AELF, or AEL. Those in the British Museum have been checked without success in matching the die. The PAXS type is traditionally identified as the last type of William I, but some students (including the writer) would prefer to see it as the first type of William II. It was most probably lost before *c.* 1090.

5. Cut halfpenny, Henry III, Long Cross coinage, Class IIIb, London mint, moneyer uncertain, *c.* 1250.
   Obv.: *h[ENRICVS R]EX • III
   Rev.: [ ]/ONL*VND*
   Wt.: 0.69 g (10.6 gr)
   Metal: silver
   Prov.: F447

This coin is, as so often, a 'small half' weighing less than half a full penny. It shows some wear and could have been deposited at any time until the Long Cross was superseded by the Sterling issue in 1279, say *c.* 1260–79.

6. Penny of Henry V, class G, York archiepiscopal mint, local dies, *c.* 1420.
   Obv.: [+hENRIC REXA]GLIE ZF (appears as GLLIE as a result of double-striking).
   Crowned bust facing to left of crown; mark (lis) to right of crown is illegible here.
   Rev.: Parts of CIVI/TAS/EBO/RACI legend visible.
   Long cross with quatrefoil in centre, three pellets in each quarter, annulet in fourth numismatic quarter.
   Wt.: 0.74 g
   Metal: silver
   Ref.: North 1960, **2**, 1404.
   Prov.: F432; probably from demolition layer F1477

This coin is very worn, and is likely to have been deposited *c.* 1500.

Jettons

7. English sterling jetton of the period of Edward I, Fox type IV, *c.* 1280–85.
   Obv.: Alternate Is and mullets in place of legend.
   Crowned bust facing with crown of Fox type IV, but more elaborate draped shoulder not found on coins; a rosette in the field at each side of the neck.
   Rev.: Alternate large pellets and mullets in place of legend.
   Cross moline with a mullet in each angle, a pellet over it, all within inner circle. Usual depression in centre.
   Wt.: 1.58 g
   Diameter: 22 mm
   Metal: brass
   Prov.: F632, soil spread

This specimen is technically interesting in showing the method of manufacture. At one side is a curved 'bite' out of the edge, of the same diameter as the jetton itself, showing that such jettons were cut out after striking with a ring-punch. At the nearly opposite edge the jetton is straight, marking the edge of the metal (a ribbon strip?) on which it was stamped. This shows that although the dies for the jettons at this time used some of the same official irons as the regal silver pennies, their method of production was different.

8. English sterling jetton of the period of Edward II, Fox type XI, *c.* 1310.
   Obv.: Large pellets in place of legend.
   Crowned lion's head facing; characteristic broken pearl of crown of Fox type XI. Usual depression in centre.
   Rev.: Long cross moline extending to outer circle, with a quatrefoil with a cross towards the outer edge in each quarter.
   Wt.: 0.84 g
   Diameter: 19 mm
   Metal: brass
   Prov.: F547, layer of red-brown clayey loam

9. English sterling jetton of the period of Edward II, *c.* 1320.
   Obv.: Large pellets in place of legend.
   Crowned facing bust, details illegible. Pierced from this side.
   Rev.: Long cross fleury extending to outer circle, no inner circle but a cross in each inner angle and a single rosette over it towards the outer circle.
   Wt.: 0.83 g
   Diameter: 19 mm
   Metal: brass
   Prov.: F632, soil spread

10. English sterling jetton of the period of Edward II, Fox type XIV, *c.* 1320–25.
    Obv.: Large pellets in place of legend.
    Crowned bust, crown with three pellets in place of usual fleurs.
    Rev.: In place of legend, pairs of stars interrupted by long cross fleury extending to outer circle with a saltire in each angle within the inner circle. Usual depression in centre.
    Wt.: 0.95 g
    Diameter: 19 mm
    Metal: brass
    Prov.: F547, layer of red-brown clayey loam

The crown punch used to prepare the die used for this jetton was clearly weak and defective, so the die-maker had punched in a pellet on the die over the three weak fleurs.

11. English sterling jetton, double reverse type, *c.* 1320–25.
    Obv.: More widely spaced large pellets in place of legend.
    Eight-petalled ornament within two concentric inner circles. Usual depression in centre.
    Rev.: Closely spaced large pellets in place of legend.
    Cross moline with a pellet in each angle within inner circle.
    Wt.: 1.13 g
    Diameter: 19 mm
    Metal: brass
    Prov.: F474

12. English sterling jetton, type as silver pence of Edward II, Fox type XIV, *c.* 1320–25.
    Obv.: Large pellets in place of legend.
    Facing crowned bust from the irons of pence of Fox type XIV, within inner circle. Usual depression in centre.
    Rev.: Large pellets in place of legend.
    Cross moline with a pellet in each angle and also in each of the two lobes at each cross-end, all within inner circle.
    Wt.: 1.21 g
    Diameter: 19 mm
    Metal: brass
    Prov.: F472, construction trench for Structure 15

13. English sterling jetton, type as silver pence of Edward II, Fox type XIV, *c.* 1320–25.
    Obv.: Large pellets in place of legend.
    Facing crowned bust from the irons of Fox type XIV, within inner circle. Usual depression in centre.
    Rev.: Pellets in place of legend, interrupted by ends of long cross *pattée* breaking inner circle with a pheon pointing inwards in each angle.
    Wt.: 1.81 g
    Diameter: 19 mm
    Metal: brass
    Prov.: F503, brown loam

14. English sterling jetton of the period of Edward II, Fox type XIV, *c.* 1320–25.
    Obv.: Large pellets in place of legend.
    Crowned bust facing, bust worn. Pierced from this side.
    Rev.: Large pellets in place of legend.
    Cross fleury within inner circle. Details in angles uncertain.
    Wt.: 1.28 g (some accretions)
    Diameter: 18 mm
    Metal: brass
    Prov.: F667, soakaway pit

15. Nuremberg jetton, Hans Schultes II, *fl.* 1586–1603.
    Obv.: ★ HANS SCHVLTE[S IN NVRN]B
    Reichsapfel in trilobe.
    Rev.: ★ HANS S[
    Three crowns and three fleurs-de-lys alternately around a rosette.
    Wt.: 1.48 g (corroded)
    Diameter: *c.* 24 mm
    Metal: brass
    Ref.: Mitchiner 1988, **1**, *cf.* 1388.
    Prov.: F15/F394, brown loam

16. Nuremberg jetton, Hans Schultes III, *fl.* 1608–12.
    Obv.: ★ HANS SCH[
    Reichsapfel in trilobe.
    Rev.: ★ GLICK KVMPT VON GOT IS [T W]AR
    Three crowns and fleur-de-lys alternately around a rosette.
    Wt.: 2.14 g (corroded)
    Diameter: *c.* 24 mm
    Metal: brass
    Ref.: Mitchiner 1988, **1**, 1403–5.
    Prov.: F14/F394, brown loam

17. Fragment of a Nuremberg jetton, maker's name illegible, late sixteenth to early seventeenth century.
    Obv.: Legend illegible, about half chipped away.
    Reichsapfel in trilobe.
    Rev.: Heavily corroded.

Wt.: 1.04 g (corroded fragment)
Diameter: *c.* 22 mm
Metal: brass
Prov.: F14, rubble layer

18. Nuremberg jetton, maker's name illegible, late sixteenth to early seventeenth century. Pink mortar adhering.
Obv.: Illegible.
Reichsapfel in trilobe.
Rev.: Illegible.
Three crowns and three fleurs-de-lys around rosette.
Wt.: 1.40 g (corroded)
Diameter: *c.* 26 mm
Metal: brass
Prov.: F437, sub-floor layer

19. Nuremberg jetton, late sixteenth to early seventeenth century.
This piece is chipped and very corroded; some earth still adhering to it. It is possibly the common Reichsapfel in trilobe type, but little is visible. If this piece were cleaned further it would be likely to disintegrate.
Wt.: 5.60 g (accretions)
Diameter: originally *c.* 22 mm
Metal: brass
Prov.: F888, fill over drain

Tokens

20. Farthing token, William Coricke of Taunton, Somerset, 1657.
Obv.: ★ WILLIAM CORICKE
Shuttle within inner circle.
Rev.: ★ IN TAVNTON:1657
C between two rosettes above WT.
Wt.: 0.75 g
Metal: brass
Ref.: Williamson 1891, **2**, 988, Somerset no. 244.
Prov.: F405, sub-floor layer

This is a token from the same county as the findspot, illustrating the rule that these pieces generally circulated within a relatively short distance of their place of issue.

21. Lead token (holed), sixteenth or seventeenth century.
Obv.: Uncertain motif with V to left and T to right, within pelleted circle.
Rev.: ?cross of thick lines over a cross of thin lines within irregular circle of annulets punched on flan.
Wt.: 2.28 g
Diameter: 21 mm
Metal: lead alloy
Prov.: F525, brown loam

Very little is visible on this piece, but its fabric suggests that it is not medieval, but sixteenth or seventeenth century.

Objects of copper alloy

Dress items (Fig. 512)

1. Annular brooch, complete. Cast ring of ovoid section, 4.4 cm in diameter. Cast pin with lattice decoration subsequently incised.
F359, make-up layer beneath the nave floor of Stillington's chapel; deposited in the late fifteenth century, but presumably derived from foundation trenching, and hence potentially from a destroyed grave in the earlier Lady Chapel.

2. Annular brooch, complete. Cast ring of ovoid section, 4.6 cm in diameter. Cast pin with simple ribbed decoration subsequently incised.
Found in the nineteenth century, apparently during grave digging in the cloister. Cathedral Library collection.

3. Finger-ring, made from a strip of sheet metal, tapering slightly towards the terminals. The external face is decorated with an engraved zigzag line, which stops a little short of the terminals. The internal face carries a faint but regular series of separate, obliquely scored lines.
Found in grave F459, containing burial 19, but not worn on the fingers of the skeleton. This was the grave of an adult male in the nave of Stillington's chapel (p. 234); late fifteenth or early sixteenth century.

4. Plain finger-ring, without a visible join. Evidently made by cutting off a short length of tubing.
From F149, the foundation trench for the south transept of Stillington's chapel, and therefore earlier than 1477.

5. Part of a finger-ring with a stone setting. Sub-rectangular mount, gilded externally and evidently intended to hold a semi-precious stone. The mount is of composite construction, and was made from five pieces of copper alloy. These comprised:
(i) Backplate.
(ii) Mount to hold the stone.
(iii) Circular wire edging with cabled decoration, covering and reinforcing the soldered joint between the backplate and mount.
(iv) Hoop to encircle the wearer's finger. The hoop, which was rivetted to the backplate, is missing. Only the broken stump in one of the two rivet holes remains.
(v) Reinforcing plate beneath the rivet heads. This plate was concealed by the stone.
Area 3, F148, medieval buried-soil horizon.

6. Garter hook. Made from a thin piece of sheet metal, curled to form the hook. The margin of the outer face is engraved with a simple zigzag line; two small fixing holes have been punched through from this side.
Area 5, F617, medieval layer.

7. Lace end. Plain, 3.0 cm long, wrapped from thin sheet. From F471, the foundation trench for the north transept stair-turret of Stillington's chapel; hence pre-1477.

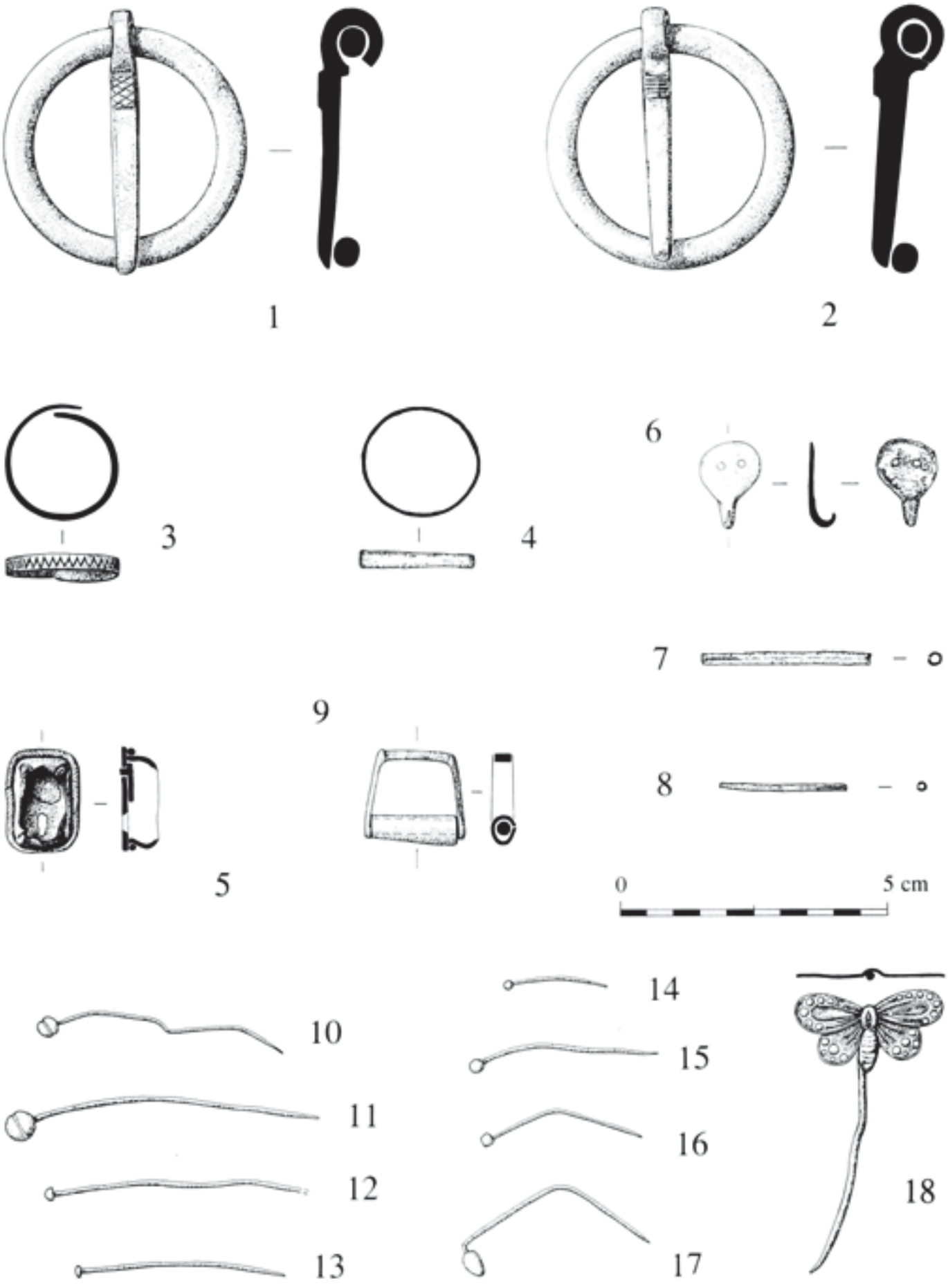


Fig. 512 Copper-alloy objects, 1–18. Scale 1:1. Drawn by Richard Bryant

8. Lace end. Plain, 2.4 cm long.
Area 7, posthole F479.

9. Buckle with loose sleeve.
Area 11, F1260, soil spread; post-medieval.

Pins

10. Spherical head, slightly flattened, made in two halves and joined to shank. The joint between the two parts of the head slightly open. Length 4.9 cm.
Area 7, F547, soil spread. Found with two early fourteenth-century jettons (p. 519, nos. 8 and 10).

11. Spherical head, slightly flattened, made in two halves and joined to shank. Length 5.9 cm.
Area 7, F710, early medieval robber trench.

12. Domical head, possibly applied to shank. Blunt point, may be broken. Length 4.8 cm.
Area 7, F547; found with pin no. 10.

13. Head formed by wire coiled around shank. Length 4.0 cm.
Area 9, F1182, medieval buried soil (pre-1477).

14. Spherical head, as 13. Length 2.1 cm.
Area 7, F503; found with early fourteenth-century jetton (p. 519, no. 13).

15. Spherical head, apparently made as one with the shank. Length 3.6 cm.
Area 1, F113, post-medieval layer.

16. Cylindrical head formed with coiled wire around shank. Length 3.2 cm.
Area 11, F1192, construction trench of Stillington's chapel (pre-1477).

17. Pineapple-shaped head of silver. Length 4.8 cm.
Area 6, F808, robber trench of Structure 8 (pre-1180).

18. Brass tie-pin with butterfly head. Victorian.
Topsoil.

Fittings (Fig. 513)

19. Zoomorphic terminal. A beast-head with prominent eyes and a large jaw. Crude chip-carving on the body probably represents hair. The piece was evidently cast in a two-piece mould, and a trace of the casting flash remains around the median edge; the back is rough, where the animal has been broken from the parent object. Too little survives to be certain of the form of the object. It is likely to be a mount (*e.g.* from an escutcheon), of early post-Roman date. Alternatively, it could possibly be one of a pair of heads from a late Roman zoomorphic belt buckle of type 1B (Hawkes and Dunning 1961, 45–9).
Area 1, F254, buried-soil horizon. This comes from an area where Romano-British material was relatively prolific in the buried soil.

20. Hooked book clasp, broken. Made from two sheets of metal rivetted together, with the remains of leather sandwiched between them. The outer plate, which is hooked at one end and scalloped at the other, is decorated with punched concentric circles and engraved lines forming zigzag and basket patterns (largely obscured by corrosion products, partly the result of having been burnt). A common late medieval type of book clasp (*cf.* examples from St Frideswide's, Oxford1).
Area 1, F85, post-medieval pit containing burnt material.

21. Book clasp. Made from two thin pieces of sheet metal, hooked at one end. Held together by the looped fastening eye which passes through a slot in both plates before having its ends clenched. The upper plate, which is decorated with zigzag engraving, also has two rivet holes. Late medieval.
Area 7, F517, cemetery layer (pre-1500).

22. Book clasp. Made from two thin, undecorated pieces of sheet metal, the outer hooked at one end. A fastening eye is rivetted through both plates, holding them together. Late medieval.
F359, make-up layer inside the nave of Stillington's chapel (pre-1477).

23. Stud head. Circular, double-domed, the inner being scalloped. The pin is missing. Medieval.
Area 1, F160, late medieval soil layer.

24. Thin plate, perhaps part of a mount for leather or timber, decorated *en repoussé*. This appears to represent an intersection in a strapwork grid, overlaid by an equal-armed cruciform mount with knobbed ends and a beaded knob at the centre.
Area 7, F750, early medieval builders' trample layer.

25. Rectangular loop, with broken attachment to one edge.
Area 11, F1260, late medieval soil spread.

26. Cast rectangular loop with the remains of a swivelling rivet through the centre of one long side; a thin piece of sheet is attached to the rivet. Possibly part of a clasp.
F359: see no. 1, above.

27. Sheet, decorated with narrow bands of zigzag engraving. The arrangement suggests that the plate was triangular, or diamond-shaped, with engraved borders parallel to the edges, and a crudely cusped feature within.
Area 7, F547; found with early fourteenth-century jettons (see nos. 10 and 12, above).

Objects of lead and pewter

Lead

The principal finds of lead objects related to structural plumbing: roofing clips, window ventilators, glazing cames, and a length of medieval water-pipe. These are discussed on pp. 483–4.

Other finds included several small cast rings, and some lengths of small-bore piping which were relics of the Victorian gas lighting of the cathedral, installed in the early 1870s.

Pewter

28. Candle snuffer. Bell-shaped snuffer with ribbed mouth. The knop-like feature at the top is the remains of the casting sprue. The handle is circular in cross-section, and hollow; the means of attachment is uncertain (soldered?). The snuffer has been squashed and is now oval in section, but the mouth must originally have been *c.* 22 mm in diameter. Severely corroded. A Z-shaped graffito has been lightly scratched twice on the bowl, on opposing sides. This is presumably an ownership mark (Fig. 513). Area 1, F49, post-medieval pit containing boiler ash.

Mortuary vessels from coffins

During the eighteenth and nineteenth centuries, several stone coffins furnished with chalices and patens were exhumed, allegedly in the cloister, although details relating to these discoveries were not recorded. Three of the coffins with chalice niches are displayed in the cloister (Figs. 495 and 496). Some of the accompanying metalwork, comprising four chalices and three patens, is preserved in the cathedral library.

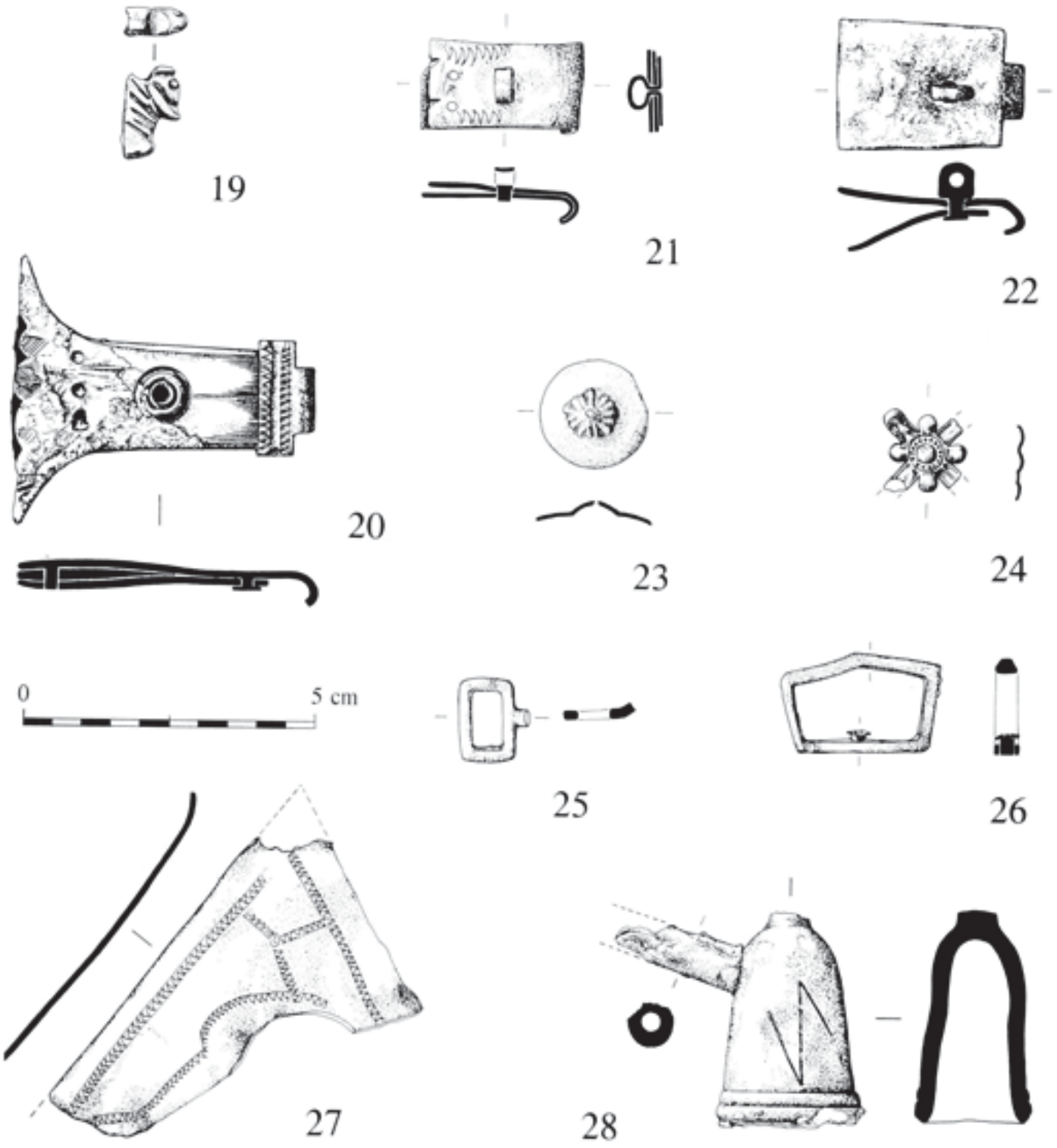


Fig. 513 Copper-alloy objects, 19–27. Pewter object, 28. Scale 1:1. Drawn by Richard Bryant

Associations between the various objects had been lost but, by studying the configuration of the corrosion products on the vessels, the three patens have now been reunited with their respective chalices. Moreover, in one instance — and less certainly in another — it has been possible to reconstruct from contemporary documentation which vessels were associated with which coffin. The chalice and paten, nos. 5 and 6, were apparently found in coffin 1 (p. 497), a record of the association being provided by Skinner's drawings of 1826.[2] A damaged chalice illustrated by Carlos in 1824 may be either no. 1 or perhaps no. 7.[3] He refers to this as having been found in the coffin associated with the decorated grave-cover, slab 3; and since that slab fits coffin 3, the origin of Carlos's chalice may be suggested. However, for technical reasons, explained below, chalice 1 cannot have come from the niche in coffin 3: so, either Carlos was mistaken in his attribution, or his illustration represents chalice 7, which could have come from coffin 3.

All the extant vessels are of heavy base-metal, presumably pewter, but chemical analyses have not been undertaken. Pewter was the usual material of medieval base-metal vessels (Oman 1957, 40, n. 1; Hatcher and Barker 1974, 25–30). The colour and surface texture of the solo chalice, no. 7, are markedly different from the others: its purplish-black hue hints at the likelihood of a high silver content.

Chalice and paten, 1 and 2 (Fig. 514)

Chalice 1 has a hollow stem and angular knop (the central moulding around the stem, more correctly known as a 'knot').[4] The junction between the stem and foot is flared, with no evidence of a physical joint, although there is a slight ridge internally. The basal ring of the foot is now in two pieces and is entirely detached from the flared upper part. The bowl, which has a rim diameter of 9.8 cm, has a very slight but distinct lip; lathe-turning lines can be clearly seen. The bowl sits upon the stem and is held in place by an irregular blob of solder which can be seen in the floor of the bowl. The solder has scarcely penetrated the hollow of the stem, which must have been packed with sand or clay at the time of soldering. No solder is visible on the exterior of the stem, which was presumably spigoted.

The paten, no. 2, is made from a spun disc, 11 cm in diameter and 1 mm thick. It has a convex base which will not stand level. The disc is plain on the under-surface, but the upper face carries two very

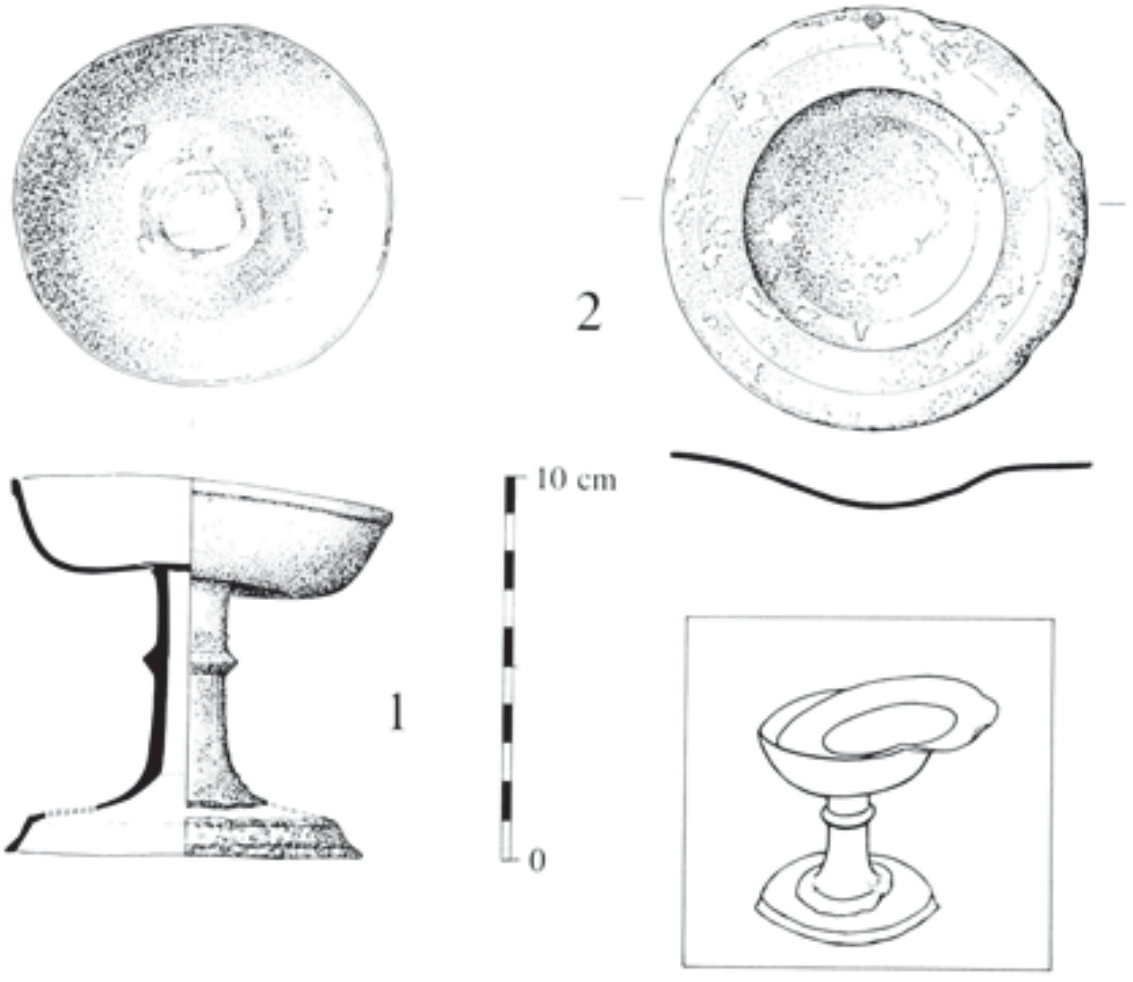


Fig. 514 Pewter mortuary chalice and paten, 1 and 2. Scale 1:2. Inset Reconstruction of the juxtapositions of the vessels in burial. Drawn by Richard Bryant

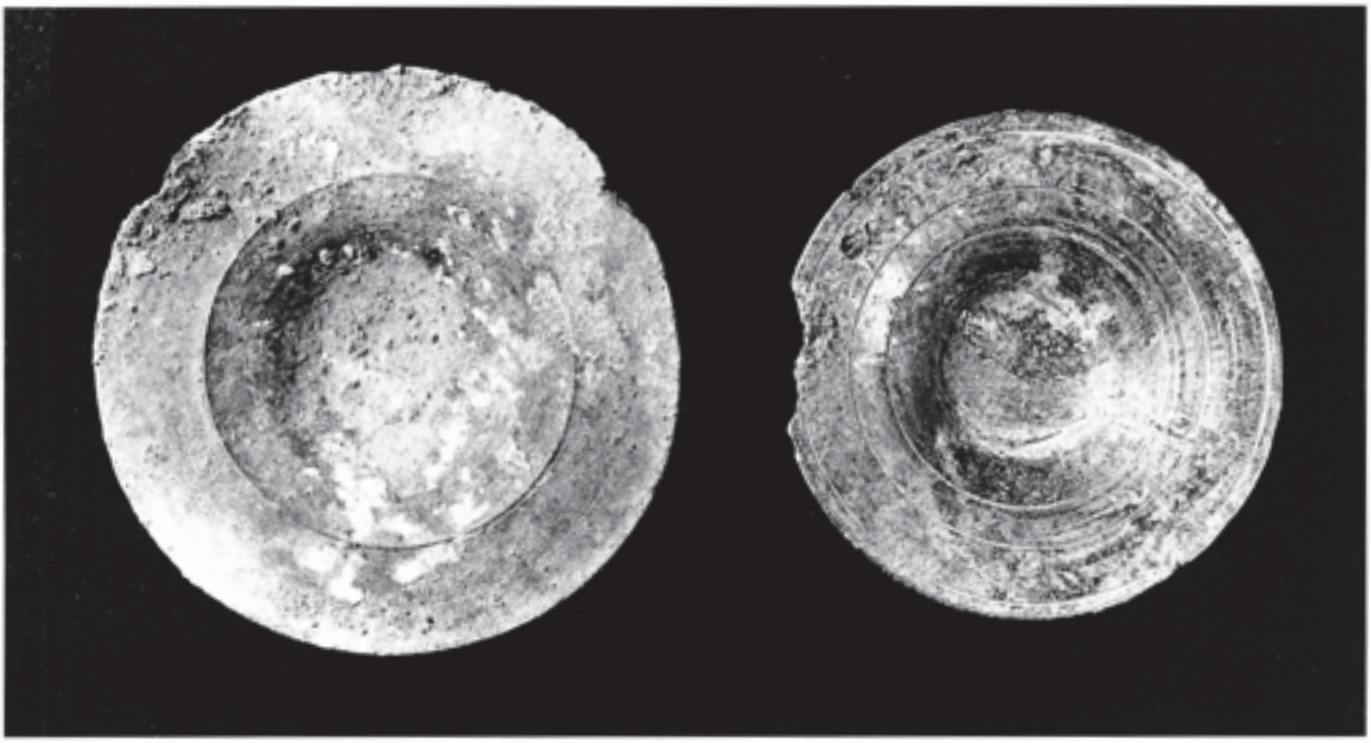


Fig. 515 Interior views of patens 2 (left) and 4 (right)

shallow concentric grooves (produced on a lathe), and between them a slightly raised ridge accompanied by a groove around its outer margin (Fig. 515). Within the innermost groove, the spinning lines give way to a facetted surface resulting from the use of a planishing hammer; externally the corresponding area is slightly lumpy, and the spinning lines almost eradicated. It is clear that the hollowed centre of the paten was produced by the technique of sinking, and not by spinning or raising.

There is a considerable lime encrustation on both the chalice and the paten, and a scar on one side of the former appears to be the result of direct contact with the mortar that secured the lid on the coffin. The precise resting position of the paten on the rim of the chalice is preserved as a lime shadow; it was well off-centre (Fig. 514, reconstruction). Both the paten and the bowl of the chalice are markedly distorted, and this occurred as a result of pressure from above. Clearly the chalice was slightly too tall for the recess in which it stood in the coffin, and when the stone cover was set in place it bore down upon the artefacts. The paten became displaced and distorted, the bowl of the chalice was likewise distorted, with the stem being forced up into it. The stem was also forced down into the foot, causing the basal ring to fracture and, in due course, to break away entirely. This could not have occurred if the vessels had been placed in coffin 3, on account of its deep niche; the dimensions indicate that almost certainly this pair of vessels accompanied coffin 2.

Small patches of lime mortar, associated with bedding the cover on the coffin, still adhere to the upper surface of the paten. Textile impressions survive in the mortar, demonstrating that the chalice and paten were wrapped in cloth before being placed in the coffin. The weave was moderately fine, with *c.* 25 threads per centimetre.

Chalice and paten, 3 and 4 (Fig. 516)

Chalice 3 has a hollow, cast stem with an angular knop. The bowl is cast and lathe-turned and has a slight inward curve at the lip; it is 8.7 cm in diameter. A large and plainly visible patch of solder in the floor of the bowl betrays the method of attachment to the stem (Fig. 517). The upper half of the hollow stem is filled with solder, and there are further 'runs' in the lower half. Only the uppermost part of the flared foot survives, and this too was soldered to the stem, the junction being marked both internally and externally. Lathe-turning of the joints at the upper and lower ends of the stem took place after soldering.

The paten, no. 4, which is 9.6 cm in diameter, has a flared profile and flattish base. The metal is less than 1 mm thick at the lip. There are three concentric, lathe-turned grooves on the upper surface (Fig. 515); the underside is plain. Fine turning lines on both faces, coupled with the slightly flared profile and diminishing wall thickness, indicate that the vessel was formed by spinning. There is a thin layer of solder covering the whole of the floor of the paten, the purpose of which was doubtless to disguise the fact that a fracture developed at the junction between the base and the wall during spinning. No such fracture can be seen externally on the base, but there is a small bead of solder here, which must have run through a hole.

Corrosion indicates that, when deposited, the paten lay on top of the bowl of the chalice. No suggestion can be made as to the provenance of this pair of vessels.

Chalice and paten, 5 and 6 (Fig. 516)

The hollow stem and flared foot of chalice 5 were cast in one piece and lathe-turned; there is a small basal moulding, but no knop to the stem. The bowl, which is not quite hemispherical in profile, is 9.1 cm in diameter. It was apparently cast, and has a small moulded lip; fine turning lines are visible externally everywhere on the bowl, but only on the upper part internally. In the floor of the bowl is a large and obtrusive patch of solder, resulting from the attachment to the stem (Fig. 517). A small solder-run on the outside of the stem, and another inside, demonstrates that lathe-turning did not take place after assembly (Fig. 518). The bowl did not sit tightly on the flange of the stem, with the result that the spigot can be glimpsed in the open joint. Turning lines are clearly seen on the underside of the foot, dying out just before reaching the mouth of the stem (Fig. 518).

The rim of the bowl is slightly distorted and angular in plan at one point. Here, on the internal surface, is a patch of diagonal striations, occupying *c.* 3 cm of the circumference. These striations are regularly spaced and have the appearance of knurling: they are impressed rather than incised. Both the markings and

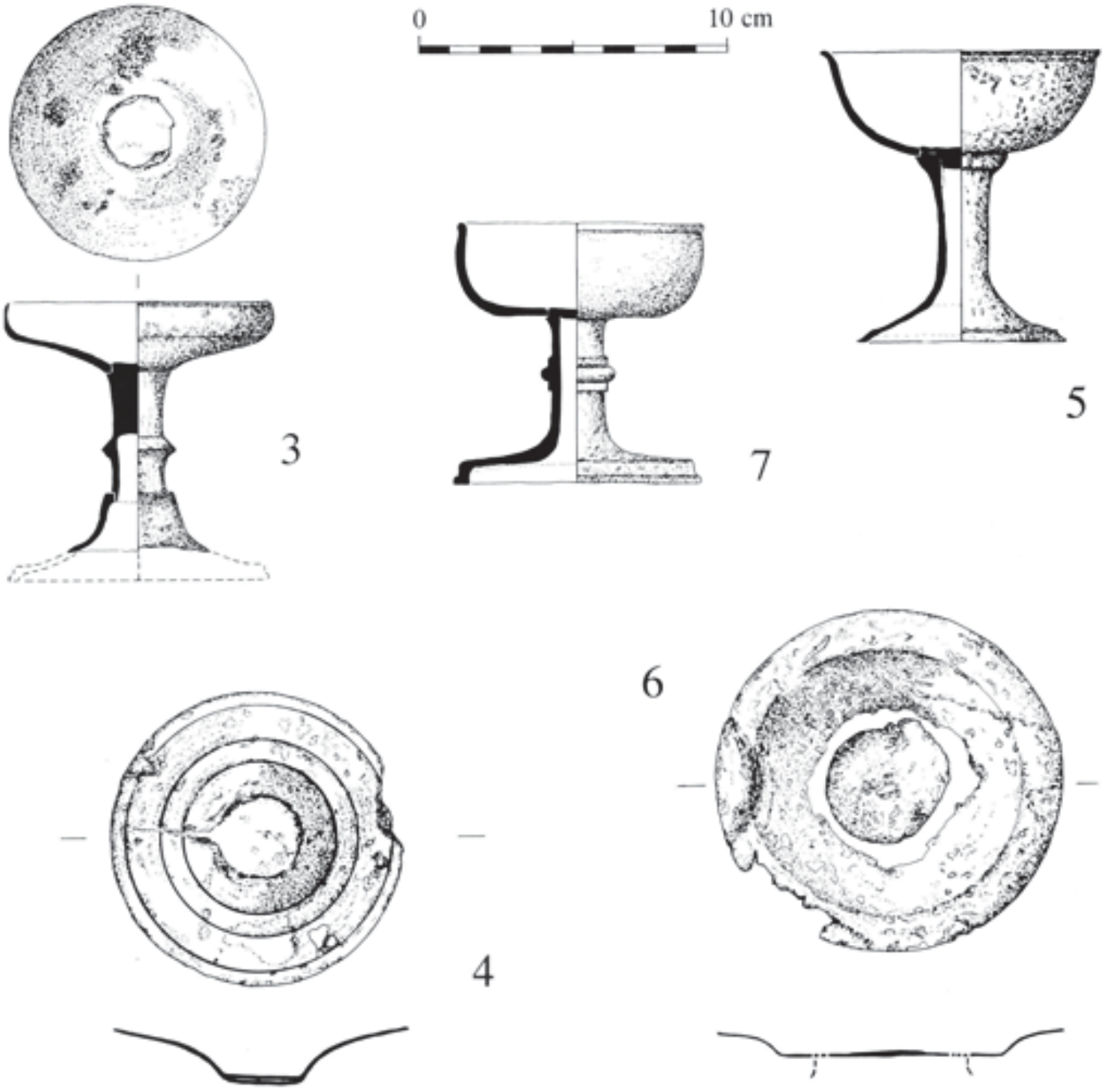


Fig. 516 Pewter mortuary chalices and patens, 3 to 7. Scale 1:2. Drawn by Christine Rodwell

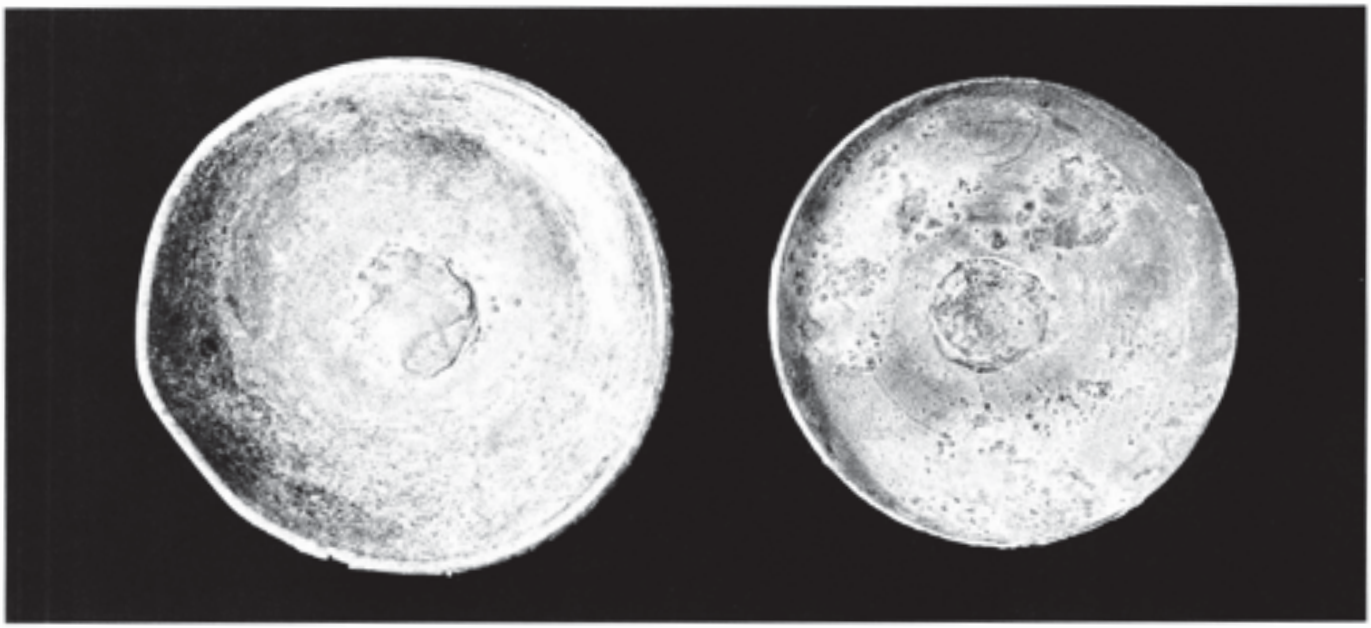


Fig. 517 Interior views of the bowls of chalices 5 (left) and 3 (right), showing solder plugs

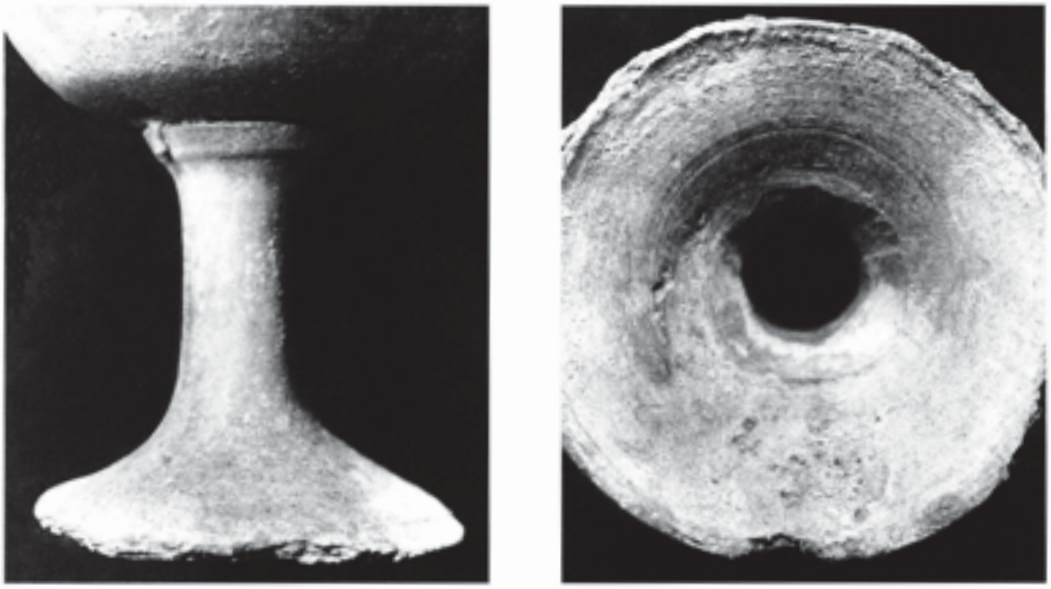


Fig. 518 Chalice 5. Left, details of stem, with solder-run. Right, underside of base, showing lathe-turning lines

the angular flattening of the rim would result from the bowl having been gripped by a pair of tongs or pliers with knurled jaws. The fact that a small area of corrosion has erupted through the knurled pattern indicates that the damage is not modern. It seems likely that the surface marks are the result of the bowl of the chalice having been gripped by tongs, in a ham-fisted manner, when it was being held over the stem while soldering took place. This provides an interesting sidelight on clumsy metalworking practice in the Middle Ages.

The paten, no. 6, is very shallow, with a broad flat base and flat rim 11.1 cm in diameter. The metal is extremely thin, varying between 0.5 mm and 1.0 mm in thickness. The vessel was formed from a flat disc, by spinning. The base has decayed in a curious fashion, and a roughly circular patch of metal has become detached from the centre; this is the result of a concentric pattern of metal decay, which must imply that either something stood on the paten or, more likely, that it had an applied footring which has been lost. That being so, it was a footed paten. The detached disc is somewhat thicker than the rest of the vessel, as the result of the application of a layer of solder: again, this was presumably to disguise damage incurred during the manufacture of the paten, and was perhaps also associated with the attachment of a footring.

The diameter of the paten is somewhat greater than that of the chalice. The two items are out of scale with one another, and almost certainly were not made as a pair. Nevertheless, surface corrosion indicates that the

Fig. 519 Chalice 7, showing erosion of the foot and bowl on the side upon which it evidently lay in the coffin

two were buried together and that the paten was placed concentrically on the rim of the chalice. An indentation in the paten's rim suggests that it may have been pinched between the wall of the coffin and the lid. Skinner's watercolour drawing of the chalice identifies it as having come from coffin no. 1 (p. 497).[5]

***Chalice** 7* (Fig. 516)

The hollow stem has a ringed and stepped knop, and appears to have been cast in one with the broad, flattish foot, which has a small basal lip-moulding. Lathe-turning lines are visible inside the foot. The bowl, 8.2 cm in diameter, has a rounded and slightly inward-curving lip. It is soldered to the stem and the joint has been neatly finished; the excess solder in the floor of the bowl was removed, probably by lathe-turning.

The chalice evidently lay on its side in the coffin: about one-third of the foot has rotted away, and the bowl on the same side is decayed and perforated (Fig. 519). It therefore seems likely that the coffin from which this object was recovered did not have a chalice-recess. There is no surviving paten to accompany this vessel. It may well have disintegrated.

Excavated vessels, 8–10

The 1979 excavation yielded the remains of two mortuary chalices and a paten, all in terminal stages of disintegration. One chalice, no. 8, occurred in a pit (F654), along with a reburied skeleton, in the nave of the Lady Chapel. The metal remains were too fugitive to enable any detail to be recorded (p. 192).

The other chalice, no. 9, had been placed within a specially prepared niche in the side of stone coffin F586 (Fig. 496, no. 4; p. 500) buried beneath the floor of the Lady Chapel-by-the-Cloister. Burial conditions were unfavourable to preservation, and the chalice had decayed to a pile of crumbs, some of which were still in the niche, while the remainder had trickled onto the floor of the coffin. The chalice was a squat vessel, and its solid stem, without a knop, lay on the floor of the coffin (Fig. 520). The paten, no. 10, had evidently been placed on top of the chalice, and a fragment of its rim had become trapped by the mortar that had squeezed out of the joint between the wall of the coffin and its cover stones. It was not possible to reconstruct the form of either vessel.

Finally, in the disturbed cist-grave, burial 35 (p. 190), in the nave of the Lady Chapel, crumbs of lead or pewter were found on the sternum. These are likely to have been the remains of another mortuary chalice.

Discussion

No substantial study of pewter chalices and patens has yet been undertaken, and their dating is very imprecise. A brief introduction to the subject was given by Oman (1957, 40), and slightly fuller treatment accorded by Hatcher and Barker (1974, 25–30). It is generally held that pewter vessels were in common ritual use before silver became the preferred metal. The transition occurred during the thirteenth century; and it is expressly stated in the 1229 constitutions of William de Blois, bishop of Worcester, that each parish church should have two chalices and patens: one pair of silver for use in the mass, and one of tin (or pewter) for sepulchral provision (Nightingale 1891, 5; Powicke and Cheney 1964, 171). Gradually, the use of pewter vessels on the altar diminished, but there were still a few in circulation at the Reformation (pewter flagons and dishes, however, continued in use much longer).

Clearly, many base-metal chalices and patens were made between the thirteenth and fifteenth centuries solely for mortuary purposes, and most church excavations yield at least one grave furnished with such vessels (*e.g.* Deerhurst: Rahtz and Watts 1997, 217–19). In view of the fact that no attempt was made to disguise the soldered joints in the bases of the bowls of chalices 1, 3 and 5, it seems certain that these — and presumably their accompanying patens — were never intended for eucharistic use. The crudeness of the shaping of paten 2, and the tong-marks on chalice 5 reinforce this supposition.

Given the current state of knowledge of pewter communion plate, dating these vessels is impossible, other than in the most general terms. There are severe limitations in attempting to date pewter chalices by reference to examples made of silver: base-metal vessels tended to be simpler in form and lacking in decoration. They never had the bulbous knops, characteristic of silver chalices, and even the profiles can bear little resemblance. That said, the generally squat proportions of chalices 1 and 5 find analogues in mid-thirteenth-century silver vessels; the shallowness of their bowls and the provision of a slight lip is also a common feature (*cf.* Oman 1957, pls. 3–5; Ramm 1971,

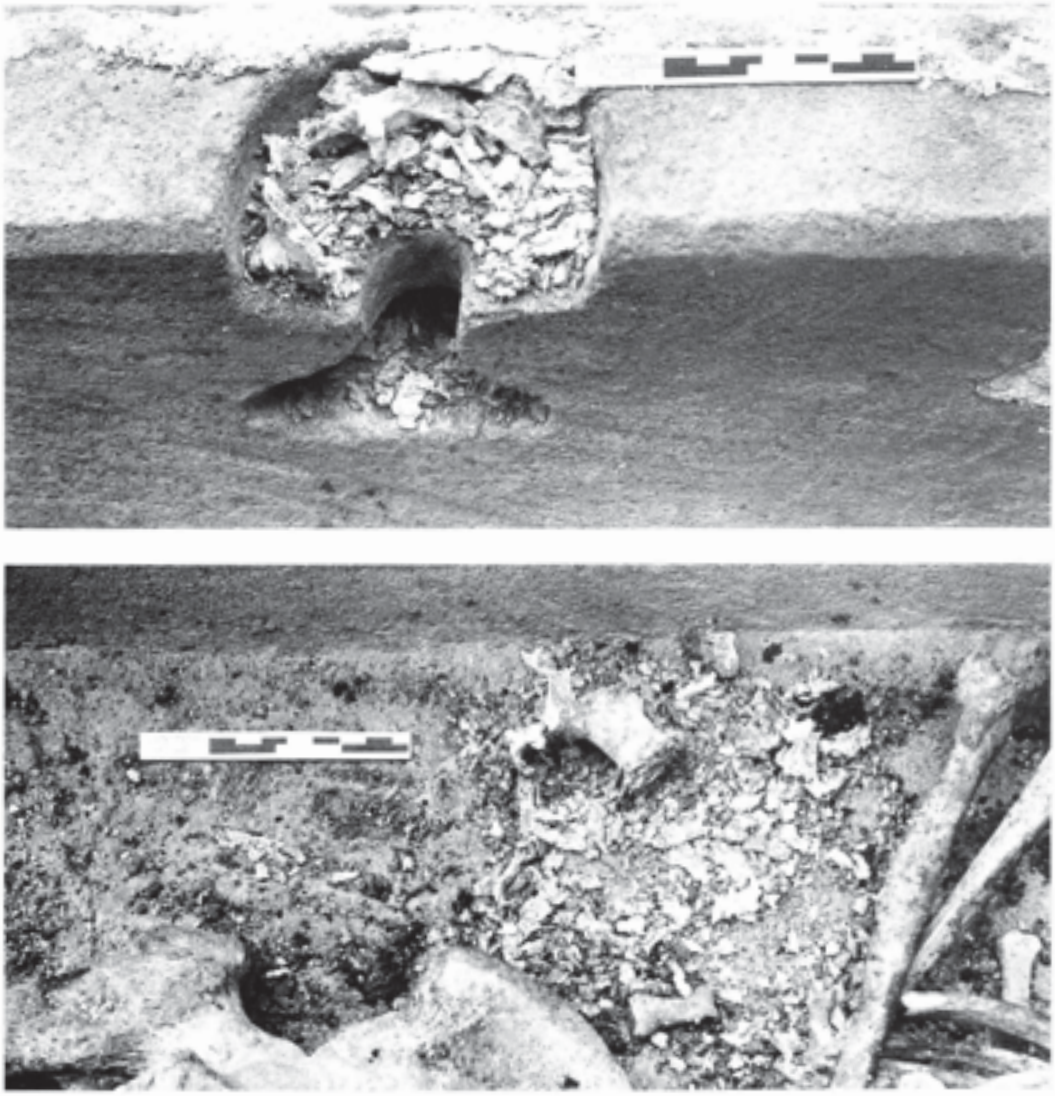


Fig. 520 Top Detail of the chalice-niche in the wall of coffin F586, showing in situ *remains of chalice 9 and paten 10. Bottom The stem and shattered fragments of the chalice lying on the floor of the coffin*

pls. LIII and LXVa). The profiles of patens 2 and 4 were common during the twelfth to fourteenth centuries, but they lack the decoration which enables silver patens to be dated art-historically. The extremely shallow vessel 3 has a profile more reminiscent of a seventeenth-century footed paten than a chalice (*cf.* Oman 1957, pl. 104a). But clearly it was both a chalice, and medieval.

Vessel 5 is also an oddity, principally because the stem lacks a knop. Its profile bears a striking resemblance to sixteenth-century communion cups (*cf.* Oman 1957, pl. 67). The type occurs both early and late in the century, but it is most unlikely that the Wells vessel could be post-Reformation. It has been suggested above that the associated paten, no. 6, may have lost an applied footring, which is another late feature. It can hardly be coincidental that the two items both display distinctive late features, and it may be suggested that they are derived from a burial made in the first half of the sixteenth century.

The only comparable, and published, vessels from an English cathedral is the group of eight chalices and two patens from the chapter house vestibule at Lincoln (Bruce-Mitford 1976; Homer 1986). These belong to a series of burials in stone coffins, begun after *c.* 1225. The chalices are related in form to nos. 1 and 7 from Wells. Unfortunately, no technical details are given in the Lincoln report concerning the methods of manufacture employed, although it is clear that one paten had an additional thickness of metal (solder?) on its base (Bruce-Mitford 1976, fig. 7d). Homer (1986, 74) refers to one of the Lincoln chalices as apparently 'unique' because the bowl, foot and stem were separately made and soldered together. However, that is not unusual: most simple chalices were made in two or three parts. This medieval technique of manufacture persisted also in simple silver cups, down to the eighteenth century.[6]

Other examples of mortuary chalices and patens are known from a considerable number of locations, but seldom from dated contexts. A chalice from Westminster Abbey, for which a deposition date of 1246 is suggested, is akin to Wells chalice 7 (Westlake 1921).

Objects of iron

Numerous iron objects were found throughout the later medieval and post-medieval levels, but very rarely in earlier deposits. There were broadly three concentrations: in the eighteenth- and nineteenth-century topsoil layers and previous excavation trenches; in the 1477 demolition level of the earlier Lady Chapel; and in certain graves where nailed coffins had been present.

More than 3,000 pieces of iron were recovered, of which some 95% are positively identifiable as nails. For the most part their condition was extremely poor, and in many instances it was impossible to take meaningful dimensions.

Nails

The nails are basically divisible into three groups. The uppermost levels yielded a variety of hand-forged nails, varying from 5 cm to 15 cm (2–6 in) in length, and presumably derived from post-medieval structures on the site. There were also a few horseshoe nails present, which is not surprising in view of the fact that Structure 17 had been a stable.

Several dozen nails with large 'clout' heads and shanks measuring 40–50 mm were recovered from the demolition rubble of the earlier Lady Chapel. These appear to have come from the roof: where they would have been employed to fix lead sheets to battens or

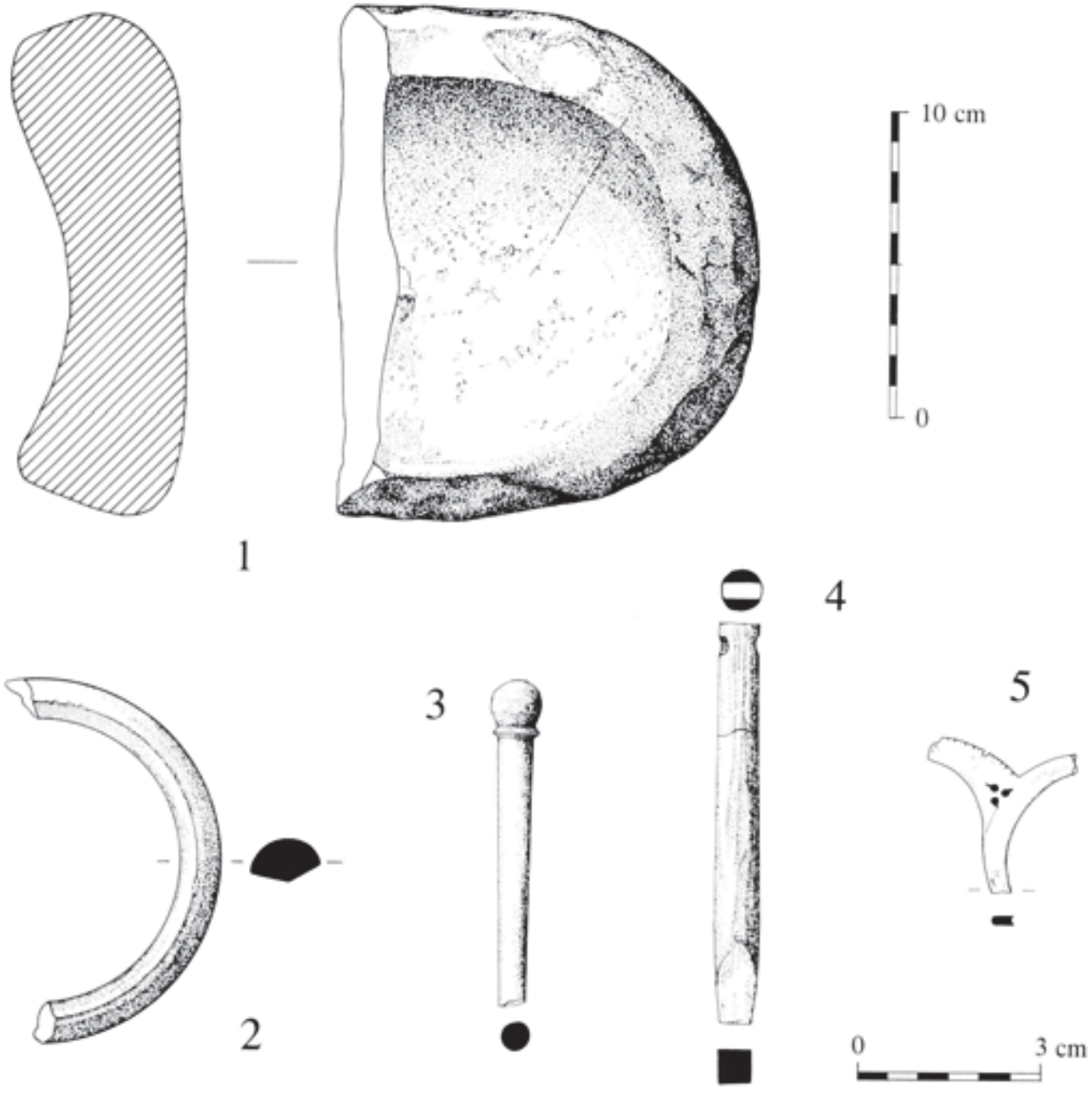


Fig. 521 Miscellaneous objects. 1, Stone quern; 2, Shale bracelet; 3–5, Bone objects. Scales: 1, 1:2; 2–5, 1:1. Drawn by Richard Bryant

boarding. A few nails were still attached to the clips which held the leads in place.

Some of the better preserved groups of coffin nails demonstrated that there were two sizes in use, and the occasional survival of patterns of wood-grain in the corrosion products adhering to the iron indicate the method of use: the longer nails, with shanks of *c.* 7.5 cm, were employed to attach side-grain to end-grain (*i.e.* fixing ends of coffins to their sides), while shorter nails, with shanks of *c.* 5 cm, were used in side-grain joints only (*i.e.* fixing lids and bases).

Other objects

The Victorian excavation trenches yielded a mason's trowel, a shovel blade, fragments of buckets, etc. Other late levels contained a terminal of mace-head type from a cast iron railing, a wood-splitting wedge, and several fragments of eighteenth-century hinges.

Apart from nails, the medieval and early post-medieval levels contained very few fragments of iron; these included several amorphous strips and bindings, two iron window stanchions and a two-pronged fork with hooks and barbs. It is perhaps remarkable that more structural ferramenta were not found (there were no masonry cramps and no door crooks apart from one of cupboard size).

Miscellaneous loose finds (Fig. 521)

Worked stone

1. Approximately half of an oval saddle quern, made out of a natural pebble of Pennant sandstone. Querns of this type are of late prehistoric and Roman date. A production site of the latter period has been identified at Doulting (Webster and Croft 1993, 139).
   Area 10, F1489, buried-soil horizon above the bedrock.

Jet and shale

– Rim of a delicate, thin-walled vessel of Whitby jet. Strongly everted profile with slight thickening of the lip, 20 x 12 x 1.5 mm (thickening to 2 mm). The rim diameter was *c.* 14 cm. Black all through (fractured), surfaces slightly rough (Pl. XIII).
  Area 6: from the filling of Anglo-Saxon grave F926 (burial 113). Roman or Anglo-Saxon?

2. Almost half of a child's bracelet of Kimmeridge shale, 6 cm in diameter. Late Roman.
   Area 7, F872, subsoil in the Anglo-Saxon cemetery.

Worked bone

3. Upper end of a bone hairpin with a spherical head and angular collar at the junction with the circular-section shaft. Probably of Roman date.
   Area 7, F576, late medieval gully.

4. Complete bone peg of circular cross-section with visible longitudinal facetting, 6.6 cm long. Flat top, with a drilled transverse hole; the lower end is squared, for the application of a key. This is a medieval tuning-peg from a musical instrument. For similar examples from Whitby, see Lawson 1978.
   Area 1, F155, late medieval trench.

5. Flat piece of bone (a decorative mount?) with three curving arms radiating from a common centre. The ends of all the arms are broken; there are three small copper-alloy rivets at the centre.
   Area 5, F439, post-medieval clay make-up.

Fired clay

In addition to the small number of lumps of burnt daub, probably of Roman date (p. 485), a few other fired-clay fragments were also recovered. All were light reddish-brown in colour, small in size, and heavily abraded; none displayed any useful indication of form. Seven fragments, however, exhibit a black, evenly burnt, powdery surface (up to 5 mm in thickness), typical of the débris remaining from moulds used for casting bells. While no evidence for casting-pits or hearths was found in the excavation, the evidence suggests that bell-founding was taking place in the vicinity. The fragments were all recovered from the easternmost part of the excavation (Areas 10 and 11),[7] and several were in deposits associated with the rebuilding of the Lady Chapel in 1477. This provides a secure *terminus post quem* for the bell-founding activity, which may have taken place somewhere in the middle of the Camery, or in the plumbery building.

Although several sixteenth-century and later references to casting and re-casting bells have survived, none sheds light on this material. Casting would generally have taken place in Wells, even though the bell-founder may have come from a distance (founders from Reading and Wellington are recorded). In 1714 a large bell was re-cast in the coach house of the deanery (HMC 1914, 497), and in 1877 bell-casting took place on Cathedral Green.

Vessel glass

Roman glass

The Roman glass from Wells is all in very small pieces, and with one exception is of the usual pale green colour. No fragments are certainly identifiable as window glass: most, if not all, of the material is derived from vessels. There are also several lumps of fused glass that are the result of intense heating in a fire.

At least four fragments of Roman glass vessels are identifiable. Two are of pale green metal, from bottles of unknown form. The remaining two are however distinctive (not illustrated).

1. Pillar-moulded bowl of pale green glass. 17 mm wide by 24 mm high; wall thickness 3 mm. The fragment is from the middle of the wall of a shallow bowl of fairly large diameter. Several internal turning-grooves indicate a mid-wall diameter of *c.* 17 cm. Part of one boldly moulded rib survives. This is a typical bowl of Isings form 3a, dating from the mid-to-late first century A.D. (Isings 1957, 18). The surfaces are heavily excoriated.
   Area 5: from the buried-soil horizon F760.

2. *Cantharos* of dark amber-coloured glass. Rod-handle, 4 cm high; 4.5 mm diameter at the upper end, increasing to 6 mm at the lower end. Since only the handle survives, the form of the vessel cannot be closely determined, but there is little doubt that this fragment comes from a two-handled *cantharos* of Isings form 38, dating from the second half of the first century A.D. (Isings 1957, 53–4). The handle is in good condition, with sharp fractures and little surface abrasion.
   Area 6: F398, rubble spread inside Stillington's chapel. The glass fragment was obviously residual in this context, and was probably thrown up from a lower level by foundation trenching, or grave digging.

3. A fragment (12 × 21 mm) from the tightly curving wall of a coarse vessel of pale olive green colour may be Roman, or later. The wall thickness varies considerably (average 5 mm) and the surface is irregular, both internally and externally. There are traces of trailing and combing on the exterior.
   Area 6: residual in a late fifteenth-century grave filling F463.

Glass of the Anglo-Saxon period

A small but interesting collection of glass fragments was recovered from Anglo-Saxon and early medieval levels. The form, date and origin of this material is difficult to establish on account of the very small size of the sherds and the paucity of distinguishing features. The metal is of good quality, very thin, and has not devitrified (Pl. XIII). The vessels were undoubtedly all of Continental manufacture, presumably of Roman or Germanic origin, and are most likely to date from the period of the sixth-to-eighth centuries. Recent excavations on high-status ecclesiastical sites all over Britain have yielded small assemblages of good quality Continental glass: for a representative selection, *cf.* Whithorn (Hill 1997, 297–314).

Although these pieces are all vessel glass, it is not impossible that, after breakage, some were reused in leaded glazing, a practice attested elsewhere. For a single sherd of Anglo-Saxon window glass, see p. 481.

4. Shoulder, 12 × 5 × 0.75 mm thick. Olive green, clear and very shiny. Two very slight, horizontal ribs or trails. Area 6: from Anglo-Saxon grave earth F779.

5. Slither, 7 × 4 × 0.75 mm thick. Olive green. Almost certainly part of the same vessel as no. 4. Area 6: from the filling of Anglo-Saxon grave F813 (burial 154).

6. Curving fragment with a very slight, horizontal rib, 14 × 4 × 0.75 mm thick. Olive green. Part of vessel no. 4. Area 10: from the filling of medieval grave F1254 (burial 264).

7. Body sherd, curving in two directions, 23 × 11 × 0.5 mm. Clear olive green. Similar to no. 4, but possibly not from the same vessel. Area 10: from grave earth F1445, under the chancel floor of the late Saxon Lady Chapel.

8. Slither, slightly curved, 13 × 7 × 0.75 mm thick. Strong, pale blue, clear and very shiny. Area 7: Anglo-Saxon soil spread F993.

9. Slither, 5 × 3 × 0.75 mm thick. Sea green. Pinkish-buff Anglo-Saxon mortar adhering to one face. Area 7: Anglo-Saxon soil spread F993.

Medieval and later glass

A few badly decayed fragments of vessel glass with a wall thickness of 1.5–2 mm are probably from medieval flasks, but insufficient survives to determine their form or likely date. Post-medieval levels yielded a large quantity of vessel glass, the vast majority of it deriving from wine and beer bottles. There were no complete profiles, seals or other features of distinction.

Ceramics

Romano-British pottery

Approximately one hundred sherds of Romano-British pottery were recovered from the lower levels of the site, including some from the pre-Saxon buried-soil horizon. All but a handful of sherds are very small and mostly abraded. It is also apparent that at least 10% of the pottery has been subjected to secondary burning; this includes fine wares as well as coarse wares.

Since there is no doubt that the pottery was all redeposited, and the collection is small, detailed description and illustration are not justified. Indeed, there are less than twenty rims, and no reconstructible vessel profiles. In date, the collection ranges from the mid-first to the fourth century; and there are one or two Durotrigian sherds that could be pre-conquest, but on balance this seems unlikely. As might be expected, Black Burnished Ware from Dorset (BB1) is the predominant fabric, and the commonest vessel types are readily identifiable: everted-rim jars, and pie-dishes of straight-sided, flanged and beaded-rim (one only) forms. Nondescript local coarse wares are also present. Spanish oil amphorae are represented by two fragments of Dressel form 20.

The fine wares are more interesting, albeit that the surviving fragments are tiny. There are several sherds each of Oxfordshire and New Forest colour-coated wares of third- and fourth-century date, and two tiny fragments of mortaria which may also be derived from the latter factory. A more notable rarity in such a modest collection is a sherd of a second-century black-slipped beaker from the Lezoux kilns.

It is, however, the samian pottery that has the most to tell. First, there are twelve sherds, which, for a rural site in the south-west, represents a surprisingly high percentage of the total assemblage. What is more unusual is the presence of pre-Flavian and early Flavian vessels of South Gaulish origin (forms 18 and 29). Central and East Gaulish products of the second and early third centuries are also present. The presence of pre-Flavian sigillata at Wells is a strong pointer to early military activity in the vicinity. There is a single stamped fragment from a burnt, Central Gaulish vessel of form 31 (from F1406); the name-stamp reads: [S]ACIRV. This is a product of Sacirus of Lezoux, *c.* A.D. 160–90.

Medieval and post-medieval pottery

Notes by Vince Russett

The post-Roman pottery from the excavations was examined, identified and catalogued by Vince Russett, in 1990. A preliminary type-fabric series for the site was established, and every sherd classified accordingly. The complete catalogue is held in the site archive, and it was hoped that an illustrated pottery report could be included in this volume. Regrettably, that report did not materialize, and therefore the following notes have been abstracted from the short introduction to the 1990 catalogue.

The earliest material, found in association with late or post-Roman structures, is a single sherd in the pre-1050 date-range. It is a thin, flared rim of a corky, black vessel of small diameter. Similar pottery found at Marshfield, Avon (Russett 1985), and Frocester Court, Gloucestershire (Gracie and Price 1979), has generally been interpreted as 'post-Roman', although it has not been precisely dated.

The next series of fabrics is that loosely dated as 'pre-Conquest'. The common feature of all the examples is that they are large cooking-pot type vessels (although it is possible that lamps or bowls are represented, these were not recognized during the study), hand-made with heavily thrown bodies, generally calcareous fabrics, and very simple rim forms. Decoration is limited to combing, although surfaces were sometimes wiped to give a finer appearance. Undoubtedly, some of the fabrics will cross-compare with the series from Cheddar (Rahtz 1979), but further work on these fabrics is needed.

A second series of cooking-pot fabrics is much finer, with developed rim-forms, wheel-thrown or smoothed rims, thinner bodies, and generally non-calcareous fabrics. These are typified by the Bath-type cooking-pots and bee-skips (examples of which were recognized during the study). In general, these types appear to fall in the date-range *c.* 1100–1300, overlapping with the later examples of the first series.

The earliest glazed vessels are Ham Green 'A' and possibly south Wiltshire products. The Ham Green vessels were the first glazed wares to appear in any quantity in the West Country, and have been recognized in contexts of *c.* 1140 in Bristol. Only jugs are so far represented on sites away from the manufacturing centre at Ham Green (Barton 1963), and the examples found at Wells are typical of the so-called 'Pill' variety of the ware, with their ledged necks and roller-roulette decoration. No examples were recorded of the coarsewares that were also made at the kiln site. The other possible twelfth-century glazed wares are a small series of very heavily quartz-tempered, light green-glazed, thick bodied sherds whose fabric resembles the products of south Wiltshire (Musty *et al.* 1969).

The period of production of highly decorated jugs in the middle medieval period (*c.* 1250–1350) is represented by many fabric types at Wells, principally from the Donyatt kilns in south Somerset (Pearson and Coleman-Smith 1988), and the Ham Green 'B' and Redcliffe wares from Bristol. The latter have only recently been recognized as widely traded in the Bristol region (*e.g.* see Courtney 1989), and they are present in significant numbers at Wells. Within the confines of the present study, it was not possible to identify other sources of medieval glazed pottery, but the two noted here seem to account for the majority of the material.

The later medieval period is largely dominated by the products of Donyatt, as might be expected on a site in central Somerset. A few anomalous sherds are obviously products of other kiln sites, but these have not been identified with the exception of Bristol wares. A significant number of sherds of the later products of the Redcliffe kilns (unglazed jugs, glazed bottles and possibly bowls) were recognized. Significantly, some were associated with the construction trenches for Stillington's chapel. In Bristol, these wares are firmly dated to the period *c.* 1350–1500, with the bottles possibly slightly later than the jugs. These products are much less common on sites outside the Bristol area, as far as is known at present.

The sixteenth century is noticeably under-represented in the pottery record at Wells. There are no examples of the Cistercian ware, early Wanstrow wares, or early Nether Stowey wares that represent this period in neighbouring areas (*e.g.* Good 1987). The only fabrics typical of this era that occur in the study group are the small number of Tudor Green sherds (probably representing only one vessel), several sherds of a jug in an unusual bright red fabric associated with the late Redcliffe material and possibly of early sixteenth-century date, and a few sherds of Frechen stoneware. All this material amounts to no more than a handful of fragments.

The seventeenth century is represented by Wanstrow and other Somerset coarsewares, which are present in many forms (jugs, jars, bowls, cups, candlesticks, etc.), apparently increasing greatly in quantity during the century. Although Wanstrow pottery dominates the assemblage, a large number of Donyatt sherds are also present, as might be expected from the geographical location of the site (Good and Russett

1988; Russett 1988). At the end of the century, the type-fossils of the period — trailed yellow slipwares, tin-glazed earthenwares and Westerwald stoneware — appear in increasing numbers, becoming even more common in the early part of the eighteenth century.

Around the middle of the eighteenth century, the industrially produced wares (creamware, agate ware and English stonewares) become dominant in the assemblage, themselves to be replaced at the end of the century by the ubiquitous transfer-printed wares which dominate the rest of the study period.

The Wells pottery assemblage does not include many imported vessels. The south-west French wares from the Saintonge region (Hurst *et al.* 1988) are represented by a single sherd of a polychrome jug, and a few sherds probably representing one green-glazed Saintonge jug. No examples of other French wares have been recognized.

German stonewares, apart from the very common seventeenth- and eighteenth-century Westerwald stoneware, are only represented by a few sherds of Frechen stoneware. These are all from late vessels, and include part of the decorative shield from a seventeenth-century *Bartmannkrug*, two sherds possibly representing a single Raeren stoneware drinking mug of late medieval date, and the frilled base of a stoneware drinking vessel. The last is certainly of German origin, is early sixteenth century in date, and may be a product of Siegburg (Reineking-von Bock 1971).

As mentioned above, it is perhaps the absence of certain classes of pottery that is surprising in the assemblage. The paucity of sixteenth-century pottery generally probably explains the associated absence of any Spanish imported pottery such as is quite common on Bristol sites of this period (Good 1987). The almost complete absence of the otherwise common Devon gravel-tempered ware is unexplained.

All the pottery studied appears to be the waste products of normal food storage and processing activities, with other domestic utensils such as candlesticks and chamber-pots occurring in the post-medieval deposits.

Textiles

by Elisabeth Crowfoot

Catalogue of textiles recovered

(Fibre identifications by H.M. Appleyard, dyes by Penelope Walton Rogers, and metal analysis by Justine Bayley)

1. Conduit F898: Stillington's diversion of 1477 (p. 203). Cloth embedded in mortar between the capstones of the medieval conduit. Long cut strips laid to hold the mortar in the joints when the conduit was built. Lengths 120, *c.* 100, 65, *c.* 40 and *c.* 25 mm; greatest width 40 mm. Very fine flax, undyed, Z-spinning both systems, medium twist, no selvedge preserved, tabby weave, thread count 15–16/20 on 10 mm.

2. Disturbed material from a medieval grave in the Lady Chapel-by-the-Cloister, incorporated in the construction trench (F1365) for Stillington's chapel. Thirteenth or fourteenth century.
Finger knot of spun-gold threads, at least 8; length 15 mm as tied; core traces only, fibre unidentifiable; silver-gilt metal strip *c.* 0.75 mm wide, 7–8 turns on 2.5 mm, good gold colour.

3. F497, fill of damaged cist-grave (F501) in the Lady Chapel-by-the-Cloister (Fig. 168). Thirteenth century.
Three fragments from a tablet-woven band, silk, silver-gilt brocading:
(a) Length 15 mm; width 7 mm, from edge of band; warps silk, S-spun, now brown; four-hole tablet-weave, threaded left and right (chevrons), one darker cord at edge; weft not visible, brocading wefts, core slight S-spin; strip silver-gilt, 16 on 10 mm.
(b) Length *c.* 7 mm from edge of two Z-spun cords with brocading between, traces of chevron cords behind.
(c) Fragment length *c.* 25 mm, as (a) and (b), but with lighter brown edge-twist.
Brocaded pattern, single tie-down, diagonal (see no. 4). No dye detected.

4. F615, fill of cist-grave (F589) in the Lady Chapel-by-the-Cloister (Fig. 168). Thirteenth century.
Four fragments of tablet-woven band with metal brocading (Fig. 522A).
(a) Length 50 mm; width 20.5 mm (full width of band present).
(b) Length 50 mm; width 21 mm (full width present).
(c) Length 22 mm; width 20 mm, edge broken, part missing. (a) and (c) together 70 mm length.
(d) Length 14 mm; width 15 mm, ?adjoining (b).
Warp, fine wool Z-spun, edge cords, wefts wool, Z-S-ply; tablet-weave, four-hole, regular cords threaded right and left, 28–32 on 10 mm, wefts 30 per 10 mm; brocading weft core wool, Z-spun; silver-gilt metal strip, most of metal missing. Brocaded pattern, single tie-down.
(a) and (c) edge cords ZSZSZ; (b) and (d) SZSZS (*i.e.* from different ends of the woven length). No dye or pigment detected.

5. Fill of cist-grave F591 in the Lady Chapel-by-the-Cloister (Fig. 168). Thirteenth century.
Remains of tablet-woven bands, used to tie a bundle of bones, which had probably been removed from an earlier ecclesiastical burial (Figs. 188–9).
All the fragments come from four-hole weaves, threaded right and left, wool, Z-spun, with traces of brocading, silver-gilt thread with ?vegetable core, only traces of metal remain; weave wefts not clear (Fig. 522B).
(a, b) Two fragments, lengths *c.* 25 mm; widths 17 mm; *c.* 24–25 cords on 10 mm, one edge cord only preserved, but probably nearly full width.
(c, d, f, g, h, k, l, m) Fragments of similar cords with traces of gold.
(e) As (a). Length *c.* 20 mm; preserved width 10 mm.
(i) Length 23 mm; preserved width 13 mm, no edges; ?26 cords, brocading wefts 23–24 on 10 mm.
(j) Length 42 mm; width 13 mm, no edged; some weft ends, estimate *c.* 10–12 on 5 mm; cords 26 on 10 mm.
Pattern, from clear areas, swastikas and diagonals, brocaded silver-gilt held by single tie-down points, and

areas of regular four-hole cords exposed. No dye identified.

6. F629, fill of stone coffin (F586) in the Lady Chapel-by-the-Cloister (Figs. 170–1). Fifteenth century.
Wool fragments:
(a) *c.* 80 × 40 mm, very deteriorated, most fibres fine, a few medullated, undyed but stained; adhering to ?rib bone; brown, one thread system Z-spun, the other S-spun; weave not clear, but probably a coarse twill; heavily fulled.
(b) Three small scraps, the largest 8 × 6 mm (folded), fibres badly degraded and fragmented, possibly of animal origin (some suggest skin tissue); Z-spinning in both systems, medium twist, weave tabby, count *c.* 8/9 on 5 mm.

Analyses

X-ray fluorescence (by Justine Bayley)

Three samples of metal-wound threads were analyzed qualitatively by X-ray fluorescence. The elements detected (in order of decreasing peak height) were as follows. Note that silver (Ag), in particular, is underrepresented on this scale.

Sample no.					
2	Ag	Cu	Zn	Au	Pb
3	Ag	Cu	Zn	Pb	?Au
5	Ag	Cu	Zn	Au	Pb

These results suggest that all the metal threads were silver-gilt, with the copper (Cu), zinc (Zn) and lead (Pb) being present at low levels in the silver. No mercury was detected, so the gilding was most probably not applied by fire gilding.

Discussion

With one exception, the textile fragments found during the 1978–80 excavations came from graves, and their style and original quality indicate that these could have been burials, or re-burials, of ecclesiastics or other important persons connected with the cathedral.

The exception (1) may be dealt with briefly. It is unique in its fibre (being the only well-preserved vegetable fibre among the remains), in its function, as an interesting detail of building construction, and in its exact dating. This find consists of cut strips of well-preserved undyed flax tabby weave, laid to hold the mortar between the capstones of the rebuilt medieval conduit of 1477. The condition of the strips, even now, suggests good quality sheeting, probably strong new cloth, but very similar in style to some of the fragments from house sites in Pottergate, Norwich, of *c.* 1400–1550 (Crowfoot 1993, 46, 53).

The few scraps of woollen cloth are again familiar from domestic refuse on late medieval town sites. One (6a), probably a coarse twill weave, showing the spinning, Z one system, S the other, preferred for well-fulled garments (Crowfoot *et al.* 1992, 39–40); the rest (6b) were very deteriorated scraps of undyed wool tabby, rather fine for a blanket: perhaps, from the traces of skin tissue, it was a shroud. These fragments were all found inside stone coffin F586 (Fig. 496.4), which contained the burial of a priest (B30).

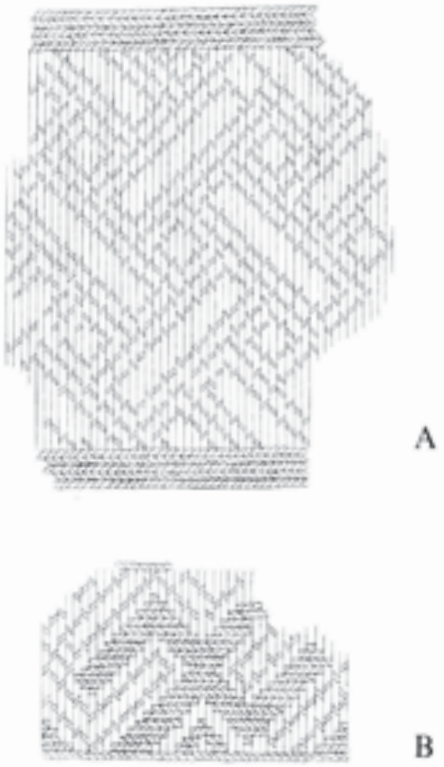


Fig. 522 Reconstructions of brocaded patterns in medieval textiles. Drawn by Elisabeth Crowfoot

Important textile fragments owe their survival to their decoration with metal-covered thread. These are silk and wool tablet-woven bands, originally of good quality, the widest about 21 mm, with surface brocading; the weave in all is the normal four-hole technique, a close flat surface, the tablets with the right and left threading which gives 'chevrons' in the cords, clearly visible in the small scraps that survive of narrow undecorated silk edges, and on the back of all the fragments. The brocading threads have lost most of their metal, classed as silver-gilt, but the visibly different quality of the surviving fibre core, and that of the tablet cords, makes it possible to reconstruct some areas of the original designs (Fig. 522). These are largely dictated by the tablet-weave technique, with an emphasis on diagonal lines, the strap patterns described by Collingwood (1982, 331) as 'diagonally interlaced ribbons', and running swastikas.

Brocaded bands like these were used extensively as decoration on secular garments, though archaeological survivals are naturally more plentiful in ecclesiastical burials, and on vestments preserved in church and cathedral treasuries. Tablet-weaves are extremely strong, and survive many years of use and reuse; as a consequence dating by context is difficult. There are,

however, sometimes technical features that may give an indication of the possible dates of production. One of these is the method of tying down the brocading weft, *i.e.* whether this passes under two threads, or only one thread, of the tablet-cord (Collingwood 1982, 330, fig. 200 a, b).

In Anglo-Saxon and North European brocading of *c.* A.D. 450–700 the former practice appears to be the rule (Crowfoot and Hawkes 1967, 45, fig. 12, pl. IX),[8] and this can still be seen in the tiny braids edging the stole and maniple given to St Cuthbert's tomb at Durham between 905 and 916 (Crowfoot 1956, 441–7), but from the ninth to tenth century the single-thread tie-down appears to grow in popularity in the north. It is found in the early tenth century brocaded bands from Mammen, Denmark (Collingwood 1982, fig. 202a; Hald 1980, fig. 100), in the gold brocading of the girdle of Witgarius in Augsburg, 860–870 (Collingwood 1982, 197), in the tenth–eleventh-century Viking braids in Dublin,[9] and in many fine bands of the late Middle Ages. The one-thread tie-down practice is clearly more effective with metal brocading, the indented lines of the pattern catching the light on the gold surface, rather than its being broken by a more visibly coloured tie-thread. It does not however supersede the two-thread tie-down, though the survival of that method in braids from the Viking settlement of Birka, Sweden, may be confirmation of their suggested imported origin (Geijer 1938, pl. 15–23). The practice continues to the present day in countries where the tablet-weave survives, in Algeria, Syria, and parts of Europe.

Two variations are present in the Wells bands. The small areas of pattern clearly seen in fragment no. 3 are very similar to parts of the brocading in no. 4 (Fig. 522A), and though both are badly damaged, they certainly have the single tie-down throughout the brocading. They are strikingly similar in technique and style of pattern to a finer silk band from a thirteenth-century burial at Guisborough Priory, Cleveland,[10] but the design recognizable in some small fragments of deteriorated all-wool braid (5) combines areas with two-thread tie-down, where the metal threads are concealed by intermediate strap patterns with the single tie-down (Fig. 522B). The same combination appears in the ninth-century girdle of Witgarius (Collingwood 1982, fig. 203a), though in that, being a complete vestment with reversible pattern, the gold thread passes through to the back. This perhaps indicates that these fragments are earlier than nos. 2 and 3, and the description of their use, perhaps to tie together relics, such as bones, suggests remains already salvaged from earlier burials, rather than pieces from graves undisturbed prior to excavation.

15 Burials

Situation and condition

Approach to the study of burials

Just over three hundred articulated burials were excavated, and several others were noted but not investigated. The degree of completeness and the condition of individual skeletons varied enormously. Some interments had been made in stone coffins and cists and had thereby been protected from subsequent disturbance. However, the great majority of burials lay in the cemetery between the Lady Chapel-by-the-Cloister and the south transept of the cathedral, and were fragmentary. Indeed, in many cases it was impossible to discover the original outline of the grave, except where its cut penetrated the bedrock. This is typical of the situation encountered in densely buried churchyards. Here, at Wells, there was the added complication that the cemetery was truncated in all directions by deep foundations, and was further transected by foundation and robber trenches for medieval structures that had come and gone. The site was thus cut into a series of islands. While limited stratigraphic sequences could be established, it was clearly impossible for these to be fitted together meaningfully, to produce an overall cemetery matrix. Nor could burial 'generations' be reconstructed, except in very localized areas.

Excavation and recording in the open cemetery were therefore carried out in a moderately expeditious manner: the level of effort expended was pitched to suit the likely yield of academically worthwhile data. Dr Juliet Rogers, as palaeopathologist to the project, was on site for much of the duration of the excavation, with the result that informed decisions on procedure could be taken, and badly decayed remains could be studied *in situ*. No attempt was made to conserve decayed bone, since this would have served no useful purpose.

All disarticulated bone was collected, examined and summarily listed before reburial. Upon completion of the study, the human remains were reinterred in the Camery, according to the wishes of the Dean and Chapter of Wells.[1] A selection of items of pathological interest has been retained at the University of Bristol for reference. The archive arising from the study of the human remains is also held by the Palaeopathology Study Group in the Department of Medicine, University of Bristol.

Circumstances and chronology of sepulture

The history of sepulture in the Camery, which runs from the late Roman period to the mid-sixteenth century, may be summarized as follows.

Late Roman

The interment(s) in the mausoleum (Structure 1) would have been coffined, and there was probably more than one phase of burial involved, since the tomb chamber underwent a reconstruction. It is also suggested that there was at least one other burial on the site, in a stone coffin which was found reused in a medieval context (pp. 48–9). No human remains from this phase have however been recognized with certainty.

Sub-Roman to Late Saxon

At least fifty burials, which it is suggested were in timber coffins, were probably deposited in the mausoleum over a fairly long period. When the mausoleum was demolished, in the tenth century, the contents of the coffins were turned out and piled in heaps in the subterranean chamber, which was then, or slightly later, infilled with earth. The chamber effectively became an ossuary (pp. 75–8). The condition of the bones was generally good and among the best preserved on the site, despite these being the most ancient. Although no articulated remains were recovered, it was possible to match up certain bones on osteological evidence, and thus partially to reconstruct four skeletons (Fig. 542). Radiocarbon dating suggests a seventh- to tenth-century range for the ossuary material.

Middle to Late Saxon

A cemetery was established to the west and north-west of the mausoleum. This was long-lived and its interments followed two principal orientations, referred to as groups 1 and 2, respectively (p. 60); some 225 graves have been investigated. The area continued to receive burials down to the early part of the twelfth century. Intensity of burial led to repeated intercutting.

During the history of this cemetery, a close-knit group of six burials was placed inside the south-west corner of the mausoleum, beneath its floor. Later, the mausoleum was demolished and replaced by a small mortuary chapel (Structure 3), the purpose of which may have been specifically to enshrine that group of burials (p. 82).

The graves were all earth-cut, and for the most part no specific indications concerning the use of coffins were noted. There were, however, some examples where evidence for a coffin, or a timber grave-lining, seemed clear or could reasonably be inferred. In a very few instances graves were supplied with rough stone cover-slabs (pp. 65–8). The date-range for this cemetery is from the seventh to the twelfth century.

Saxo-Norman

The mortuary chapel was succeeded by the two-celled chapel of St Mary (Structure 6), to the north of which were laid out at least two rows of stone-lined and stone-covered cist-graves. These date from the later eleventh century (p. 105). A single grave, found at the centre of the chancel, was probably contemporary with the structure.

Early Medieval

The restoration of St Mary's chapel — which subsequently became known as the Lady Chapel-by-the-Cloister (Structure 11) — took place around the turn of the thirteenth century, and thereafter provided an indoor setting for the burial of clerics and influential lay persons. Interments inside the chapel took several different forms — stone coffins, cist-graves and timber coffins — but in all cases the corpse was enveloped in some way. Twenty-six burials have been investigated, and the sites of several others established (pp. 181–94).

Concurrently, limited outdoor burial continued in the Camery. In 1243 the Camery was designated as the cemetery of vicars choral and ten potential graves of this group have been identified. There were also a few demonstrably lay burials which took place around the walls of the chapel between the thirteenth and fifteenth centuries (pp. 359–61).

Late Medieval

The complete rebuilding of the Lady Chapel, by Bishop Stillington between 1477 and 1486, provided a new setting (Structure 15) for a series of indoor burials, the full complement of which was probably twenty. These included the bishop himself, other clerics, and important laity. All of these interments appear to have been in wooden coffins, and some were housed inside stone-built cists (pp. 233–9).

The were no contemporary outdoor burials, and interment in the area had ceased altogether by *c.* 1550 at the latest.

Post-Medieval

There was no further burial in the Camery until after 1851, when a new phase of interment began, and continues to this day. Grave digging started against the east face of the south transept (probably in 1856), and continued alongside the south quire aisle, to the south-east transept. It then spread southwards into the centre of the Camery. No investigations have been carried out in these areas.

Types of burial

The principal means of classifying burials at Wells is according to the type of grave and, more particularly, the provision of a coffin or cist to enclose the corpse.

Monolithic stone coffins

A single limestone coffin of Roman date was evidently recycled in the Middle Ages, and used for a burial in the chancel of the Lady Chapel. Groups of drainage holes were made in the base (Figs. 37–8; p. 49).

The burial of a fifteenth-century cleric in the chapel's north aisle took place in a purpose-made coffin of Doulting stone. It was provided with a shaped head-recess and a chalice-niche, and had two large drainage holes in the base (burial 30: Figs. 170–3; p. 184). It is argued that a second stone coffin lay in the nave, just to the south, and that this was removed during trenching in or before 1893. The coffin survives and is in the cloister (Fig. 497.5). It has a head-recess, but no niche for a mortuary chalice, and was therefore intended for a lay person's burial; the corporeal remains have not survived. There are no drainage holes in the base, and it is argued that one of the surviving lias cross-slabs was its lid (Fig. 494.4; p. 500).

Two further medieval stone coffins, one incomplete, were found in the cemetery between the Lady Chapel and the cathedral: they contained burials of infants (B43: Fig. 497.6; p. 106; and F1531, p. 107).

Finally, another three monolithic stone coffins — also currently displayed in the cloister — are believed to have been found in the Palm Churchyard during the eighteenth century. They were all associated with the burials of clerics, as evidenced by their having chalice-niches (Figs. 495–6). Under the statute of 1243 the cloister was designated as the burial place for canons. Again these coffins have drainage holes in the base, and nothing is known of their associated corporeal remains, or their covers (pp. 497–500).

The only useful evidence relating to the nature of an interment in a stone coffin is derived from the excavation of burial 30. The man was evidently dressed: he wore a belt with an iron buckle, and leather slippers. His hands were probably propped in an attitude of prayer. The body did not distort significantly during decomposition, and there is nothing to suggest that the coffin contained any organic filling. It was covered by stone slabs that were below floor level in the chapel (p. 183).

Composite stone cist-coffins (Fig. 523)

A distinct category of stone-built cist simulating the form of a monolithic coffin can be identified. The corpse was not contained in a portable receptacle and, as with monolithic stone coffins, it had to be lowered, unsupported, into its sepulchre. The cist-coffins were found in two groups: one outside to the north of the Lady Chapel, the other inside its nave and aisles. All were constructed from blocks of dressed limestone and had, certainly or probably, a head-recess at the west end. Some examples had a stone 'pillow' provided in the recess, and it would appear that the interiors of these cists were limewashed.

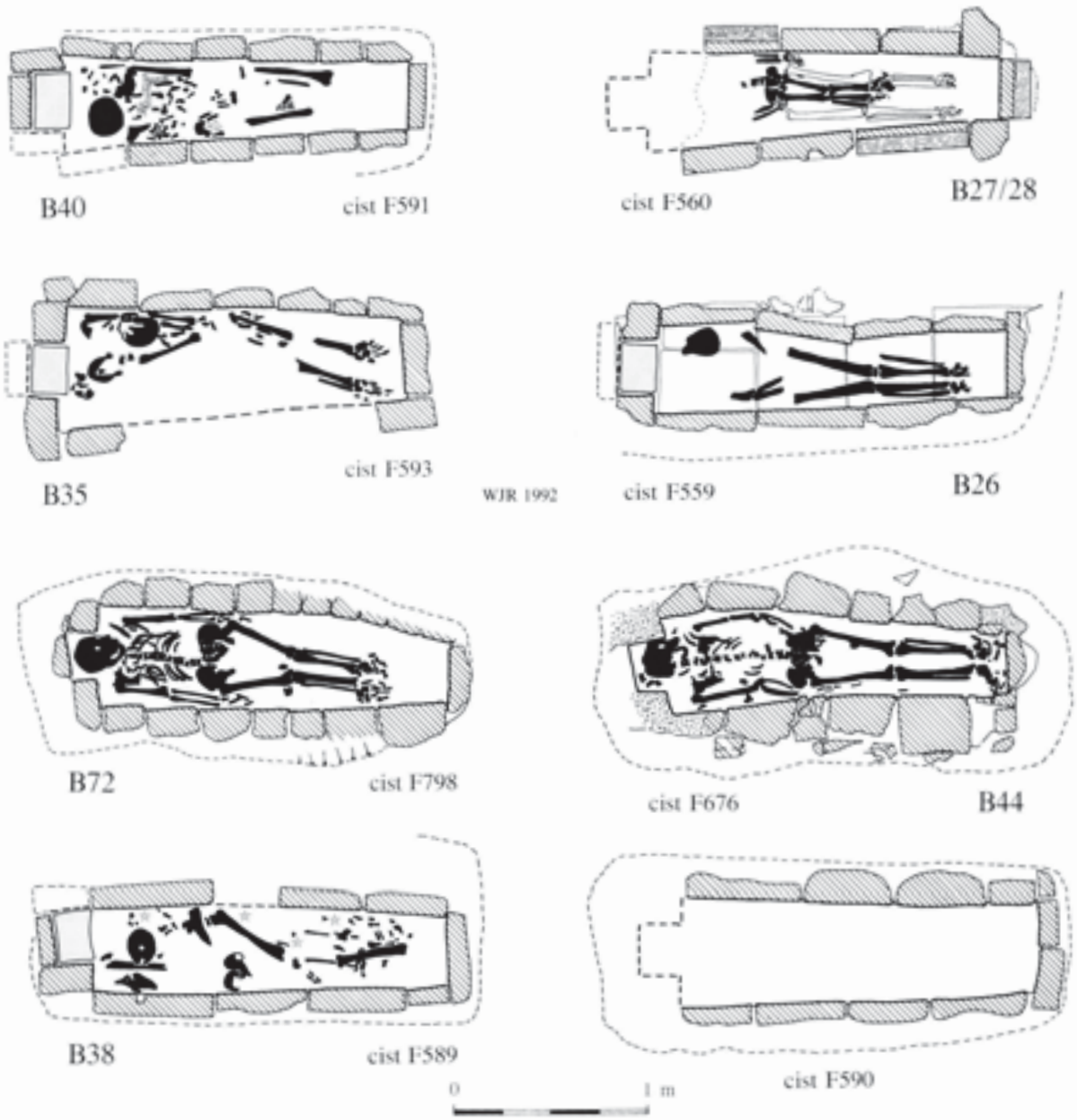


Fig. 523 Comparative plans of stone-built cist-coffins, eleventh to thirteenth century. Pillow-stones are shown lightly stippled

The earlier cists were built of Chilcote stone, while the later ones were of Doulting. The two latest of all (burials 26 and 27/28) were stone-floored, whereas the others were earth-floored: almost certainly some form of 'mattress' or floor covering was placed in the cist. In each case the cist had a makeshift cover formed by several pieces of stone.

The outdoor group was probably the earlier and comprised burials 44 and 72, and the fragmentary cist F858 (p. 109). The cist containing B44 was of rubble construction and cruder than any other in the series.

Inside the Lady Chapel, seven certain or probable examples of cist-coffins were identified, three of which lay side-by-side at the east end of the nave (pp. 190–3). In four cases the head-recess and pillow-stone survived (burials 26, 35, 38 and 40), while in the remaining three the west end of the cist had been lost (burials 23, 27/28 and 39). Finally, it seems likely that the largely destroyed cist which lay at the centre of the chancel had been of this type too (F1297, p. 193).

The date-range of this cist type certainly spanned the twelfth and thirteenth centuries, but its origins may have been in the eleventh.

Timber coffins in stone cists (Fig. 524)

Nailed timber coffins, often slightly tapered along their length, occurred in stone-lined cists in the thirteenth-century Lady Chapel, and in its late fifteenth-century successor. The solitary grave in the Holy Cross chapel was also of this type. Six certain and three probable occurrences were recorded in the nave of the Lady Chapel, and two presumed examples were located

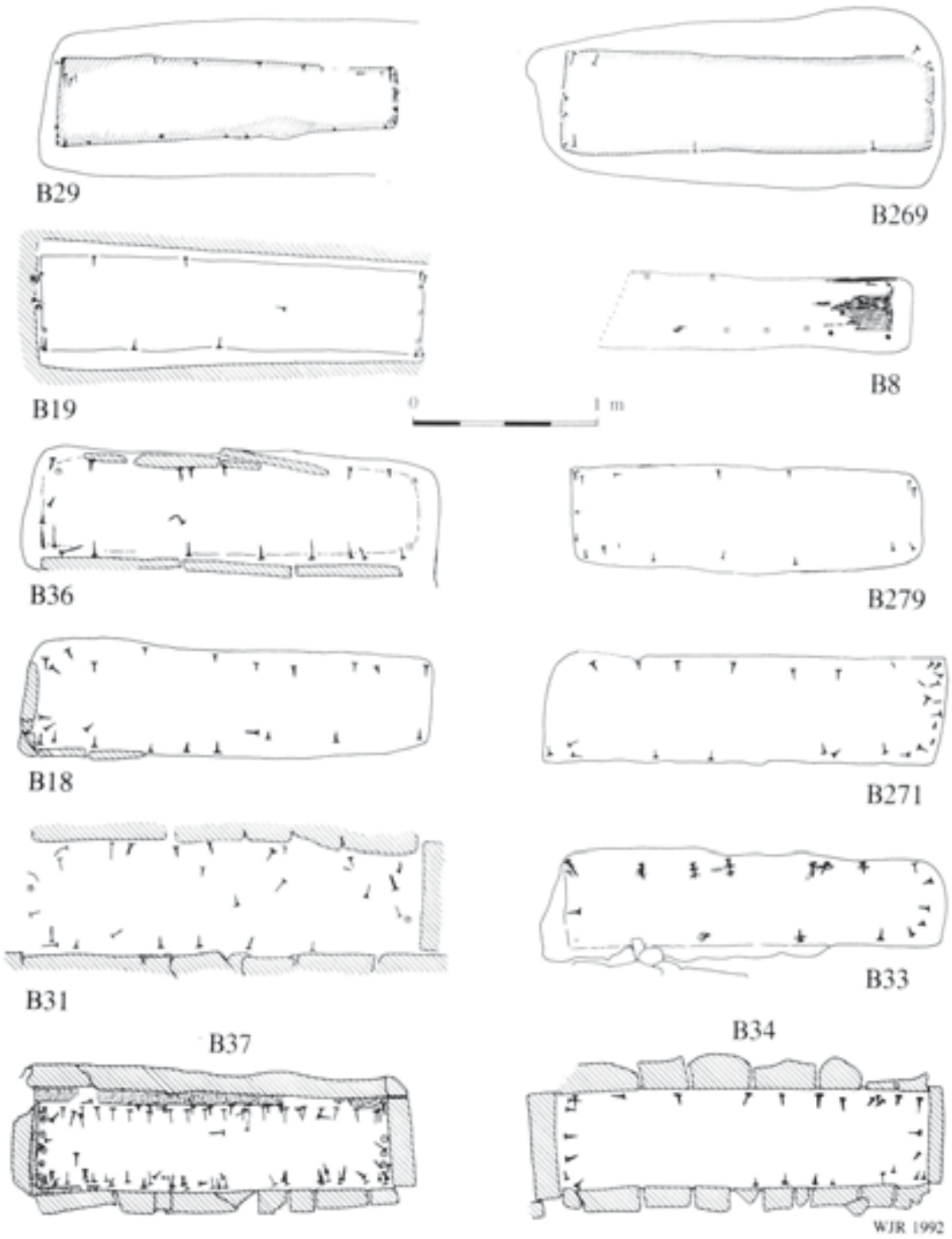


Fig. 524 Comparative plans of medieval graves with timber coffins, as evidenced by nail patterns in the ground

(but not excavated) in the chancel. The total in Stillington's chapel was probably nine, although several were very fragmentary, and two cists seem to have been reused from an earlier period.

In one instance the full dimensions of the coffin were recoverable (F618, burial 37; p. 190), showing that it had a modest taper of 5 cm (2 ins) along its length. Details of the method of construction were recovered, and the coffin was made of boards 2.6 cm (just over 1 inch) in thickness. The carpentry was evidently simple and, given the prodigious use of large nails, certainly quite crude. Whether the timber was concealed by fabric linings is unknown, but this must be considered highly likely.

On the whole, the later cists were of cruder construction than the early ones, being mainly built of rubble rather than ashlar. In most cases, the joints were generously smeared with mortar, and internal limewashing is again suggested. There was also a single instance of an imitation cist being formed by simply plastering the sides of an earth-cut grave (B279; p. 237). All were, or had been, covered by stone slabs.

Timber coffins and linings in earth-cut graves
(Fig. 524)

Few examples of nailed wooden coffins were recorded in earth-cut graves, except inside the chapels. There were four occurrences in the early Lady Chapel, and nine were found in Stillington's chapel. All dated between the thirteenth and the fifteenth centuries. Coffins were basically rectangular, with little or no taper along their length. There was no discernible difference between these coffins and those that were placed inside stone cists.

Evidence for nailed coffins of earlier date is very sparse, and it is clear that this was not the usual method of construction at Wells before the thirteenth century. A small number of graves, including some of the earliest Anglo-Saxon burials, yielded a few nails each. But in no case did these form a meaningful pattern in the grave, or convincingly outline a coffin. Furthermore, in most occurrences the number of nails present was four or less. These are demonstrably inadequate to be considered as the essential fixings for a coffin. In the sole instance where a relatively large number of nails occurred, in burial 98, it could be shown that they were associated with timbers that overlay the body at one end of the grave (p. 70). Burial 51 was also an exception, a neonate in a nailed wooden box.

Nevertheless, the appearance of nails clearly points to the former presence of timber elements in some burials, and in a few well-preserved graves the stains of associated timberwork were visible. The specific evidence has been discussed in chapter 3 (pp. 68–70), and only a general summary of the conclusions need be given here. In favourable soil conditions the interface between the primary grave-fill around a coffin, and the subsequent infilling that occurred when the lid collapsed and a shaft of material descended into the void from a higher level, could be distinguished. In such cases it must be accepted that fully carpentered timber coffins were in use.

Evidence for the nail-less coffin in Anglo-Saxon England was largely circumstantial and based on the survival of soil silhouettes prior to the discovery of a series of fully preserved oak coffins in waterlogged conditions at St Peter's Church, Barton-upon-Humber (Rodwell and Rodwell 1982, 310–12). Full details have yet to be published, but a variety of coffin-making techniques was shown to have existed in the late Saxon and Norman periods. Some coffins were fully carpentered, the sides, ends and base being jointed with pegs and long dowels; even the lid could be fixed with skewed pegs. In other cases the lid was nailed on, or just a single nail driven into a corner joint, perhaps where the pegging had not been adequately secure. In one coffin the sides were nailed to the base-board (three nails per side), while the ends and the lid were fixed by means of pegging. Thus the frequent presence of between one and four nails in a grave at Wells could easily be explained.

In some of the Anglo-Saxon burials at Wells it has been shown that while there were timber elements present in the grave, these could not have constituted a true coffin. Thus, although there were tell-tale signs of timbers running the full length of the grave in burial 100, there was also a shaped head-recess cut into the natural bedrock (p. 67). Other burials, such as B49, were in graves too narrow to have received a carpentered coffin, yet there was clearly timber between the corpse and the wall of the grave. In these instances it is argued that the grave was lined with planks: in effect, a timber cist was built. Again, Barton-upon-Humber provides unequivocal evidence for the use of planks (sometimes of secondhand timber) to line and cover graves.

Some of the timber-lined cists at Wells were capped by stone slabs (*e.g.* B99/100), while others must have had timber covers. Evidence for this comes partly in the form of timber traces in the ground (including the nailed boards over burial 98), and partly from the disposition of skeletal remains. It can be shown in some instances that decomposition of the body took place in a void, the implication being that the interment was originally protected by a timber cover, which subsequently decayed. The earliest cemetery at Whithorn, Galloway, contained timber 'lintel-graves' which, in some cases, incorporated stone elements too (Hill 1997, fig. 3.3).

In instances where a corpse was placed, seemingly uncoffined, in an oversized rectilinear grave it may be posited that a dug-out, or log-coffin was used. By its very nature, such a coffin is unlikely to leave physical traces in the ground, unless exceptional conditions for preservation prevail: no nails, no thin silhouette lines. Evidence for early Anglo-Saxon log-coffins has been detected in the stratigraphic record at Whithorn (Hill 1997, fig. 3.3), and a single instance of a preserved dug-out coffin occurred at Barton-upon-Humber. The type was doubtless once common and widespread, and is likely to have persisted well into the Middle Ages: *cf.* the survival of medieval dug-out chests in churches (for a general introduction, see Lewer and Wall 1913, 39–44).

Finally, the matter of charcoal in graves needs a brief explanation and clarification. There has been much confusion in published reports between charcoal-graves and charred-coffin burials. The two are utterly distinct and should not be conflated. Charcoal fragments are frequently found in graves, but that does not automatically assign them to the category of 'charcoal burials'. The term is only applicable where the corpse has been placed on a bed of loose charcoal and, sometimes, covered with similar material. Thin lines of charcoal, or black staining, in the ground normally result from the use of charred planks in coffin making, or in the construction of timber cists. Some of the mid-to-late Saxon burials at St Guthlac's minster, Hereford, were not true charcoal-burials but seem to have been in charred coffins (Shoesmith 1980, 25–9).

No charcoal-graves were found at Wells, but several clear instances of the use of charred planks were recorded, both in coffin and in cist construction (p. 69).

The use of charcoal and charred timber in sepulchral furnishing has yet to receive full-scale study. The technique of charring timber in order to increase its lifespan in the ground is well known.[2] Charred planks were certainly used in late Roman coffins, where the practice in sepulchral furnishing may perhaps have originated (*cf.* Rodwell 1988, 31). Some of the preserved Anglo-Saxon coffins at Barton-upon-Humber showed clear traces of carbonization on the surfaces of the planks.

Uncoffined burials

Many of the Anglo-Saxon and medieval burials in the Camery cemetery were evidently neither encoffined nor placed in cists, but were simply deposited in earth-cut graves, the outlines of which could be quite irregular. Evidence for wrapping the corpse is slender, but the extremely cramped posture in the case of several of the vicars choral argues for the use of a winding sheet. The most striking case was burial 283 (Fig. 371; p. 359). The 'parallel-sided effect' in burial has been discussed by Boddington (1987, 36) in relation to burials at Raunds.

While some twenty copper-alloy pins were found in the excavations, no more than one was recovered from any single grave, and many were not from graves at all (Fig. 512). No Anglo-Saxon grave yielded any pins. It may be concluded that the use of shroud pins was rare at Wells, and that may in turn imply that shroud burial was not the norm.

Corporeal decay

Perhaps the most immediately striking aspect of the excavation of the burials at Wells was the very varied state of their physical survival. The local soil is broadly neutral, with a tendency towards alkalinity. Mortar, plaster and even limewash survive in the soil, and animal bone was found in a good state of preservation in all archaeological levels from the Anglo-Saxon buried-soil horizon upwards. There are thus no reasons relating to the intrinsic constitution of the site why human bone should not be well preserved too. Some bones were indeed found in an excellent state, but this phenomenon was noted to be more common among the disarticulated material, and in the charnel collections, than in undisturbed graves. If anything, this is the converse of what might logically be expected. Likewise, decay was not proportional to archaeological age. Three aspects of decay were noticed repeatedly during excavation. First, decay and movement of bones within the torso; second, the decay of the skull; and third, the movement of limbs. Finally, the discolouration of some bones through localized burial conditions was also noted.

The torso

The extent of bone decay was frequently not uniform throughout an individual grave, indicating that highly localized factors were influential. Where a visible differential existed, it operated in favour of the preservation of the limbs rather than the torso. While it may be argued that the long-bones are composed of more dense (and hence decay-resistant) material than the smaller bones of the torso, this does not provide the complete answer to the problem, or even the major part of it.

In many instances it was found that not only had the rib cage and scapulae entirely disappeared, but the vertebrae had gone too, even their relatively dense centra. In more extreme cases there was no sacrum remaining, and little or no pelvis either. Moreover, the heads and trochanters of the femora were also sometimes missing. Such extensive decay is not easily reconcilable with the intact survival of slender arm bones, wrists and hands, ankles and feet. Yet in some burials where almost nothing remained of the torso, the hands and feet were moderately well preserved. Moreover, their position in the burial was observed to be critical: if the arms and hands lay at the side of the body, their better preservation was assured. Conversely, if the lower arms and hands were placed on the chest or pelvis their condition generally reflected that of the torso.

It was commonly observable that decay was more advanced in medieval burials than in earlier ones, and that it was most severe in cases where the corpse had decomposed in a void, rather than in direct contact with earth. Thus in sealed stone cists and coffins, where the corpse was totally surrounded by limestone — and thus alkalinity should have been assured — some of the worst examples of bone decay were found. Even in cases where the form of the bone was clearly visible, upon opening the tomb, it was often found that little substance remained. The consistency of the bone resembled that of a digestive biscuit after it has been dipped in tea: the collapse was similar. An undisturbed late medieval burial in a limestone coffin was examined in the north quire aisle of the cathedral in 1982: again, the extent of bone survival was very low.

The conclusion must be that the decay of bone was directly linked to the decomposition of the organs and soft tissue of the torso. That process somehow released sufficient acid to soften, or totally dissolve, not only the ribs and other slender bones, but also the vertebral column and even the pelvis. If the arms were in physical contact with this process they too were destroyed. The result is plain enough, but the chemistry of the cause still requires investigation.

Precisely the same effect has been observed during the recent excavation of burials inside Lichfield Cathedral.[3] The most severe decay was noted in eighteenth-century burials contained in elm coffins, inside brick-built vaults: in some cases, not even the

long-bones of the legs had survived. Since it can be shown that no potentially destructive influences have been brought to bear on the corpses from external sources (even percolating ground water can be eliminated in Lichfield Cathedral), it is incontrovertible that the dissolving of the bone has been caused by the decay of the flesh. That such rapid and advanced decay should occur in certain groups of burials seems unlikely to be a wholly natural phenomenon. It is therefore posited that bone dissolution has been accelerated in such cases by the deliberate introduction, at the time of burial, of chemical substances with destructive powers. The context for this could perhaps be embalming. Furthermore, it can be no coincidence that high-status burials, both medieval and later, are more often found in a worse condition than those of lower status.

The skull

Decay of the skull and mandible was found to be subject to considerable variation. While in many skulls bone and dental preservation were good, in other instances the base or facial area had partially or totally disappeared, and with it the teeth. The cranial vault was nearly always preserved. A fairly consistent correlation was noted between the decay of the torso and that of the skull. Again, the most severely decayed skulls were those not buried directly in earth, but where the corpse had lain in a coffin or cist.

No more dramatic example of skull decay was seen than in burial 71. Here, the bone had not dissolved in the way that the post-cranial skeleton often did, but had turned crystalline and efflorescent, and was greyish-white in colour (Figs. 102 and 103). It has been noted (p. 108) that these effects were entirely confined to the facial area, and that a sharply defined change to better preserved, firm, natural-coloured bone occurred at about the hairline. Again, the *post mortem* treatment of the corpse seems likely to be the cause. This particular type of bone decay was almost entirely restricted to skulls. Similar decay phenomena have been observed on bones in a charnel house at Rothwell, Northamptonshire, where it was attributed to natural processes (Garland *et al.* 1988).

Limbs: bone movement and restraint

Another aspect of corporeal decay which was frequently noted concerned the physical movement of individual bones within the grave. Leaving aside those cases where jumbling could possibly have been caused by rodents or other forms of intrusion, there remains a substantial number of occurrences where the post-depositional movement of bones took place without the assistance of any external agency. It is not difficult to appreciate how a skull, as it became detached from the cervical vertebrae, and its balance changed, could roll out of the head-recess in a coffin. That frequently happened. It is more difficult to comprehend how leg bones could shift longitudinally in the grave, or the occasional vertebra could be found 30 cm or more away from its correct location. In some cases the utter disarray seen amongst the vertebrae and ribs prompts the suggestion that the torso exploded. Even so, there are considerable difficulties to be explained: in order for a body to explode it is necessary for the skin to be intact, and still forming a gas-tight envelope. However, bones could not separate and individually move out of position unless the ligaments that held them had broken down; but, commonly, bones remain attached to one another long after the flesh has decomposed.

Apart from the seemingly random dispersal of bones of the upper part of the body, a separate dismemberment mechanism sometimes affected the long-bones, most noticeably the legs. In numerous graves the tibiae or femora, or both, were found to have rotated on their axes through 90–180°, without being significantly displaced in any other way. In extreme cases, where rotation of both legs was complete, this gave rise to the curious phenomenon of a supine burial appearing to have the legs in a prone attitude.

Fig. 525 Burial 39, in cist-grave F590, illustrating an extreme case of the axial rotation of long bones during the process of corporeal decay

Axial rotation of the femora, and humeri, was always outwards, so that the heads of the bones pointed away from the sockets with which they had once engaged. Rotation of the tibiae could be in either direction, but outward movement was more common. Some case studies may be noted.

Burial 39 in the nave of the Lady Chapel was contained in a sealed stone-built cist with an earth floor; the body was uncoffined and no evidence of wrapping or envelopment was found (Fig. 525). The corpse therefore decayed in a void, without constraint. The torso was intact, with the arms crossed on the chest. The skull had rolled to one side, but there was nothing to suggest that any disruptive influence had affected the upper half of the body. The legs presented a different picture. The left femur was perfectly in place, its head still engaging with the acetabulum of the pelvis. The fibula was also more-or-less in place, but had moved slightly eastwards in the grave. The left tibia, however, had not only moved down the grave but had also rotated through 180° in a clockwise direction, and its distal end had somehow managed to come to rest on top of the tarsals. Of the right leg only the fibula remained in place; the tibia had rotated through 90° and the femur through 150°, both in a clockwise direction. Both feet had also fallen towards the right.

The contrast with certain other cist-burials in the chapel is marked, where the legs and feet were impeccably positioned. Thus burials 32 and 37, which were both in wooden coffins, housed in cists, retained perfect posture (Figs. 176 and 183). While it might be argued that the disintegration of an oak coffin, which would not have taken place until long after the flesh had decayed, could well have caused displacement amongst the bones, these and other examples provide testimony to the fact that such a scenario did not necessarily occur. It is indeed difficult to imagine how the coffin lid, which could only have collapsed on top of the skeleton, could have failed to disturb the lower arm bones, which in both burials 32 and 37 were balanced across the spine. One potential solution would be to posit the absence of lids to these coffins, and a paucity of lid-fixing nails has already been noted. That, however, is special pleading, and does nothing to ease the problem in reality: the sides of timber coffins normally bow and collapse inwards, onto the corpse. Again, the arm bones should have been displaced by the falling timber.

The only solution that seems to be wholly compatible with the evidence is that the coffin was filled with an organic substance which was sufficiently dense and long-lasting both to prevent the displacement of bones during the process of corporeal decay, and to restrain the collapsing components of the coffin until they too had substantially disintegrated. A more emphatic demonstration of the presence of packing material is seen in the cist-coffin containing the superimposed burials 27 and 28 (Fig. 178). Here, not only was the lower burial (B27) perfectly laid out, but so too was the child (B28) on top of him. The two were separated by a very thin layer of humic material.

The completeness and perfect positioning of the child's hands and feet leave no room for doubt that it was fully supported from below during the decay process. Whatever the bedding material was, it was compact and decayed at a constant rate, allowing the upper corpse to sink down gently until its bones came into contact with those of the underlying one. Had that kind of support not existed, the child's bones would have collapsed and dispersed among those of the adult. Moreover, it seems virtually certain that the child itself was in some way protected by a superincumbent filling, since the fingers and toes showed no signs of lateral spreading, and the patellae were still over the knee joints.

So far, the evidence for an organic filling within graves such as those described is circumstantial, albeit compelling. The adjacent grave to B27/28, another cist-coffin containing burial 26, provided further evidence in this enquiry. The legs were neatly placed, and what little remained of the arms appeared to be likewise, but the entire torso had decayed (Fig. 181). It has already been noted that a pronounced brown stain occurred inside this cist, which culminated in a horizontal line, 23 cm above the floor (p. 188). This clearly marked the level to which coffin-filling material was introduced, and which was sufficiently long-lasting to have deposited an indelible stain on the masonry (Fig. 180).

A similar horizontal stain was noted in several other cist-graves, including burials 35 (cist F593) and 40 (cist F591). 'Tide marks' caused by the filling material were only present in cases where the cist itself was also the coffin. Where a timber coffin was placed within a cist, the corpse-enveloping material would obviously not have come into contact with the masonry. That the space between the coffin and the wall of the cist was not deliberately filled was apparent in burial 37 (cist F588), where the excess mortar from setting the cover-stones fell into, and partly filled, the void (p. 190).

In sum, there can be little doubt that a compact organic material was introduced into some timber coffins and stone cist-coffins to envelop the corpse. That it was not merely a mattress is clear from the depth involved. Whatever the purpose of this material, its practical effect — as seen through excavation — was to retain the body posture and to prevent the limbs from moving or shedding their extremities. No evidence for the identity of the filling material has been found: one might speculate that it was moss. The area around Wells is notably rich in mosses.

Conclusion

A considerable variety of burial types is evidenced at Wells, ranging from the common earth grave, with or without a shroud, to the expensive monolithic stone coffin. There is no hint of the use of lead coffins.[4]

Anglo-Saxon timber coffins were essentially constructed without the use of nails, and there were no occurrences of iron corner-brackets or other fittings. Heavily nailed coffins appeared in the thirteenth century.

Burial in a cist (without an inner coffin) was a long-lived tradition at Wells. The earliest examples, which may be seventh or eighth century, appear to have involved body-shaped grave-cuts with timber linings. Some were covered by stone slabs, others by boards. Rarely, the cist was formed by applying a plaster lining directly to the walls of an earth-cut grave. The use of mortared stone to construct the sides of the cist-coffin was probably introduced in the eleventh century, and the earlier examples appear unsophisticated. In the twelfth and thirteenth centuries, however, cist-coffins were more elaborately constructed, using ashlar in preference to rubble, and neat head-recesses were formed. In the most sophisticated examples a shaped stone pillow was provided in the recess.

Interest in the cist-coffin died out in the thirteenth century, and was followed by a greater use of timber coffins. These were of simple rectangular form, some slightly tapered, and in the more affluent burials the coffin was lowered into a stone-lined chamber, which was then capped. This burial type was widespread in Britain, and continued until the nineteenth century, although there were none later than *c.* 1550 in the Camery. The highest ranking burials, down to the Reformation, continued to be in monolithic stone coffins. Those of the clergy were provided with an integral chalice-niche adjacent to the upper right arm.

The evidence from Wells for the decay and, more particularly, the post-depositional movement of bone within graves provides valuable insights into burial practice and furnishing. As a generalization, it may be observed that where all the components of a skeleton were correctly juxtapositioned the corpse was most likely to have been either buried in earth, or totally enveloped by an organic grave-packing material, such as moss. Conversely, where small bones had moved, even by a few centimetres, away from their correct locations, and where long-bones had suffered axial rotation, it is practically certain that the corpse decayed in a void. This phenomenon is especially helpful in identifying the former presence of nail-less coffins and timber-lined cists as sepulchral furnishings.

Bone displacement within sealed graves is not an uncommon phenomenon, and has been discussed by Brothwell (1987) in relation to the Jewbury cemetery at York. However, his conclusion that displacement within the torso was caused by the long-distance carrying of coffins containing decaying corpses is utterly implausible as a general hypothesis, and was largely discounted in the final publication of Jewbury. Intermittent waterlogging was proposed as an explanation (Lilley *et al.* 1994, 392). Many comparisons may be drawn between Wells and the disorder observed in the Anglo-Saxon cemetery at Raunds (Boddington 1987).

The selective disintegration of skulls, particularly in the facial area, is a phenomenon which was noted in cist-graves where the corpse was not in direct contact with earth. The chemistry of this decay process requires further study in order to ascertain whether there had been any chemical application to the face in such instances. For comments on bone exfoliation and disintegration, *cf.* Christ Church, Spitalfields (Molleson and Cox 1993, ch. 1).

The dissolution of all or most of the bones in the torso — and of the arms if they were laid upon the body — was not noted in common earth graves, but was a frequent phenomenon of coffined burials and cist-burials. It is tentatively suggested that the chemistry of embalming may have been primarily responsible for this effect; but it is also apparent that the corpse needed to decay inside a void. Whatever the precise cause of torso-decay, it was certainly much retarded in earth graves, where percolating groundwater could dilute and wash away the erosive chemicals.

Finally, mention has been made several times of the presence of black staining on some skeletons, and disarticulated bones. This phenomenon occurred relatively infrequently, but it is visually striking and is potentially informative. The stain is indelible, but does not usually penetrate far below the surface of the bone. Staining could occur comprehensively, or patchily, on a skeleton, or on individual bones. In severe cases, bones were found to be uniformly jet-black all over.

Staining seems to have occurred only when a burial was in waterlogged or very damp conditions for a prolonged period, but water was clearly not the sole criterion: some burials lying at or below the water-table were wholly unaffected. The same applied to animal bone from low levels. The percolation of ferruginous salts through the soil was observed frequently to cause orange or brownish staining on bones (and on pale-coloured limestone), but that is plainly unrelated to the phenomenon of black staining on selected skeletons. At Wells, staining does not seem to have taken place often, if at all, in cases where only a simple earth-cut grave was involved. This is another phenomenon which was evidently linked to coffin and cist-burial.

It is suggested that black staining was caused by tannic acid being washed out of oak coffins or cist linings. Similar stains have been noted on other cemetery excavations, especially at Barton-upon-Humber, where a series of preserved Saxo-Norman oak coffins was found. Preservation had been effected through waterlogging, and in all cases the skeleton was found to be severely blackened (Rodwell and Rodwell 1982, 301–2).

The skeletal remains

by Juliet Rogers

The human bone recovered from the excavation in the Camery can be divided into three categories, which required different types of analysis. The first group, the largest, was that of articulated skeletons recovered from discrete graves. The second group was disarticulated bone disturbed from earlier burials by subsequent grave digging and building work. The third category of bone was also disarticulated but was from a restricted location, having been redeposited in the pre-Saxon mausoleum (Structure 1), which finally served as an ossuary. The three types of skeletal assemblage were examined and analyzed separately, and are reported in different sections of this chapter.[5]

The excavated skeletons

In total, 287 skeletons were received for examination.[6] The recovery of these varied considerably from complete skeletons with nearly all bones present to the very scanty, represented, for example, only by a pair of feet. Of the 227 adults present, only 115 (just over a half) had more than 25% of skeletal elements present. The condition of most of the bones was good, but many were very fragmented and in some cases (B71, for example) the bones were particularly friable (p. 108).

The aim of the examination was to estimate the number of individuals present, and their sex and stature where possible. An inventory and standard anthropological measurements were taken, together with an assessment of non-metric traits and dental status. A survey and investigation of evidence for any diseases, or other abnormalities, was also conducted. All the skeletons were assignable to the Anglo-Saxon and medieval periods, but most could not be dated very closely, except for four small groups of burials. These are:

i. Skeletons from within, or externally associated with, the two successive Anglo-Saxon chapels (Structures 3 and 6).
ii. Burials of vicars choral in the Camery.
iii Burials from within the thirteenth-century Lady Chapel-by-the-Cloister (Structure 11).
iv. Burials from within Bishop Stillington's replacement Lady Chapel (Structure 15).

These groups have been accorded special attention. The largest group, which came from the Anglo-Saxon chapels, totalled only 35 individuals, so they are not numerous enough for separate analytical treatment. Throughout the general analysis, therefore, the data from these groups were amalgamated with those from the other skeletons. In some cases, however, the data from the chapel groups have been compared directly with the total site in order to see if there were any notable differences between them, but it must be emphasized that the small number of skeletons from these discrete structural phases does not allow much significance to be placed on the observations.

Sex and age

Providing most of a skeleton has survived, including the pelvis, sex can be assigned with a 90–95% chance of accuracy. If fewer bones are present and cranial morphology or femoral or humeral head diameters are used, attribution of sex may be less accurate, so some skeletons in this category will have been assigned a probable sex. For the purpose of analysis, however, definite males and females, and probable males and females, have all been enumerated into categories of male or female. There is also a section of the population with a degree of overlap between the skeletal sexual characteristics: these, and skeletons with little bone surviving, are placed in a category of unknown sex.

Ageing non-adult skeletons from eruption and formation of teeth and epiphyseal fusion can also be relatively precise, although the ages produced by the two methods are not always coincident. Adult skeletal ageing can present a problem as degenerative changes are used for age assessment. The use of attrition of molar teeth or the morphology of the pubic symphysis, for example, are inexact ways of assigning age, but all that is readily available in most skeletons. Skeletons can be assigned to broad age-categories using these criteria but a proportion of unaged adult skeletons remain in a separate group, simply labelled 'adult'.

Age categories	
Infant	0–4 years
Juvenile	5–14 years
Young adult	15–24 years
Adult	25–34 years
	35–44 years
Mature	45+ years

More details of sexing and ageing methods may be obtained from Stewart 1979, Brothwell 1981, Bass 1987, and Buikstra and Ubelaker 1994.

Tables 7–11 record the age and sex of skeletons for the whole site and then for the separately identified groups of skeletons.

Table 7 Age and sex of skeletons for the whole site

age	*male*	*female*	*unknown sex*	*total*
infant	0	0	22	22
juvenile	0	0	23	23
15–24	18	9	10	37
25–34	10	6	3	19
35–44	12	6	1	19
45+	26	9	4	39
adult	27	23	78	128
	93	**53**	**141**	**287**
	(32.4%)	**(18.5%)**	**(49%)**	

Table 8 Age and sex: Anglo-Saxon chapels

age	*male*	*female*	*unknown sex*	*total*
infant	0	0	2	2
juvenile	0	0	4	4
15–24	1	1	1	3
25–34	1	1	0	2
35–44	0	1	0	1
45+	3	2	1	6
adult	2	5	9	16
	7	**10**	**17**	**34**
	(20.6%)	**(29.4%)**	**(50%)**	

Table 9 Age and sex: vicars choral

age	*male*	*female*	*unknown sex*	*total*
infant	0	0	1	1
juvenile	0	0	3	3
15–24	4	0	4	8
25–34	0	1	0	1
35–44	0	0	0	0
45+	2	1	0	3
adult	2	0	1	3
	8	**2**	**9**	**19**
	(42.1%)	**(10.5%)**	**(47.4%)**	

Table 10 Age and sex: Lady Chapel-by-the-Cloister

age	*male*	*female*	*unknown sex*	*total*
infant	0	0	1	1
juvenile	0	0	0	0
15–24	0	0	0	0
25–34	3	1	0	4
35–44	2	0	0	2
45+	8	1	0	9
adult	2	1	4	7
	15	**3**	**5**	**23**
	(65.3%)	**(13%)**	**(21.7%)**	

Table 11 Age and sex: Stillington's chapel

age	*male*	*female*	*unknown sex*	*total*
infant	0	0	0	0
juvenile	0	0	0	0
15–24	1	0	1	2
25–34	1	0	0	1
35–44	2	1	0	3
45+	7	0	0	7
adult	2	0	5	7
	13	**1**	**6**	**20**
	(65%)	**(5%)**	**(30%)**	

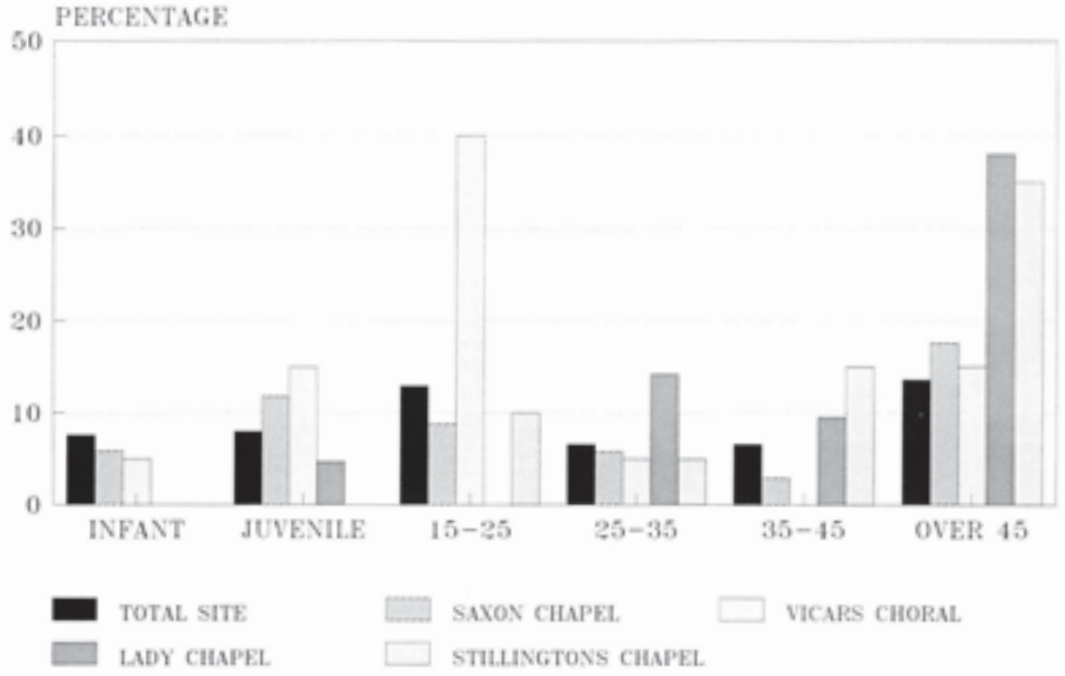


Fig. 526 Histogram showing age distribution amongst the identified burial groups at Wells

The distribution of the percentage of the population in each age group is displayed in Fig. 526. The numbers for the whole site are compared with the separate groups and, although these are small, there are differences between them. They include a higher percentage of young adults among the vicars choral and higher percentages of mature adults in both the earlier Lady Chapel and in Stillington's chapel. The variation in the age profiles of these groups is not unexpected as it was known that the vicars choral for example would mostly have been young men or boys. The sex ratios between the groups also confirm this trend with more males than females in the cemetery of the vicars choral, and a large difference in the Lady Chapel especially, which was known to contain priest burials.

Stature

Statures can be estimated by using the maximum lengths of major long bones in regression equations. The most frequently used are those of Trotter and Gleser (1952; 1958), and subsequently modified by Trotter (1970). Stature was estimated only for those adult skeletons of known sex with sufficient long bone survival. In each case the long bone measurements selected were those giving the least standard error (Brothwell 1981). Fifty-eight males and 29 females fitted the criteria. Table 12 displays the range of heights for the sexes for the whole site and for the individual groups, and Table 13 shows the number of individuals in each height range.

As stated earlier, the numbers of skeletons within the separate groups are too few for any significant differences to be observed, but the mean stature for the whole site (1.67 m for males and 1.57 m for females) differs only slightly from that indicated by the separately defined burial groups. The mean heights for the whole site are slightly shorter than those for a modern population (Knight and Eldridge 1984). A further discussion of stature will be found in the section on the skeletal material from the mausoleum (p. 560).

Table 12 Range of height (in mm)

phase	*male*	*no.*	*female*	*no.*
total site	1627–1829 (mean 1670)	58	1512–1738 (mean 1576)	29
Saxon chapels	1681–1744 (mean 1704)	3	1529–1699 (mean 1649)	4
vicars choral	1630–1769 (mean 1672)	9		0
Lady Chapel	1627–1792 (mean 1697)	12	1650	1
Stillington's chapel	1668–1787 (mean 1736)	8	1530	1

Morphological variants

Many cranial and post-cranial characteristics have been listed and described by, among others, Berry and Berry (1967) and Finnegan (1978), but for the skeletons from this site a restricted number of characteristics were observed, being chosen as variants which might occur with sufficient frequency in incomplete material. Five cranial and six post-cranial traits were scored. Table 14 illustrates the prevalence of the various traits for the whole site, and for the individual

Table 13 Stature of adults (in metres), with numbers for the whole site and for the separate groups

	males					*females*				
height (metres)	*total*	*Saxon chapels*	*vicars choral*	*Lady Chapel*	*Stillington's chapel*	*total*	*Saxon chapels*	*vicars choral*	*Lady Chapel*	*Stillington's chapel*
1.50	0	0	0	0	0	3	1	0	0	1
1.55	0	0	0	0	0	5	0	0	0	0
1.60	6	0	3	3	0	12	0	0	0	0
1.65	14	2	5	4	2	5	3	0	1	0
1.70	20	1	0	3	3	4	0	0	0	0
1.75+	18	0	1	3	3	0	0	0	0	0

Table 14 Frequency of morphological variants

trait	*total site* %	*Saxon chapels* %	*vicars choral* %	*Lady Chapel* %	*Stillington's chapel* %
metopism	6	14	6	6	8
parietal foramen	29	33	17	38	60
ossicle at lambda	13	0	41	13	0
lambdoid suture ossicle	31	0	50	54	36
supra orbital morphology	29.5 with notch 50 with foramen 4.5 with both	100 with notch	64 with notch 7.1 with foramen 14.2 with both	72 with notch 27 with foramen	54.5 with notch 45.5 with foramen
ossicle acromiale	9	0	22	0	0
lumbar sacralisation	4	0	9	0	8
atlas facet	0	–	–	–	–
atlas bridge	2 (1 person)	–	–	–	–
septal aperture	18	33	9	0	11
humerus; vastus notch; patella	8	0	11	8	8

chapel groups, but many skeletons were too damaged to make any observations even with the restricted number of variants being observed.

The most common cranial variant was the occurrence of small bones or ossicles within the lambdoid suture. The septal aperture of the humerus was the most common post-cranial trait. Although there appeared to be wide variations in the frequencies of some of the traits (double the prevalence of metopic sutures in the Anglo-Saxon chapels, for example), the numbers were so small that no significance can be attached to the variations.

Dental status

Only 130 skeletons had any surviving dentition: 105 adults and 26 children. In total, 2482 teeth survived from 3349 available tooth spaces. Of the teeth, 1957 were adult and 525 were from children, with 2720 adult and 629 non-adult tooth spaces, respectively. Table 15 displays the numbers of teeth and tooth spaces for the whole site and for the different chapel groups.

This table also records the number of teeth lost *ante mortem* and the number of abscess cavities.

Table 16 presents data on various forms of dental pathology including the prevalence of skeletons with *ante mortem* loss and abscess cavities. The prevalence of enamel hypoplasia varies considerably between the groups and is an interruption in the deposition of enamel during tooth formation which leaves characteristic lesions on the tooth. It is caused by periods of illness or malnutrition during childhood when the teeth are being formed (Skinner and Goodman 1992).

The number of skeletons within each group, as can be observed, is really too small for much significant observation but the high prevalence of *ante mortem* loss and caries, for example in the Lady Chapel and Stillington chapel groups, is striking. These variations in dental health might be due to the older age profile of the skeletons in the two chapels and accords with the finding of pathological changes associated with the status of these individuals (p. 562).

Evidence for non-dental disease and other abnormalities

Relatively few diseases have a bony component or leave other indications on the bones, but only about half the skeletons have no pathological change. Of the Wells skeletons, 152 (53%) had no observable pathological changes, but most of these were so incomplete or fragmented that a full survey of abnormalities was impossible to carry out.

Modern clinical diagnosis depends on a history of symptoms given by the patient, a clinical examination, X-rays and biochemical and histopathological input. Each of these disciplines has developed a set of separate but overlapping diagnostic criteria for a particular disease. Palaeopathological diagnosis depends on the visual appearance of the bones alone and, although X-rays are used, palaeopathology remains a discipline in its own right, also separate from but overlapping with the other diagnostic criteria. As a result, the aetiological categories into which diseases are customarily assigned in a clinical setting are not always appropriate for palaeopathology. However, the broad outline with some modification will be followed in the

Table 15 Dental status

phase	*skeleton with teeth*		*no. of teeth*	*no. of tooth spaces*	*total ante mortem loss*		*total abscess cavities*	
	no.	*%*				*(average per person)*		*(average per person)*
whole site	130	46	2482	3349	309	(2.36)	38	(0.29)
Saxon chapels	16	47	257	356	18	(1.12)	5	(0.31)
vicars choral	16	80	385	470	35	(2.18)	1	(0.06)
Lady Chapel	11	52	238	319	64	(5.8)	2	(0.18)
Stillington's chapel	10	50	146	252	72	(7.2)	15	(1.5)

Table 16 Percentage of individuals with dental pathology

phase	*ante mortem loss*		*abscess*		*caries*		*enamel hypoplasia*		*alveolar disease*	
	%	*no.*	*%*	*no.*	*%*	*no.*	*%*	*no.*	*%*	*no.*
total site	40	52	13	17	20.7	27	8.5	11	13.8	18
Saxon chapels	44	7	12.5	2	25	4	18.75	3	12.5	2
vicars choral	25	4	6.25	1	12.5	2	6.25	1	0	0
Lady Chapel	82	9	18	2	45	5	0	0	27.2	3
Stillington's chapel	90	9	50	5	50	5	30	5	10	1

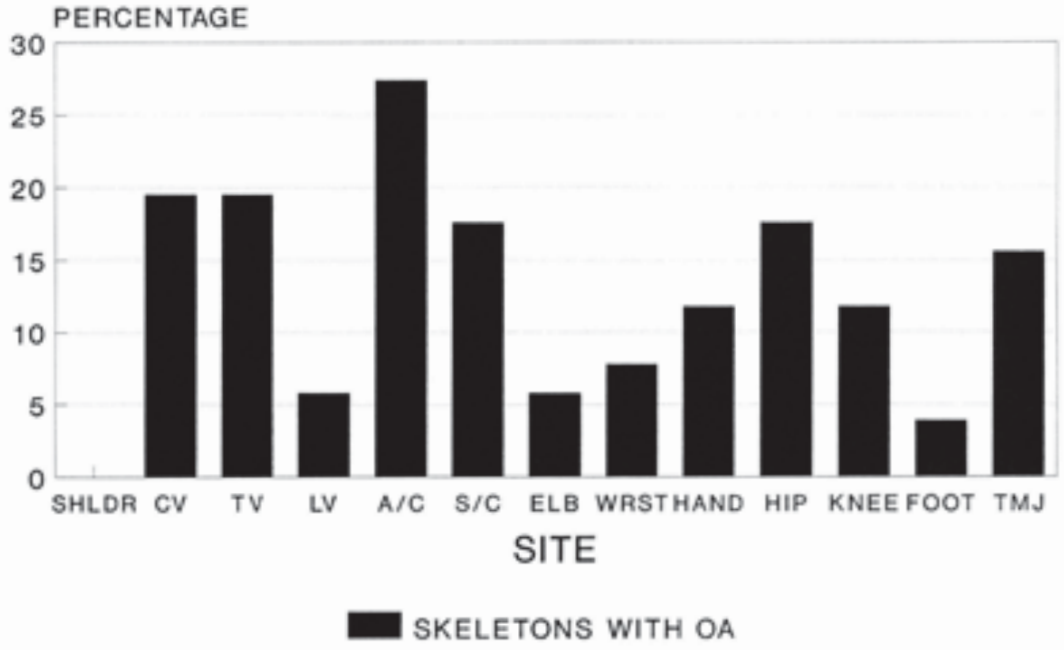


Fig. 527 Bar chart showing the percentage of individuals with osteoarthritis, and its distribution (site) through the skeleton

discussion of the more major pathological changes recognized in the skeletons at Wells.

Joint disease

The most frequent pathological changes recognized in all skeletal assemblages are in and around the joints. This group of diseases is commonly classified as degenerative disease but this is misleading as many are not caused by degeneration or 'wear and tear'. Osteophyte or a lip of new bone around the joint or vertebral body margin is ubiquitous and is likely to be an ageing phenomenon. Therefore the presence of osteophytes does not necessarily indicate a more serious process, although they are commonly accompanied by other changes. The classification of the joint diseases in the Wells skeletons follows the scheme described by Rogers and Waldron (1995).

Osteoarthritis

Osteoarthritis (OA) is the most frequently occurring disease, recognized in 22.4% of the adult skeletons at Wells. Osteoarthritis is scored as present if eburnation (polishing of the bone) exists, or a combination of two of the following: pitting of the joint surface, alteration of the bony contour, or osteophytosis.

The prevalence of osteoarthritis in the adult population for the whole site, and for the sub-groups is as follows.

	total	*vicars choral*	*Saxon chapels*	*Lady Chapel*	*Stillington's chapel*
number	51	3	4	9	7
per cent	22.4	18.7	16	45	38.8

It can be seen that the actual numbers of individuals affected within the sub-groups are small, although the prevalence is higher for the two older groups, as might be expected. The small numbers mean that the percentage distribution figures for any but the total site (Fig. 527) are meaningless. The distribution of osteoarthritis around the different sites is fairly typical for a skeletal population of this date but the rate for the acromio- and sterno-clavicular joints is somewhat high; perhaps due to the presence of the older age groups. Osteoarthritis at these sites is known particularly to be related to age. Also noteworthy is the relative frequency of knee and hip osteoarthritis, with the hip being more frequently afflicted than the knee, the opposite of a modern clinical population (Rogers and Dieppe 1994).

Figure 528A shows a typical example of the skeletal changes of osteoarthritis of the hip with eburnation, pitting and osteophytosis. The X-ray of the same hips clearly shows the other associated changes with flattening of the femoral heads, cysts (or geodes) and buttressing of the femoral neck (Fig. 528B). The skeleton (B235), although incomplete, had osteoarthritis of the elbows and wrists. The thumb base joint of another male skeleton (B32) had eburnation, flattening of the joint surface and osteophyte (Fig. 529). Other joints affected in this skeleton were the odontoid peg of the second cervical vertebra, thoracic vertebral facet joints, elbow, inter-metacarpal joints, and the patello-femoral joint.

Diffuse Idiopathic Skeletal Hyperostosis

Diffuse idiopathic skeletal hyperostosis (DISH) is a skeletal condition in which typically there is fusion down the right-hand side of the thoracic spine (Fig. 530). Ossification of ligament insertions (entheses) elsewhere in the skeleton accompanies or may precede the spinal changes (Figs. 531–2). DISH is

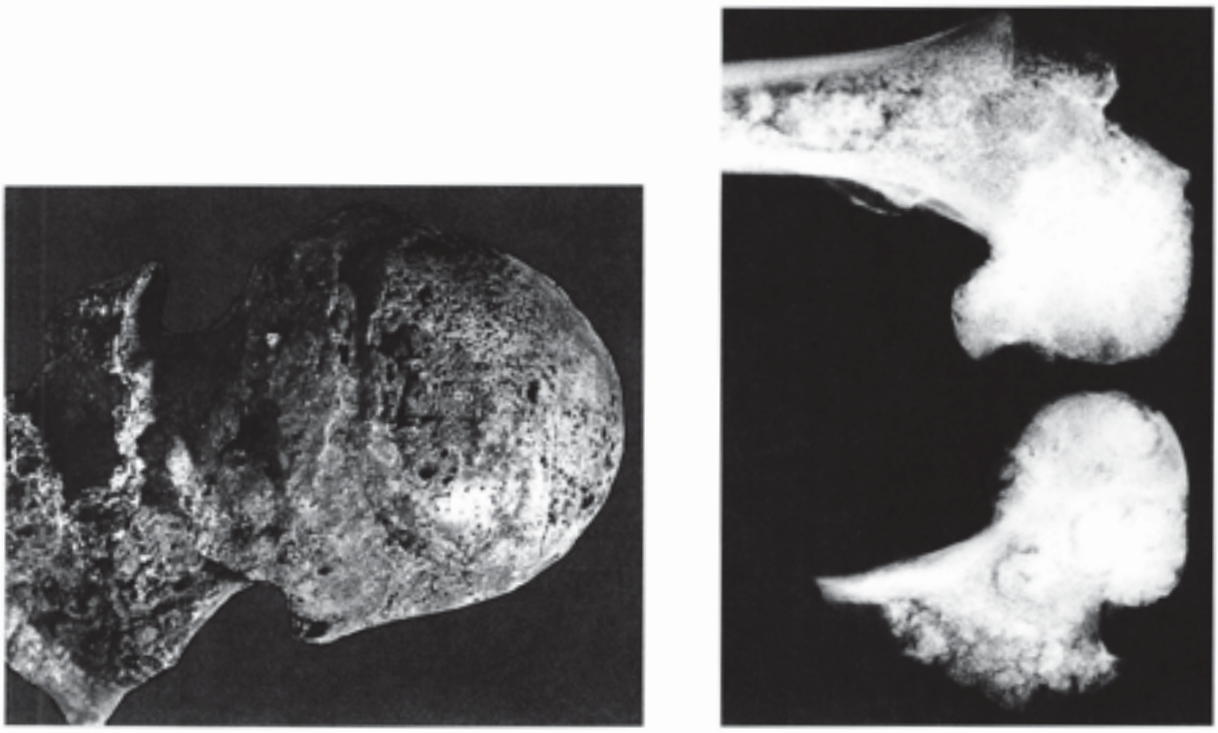


Fig. 528 Skeleton 235. A (left) Femoral head exhibiting characteristic changes of osteoarthritis; B (right) X-ray of both femoral heads, showing subchondial cysts and femoral neck buttressing. The material in the cysts and bone shafts is soil (Palaeopathology Study Group)

Fig. 529 Thumb base with osteoarthritis in the hand of skeleton 32 (Palaeopathology Study Group)

Fig. 530 Block of thoracic vertebrae from skeleton 269 fused down the right-hand side of the spine, which is typical of DISH (Palaeopathology Study Group)

therefore an enthesopthy and is the next most frequent joint change to be observed after osteoarthritis in a skeletal population. Today it occurs in 2–5% of the population, and is in the classically described form (Resnick and Niwayama 1988) in which four or more vertebrae are ankylosed. It almost always occurs in individuals who are over fifty years old. It is commoner in males and, apart from some stiffness and occasional tenderness, normally causes no problem to the patient. There is an association, however, between DISH, obesity and diabetes, and the prevalence in a modern population is usually between 3 and 5% (Julkunnen *et al.* 1973). The prevalence of DISH at Wells may be summarized as follows:

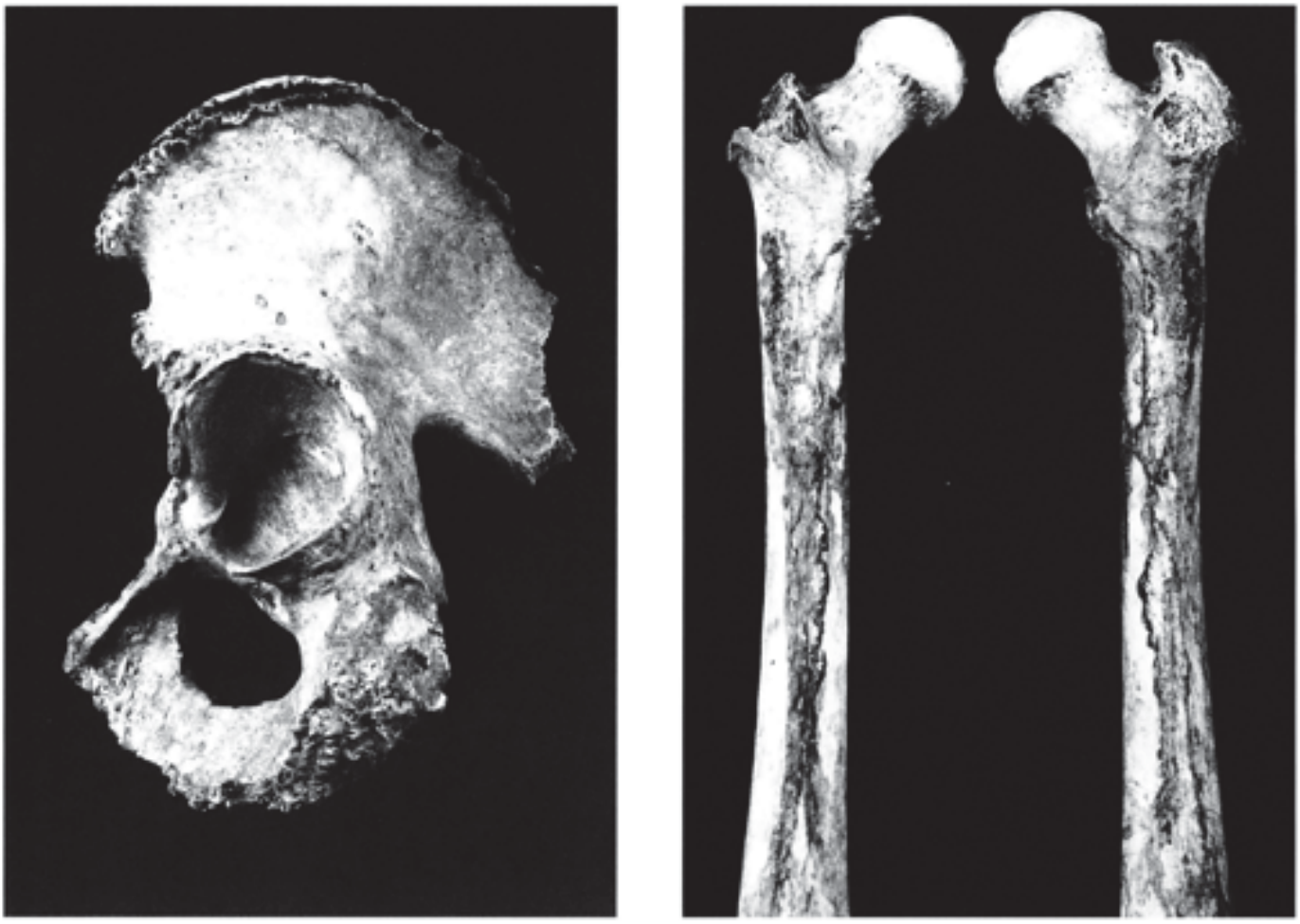


Fig. 531 Skeleton 269. A (left) Left innominate, showing new bone formation on the iliac crest and ischial tuberosity; B (right) Marked new bone formation on the linea aspera of both femora (Palaeopathology Study Group)

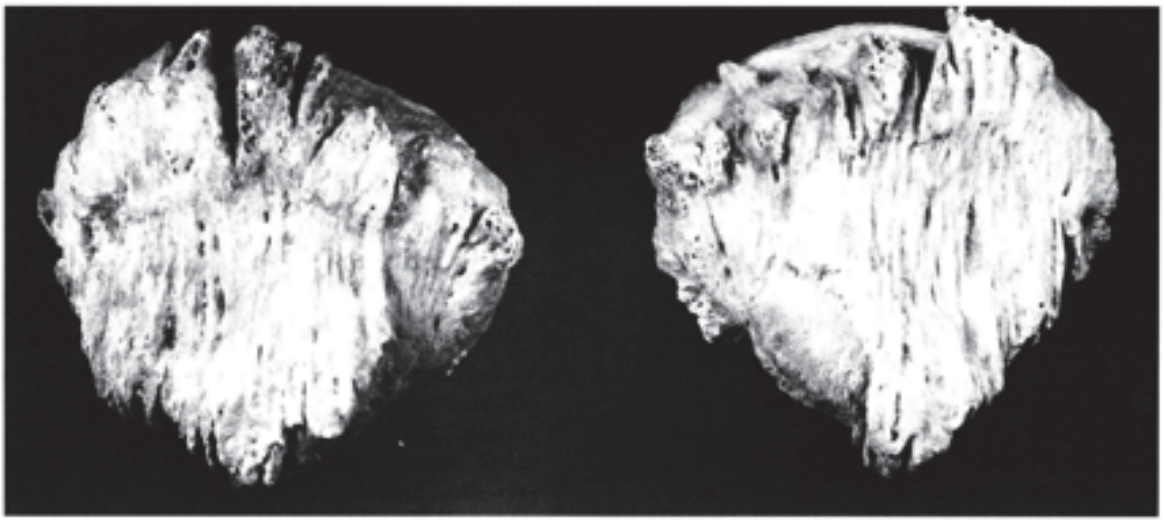


Fig. 532 Skeleton 269. Entheseal new bone formation of quadriceps tendon of patellae (Palaeopathology Study Group)

	total	*Saxon chapels*	*Lady Chapel*	*Stillington's chapel*
number	6	1	2	3
per cent	6	8.3	11.1	23

In all groups, it is higher than that found in many archaeological and modern populations (Rogers *et al.* 1985). All the cases occurred within the chapel groups and all were males aged over 45 years (attrition and pubic symphyseal criteria). The clustering of DISH cases within ecclesiastical burial grounds (and chapels) has been noted widely in archaeological material: *e.g.* Merton Priory (Waldron 1983).

The same phenomenon of increased prevalence of new bone formation at the entheses has also been remarked in this group of individuals. The skeletons which form new bone in this way have been termed 'bone formers' (Rogers *et al.* 1997). The prevalence of bone formers at Wells may be summarized thus:

	total	*Lady Chapel*	*Stillington's chapel*
number	50	9	10
per cent	43.8	69	58.8

The occurrence of DISH cases and bone formers in the higher status burial areas might well be due to the fact that these individuals were older, but in a statistical analysis of the association of age or status Rogers *et al.* (1993) found that the status was more strongly associated.

Other arthropathies

Two examples of an erosive arthropathy were recognized in the Wells skeletons. The first, in a female aged over 35 years (B103), remained undiagnosed. The only lesion visible was in the ulna side of the right distal radio-ulna joint. The marginal erosion had a non-proliferative even edge and a smooth base and was not specifically characteristic of any particular type of erosive arthropathy.

The other lesions were in skeleton 169 (unknown sex; age over 40 years), but were confined to the feet. The proximal articulation and a cuneiform fragment displayed marginal erosions with sharp, undercut edges. The configuration of the erosions would be consistent with a diagnosis of gout but the distribution is somewhat atypical, and so this skeleton should also probably remain undiagnosed.

Two other skeletons should be mentioned in this section on joint disease. They are skeleton 73 (adult female) and skeleton 97 (20-year old female) both with a lesion on the medial condyle of a femur (Fig. 533). This is known as osteochondritis dissecans and represents an area of dead or dying bone owing to the interruption of the blood supply. The site of the lesion in these two skeletons is typical, but today it is usually found in males. The age, however, is characteristic as symptoms generally start in the second decade. It is impossible to ascertain the cause in these skeletons, but today a history of trauma is common; it is likely, however, that these two individuals suffered from pain and swelling in the knee joint (Aichroth 1971).

Fig. 533 Osteochondritis dissecans of the medial chondyle of a left femur (Palaeopathology Study Group)

Infection

The second category of disease is infection, which the Wells skeletons usually presented in the form of osteomyelitis. Osteomyelitis is the result of a bacterial infection which produces a suppurative inflammation. Sinuses (cloacae) are formed through which the pus can drain and a shell of new bone is produced which can surround dead areas of bone that have been separated from their blood supply. In palaeopathological specimens the appearance can be smooth or quite rough and irregular. Commonest sites are in the femora and tibiae; joints can also be involved (Rogers and Waldron 1989). Five skeletons had long bone involvement and one (B275) had elbow joint involvement after a probable fracture of the olecranon process. The long bones were the femora (B100, B238 and B31), tibia (B47), and tibia and fibula (B284).

Also included in the infective/inflammatory category are those skeletons which have a periosteal reaction. This lesion is a very common finding in palaeopathological material and may have many other causes (see Resnick and Niwayama 1988) besides infection but it is more convenient to classify them here. The tibia and fibula are the commonest sites. Of the seven skeletons with periosteal new bone formation five had tibiae and fibulae affected, and one had a metatarsal shaft affected. One other skeleton, a baby (B45), had extensive periosteal involvement of many bones. The baby was about twelve months old and had a layer of finely striated new bone over the skull (Fig. 534) and clavicle, and the shafts of humeri, ulnae, femora (Fig. 535) and tibiae. These changes could be due to a chronic infection but the radiological appearance and distribution of the lesions suggest a diagnosis of Caffey's disease

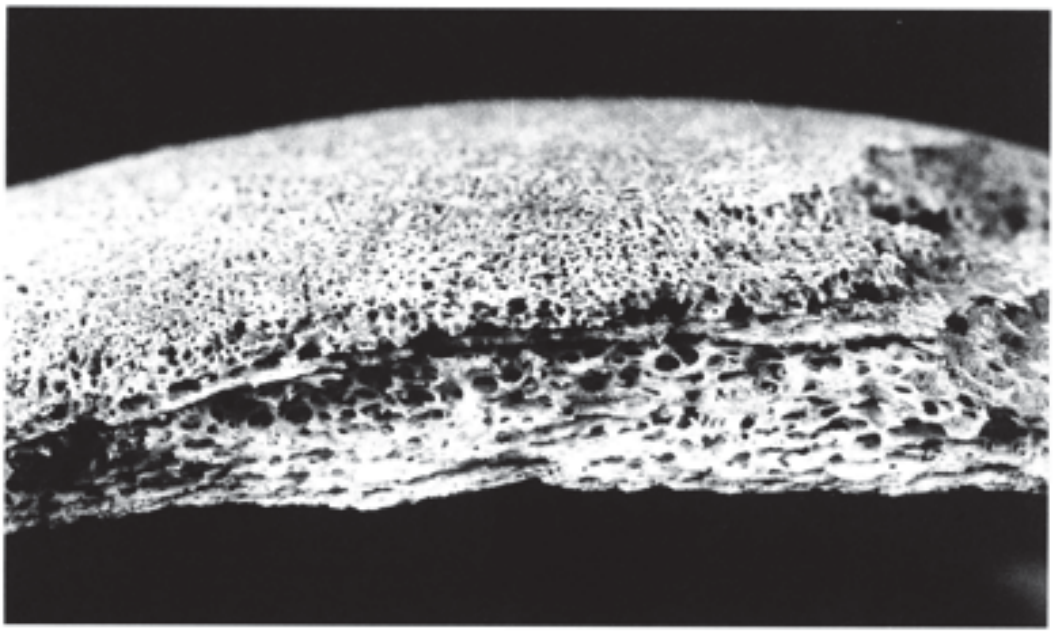


Fig. 534 Magnified view of the cranium of skeleton 45, in which the layer of new bone on the exterior surface is clearly visible (Palaeopathology Study Group)

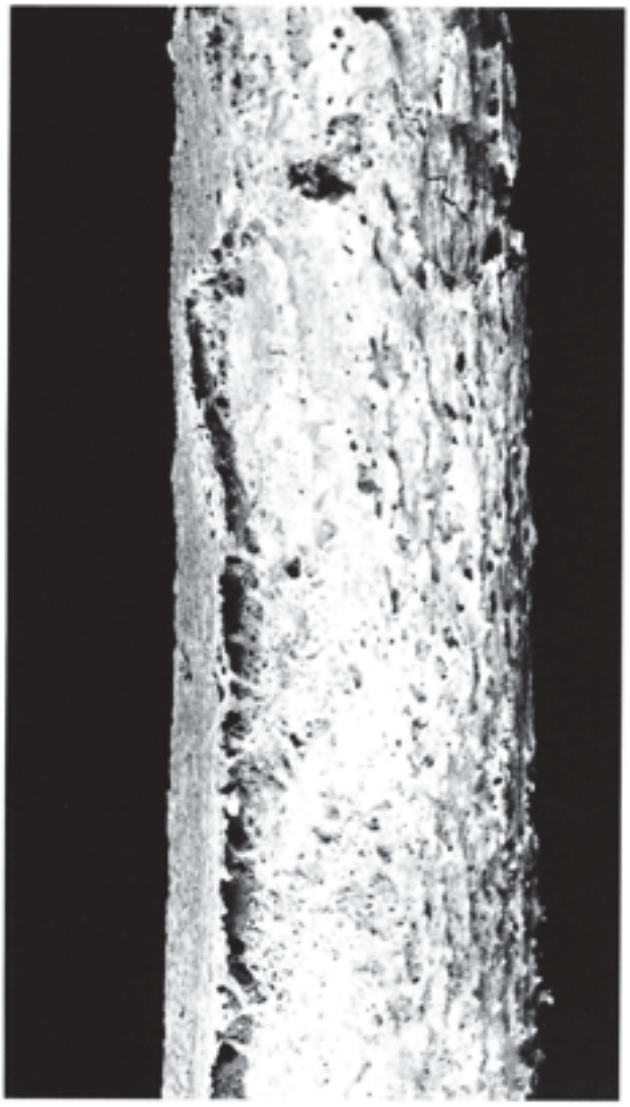


Fig. 535 Skeleton 45. Femoral shaft with layers of new periosteal bone (Palaeopathology Study Group)

(infantile cortical hyperostosis). The condition commences usually at about 9 to 10 months with a fever, hyperirritability and soft tissue swelling especially over the mandible. Death is usually due to a secondary infection (Rogers and Waldron 1988).

The percentage of individuals for the whole site, and for the sub-groups, affected by the range of infective or inflammatory changes discussed above, is as follows.

	total	*vicars choral*	*Saxon chapels*	*Lady Chapel*	*Stillington's chapel*
number	13	1	3	1	1
per cent	8.5	5.5	5.5	5.2	22.2

Trauma

The majority of trauma cases were due to fractures but the skull from skeleton 285, an adult of over 40, had a cut-mark through the upper margin of the right orbit extending into the roof (Fig. 536). The edges of the cut were smooth and remodelled, indicating that healing had taken place. From the location of the wound it seems likely that the eye itself would have been injured.

The fractures in twelve skeletons involved nine different bone sites (Table 17), the most frequent being ribs, tibia and ulna (each represented by three individuals). An X-ray of a crush fracture of a vertebra from the thoracic lumbar junction of skeleton 16, an adult male, is shown in Figure 537.

The percentage of individuals with fractures for all the skeletons and the sub-groups is given below.

	whole site	*vicars choral*	*Saxon chapels*	*Lady Chapel*	*Stillington's chapel*
number	12	0	1	1	4
per cent	6.3	0	4.3	5.5	22.2

Fig. 536 Skeleton 285. Cut-mark on frontal bone involving the orbital region (Palaeopathology Study Group)

Fig. 537 Skeleton 16. X-ray of spine with wedging of vertebra subsequent to a fracture (Palaeopathology Study Group)

Table 17 Site distribution fractures

	all skeletons	*vicars choral*	*Saxon chapels*	*Lady Chapel*	*Stillington's chapel*
ribs	3	0	0	0	1
clavicle	1	0	0	0	1
ulna	3	1	0	1	1 (olecranon)
radius	1	1	0	0	0
vertebra	1	0	0	0	1
femur	1	0	0	0	0
tibia	3	0	0	0	1 (medial condyle, left knee)
fibula	1	0	0	0	0
metatarsal	1	0	0	0	0

The skeletons in Stillington's chapel seem to have had a much higher frequency of broken bones than the rest of the cemetery.

Neoplastic disease

Only one skeleton had lesions which might be classified as a neoplastic disease. Skeleton 280, an adult male, had erosive lesions at the right knee (Fig. 538). They were smooth based, fairly sharp edged, defects at the joint margin of the posterior part of the lateral femoral compartment. Similar lesions were to be seen in the tibia at the posterior margins of the medial and lateral compartments. The rest of the skeleton was normal.

The radiological appearance of this lesion probably best matches those characteristic of synovial chondromatosis in which hyperplastic synovium (the lining of

Fig. 538 Skeleton 280. Posterior view of the femur and tibia of the right knee, in which large erosions are visible (Palaeopathology Study Group)

the joint) lays down cartilage nodules which may erode the adjacent bone. Males are more commonly affected than females and the disease usually occurs between the ages of 30 and 50. It produces joint pain and limitation of movement.

The differential diagnosis for this case is villo-nodular synovitis which produces a rather similar X-ray picture (Resnick and Niwayama 1988). This is also a proliferative disorder of the synovium, similarly causing bone erosions and is more common in males than females; it usually occurs in younger adults. It produces non-painful soft tissue masses resulting in a swollen knee. Neither of these disorders is malignant.

It is not possible in the absence of soft tissue in this specimen to be more precise in the diagnosis.

Nutritional disorders

Only one type of abnormality observed at Wells fits into this category. This is cribra orbitalia or orbital osteoporosis, a pitting of the roof of the eye sockets. Iron deficiency anaemia has been reported as the cause of this condition (McAdam 1985) although clinical evidence for this is sparse. Eight skeletons had cribra orbitalia, all to a mild degree.

Fig. 539 Baby's skeleton (B217) with malformation of the right tibia (Palaeopathology Study Group)

Congenital disorders

Sacralisation of transitional vertebrae has already been mentioned in the section on morphological variants. Three skeletons had other changes which could be attributed to developmental disorders. Skeleton 147, an adult, had a fusion of the medial side of both talo-calcaneal joints. No other changes were visible although this skeleton had relatively few bones surviving. This condition has been reported fairly often in skeletal material (Birket 1980) and is thought to be an inherited characteristic. The next skeleton (B163, a mature male) had fusion of the fourth and fifth cervical vertebrae. The body margin, facets and arch were involved.

The last skeleton in this group was that of an infant (B217). The size of the long bones was consistent with a seven- or eight-month foetus, but it might have been a small full-term infant. The right tibia was malformed, the shaft being bent laterally at the junction of the proximal two-thirds with the distal one-third (Fig. 539).

Other conditions

Two other skeletons with pathological changes do not fit into any of the previously described disease categories. The first (B14), from the cemetery of the vicars choral, is aged between 16 and 18, and has a simple bone cyst in the left calcaneum (Fig. 540) which is a typical site and age for the condition.

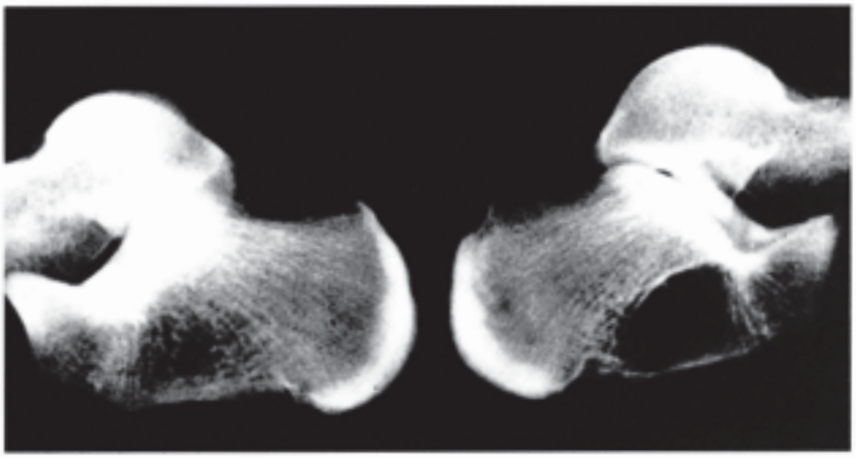


Fig. 540 X-ray of tali and calcanea from skeleton 14 with a bone cyst in the left calcaneum (Palaeopathology Study Group)

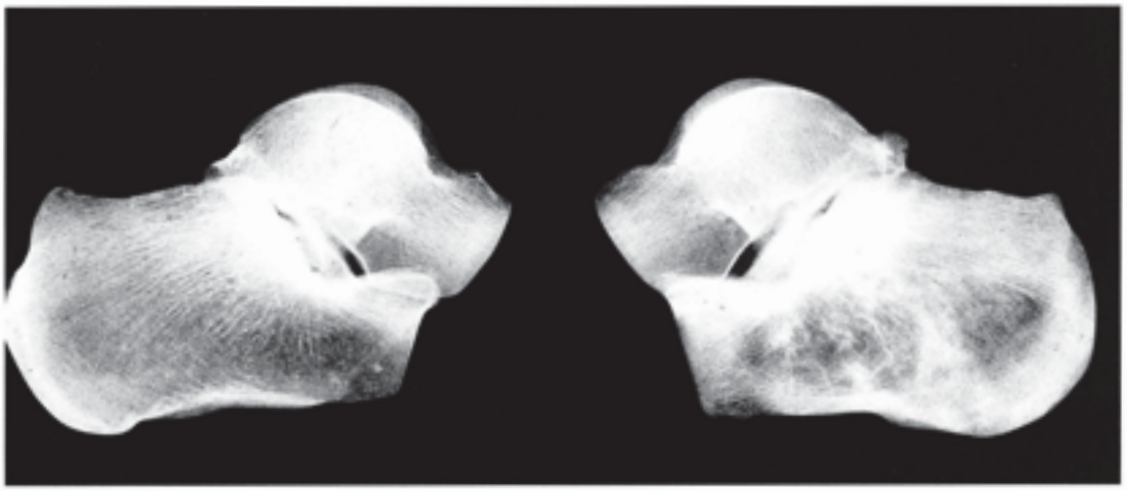


Fig. 541 X-ray of the tali and calcanea of skeleton 270 with the diffuse coarse trabecular pattern characteristic of Paget's disease (Palaeopathology Study Group)

Skeleton 270 is that of a 40–50-year old male from Stillington's chapel. There is a fusiform swelling of the upper third of the left femoral shaft and a slight expansion of the heel of the right calcaneum. On X-ray the appearance of both these bones is typical of Paget's disease (Fig. 541). This skeleton is unique at Wells in that the diagnosis of Paget's has been confirmed by histology (Aaron *et al.* 1992). Paget's disease, otherwise known as osteitis deformans, is a chronic bone disease occurring generally over the age of 50 and involving males more frequently than females. The disease is a disorder of normal bone turnover whereby the balance of bone formation and resorption is interrupted resulting in a wider, thicker bone cortex and altered trabecular pattern. There is no known cause, although delayed reaction to some infection such as measles has been suggested.

Named skeletons

Two individuals are potentially identifiable by name. Skeleton 21 is known to be that of Canon Thomas Goldwege, who was buried in the Holy Cross chapel (p. 309). The bone surface was much abraded and only about half the skeleton was present. It was not possible to assign a sex to the bones themselves but the age from dental attrition was thought to be over 45 or 50. No particular pathology was present apart from some entheseal new bone formation, typical of many of the inmates of the contemporary Stillington's chapel.

Skeleton 275 was the other bone assemblage thought to be identifiable, the individual in question being Bishop Robert Stillington himself, who was aged approximately 75 when he died. The skeleton had been disturbed and a deposit of mixed disarticulated bone was all that remained. Two feet, together with a right tibia and fibula, were recognized as belonging together. Several other bones, including fragments of a femur, humerus, scapula, ulna and radius, and some vertebrae, were also thought likely to belong to the same individual, although there is no way of proving this. The bones were all rather osteoporotic and light. It was in this skeleton that there were signs of a healed fracture of the olecranon of the ulna with bone swelling and a sinus which could be the result of infection.

Disarticulated bone

This is the term assigned to the skeletal material found in grave fillings, backfills of building foundations, charnel pits, etc. Since these bones were not found in graves, they cannot generally be assigned to particular individuals. Many of the bones will have been derived from those burials that were incomplete at the time of excavation, and have already been discussed in the section on articulated skeletons. The minimum number of individuals represented and observations on disease evidence can be derived from this part of the skeletal assemblage. The amount of information is much less than for the articulated skeletons.

Minimum numbers

Very little of the bone from this type of assemblage was complete, most being much damaged and fragmented. For the determination of numbers, it was necessary, therefore, to select parts of the bones which survive well and where, even in a fragmentary condition, the left and right sides are easily distinguished. Bones were also selected from widely distributed parts of the skeleton.

Parts used for this analysis at Wells were:

bone	*element counted*
atlas	whole bone
axis	odontoid
sacrum	first sacral vertebra
temporal bone	mastoid process
humerus	distal articulation
ulna	olecranon
radius	distal end
pelvis	ischium
femur	head
patella	whole bone
fibula	distal end
talus	whole bone
first metatarsal	proximal end

Numbers counted for each element were:

element	*number*	
atlas	75	
axis	99	
sacrum	99	
	left	*right*
mastoid	229	212
humerus	254	283
ulna	254	232
radius	113	137
ischium	178	152
femur	308	304
patella	72	88
fibula	87	87
talus	173	172
first metatarsal	88	83

From these figures it can be seen that there is a discrepancy in the numbers listed by various parts, ranging from 72 to 308. Therefore, the minimum number of individuals represented by this material is 308.

As previously observed, much of the disarticulated material will have been derived from burials already examined, and so the elements from these burials have also been counted to obtain a more accurate estimate of the total number of individuals represented in the excavated site.

		left	*right*
articulated skeletons	humerus	98	105
	patella	86	75
total	humerus	352	388
	patella	158	163

It therefore seems likely that between 380 and 400 people were represented by the excavated skeletal material from the Camery at Wells.

Pathology

Each disarticulated bone was examined for signs of pathological change or other abnormality, as defined and classified above. In all, 41 bones from 82 contexts displayed significant pathology. As in the other assemblages of bone from Wells, the pathology could be assigned to three main groups: trauma, joint disease, infection, and a few others. The distribution and types of bone affected are summarized below.

fractures	*osteoarthritis*	*infection*
mandible (1)	odontoid (1)	vertebra (1)
vertebra (1)	elbow (3)	humerus (1)
clavicle (1)	wrist (3)	proximal femur (1)
humerus (3)	hip (2)	patella (1)
radius (1)	knee (1)	tibia (1)
ulna (1)	metatarsal joint (1)	fibula (1)
femoral neck (1)		
femoral shaft (2)		
fibula (2)		

Other changes recorded included two skulls bearing evidence of wounds, two knees with evidence of osteochondritis dissecans and thoracic vertebrae with DISH-like fusion (see pathology section for further discussion of these conditions). The teeth were not examined in detail.

The mausoleum

The skeletal assemblage recovered from the interior of the mausoleum (Structure 1) was disarticulated, and so was analyzed by the method previously described for the disarticulated bone from the rest of the Camery. Because of the discrete nature of the assemblage from the mausoleum, some attempt was made to pair or further match the bones, in order to reassemble

Table 18 Mausoleum, bone counts (adult unless otherwise stated)

	left		*right*	
distal humerus	29	3 immature 2 juvenile 2 infant	24	2 juvenile 1 immature
distal radius	20	3 juvenile	25	
proximal ulna	20	2 juvenile 1 immature	21	
glenoid scapula	24	2 immature 1 juvenile 1 infant	25	
ischium pelvis	26	2 immature	15	2 immature
proximal femur	34	1 immature 2 juvenile	32	2 immature 2 juvenile 1 infant
patella	13		10	
distal fibula	15		17	
calcaneum	19	1 immature 1 juvenile	23	2 juvenile
metatarsal 1	22	2 immature 1 juvenile	22	3 immature 1 juvenile

individual skeletons. All the bones were identified, and selected elements were counted, sided and aged. Assessment of age was effected by either dental eruption or attrition, diaphyseal length, epiphyseal fusion, or morphological change at the pubic symphysis. The minimum numbers and ages for the various types of bone are shown in Table 18.

Twenty-six separate skulls were identified.

Age

Mandibles

i. Tooth eruption.

Six separate fragments of non-adult dentition survived: it was not always possible to be sure if they derived from separate individuals, but the minimum numbers from this source were as follows:

8–14 years	1 child
5–10 years	3 children

ii. Tooth attrition:

17–25 years	6 adults
25–35 years	6 adults
35–45 years	5 adults
>45 years	1 adult

Pubic symphysis (males)

18–25 years	1 adult
25–30 years	2 adults
30–40 years	2 adults
>40 years	1 adult

Minimum number of persons

From these various attributes, the minimum number of persons represented by the bones in the mausoleum is 40. The age groups represented are from infant to older adult. The age categories are tabulated below.

number	*age group*
2	infant (1 at one year and 1 other)
4	juvenile (1 each at 5–6; 6–10; 8–10; 12–14)
3	immature (2 at 14–17; 1 at 17–19)
31	adults (see separate bone types for age ranges)
40	total

Sex was assessed using four areas of the skeleton: the sciatic notch and the sub-pubic angle in the pelvis, the skull, and the maximum diameter of the femoral head. The numbers of males and females identified from these bones are given below.

bone	*male*	*female*
sciatic notch	6	5
pubic symphysis	6	6
skull	12	3
femoral head	10	4

There was, however, no method of matching these skeletal parts together. Even the group of four identified individuals contained two unsexed skeletons, as well as one male and one female. For the group as a whole, therefore, the minimum number of males and females identified is twelve and six, respectively.

The skeletons

During the identification, ageing and sexing of the assemblage it was possible to pair or assign adjacent bones to a particular individual in many cases but only four skeletons were partially reassembled further than this. The diagrams in Figure 542A–D show which bones are likely to belong to these individuals. It is probable that the missing bones were in the assemblage, but were either in such a fragmented state that they could not be matched or that they had been recovered from a different area of the mausoleum, resulting in examination at a different time. The total quantity of skeletal material from the mausoleum (approximately 4,500 separate bones and bone fragments) made it impractical to examine it altogether, spread out like a giant jigsaw. Undoubtedly had this been possible further matching of bones and individuals would have been achieved. The four partially reconstructed skeletons were assigned the numbers 304 to 307.

skeleton number	*sex*	*age*
304	female	22–25
305	?	18–19
306	?	15–17
307	male	adult

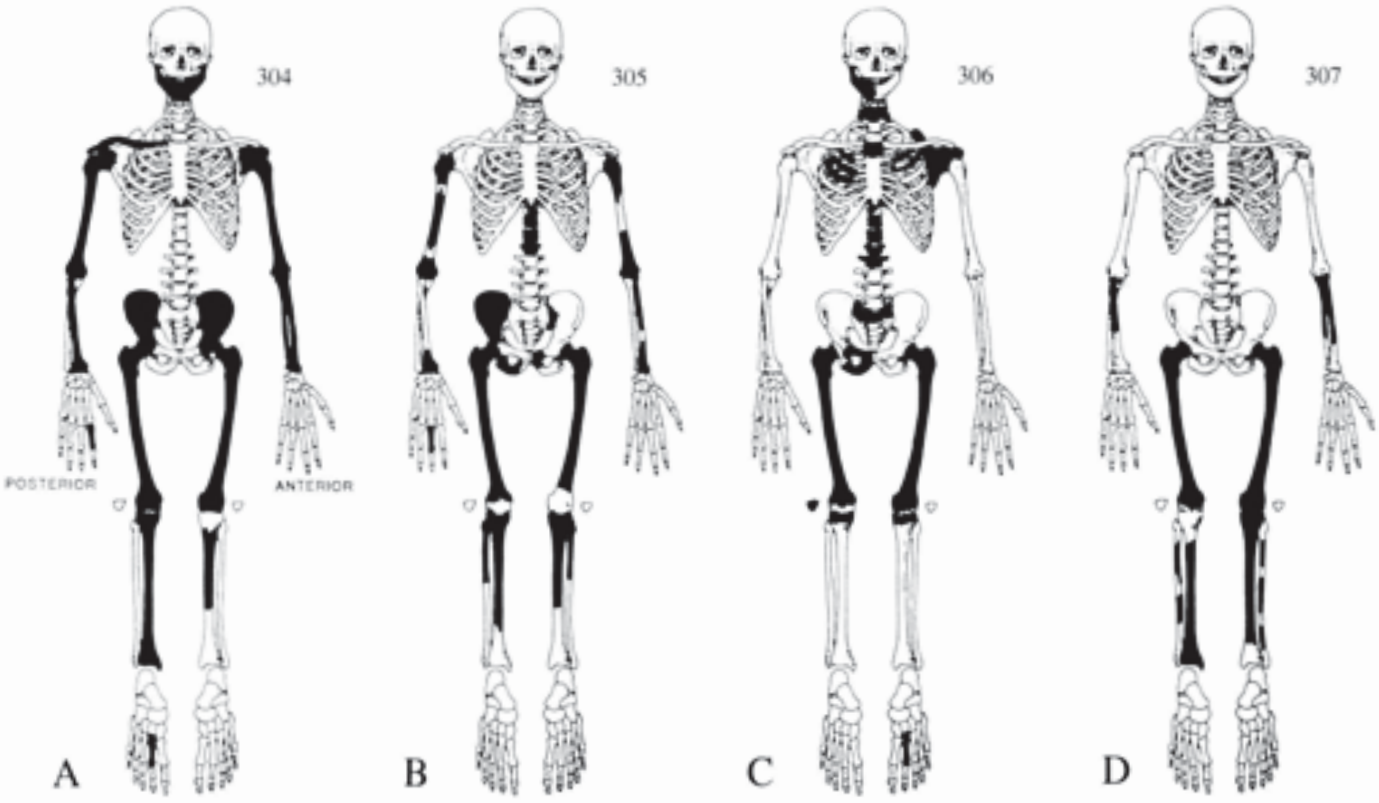


Fig. 542 Identified bones from the mausoleum assemblage. A Assigned to skeleton 304, female, 22–25 years old; B Assigned to skeleton 305, 18–19 years old; C Assigned to skeleton 306, 15–17 years old; D Assigned to skeleton 307, male adult

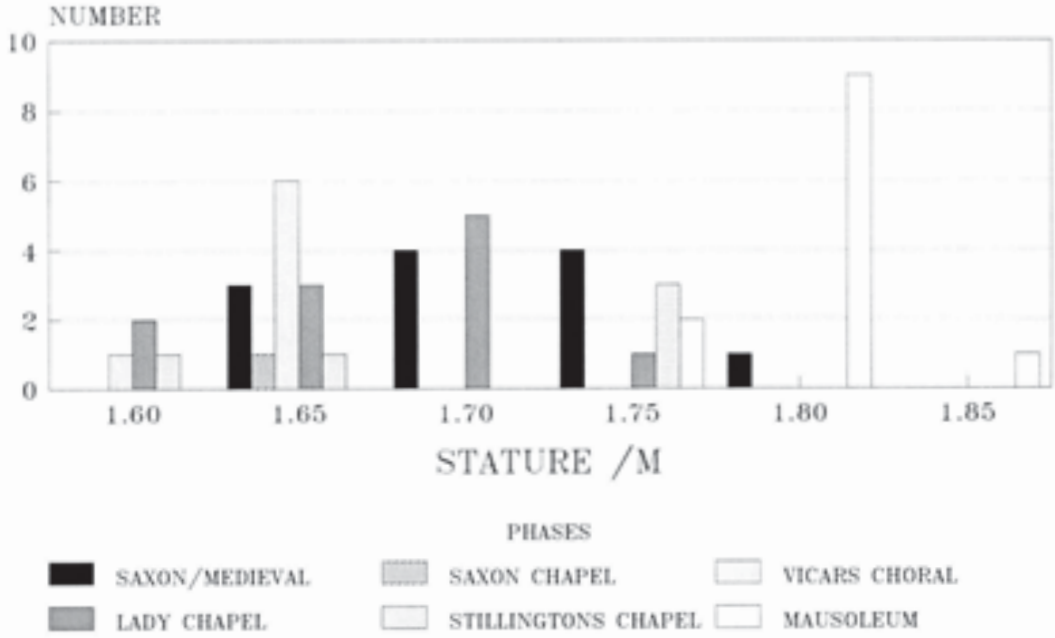


Fig. 543 Histogram of male statures, calculated from the femoral maximum length

Stature

Because of the disarticulated nature of the mausoleum material, stature was estimated for the femoral maximum lengths only. The femora used were those for which a fairly certain attribution of sex from the maximum head diameter was possible. In the main part of the cemetery 41 males could be sexed using pelvic criteria; the range of femoral head diameters was 41–54 mm with a modal value of 49 mm. Twenty-six females were also sexed using pelvic criteria and their femoral head diameters ranged between 38 mm and 50 mm, with a modal value of 43 mm. In the mausoleum all the femora

assigned as male had head diameters of 50 mm or more and the females were 43 mm. It is therefore reasonably certain that these disarticulated femora were assigned to the correct sexes. Although the numbers are small, the male femoral lengths and the subsequent estimated statures are much greater than those from the rest of the site.

In order to compare them directly, the statures were recalculated for the rest of the site using the femur only (Waldron 1998). The histogram in Figure 543 shows that the males represented by the skeletal material from the mausoleum were much taller than those from the rest of the site. The mean height for the males from the main burial ground was 1706 mm (5 ft 7¼ in) and from the mausoleum it was 1819 mm (5 ft 11⅝ in).

mean femoral length (mm)	*male*	*female*
total site	461 (no.=36)	430 (no.=7)
mausoleum	506 (no.=12)	430 (no.=2)

Dentition

Forty-five separate fragments of mandibles or maxillae were identified in the mausoleum skeletal assemblage. Only three were complete with both mandible and maxilla securely assigned to one individual. One of these was a child and the remaining two were adult. The other fragments or whole bones were not always possible to marry together into complete dentitions. The tooth spaces available and the numbers of teeth in the mandibular and maxillary fragments were as follows.

	tooth spaces	*teeth*
adults	510	292
children	69	36
total	579	328

A further 28 loose teeth were identified.

There was no caries or enamel hypoplasia, but abscess cavities and *ante mortem* tooth losses were present. In adults, 30 teeth had been lost *ante mortem* from 10 specimens and there were 7 abscess cavities in four individuals (three of these also had 5, 6 and 3 teeth, respectively, lost *ante mortem*). The frequency of *ante mortem* loss and abscess cavities of the mausoleum population, compared with those from the rest of the site, is as follows.

	tooth spaces	*ante mortem loss*	*abscess cavity*
mausoleum	510	30 (5.8%)	7 (1.3%)
rest of site	2720	308 (11.3%)	38 (1.3%)

The frequency of *ante mortem* loss for the mausoleum group is half that for the rest of the population, but the prevalence of abscess cavities is identical.

The ages derived from eruption of teeth in the case of children, and attrition for adults, has already been discussed.

Evidence of disease or other abnormalities

The most frequent abnormality, as in all skeletal assemblages, was osteophytosis around the margins of the joints or vertebral bodies. Other pathological changes were evident but because of the disarticulated nature of the remains no conclusions can be drawn as to the distribution or severity of lesions within an individual. It is not therefore possible to compare the prevalence of particular diseases or pathological change with other groups. The three types of change identified, however, are those commonly seen in most skeletal groups, namely osteoarthritis, periosteal new bone deposition, and evidence of fractures. These are tabulated in Table 19, with a list of the bones affected (several, of course, may be from the same individual).

Three further specimens should be mentioned from the point of view of other disease categories:

i. Four thoracic vertebrae fused on the right side: DISH
ii. Sacralisation of the fifth lumbar vertebra
iii. Bilateral orbital osteoporosis

Explanations of diagnostic criteria and disease categories are to be found in the section on the pathology of the main skeletal assemblage.

Summary and discussion

Skeletal material representing approximately 400 individuals was examined. Of these, 287 were identifiable skeletons but there was a large amount of disarticulated

Table 19 Pathological changes

osteoarthritis		*periosteal new bone*		*fracture*	
bone	*no. of specimens*	*bone*	*no. of specimens*	*bone*	*no. of specimens*
cervical facet joint	3	fibula	1	rib	4
axis odontoid	1	tibia	2	metacarpal I	1
acromio-clavicular joint	4	(one from B304)		distal radius	1
glenoid	1			fibula	1
proximal humerus	1			thoracic vertebra	1
acetabulum	1				
femoral head	1				

bone from disturbed burials. In total, there were about 380 individuals represented from this area. A further 41 individuals were identified from the mausoleum although all these bones were also found in a commingled state. The condition and preservation of the bone varied considerably with a minority of the articulated skeletons being complete.

There were more males (32.4%) than females (18.5%) represented, but this can be explained by the high proportion of males interred in the Lady Chapel, in Stillington's chapel, and in the area designated for vicars choral, all burial places for priests, benefactors and choristers. A similar discrepancy in the numbers of male and female skeletons can be found at other medieval sites with a high proportion of monastic or priestly burials, both in the same locality as Wells and elsewhere in England: *e.g.* St James's Priory, Bristol (Loe and Barber forthcoming), Exeter Cathedral,[7] or St Andrew Fishergate, York (Stroud and Kemp 1993). At St Oswald's Priory, Gloucester (Rogers 1999), with a larger lay component to the cemetery, the male and female ratio was more nearly equal. In the lay cemetery from Taunton Priory (Rogers 1984) the numbers of male and female skeletons were exactly equal.

The age ranges of the skeletal material from Wells also reflected the presence of the differing groups within the Camery, with a higher proportion of mature adults in the Lady Chapel and Stillington's chapel, and younger adults and some sub-adults with the vicars choral. Overall, 15.6% of the skeletons were sub-adult which is very similar to the figures from St Andrew Fishergate (period 6), St James's Priory and Exeter Cathedral. A higher proportion of children would normally be expected in a population from this date, but again the special nature of the occupants of the burial ground is a likely explanation for this shortfall.

The mean statures of the population from the burial ground in Wells Camery, of 1.67 m for males and 1.57 m for females, are slightly shorter than those found today: 1.74 m for males and 1.61 m for females (Knight and Eldridge 1984). They are, however, very close to the mean of the other medieval sites mentioned above, which range from 1.74 m for males at St Oswald's Priory to 1.58 m for females at Exeter Cathedral.

The mean stature calculated from the femora only in the mausoleum was taken, however, at 1.81 m compared to 1.70 m for the rest of the site (also calculated on femora only). As well as being taller than the males from the medieval sites mentioned above, the male skeletons buried in the mausoleum are also taller than those found at other Anglo-Saxon sites generally: *e.g.* Castledyke, Barton-upon-Humber, 1.72 m (Boylston *et al.* 1998); Trowbridge, Wiltshire, 1.72 m (Jenkins and Rogers 1993); or Raunds, Northamptonshire, 1.67 m (Powell 1996).

The types of disease experienced by the population at Wells are within the expected limits of similar skeletal populations in Britain. The most frequent category of disease after dental problems was joint disease, infections and trauma.

The proportion of individuals with caries (dental decay) was 20%, a similar frequency to that recorded at Taunton Priory, for example, at 22%. Also 66% of individuals at St Andrew Fishergate had this condition.

There was a wide variation within the populations at Wells in the amount of enamel hypoplasia observed, with 8.5% of individuals affected overall, but 30% in Stillington's chapel, and 6.25% among the vicars choral. These are all considerably less than the 59.3% of males affected at St Andrew Fishergate, but inter-observer error may account for some of the discrepancy as well as loss of teeth, and older age groups (where the lesions would be hard to recognize).

The higher-than-normal prevalence of diffuse idiopathic skeletal hyperostosis (DISH) in the chapels at Wells is consistent with other findings from monastic and ecclesiastical burial grounds in general (Waldron 1983). Our work has demonstrated that this phenomenon is related more to status than to age, and may perhaps be due to the known association of this condition with obesity. Furthermore, there is documentary evidence for a fairly high calorie intake in this portion of the medieval population (Harvey 1995).

The findings from this study of the skeletons of the Wells population, although having some high status individuals buried within the area excavated, are consistent with those from other contemporary populations both within the region and further afield in Britain.

Appendix: Catalogue of Burials, 1 to 316

Abbreviations

A — Adult
YA — Young adult
M — Male
F — Female

LCC Burial inside the earlier Lady Chapel-by-the-Cloister (Structure 11), pre-1477.
MC Burial inside the Anglo-Saxon mortuary chapel (Structure 3).
SLC Burial inside Stillington's Lady Chapel-by-the-Cloister (Structure 15), post-1486.
VC Burial in the cemetery of vicars choral.

CV Cervical spine
DISH Diffuse idiopathic skeletal hyperostosis
HFI Hyperostosis frontalis interna
LV Lumbar vertebrae
LTFJ Lateral tibio-femoral joint
MTFJ Medial tibio-femoral joint
MTPJ Metatarsal-phalangeal joint
OA Osteoarthritis
PFJ Patello-femoral joint
TMJ Temporo-mandibular joint

Notes

1. The percentage of the skeleton present, given in the second column, refers to the amount of bone that could be lifted intact for study. In many cases the percentage of the corpse that was theoretically available was somewhat greater: disintegrated bone accounted for the difference.
2. Coffins were of timber, unless otherwise specified.
3. Burials are assigned to generalized periods, as follows:
   1 — Roman
   2 — Middle Saxon
   3 — Late Saxon and Norman
   4 — Medieval: early
   5 — Medieval: middle
   6 — Medieval: late

   Numbers in parenthesis, after 'period' (2 and 3 only), signify:
   (1) Burial on group 1 alignment (see Fig. 44)
   (2) Burial on group 2 alignment (see Fig. 45)

Catalogue

sk. no.	*% present*	*age in years*	*sex*	*stature (mm)*	*grave details*	*comments*	*pathology (summary)*	*period*	*illust. (figs.)*
1	95	13–15	?			VC; reversed orientation	sacralisation L5	5	372
2	10	A	?			VC	–	5	372
3	20	>40	F?			VC	–	5	372
4	15	17–19	?			VC	–	5	372
5	–	A	?		coffin	VC; unexcav.; skull only seen	–	5	372
6	–	A	?		coffin	VC; unexcav.; skull only seen	–	5	372
7	45	A	M?	1673	coffin nails	partly excav.	–	5	–
8	30	17–19	M?	1683	coffin stain & nails	VC	–	5	524
9	80	20–21	M	1673		VC	–	5	372
10	65	17–19	M?	1630		VC	–	5	372
11	10	A	?			outlier, orientated NE–SW	–	2?	92
12	30	A	F?	1650	coffin & stone cist	LCC; iron buckle(?)	–	5	168
13	35	>40	M	1792	coffin	LCC	–	5	168
14	30	16–18	M?			outlier, deflected at waist	spondylolysis L5; calcaneal cyst	2?	87, 540
15						not a skeleton			
16	85	A	M	1724	nails	SLC	fractured vertebra	6	203, 537
17	5	35–45	M?			SLC; skull only	–	6	203
18	85	25–35	M	1668	coffin & stone cist	SLC	–	6	203, 524
19	85	>50	M	1787	coffin & reused LCC stone cist	SLC	fractured clavicle	6	203, 524
20	15	A	?		stone cist	LCC	–	5	168
21	50	>45	M		coffin & stone cist	Holy Cross chapel; Thomas Goldwege	–	6	321, 325
22	5	A	?		stone cist	LCC; feet only	–	5	168
23	50	25–35	M	1712	stone cist; nails	LCC; gold braid	–	5	168
24	55	17–18	M?		stone cover		–	3	24
25	55	A	?		coffin & stone cist	LCC	–	5	168
26	35	A	?		stone-built cist-coffin	LCC; bone crystalline	–	5	168, 181, 523
27	45	30–50	M?		stone-built cist-coffin	LCC; in same cist as 28	–	5	168, 178, 523
28	85	6–8	?		stone cist	LCC; bone crystalline & friable	–	5	168, 178, 523
29	90	>45	F	1530	coffin	SLC	OA both MTPJ	6	203, 252, 524
30	55	50+	M	1627	stone coffin	LCC; cleric with pewter chalice, shoes and belt with iron buckle	–	5	168, 170–4, 520

sk. no.	% present	age in years	sex	stature (mm)	grave details	comments	pathology (summary)	period	illust. (figs.)
31	75	>45	M	1692	coffin & stone cist	LCC	fractured ulna	5	175, 524
32	85	>45	M	1729	coffin & stone cist	LCC	OA L&R elbows, PFJ & L thumb base & spine	5	168, 176, 529
33	10	A	?		timber coffin & stone cover, but no cist	LCC; body badly decayed	–	5	168, 524
34	75	>45	M	1695	coffin & stone cist	LCC	OA cervical spine	5	168, 524
35	50	35–45	M	1663	stone-built cist-coffin	iron buckle; pewter frags.		5	168, 523
36	95	40–50	M	1709	coffin & stone cist	SLC	OA cervical spine	6	203, 524
37	85	40–50	M	1635	coffin & stone cist	LCC		5	168, 183, 524
38	55	>50	M	1682	stone-built cist-coffin	LCC; gold braid		5	168, 523
39	90	>50	M	1640	stone-built cist-coffin	LCC	DISH	5	168, 525
40	15	A	M		stone-built cist-coffin	LCC; gold braid and ribbon	–	5	168, 187–9, 523
41	55	25+	F		coffin nails		–	5	372
42	85	25+	M	1724	coffin nails	LCC	–	5	168
43	50	6 mths	–		stone coffin & cover		–	5	96, 100
44	90	YA	M?	1742	coffin & stone cist	crystalline skull & long-bones	–	5	96, 105, 523
45	45	infant	–				Caffey's disease?	4/5	146, 534–5
46	70	2–3	–		wood stains & nails		–	5	372
47	20	A	?				chronic osteomyelitis R tibia	2/3 (2)	–
48	90	14–16	–		nails & stone cist		cribra orbitalia	3 (2)	96, 97
49	60	30	F	1687	charred wood		–	2/3 (2)	–
50	50	6–8	–				–	2/3 (1)	–
51	30	neonate	–		coffin nails	poss. assoc. with 67	–	3	96
52	10	A	?		charred wood		–	2/3 (2)	–
53	15	A	?				–	2/3 (2)	–
54	5	A	M		charred wood	buried in boundary ditch	–	2/3 (2)	–
55	40	45+	M?	1777	poss. stone pillow		OA carpus, wrist & HFI	2/3 (2)	–
56	15	45+	F				–	2/3 (2)	–
57	5	A	?				–	2/3 (2)	–
58	15	A	F?	1699			periostitis femur, tibia & fibula	2/3 (2)	–
59	95	22–25	M	1738			–	2/3 (2)	146
60	90	45	M	1748	stone cover		–	4/5	96, 101
61	45	30–40	F			^{14}C date: Cal. A.D. 1021–1221	–	3 (2)	–
62	15	A	M				–	2/3 (1)	–
63	80	infant	–		stone cover		–	3	96
64	50	9–10	–			torso completely decayed	–	2/3 (2)	–
65	25	A	F		iron frag.		–	2/3 (1)	–
66	30	14–17	–				–	2/3 (2)	–
67	75	A	F	1657	nail; stone cover		–	3	96
68	10	A	M?		charred board		–	2/3 (1)	–
69	20	A	M	1712		^{14}C date: Cal. A.D. 1039–1245	–	3 (2)	60
70					not used				
71	80	A	F?	1581	stone cover	crystalline skull, pierced	–	3	96, 101–3
72	85	A	F		stone-built cist-coffin		–	3	96, 104, 523
73	15	A	F				–	2/3 (2)	–
74	60	3–4	–				–	2/3 (1)	–
75	30	>40	F	1718			–	2/3 (1)	–
76	20	A	F?	1738	stone cover	under 316	–	3	96
77	20	infant	–		stone grave-marker & cover		–	3	96
78	15	A		?	nailed coffin	LCC	–	5	168
79	45	45+	?				–	2/3 (2)	–
80	20	A	F?	1652			–	2/3 (1)	–
81	5	A	?				–	2/3 (1)	–
82	75	25–35	M	1711	wood stains		–	2/3 (2)	–
83	45	8–11	–		stone edging to grave		–	2/3 (1)	52
84	50	>45	F				HFI	2/3 (1)	–
85	45	35–45	M?	1702			periosteal new bone R tibia	2/3 (1)	–
86	20	YA	F?	1712			–	2/3 (1)	–
87	10	A	?				–	2/3 (1)	–
88	50	30–45	M	1743			–	2/3 (1)	–
89	20	A	?				–	2/3 (1)	–
90	45	A	F				–	2/3 (1)	–
91	10	A	F				–	2/3 (2)	–
92	10	>45	?			skull & feet only	–	2/3 (2)	–
93	50	1–2	–				–	2/3 (2)	–
94	80	A	F	1611			OA PFJ & LV	2/3 (2)	60
95	30	35–45	F	1571		–		2/3 (1)	–
96	90	child	–			reversed orientation	–	2/3 (1)	–

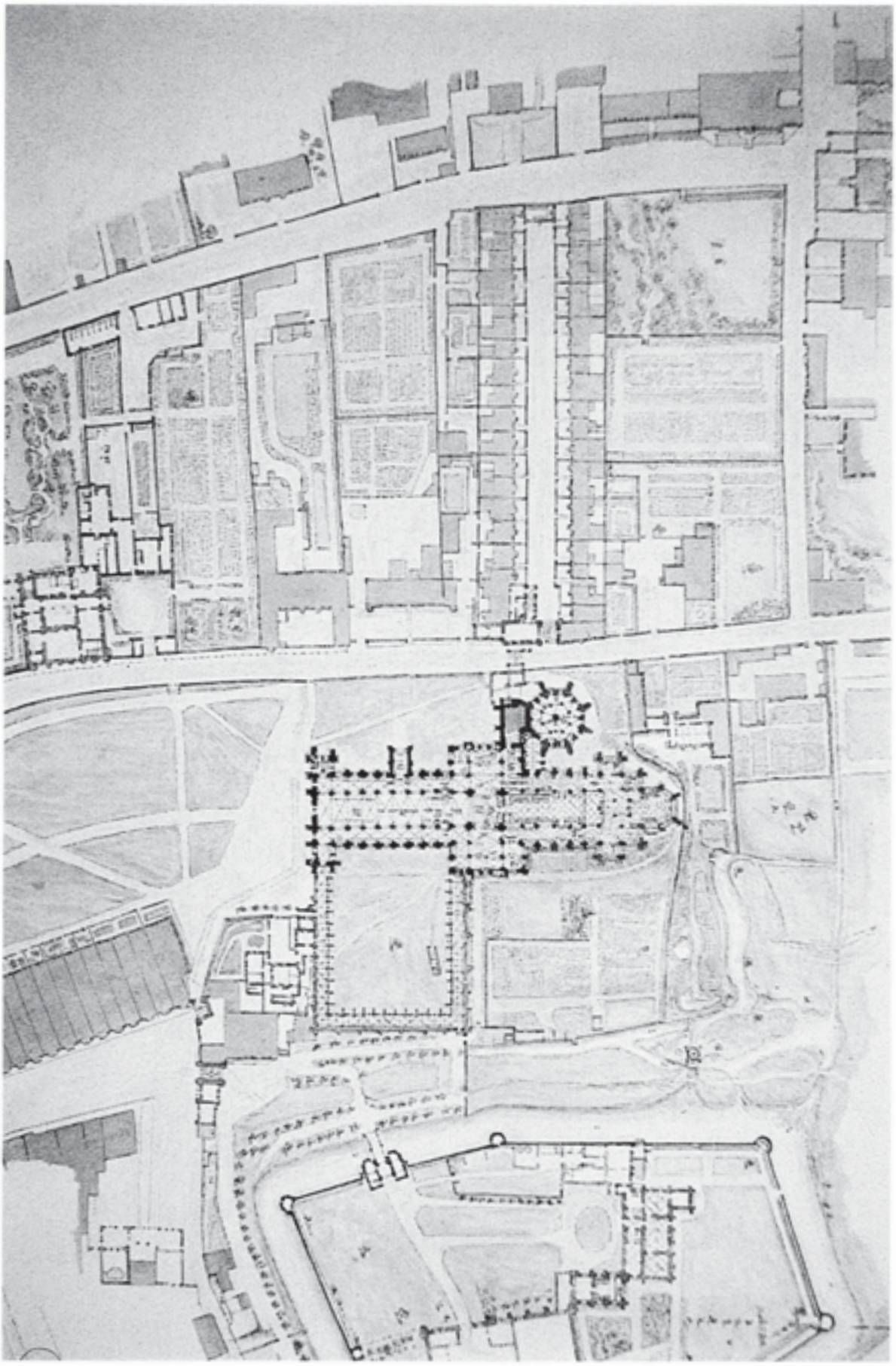


Plate I John Carter's plan of the central and eastern parts of Wells Cathedral precinct, drawn in the early 1790s. His careful use of colour differentiates between grass, gravel and water. Courtesy of the Society of Antiquaries of London (Warwick Rodwell)

sk. no.	*% present*	*age in years*	*sex*	*stature (mm)*	*grave details*	*comments*	*pathology (summary)*	*period*	*illust. (figs.)*
158	15	17–18	M?				periostitis L tibia	2/3 (2)	–
159	10	12 mths	–				–	2/3 (2)	–
160	90	>50	M	1721	2 nails		sacralisation L6	2/3 (2)	–
161	10	A	?			skull only	–	2/3 (2)	–
162	10	A	?		charred board on mortar bed		–	2/3 (2)	–
163	75	>45	M	1687	shroud burial?		–	2/3 (2)	60
164	5	A	?				–	2/3 (1)	–
165	10	2–4	–		2 nails; coffin		–	2/3 (2)	–
166	55	<30	M	1719			–	2/3 (1)	–
167	10	child	–				–	2/3 (1)	–
168	30	>40	?				–	2/3 (1)	–
169	30	A	M	1674			gout?	2/3 (2)	61
170	5	A	?				–	2/3 (2)	–
171	20	8–14	–				–	2/3 (2)	–
172	15	A	?				–	2/3 (1)	–
173	70	>45	F	1529			–	2/3 (2)	–
174	10	A	?		1 nail		–	2/3 (2)	–
175	5	A	?				–	2/3 (2)	–
176	50	6–12 mths	–				–	2/3 (1)	–
177	60	A	M	1765			OA elbow	2/3 (1)	–
178	5	A	?				–	2/3 (1)	–
179	30	>45	F?				–	2/3 (1)	–
180	85	20–22	F?	1642	iron wedge		–	2/3 (2)	–
181	30	A	M		charred board		–	2/3 (1)	–
182	25	A	F?				OA hip	2/3 (2)	–
183	10	A	?				–	2/3 (1)	–
184	15	A	F				–	2/3 (2)	–
185	65	>35	M	1743	–		–	2/3 (2)	–
186						no details	–	2/3 (2)	–
187	45	22–27	M	1747	2 nails		cribra orbitalia	2/3 (2)	–
188	20	YA	M				–	2/3 (2)	–
189	10	A	?				OA R hip	2/3 (2)	–
190	85	A	F	1630			–	2/3 (2)	–
191	2	A	?				–	2/3 (1)	–
192	2	A	?				–	2/3 (2)	–
193	5	A	?				–	2/3 (2)	–
194	10	A	?				–	2/3 (1)	–
195	20	A	F				–	2/3 (2)	–
196	15	A	?				–	2/3 (2)	–
197	5	A	?				–	2/3 (1)	–
198	5	A	?				–	2/3 (2)	–
199	5	A	?				–	2/3 (1)	–
200	25	YA	M				–	2/3 (1)	–
201	10	A	?				–	2/3 (1)	–
202	15	A	?				–	2/3 (2)	–
203	55	8–9	–				–	2/3 (1)	–
204	15	A	F				–	2/3 (2)	–
205	5	9–14	–				–	2/3 (2)	–
206	70	20–25	F	1623	1 nail		cribra orbitalia	2/3 (2)	–
207	5	A	?				–	2/3 (2)	–
208	25	A	F	1602			–	2/3 (1)	–
209	5	A	?				–	2/3 (1)	–
210	15	A	?			bronze frag.	–	2/3 (1)	–
211	15	A	M				OA PFJ	2/3 (2)	–
212	90	25–35	F	1512	stone lining & head-recess		–	2/3 (1)	51
213	15	A	?				–	2/3 (2)	–
214	15	A	?				–	2/3 (2)	–
215	5	A	?				–	2/3 (1)	–
216	15	A	?		1 nail		–	2/3 (1)	–
217	75	7–8 mths	–				tibial dysplasia	2/3 (2)	539
218	5	A	?				–	2/3 (1)	
219	85	25–35	F				–	2/3 (2)	–
220	60	A	M	1786			OA PPJ fractured vertebra	2/3 (2)	–
221	20	6–8	–				–	2/3 (1)	–
222	5	A	?				–	2/3 (2)	–
223	10	A	?				–	2/3 (2)	–
224	10	A	?		charred boards		–	2/3 (2)	–
225	15	A	?				periostitis tibia	2/3 (2)	–

sk. no.	*% present*	*age in years*	*sex*	*stature (mm)*	*grave details*	*comments*	*pathology (summary)*	*period*	*illust. (figs.)*
226	10	A	?				–	2/3 (2)	–
227	15	A	M?				OA MTFJ	2/3 (1)	–
228	50	YA	F				–	2/3 (2)	–
229	20	YA	F				fractured right tibia & periostitis R tibia	2/3 (1)	–
230	15	A	F	1709			–	2/3 (1)	–
231	30	8–14	–				–	2/3 (1)	–
232	90	35–45	F	1608	1 nail; coffin?		–	2/3 (1)	60
233	2	A	?				–	2/3 (2)	–
234	20	A	?		coffin?		–	2/3 (1)	–
235	45	A	M	1652			OA elbow, wrist & hip	2/3 (2)	528
236	5	A	?				–	2/3 (1)	–
237	5	17–25	M?				–	2/3 (1)	–
238	25	A	?				–	2/3 (1)	–
239	45	A	F		1 nail		–	2/3 (1)	–
240	30	infant	–				–	2/3 (1)	–
241	2	A	?				–	2/3 (1)	–
242	5	A	?				–	2/3 (1)	–
243	5	17–25	?		charred boards	skull only	–	2/3 (2)	–
244	5	A	?				–	2/3 (2)	–
245	15	A	?				–	2/3 (1)	–
246	20	1–2	–				–	2/3 (1)	–
247	5	A	M?				–	2/3 (1)	–
248	5	A	?				–	2/3 (1)	–
249	5	A	?				–	2/3 (1)	–
250	60	A	M				OA LTFJ & ankle	2/3 (2)	–
251	5	A	?				–	2/3 (1)	–
252	10	A	?		charred boards		–	2/3 (1)	–
253	5	A	?				–	2/3 (1)	–
254	10	A	?		charred boards		–	2/3 (1)	–
255	5	A	M?		3 nails		–	2/3 (2)	–
256	5	A	?				periostitis metatarsals	2/3 (2)	–
257	30	YA	F		charred boards; stones at feet	^{14}C dated: Cal. A.D. 619–690	–	2 (1)	60
258	2	A	?				–	2/3 (1)	–
259	5	A	?			not lifted	–	2/3 (1)	–
260	5	A	M				–	2/3 (1)	–
261	2	A	?				–	2/3 (2)	–
262	2	A	F?				–	2/3	–
263	25	17–18	M?	1635		VC	–	5	371
264	80	50–65	M	1778	nails & stone cist	SLC	fractured left tibial plateau; OA vertebrae	6	225
265	40	A	?		nails & stone cist	SLC	–	6	216
266	20	A	?		nails & stone cist	SLC	–	6	225
267	60	21–25	M	1785		SLC	–	6	–
268	15	YA	?			SLC	–	6	225
269	95	>45	M	1696	timber stain & nails	SLC	DISH; fractured ribs	6	225, 524, 530–2
270	45	40–50	M	1744	nails	SLC	Paget's disease	6	225, 541
271	55	30–50	M		nails	SLC; bronze frag.	spinal fusion: not DISH or ankylosing spondylitis	6	212. 524
272	20	A	?		nails	SLC	–	6	212
273	15	A	M		nails	SLC	OA thumb base	6	212
274	5	A	?		nails	SLC	–	6	212
275	5	>50?	?	1704	stone cist & nails	SLC: prob. Robert Stillington	fractured elbow	6	220, 254, 255
276	80	YA		M	1774	MC?	–	2/3 (2)	74
277	55	35–45	M			^{14}C dated: Cal. A.D. 829–1030	–	2/3	–
278	30	>45	M	1783			fractured rib	2/3 (2)	–
279	70	A	?		plaster-lined cist-coffin?	SLC	–	6	216, 524
280	85	35–45	M	1691	nails		–	5	370, 538
281	95	19–20	–	1664	nails	VC	–	5	370
282	40	13–15	–			VC	–	5	370
283	80	17–18	–		nails; shroud	V	–	5	370, 371
284	80	>40	M	1769		VC	periostitis R tibia & fibula	5	370
285	90	>45	M	1632		VC	fractured rib; cut skull	5	370, 536
286	90	11–12	–			VC	cribra orbitalia	5	370
287	45	2–5	–				–	2/3 (2)	–
288	15	A	?				periostitis L tibia	2/3 (2)	–
289	2	A	?			toes only	fractured metatarsal	2/3 (2)	–
290	25	>40	M?	1767	nails	not all lifted	–	?	–
291	20	14–17	–				–	2/3 (2)	–
292	15	YA	F	1574		not all lifted	cribra orbitalia	?	–

sk. no.	*% present*	*age in years*	*sex*	*stature (mm)*	*grave details*	*comments*	*pathology (summary)*	*period*	*illust. (figs.)*
293	80	25–30	M	1744	nails, coffin?	MC	–	2 (2)	43, 71
294	60	4–5	–		nails (residual)	MC; ^{14}C dated: Cal. A.D. 677–790	–	2 (2)	43
295A	15	A?	–		nails	MC; accompanying disartic. designated295B, but could be derived from 296	–	2 (2)	43
295B	60	YA	F	1680		MC; disartic. on top of 295A	–	2	43
296	20	A	?		coffined?	YA female skull may belong		2 (2)	43
297	30	18–24 mths	–		nails, coffined?	MC	–	2 (2)	43
298	5	<40	M?			skull only; remainder not lifted	–	2/3 (2)	–
299	5	A	M?				–	2 (1)	–
300	15	45+	?				cribra orbitalia	2 (1)	–
301	5	A	?				–	2 (1)	–
302	15	17–25	?		cist	LCC	–	6	302
303						not used			
304–307			–	–	mausoleum	partially reassembled skeletons (post-excav.)	–	–	542
308	–	–		–	cist	LCC; unexcav.	–	6	145
309	–	A	–			toes only; not lifted	–	2/3 (1)	–
310	10	A	?				–	2/3 (1)	–
311	10	A	?				–	2/3 (1)	–
312	5	A	?			unexcav.; not studied	–	2/3 (1)	–
313	5	A	?			skull only; unexcav.	–	2/3 (2)	–
314	–	A	–			skull seen; unexcav.	–	2/3 (2)	–
315	–	neonate	–		stone cover	not studied	–	?3	96, 98, 99
316	–	–		–	stone cover	disturbed burial, above 76; not studied	–	3	–

16 Appendices

1. Chronological outline

St. = Structure (numbered 1–30)
For a location plan showing the principal structures, east of the cloister, see Fig. 19.

PERIOD 1 — Early Settlement

	Date
Prehistoric occupation	Mesolithic to Iron Age
Romano-British settlement: villa?	C1–C5(?)
Roman cemetery and mausoleum (St. 1)	late C4–C7(?)

PERIOD 2 — Middle Saxon

St Andrew's Well venerated and minster built (St. 7)	before 766
Development of cemetery	C7–C8
Reconstruction of mausoleum (St. 1)	C9

PERIOD 3 — Late Saxon and Norman

St Andrew's minster designated cathedral	909
Mausoleum replaced by mortuary chapel (St. 3)	mid-C10
St Mary's chapel built (St. 6)	early C11
Chapel rebuilt and joined to St Andrew's	mid-C11
Claustral buildings added by Bishop Giso (St. 9)	*c.* 1060–70
Giso's buildings demolished; bishopstool moved to Bath	*c.* 1090
Norman rebuilding under Bishop Robert (St. 8); dedicated	1148

PERIOD 4 — Early Gothic

Bishop Reginald's church begun	*c.* 1175
Demolition of Norman cloister	1176–77
Completion of eastern Lady Chapel	*c.* 1180
Completion of quire	*c.* 1184
Layout of cloister (St. 10); construction of east range, great conduit and dipping-well (St. 20)	*c.* 1190–95
Completion of transepts; demolition of Saxon cathedral	*c.* 1195
Restoration of St Mary's chapel (St. 6) and continuation of east cloister?	1196–1200
Construction of west cloister and completion of east	*c.* 1210–20
Construction of west front and south cloister	*c.* 1220–35
Office(?) (St. 12) built beside cloister	?*c.* 1230–40
Completion of west front (lower stages); dedication	1239
New cemetery layout	1243
Wells regains diocesan status	1244

PERIOD 5 — Middle Gothic

Lady Chapel-by-the-Cloister enlarged (north aisle)	?*c.* 1240
south-west chapel added	*c.* 1250
eastern arm rebuilt	*c.* 1260
Upper range added over east cloister; stair-turret built (St. 12)	*c.* 1260
South aisle added to Lady Chapel	*c.* 1270–75
Eastern arm of cathedral extended	*c.* 1320
Realignment of the Camery wall	1326
Choristers' house built	1354
Chapel of All Saints-by-the-Cloister built	?C13–early C14

PERIOD 6 — Late Gothic

East cloister rebuilding begun	*c.* 1420
Library built over east cloister (phase 1); stair-turret (St. 13) added	1424
East cloister rebuild completed; library extended (phase 2)	1424–58
New entrance to masons' yard from Palace Green	1433
Nova Opera built in the market place	1451
Well-house and conduit-head built; town water-pipe laid	1451
Water-pipe laid to *Nova Opera*	1451/53
East cloister completed	1457–58
Choristers' house garden enclosed; new west porch built (St. 25)?	1459
Lady Chapel-by-the-Cloister demolished; conduit and water-pipe diverted	1477
Bishop Stillington's new Lady Chapel (St. 15) completed	1487
West cloister rebuilt; grammar school built over	*c.* 1460–80
Bishop Stillington buried in Lady Chapel	1491
Chapel of Holy Cross-by-the-Cloister built (St. 18)	*c.* 1495–1500
Sacristy added to Lady Chapel; workshops built in Camery (St. 16 and 17)	*c.* 1500
South cloister rebuilt	*c.* 1490–1508
Camery workshop converted to stable (St. 17)	1541–42
Latrine tower (St. 14) added to library	C16

PERIOD 7 — Post-Reformation

Stillington's and Holy Cross chapels demolished	1552
Robbing of site continued until	*c.* 1608
Formal garden laid out in the Camery	?1660s
Library restored and refitted	1686
Dipping-place infilled	*c.* 1830

PERIOD 7 *(continued)*	**Date**
Bishop's Palace lake re-formed	*c.* 1830
Clearance of the Camery (cemetery reinstated)	*c.* 1851
Archaeological excavations	1851, 1873, 1894
Demolition of the choristers' house	1870
Masons' yard reinstated	*c.* 1870
Dipping-place reopened	?*c.* 1910
Embanking works undertaken on the lake	1946
Lavatories built in the Camery	1948
Cloisters repaved	1961–65
Masons' yard extended into the Camery	1978
Archaeological excavations in the Camery	1978–80
Cloisters restored, glazed and adapted	1979–87
The Camery landscaped and replanted; chapel foundations marked out	1981
Mary Mitchell Garden laid out	1987
New lavatories built in the Camery	1990

2. List of numbered structures

For ease of reference, the principal structures discussed, lying to the south of the cathedral church, both standing and excavated, have been numbered serially.

structure no.	*identification*	*date of construction*	*principal references*	
			chapter	*figures*
1	Mausoleum	late Roman	2	30–35
2	Cemetery structure?	Saxon	3	44
3	Mortuary chapel	C10	3	43, 68, 70
4	Possible chapel	Saxon	3	45
5	Domestic structure?	Roman or Saxon	2	29
6	St Mary's chapel	early C11	4	74–86
7	St Andrew's minster (apse)	mid/late Saxon	3	64
8	Early cloister?	mid-C12	4	87–91
9	Domestic/claustral structure	late Saxon	4	87, 92, 93
10	Gothic cloister	late C12–early C13	8/9	261–99
11	Lady Chapel-by-the-Cloister	1196	6	135–50, 191–2
12	Office and stair (consistory court?)	early/mid-C13	8	305–6, 314
13	Library stair-turret	1420s	8	310–15
14	Library latrine tower	C16	8	318–19
15	Stillington's Lady Chapel	1477–87	7	196–238
16	Workshop (north) in Camery	*c.* 1500	10	374–6
17	Workshop (south)/stable	*c.* 1500	10	374–5, 377–9
18	Holy Cross chapel	*c.* 1500	9	320–5
19A/B	Pentices in cloister garth	late C15	9	330–3
20	Dipping-well in cloister	late C12	9	336–7
21	Lean-to in NE angle of cloister garth	?	9	334
22	South-east cloister porch	early C13	8	277–9
23	West cloister porch (1)	early C13	8	268, 277
24	West cloister staircase projection	late C15	9	340–1, 343
25	West cloister porch (2)	late C15	9	340–1, 345–6
25A	Stair-turret to 25	late C15	9	341–2, 345
26	Lean-to in NW angle of cloister garth	?	9	335
27	Pentices along south nave wall	?	9	335
28	Lean-to shed against east cloister	late C18	10	380
29	Lean-to shed against south transept	C17/18	10	380
30	Choristers' house	1354	9	340, 343, 347–53

3. Radiocarbon determinations

Thirteen samples of bone and one of charcoal were sent for radiocarbon assaying, to laboratories at Harwell and Glasgow. The results are given in the table below, where they are expressed both in Radiocarbon Years and in calibrated form, to one, and two, standard deviations. The samples were selected in an attempt to provide objective dating for some of the earlier phases of the cemetery at Wells, and the underlying domestic occupation. Four samples were also taken from the charnel material relating to the final use of the mausoleum as an ossuary. The first two samples tested, GU-5018 and GU-5019, were found to differ so widely in their suggested dates that a further two from the same deposit were subsequently assayed, GU-5154 and GU-5155.

Table 20 Summary of radiocarbon determinations

laboratory ref.	*site ref.*	*sample type*	*age BP*	*1δ calibrated range (cal. A.D.)*	*2δ calibrated range (cal. A.D.)*	*page ref.*
HAR-3374	layer F720	bone	980	985–1160	890–1230	105
HAR-3375	burial B61	bone	910	1021–1221	980–1270	72
HAR-3376	layer F1100	bone	970	990–1163	890–1230	72
HAR-3397	burial B115	bone	1220	685–889	660–980	69
HAR-3398	burial B69	bone	870	1039–1245	1010–1270	72
GU-5013	burial B293	bone		insufficient collagen		
GU-5014	burial B294	bone	1260	677–790	60–890	82
GU-5015	burial B277	bone	1080	829–1030	680–1180	567
GU-5016	burial B257	bone	1360	619–690	550–853	70
GU-5017	pit F1443	charcoal	1340	642–758	590–853	72
GU-5018	ossuary F1493	bone	1210	680–953	640–1020	78
GU-5019	ossuary F1493	bone	1450	553–652	450–670	78
GU-5154	ossuary F1493	bone	1230	685–883	660–950	78
GU-5155	ossuary F1493	bone	1070	888–1021	780–1157	78

4. Animal bone: a note

Animal bone was recovered from 969 excavation contexts in the Camery. A very small amount occurred in Anglo-Saxon and early medieval levels, and there was a sprinkling, mostly of small pieces, in later medieval contexts. There were no concentrations, and very few complete bones or large parts. Like the pottery, this material had clearly been churned up and redeposited several times over. The extremely fragmented condition of the material accounts for the fact that almost 50% was unidentifiable. The great majority of bone occurred in post-medieval contexts, mainly robbing pits and garden features.

A complete listing of the animal bone was carried out by Dr David Berg in 1991, and this is lodged with the site archive. In view of the lack of sealed groups, and the uncertainties of dating the bones (as opposed to the contexts in which they were found), it was decided not to proceed with a detailed analysis, the academic worth of which would have been very suspect. A summary of the composition of the entire assemblage is given in Table 21.

Table 21 Quantification of animal bone

group	*number of bones*	*%*
cattle	2622	37.8
sheep	1967	28.4
pig	1194	17.2
horse	100	1.4
cat	22	0.3
dog	27	0.4
roe deer	20	0.3
fallow deer	14	0.2
red deer	24	0.3
rabbit	63	0.9
hare	17	0.2
bird	567	8.2
fish	75	1.1
small mammal	211	3.0
badger	1	0.0
bear	2	0.0
frog	7	0.1
crab	1	0.0
sub-total	**6934**	**51.2**
unidentified	6608	48.8
total bone	**13,542**	**100.0**

Notes to Chapters

Chapter 1 (pp. 1–26)

1. The northern extremity of the historic county of Somerset, including Bath, was removed in 1974 when the county of Avon was created. Upon the abolition of the latter in 1995, two new unitary authorities were created in its place, called Bath and North-East Somerset, and North Somerset, respectively. In this report, however, 'Somerset' refers to the complete historic county.

2. W. Simes, 'A Plan of the City of Wells', engraved by H.S. Toms, 1735. Reproduced in facsimile, 1966; 1970. Wells Museum.

3. *Anglo-Saxon Chronicle*, *s.a.* 652 (Whitelock 1965).

4. *Ibid.*, *s.a.* 658.

5. William of Malmesbury, *Gesta Pontificum Anglorum*, bk 5, 332–443. (ed. N.E.S.A. Hamilton). Rolls Ser., **52** (1870), London.

6. *Ibid.*, 374. In the Parker Chronicle (*ASC*, *s.a.* 688) it is asserted that Ine 'built the monastery at Glastonbury'.

7. *Ibid.*, 382.

8. *ASC*, *s.a.* 709, *in parte Occidentis Silue.*

9. *Provincia quae vulgo Sealwudscire dictur.* See Stenton 1947, 64 and 681–2.

10. *ASC*, *s.a.* 709.

11. This document is now generally referred to as the *Historiola*, and is printed in full in Hunter 1840. It is ancestral to two other medieval documents, published together by Wharton (1691, 553–71) under the title 'The Canon of Wells'. These two accounts, which are in Wells Cathedral Library (hereafter referred to as WCL), are now known as the *Historia Minor* and *Historia Major* (Robinson 1924). For a note on the early histories of the cathedral, see Reid 1973, 130, n. 1.

12. The authenticity of the charter — or at least the grant it purports to make — has been questioned by some commentators, and accepted at face value by others. On balance, the charter is now considered to be authentic (Sawyer 1968, 137); either way, there is no reason to doubt the local topographical information contained in this document.

13. *Gesta Pontificum Anglorum*, bk 1, 66–7.

14. St Thomas's parish in the eastern suburb of the city is a mid-nineteenth-century creation, and the church was built by S.S. Teulon in 1856. The Victorian parish is cut out of St Cuthbert's.

15. *Cal. Patent Rolls, 1338–40*, 466: *Cimiterium ecclesiae Cathedralis Wellen. et procinctum domorum suarum et Canonicorum infra civitatem Wellen. muro lapideo circumquaque includere et murum illum kernallare batellare ac turres ibidem facere.*

16. The Palace Gate is now often referred to as the 'Bishop's Eye': this appears to be a modern transposition (*cf.* Colchester 1987, 162). In the nineteenth century it was Penniless Porch that was invariably referred to as the 'Bishop's Eye' (*cf.* Parker 1866a, 40; 1866b, pls. 25 and 32).

17. Information kindly provided by Christopher Hawkes and Simon Almy, who conducted the excavations on behalf of Wells Museum.

18. Edward J. Carlos, 'Narrative of a Tour in the West of England' (1824). This bound ms volume in WCL contains many superb watercolour illustrations. Nothing of significance is known about Carlos, and the ms was presented to the library by his son in 1906.

19 These views were engraved by Daniel King, and first published in W. Dugdale, *Monasticon Anglicanum* (London, 1655). They subsequently appeared as pls. 41 and 42 in King 1672.

20. Bodleian Library: Ms Eng. Misc. e:147, fo. 119*v*.

21. Bodleian Library: Ms Willis 38. This bound volume of mss, dated 1727, contains 'Collections for the Cathedrals and Dioceses of ...' The Wells material is on folios 65–73, and includes a letter dated 19th July 1718, from E. Rebotier, who wrote on behalf of the bishop (George Hooper), thanking Willis for 'The Iconography and Description of Wells Cathedral' that he had sent. The letter also contained an apology for the uncordial reception that Willis received when he visited the palace.

22. See note 20, *loc. cit.*, fo. 73. The plan is a draft, to scale, and is titled 'The Iconography of Wells Cathedral'. Whether this was measured by Willis or by Rebotier is unclear. In his letter, the latter mentions that he was making a plan 'to some degree of exactness' (*ibid.*, fo. 69).

23. The date of Fourd's drawing is unknown. Engraved by W.H. Toms, it bears a dedication, by J. Smith, 'To Rev. Matthew Brailsford D.D. & Dean of Wells'. Brailsford was dean 1713–33; Smith's significance is uncertain.

24. Most of Carter's drawings in the British Library (hereafter referred to as BL) are undated, but his principal visits to Wells seem to have been in 1784, 1791 and 1794. BL: Add. Mss 29,926, ff. 62–95; 29,930, ff. 88–93; 29,932, ff. 47–112 and 29,943, ff. 66, 116–45. There are also drawings of the Bishop's Palace by Carter (1791) in the Braikenridge Coll. in the library of SANHS.

25. Publication was intended in the series of cathedral surveys commissioned by the Society of Antiquaries of London. Bath Abbey was published in 1798, and Wells was doubtless intended to follow next. Crook (1995, 23) claimed that the finished drawings of Wells were prepared *c.* 1795–1805, which is plausible, but the record upon which they were based is at least in part earlier. Writing in *c.* 1810, the Reverend D.J. Powell recalled that 'Carter some years ago took measurements &c of the whole and was some weeks, five or six, employed in so doing' (BL: Add. Ms 17,463, fo. 207). The year to which Powell was referring was very probably 1794, and many of the dimensioned pencil sketches of that date in the BL (Add. Ms 29,932) are annotated 'for the general plan', 'parts for the longitudinal section', etc. For convenience, the Carter illustrations are referred to in this study as '*c.* 1795', unless more specific information is available.

Carter's completed drawings for the Wells portfolio are in the library of the Society of Antiquaries, and are still unpublished. They formerly comprised seven (now six) large sheets; the medium is ink on cartridge paper, colour-tinted

to distinguish surface finishes. They are numbered and titled as follows.

I. General Plan of the Monastical Buildings
Scale: *c.* 100 ft to 1 inch. Encompasses a large part of the ecclesiastical precinct, including the Vicars' Close. Much careful detail, and use of colourwash to distinguish between gravel, grass, water, etc.

II. First and Second Stories of the Chapter House and adjoining Buildings
Scale: *c.* 24 ft to 1 inch. Shows the chapter house, undercroft, Chain Gate and Vicars' Hall.

III. Ground Plan and Cloisters of Wells Cathedral
This was the main ground plan, but is now lost. It is known only from a small-scale reproduction in Reynolds 1881; an extract also appeared in Robinson 1914. Paul's plan (1891) contained detail which was extracted from Carter's. The loss of the original occurred when the printer's plates for Robinson's paper were being made.

IV. Wells Cathedral, West Front
Scale: *c.* 24 ft to 1 inch. This shows not only the west front of the cathedral, but also the entire elevation of the cloister, the Chain Gate, west gable of Vicars' Hall, and some houses in the Vicars' Close.

V. Wells Cathedral, North Front
Scale: *c.* 24 ft to 1 inch. Encompasses the whole of the north side of the cathedral, including the chapter house, and a cross-section through the Chain Gate.

VI. Section from East to West, Wells Cathedral
Scale: *c.* 24 ft to 1 inch. An axial section, looking south, from the Lady Chapel to the west front, showing also some of the buildings adjoining the west cloister.

VII. Section from North to South of Chapter House, Wells Cathedral
Scale: *c.* 24 ft to 1 inch. A section through the Lady Chapel, chapter house and Vicars' Hall, looking east, showing also the façades of nos. 1 and 2 Vicars' Close.

26. Some of Carter's drawings of Wells were published as illustrations to articles or general works: *e.g.* Gough 1786 and Carter 1795. Many were copied and reworked in the mid-to-late nineteenth century by the architect F.T. Dollman, who also made illustrations of his own, some dated 1844. In 1889 Dollman assembled this material in a folio volume, and added an extensive bibliography of published references to the architectural antiquities of Wells. He also drew an enormous plan of the city at a scale of nearly 1:1,000 (possibly deriving his base from the 1886 Ordnance Survey 1:500 plan), upon which all structures of interest were marked. The Dollman Mss were acquired by the British Museum in 1890 (BL: Add. Mss, Egerton 2738–9).

27. Many of the Buckler drawings are in the BL: Add. Mss 36,381, 36,383, 36,384, 36,399 and 36,402. There is also a Buckler collection in the SANHS Library at Taunton Castle.

28. The Skinner journals are in the BL: Add. Mss 33,633–730.

29. *Archaeol. J.*, **8** (1851), 327–8.

30. Edward Augustus Freeman (1823–92), a historian of national repute, was a local resident. From 1860, his home was 'Somerleaze', in the parish of St Cuthbert Without; this is a modest country house lying to the west of Wells, adjacent to the boundary with Wookey. Obituary notices may be found in *Proc. SANHS*, **38** (2), (1892), 370–88; and *Archaeol. J.*, **49**, (1892), 86–8. Freeman's widow was buried in the Camery, under a foliate grave-slab of thirteenth-century form (Fig. 493C).

Many of Freeman's observations on Wells were astute, and in the second of the obituaries cited above, he was described as 'not only a great historian, but what is seldom if ever the case with great historians, he was also a great archaeologist'.

31. Church 1894b is a collective volume containing a series of papers, recast and augmented, that were originally published in volumes of *Archaeologia*.

32. Church also contributed a series of short papers to *Proc. SANHS*. His works which are relevant to this study are individually cited in the bibliography.

33. A thorough revision and updating of Jewers 1892 was begun by Colchester and is being completed by Frances Neale and David Orchard; publication anticipated in due course. See also, W.J. Rodwell, 'Wells Cathedral. A Plan and Schedule of the Tombs, Memorial Slabs, Commemorative Plaques and Inscriptions on the Fabric' (1994). Ms in WCL.

34. The voluminous Irvine papers are in WCL.

35. See also Parker 1863–64 and 1865b. Published in parallel to the 1866a volume was a supplementary set of thirty-two *Illustrations of Architectural Antiquities*, in the form of mounted and captioned photographs, available on demand (Parker 1866b). There was also a half-set available, smaller in size and sixteen in number. Both sets are now very scarce: the library of the SANHS has a copy of the former, and copies of the latter are in the libraries of the WNHAS and the Society of Antiquaries of London.

36. *Proc. SANHS*, **55** (1), (1909), 59.

37. The former was undertaken by the present writer, the latter by Jerry Sampson. Neither has yet been published.

38. See note 17.

39. Coney 1842, unnumbered; reproduced in Dugdale 1846, **2**, after 274. Coney's illustrations of Wells were probably all drawn in *c.* 1814, and one of his views of the cathedral is so dated. The illustration of the undercroft must be pre-1824, since it shows the pyx-cover, which was removed to the museum in the Bishop's Palace in that year.

40. See note 18, *op. cit.*, 145.

41. See note 28.

42. BL: Add. Ms. 33,692, ff. 221–3. Also partly cited in Wicks 1932, 40.

43. *Ibid.*, illusts. 105–7.

44. *Building News*, **13** (6 April 1866), 227.

45. The first room, occupying bays 34–37 (Fig. 268), is now subdivided into offices. The adjoining stair-turret (Structure 25A; Fig. 345) was known as the 'Museum Turret' in 1901 (WCL: ADD/7045). The second room made over to museum use was potentially that occupying bays 32 and 33 (now known as the 'library annexe').

46. Accounts of discoveries and losses of archaeological material in the 1870s and 1880s are contained in Irvine's papers in WCL.

47. The late W.A. Wheeler recorded the movement and destruction of parts of the lapidary collection. WCL:

Wheeler Diary 3, 23–4 (23 July 1936), 128 (24 February 1937). The diaries are in private possession, but a complete set of photocopies is in WCL (see chapter 11, note 1). A glimpse of the stone display in the undercroft is seen in a photograph accompanying 'The Nooks and Crannies of Wells Cathedral', *Country Life*, 28 November 1908, p. 747.

48. Inf. W.A. Wheeler. When building work was being undertaken in 1987 an unsuccessful attempt was made to locate the pit, with a view to recovering its contents.

49. Cataloguing was carried out by Jerry Sampson: catalogue and photographs in WCL.

50. Church, writing some twenty years later, says that the plan was based on excavations carried out in 1851 and 1875 (Church 1894a, 19). There is no other evidence to corroborate the latter date, which might be an error for 1873.

51. For notes on the history of lighting in the cathedral, see *Friends of Wells Cathedral Annual Report for 1997*, 18–21.

52. Irvine's plan of 1885 was published in Church 1888, opp. 104.

53. Paul judiciously omitted the illusory octagonal building. His long-outdated plan (Fig. 3) has been republished, without amendment, on many occasions: *e.g.* Dearmer 1898/1903; Pevsner and Metcalf 1985a, fig. 154.

54. Hope (1909, 86) claimed that the excavations took place upon *his* 'representation'.

55. The original plan is in WCL, along with the artwork for other illustrations published by Buckle.

56. The two glass-plate negatives, each 12 × 10 inches, are part of the Phillips collection, now housed in WCL. See library ms catalogue: 'Wells Cathedral: The Phillips/Southwood Collection of Photographs' (1988), A.1.55, 56. The collection was privately owned until 1979, when it was given to Wells Museum (*Wells Journal*, 18 October 1979). The cathedral component of the collection was subsequently transferred to WCL.

57. The coffin is mentioned in Buckle's report, and is one of those now displayed in the cloister. It is difficult to see how this coffin was removed in 1894, when it was overlain by the gas main and organ hydraulic pipe. Possibly the coffin was found and removed in 1893 when the latter pipe was laid. The grave that housed it is feature F532 on Fig. 12.

58. Copies of the surveys are held in WCL.

59. This elementary survey, now superseded, was published in Rodwell 1981b, fig. 38.

Chapter 2 (pp. 27–54)

1. Leland's visit to Wells has variously been dated to *c.* 1540–42, but it cannot have been earlier than 1542 since he copied down the dedicatory inscription on the market cross, newly erected by Bishop Knight. The inscription bore the date 1542 (see p. 400).

2. The north porch presents a slight problem, in that it had a single piece of blue lias amongst the numerous Doulting and Bath stone shafts flanking the outer entrance. The shaft, which was on the west flank, was removed in 1956 on the grounds that it appeared 'incongruous' (WCL: Wheeler Diary 14, 10–15 September 1956). This occurrence cannot be taken to demonstrate that blue lias was in use at Wells by *c.* 1205, because many of the shafts on the porch were renewed in Bath stone in the mid-eighteenth century; some may be older. The structurally integral annulets and abaci are of original Doulting stone, as is all the internal detailing of the porch, including the shafts. It therefore seems certain that the single blue lias shaft was an intruder.

3. For blue lias ledger-slabs, see chapter 1, note 33, Rodwell, *op. cit.* (1994).

4. For Purbeck marble slabs, see *ibid.*

5. For slabs of polished Draycott stone, see *ibid.*

6. Bishop Savaric's charter of *c.* 1199–1201 calls it 'a certain stream' (SRS 1932, 3).

7. The vicissitudes of the Ludbourne are of little relevance to the cathedral, but are closely linked to the topographical development of the medieval town. Diversion of the stream probably occurred when the main block of early medieval burgage plots was laid out, the new course of the Ludbourne defining its northern boundary. Chamberlain Street later followed that course too. The last section of the stream within the built-up area to remain open ran alongside the north wall of Bubwith's Almshouses (Fig. 2). The entrance porch bridged the stream.

8. For a discussion of the meaning of the term, and the distinction between Church Camery and Bishop's Camery, see p. 349.

9. Shown on Carter's plan; BL: Add. Ms 29, 926, fo. 126. It was alleged by Skinner that there was also a well beneath the floor of the chapter house undercroft (on the evidence of a hollow-sounding patch in the paving); BL: Add. Ms 33, 692, fo. 222.

10. For a summary of the research carried out prior to 1982, see Aston and Burrow, 1982, chapters 4 to 7, with further references.

11. The only non-prehistoric lithic artefact from the excavations was a single gunflint (Fig. 509.28).

12. The reference to 'leaf-shaped arrowheads' in Aston and Burrow (1982, 23) is erroneous.

13. *Thirty-Sixth Annu. Rep. WNHAS* (1924), 29.

14. The paucity of Roman-period finds from the southernmost region of the site (Areas 2 and 3) is not significant, since the early levels were deeply sealed and the excavations scarcely penetrated below thirteenth-century horizons.

15. It is possible that some features were of Anglo-Saxon date, although they yielded no finds later than the Roman period. In this context attention may be drawn to the line of small postholes, F851, F800, F862, and perhaps F836, which lay parallel to a Saxo-Norman wall, on a roughly east–west alignment (for the wall, see F639/F640: Fig. 87).

16. Similar cobbling (F809) was found further east, where it overlay pit F823, and the gravel surface F774.

17. A few later medieval sherds were recovered, but were clearly intrusive.

18. F761 truncated the probable wall-trench F904 and adjacent cobbled floor F905.

19. Fragments of such mortar were however found elsewhere on the site, particularly in Area 7.

20. Crummy 1981, 40–6. The excavator maintains that the building is of post-Roman date, and there is no doubting that it was, or became, part of an Anglo-Saxon church. A Roman

grave was, however, discovered at the centre of the primary structure.
21. When found, the coffin was badly broken. It was not lifted and has been left *in situ*.
22. Glastonbury Abbey Museum: accn. nos. S.746 and S.754, respectively.
23.If the first letter was **E**, the central bar must have been very short, and unlike the letter **E** in the second line.
24. Okasha (1993, 58–9) cautiously suggests that the last letter could be **I**, or **M**, or **N**. Although the stone is broken close to the letter, the cutting nevertheless appears to be complete: in which case it must be **I**.
25. The Wells fragment was not listed in E. Okasha, *Corpus of Early Christian Inscribed Stones from South-West Britain* (London, 1993).
26. The only specific claim of a Roman-period find from the city is a coin, said to have been found in the garden of Wells Museum by Balch (Wicks 1941, 25). The whereabouts of the coin is now unknown, but its discovery in the museum garden is suggestive of a modern loss. Other antiquarian writings include vague mentions of Roman coins occasionally being found at or near Wells, but without giving details. For example, a coin of Postumus, found 'near Wells' was exhibited to the Society of Antiquaries of London in 1859 (*Proc. Soc. Antiq. London*, **4** (1859), 303).
27. *Fifty-Third Annu. Rep. WNHAS* (1941), 9, 24. The promised full report was never forthcoming, and it was said that some of the finds were in Wells Museum, but a search made by Scrase (1978, 25) failed to reveal them.
28. Little is yet known or published about the site, but modest structural remains were excavated by the Bath and Camerton Archaeological Society in 1996–97. See also Webster and Croft 1993, 141.

Chapter 3 (pp. 55–86)

1. In this report grave-cuts and cists, like their fills, are numbered in the main *feature* (F) series, while *in situ* skeletal remains have their own series of *burial* (B) numbers. For ease of reference, burial numbers are used in the text and marked on the plans, except where express mention is being made of grave features. A summary catalogue of all burials is given in the appendix to chapter 15.
2. Many of the medieval grave-covers on this site were also badly fractured: the damage was doubtless caused by the fall of masonry from Stillington's chapel, when it was blown up in 1552 (see p. 242).
3. The phenomenon of black staining on bones is discussed on p. 545.
4. Full laboratory details of the radiocarbon dates from Wells are given in chapter 16.
5. Other demonstrative examples of femora having rotated through 180° include burials 29, 166 and 238.
6.The upper part of the torso, as well as the feet, of burial 169, had been removed by later features.
7. *E.g.* at St Peter's Church, Barton-upon-Humber, Lincolnshire, where nearly three thousand interments have been excavated and are currently under study at the University of Bristol.
8. For convenient reference, these have been assigned post-excavation burial numbers: B304–307.
9. For discussion of this phenomenon see p. 545. No bones from the mausoleum exhibited overall black staining, as is sometimes found where a burial has been in fully waterlogged conditions. The differential staining is more consistent with circumstances under which only parts of the body were subjected to contact with damp oak. Such conditions could well have obtained where coffins were stacked in a mortuary building.
10. Identifiable finds of animal bones were as follows. F1482: pig (3), cow, sheep/goat, fallow deer. F1493: sheep/goat (3), bird (2). Bird bones were also found in the fill of the wall channel above posthole F1499. The former mausoleum may have become a nesting place.
11. An attempt was also made to obtain a radiocarbon date from burial 293, but the bone was found to contain insufficient collagen for the process (GU-5013).
12. Brixworth church has no particular relevance to Wells. Hope used it here because it provided the most complete plan then available of a large Anglo-Saxon church. By sheer coincidence, he superimposed that plan on the Wells cloister in such a position that Brixworth's apsidal crypt almost fell on the site where a similar feature was actually glimpsed through excavation in 1979.
13. Although no pre-Conquest apse has yet been found at Glastonbury, Radford (1981) argued plausibly for the eighth-century church having had an apsidal sanctuary. His reconstruction of an eastern apse on the church of *c.* A.D. 1000 is pure speculation (see Fig. 108).

Chapter 4 (pp. 87–126)

1. F686 also yielded medieval floor tile fragments, but they may have entered the posthole after the timber was removed or had rotted.
2. *I.e.* the 'short' Roman foot of 11.66 inches, or 29.5 cm.
3. The variations in trench width shown on plan are largely due to the differing levels at which the trenches could be recorded: in some places foundation cuts survived to a depth of 80 cm, while in others there was little more than a scoop in the surface of the bedrock. The same situation obtained, to varying extents, with all the early foundations.
4. Beneath the mortar spread (F310), and cut by the wall trench, was another layer of dark loam containing charcoal and fired clay (F309); it was not excavated. The same applies to F311, F312 and other layers underlying the construction horizon associated with Structure 9.
5. There were in fact two later burials in Area 7, probably associated with the Lady Chapel-by-the-Cloister. These are considered to be isolated occurrences, unrelated to the general history of this cemetery: see p. 361.
6. Hunter gives the full Latin text, with a parallel translation. The latter has, for the most part, been followed here. For a detailed study of Giso, see Keynes 1997.
7. Latham (1965), for example, was unable to cite a reference to *hemicyclium* earlier than the sixteenth century, and then not in an architectural context. The term does not appear in Gee (1984).

8. Rouen Ms. 368 (A.27), fo. 2*v*.
9. Colchester supplied a brief footnote on the subject in Rodwell 1982b, 22–3, n. 14.
10. BL: Ms. Cotton Vitellius, A.xviii.
11. See note 8: fo. 187*r*. St Martial is, incidentally, the last named on the list.
12. *Ibid.*, fo. 2*v*.
13. Although it should be remembered that there was insufficient room for a conventional cloister layout to the south of the church.
14. Conversely, the absence of cross-shafts from the very considerable collection of pre-Conquest stones at Winchester (Old and New Minsters) is remarkable (Tweddle *et al.* 1995).
15. In Glastonbury Abbey Museum, unpublished.
16. The curious alignment of the present Penniless Porch gate in relation to the west wall is not a matter of great moment. The gate was entirely rebuilt in the mid-fifteenth century, as part of a general refurbishment of structures fronting onto the market place. It is likely that the gate was realigned at the same time to conform with the contemporary topography.
17. See chapter 1, note 5: *Gesta Pontificum*, 66–7.
18. *Ibid.*, 195.

Chapter 5 (pp. 127–60)

1. For York, see Phillips 1985; for Exeter, see Henderson and Bidwell 1982; for Gloucester, see Heighway 1984.
2. As, for example, in Benson 1956; see also references given there.
3. The name of Thomas the Mason has been suggested as a possible candidate (Harvey 1982, 99). Thomas witnessed a charter for Bishop Reginald at Bath, but has no demonstrated connection with Wells.
4. Drawings of the obverse and reverse are held in Wells City Archives (Town Hall, Wells). They are in black ink, with grey wash. An accompanying label refers to the date of the deed to which the seal was attached. The obverse drawing was published in Imray 1991.

Impressions from the seal were variously exhibited at antiquarian gatherings in the nineteenth century: *e.g.* at The (Royal) Archaeological Institute in 1855 (*Archaeol. J.*, **12** (1855), 98); and at the Society of Antiquaries of London in 1858 (*Proc. Soc. Antiq. London*, **4** (1859), 227).
5. The drawings are part of a composite plate which includes the seal and counter-seal of Bishop Reginald (from charter no. 1: SRS 1932, 1), and the thirteenth-century seal of the steward of the borough. Reginald's seal alone previously appeared in Irvine 1873/74, pl. 1. The seals were photo-lithographed by James Akerman as plate 22 for publication that has not been identified (here, Fig. 111). A copy of the published plate, presented by Irvine to the Corporation on 9 November 1875, is pasted on the front endpaper of what is colloquially known as the 'Book of Mayors' of Wells City Council. Compiled by Thomas Serel in 1857, the full title of this ms volume is 'A List of the Gentlemen who have held the Honourable Office of Mayor of Wells from A.D. 1378 to the Present Time'.
6. Wells City Archives, deed 1002/78.
7. Held by Wells City Archives.
8. This calls to mind another Wells seal, the matrix for which was found in the kitchen garden of the Deanery in 1894, and which was exhibited to the Society of Antiquaries of London by Dean Jex-Blake (*Proc. Soc. Antiq. London*, 2 ser. **15** (1895), 258–9). It was described as being of latten, 'in the form of a pointed oval, $1^{9}/_{16}$ inch long, and has for a device a bridge of two arches, with water under, on which there kneels to the sinister a man with flowing robes and outstretched hands. Above is the Holy Spirit descending in the form of a dove. The legend is:

+ EST MICHI COGNOMEN CINERVM PONS GRACIA NOMEN.

The seal probably dates from the middle of the thirteenth century.' The lettering was Lombardic. The present whereabouts of the seal matrix has not been ascertained.
9. An observation first made by Dean Patrick Mitchell.
10. Some topographical artists accurately reflected the ground slope across the west front (*e.g.* Charles Wild in his aquatint of 1829), whereas others eased the disconcerting slope away, so that the façade appeared to stand more comfortably on level ground (*e.g.* Britton 1836a, pl. IV).
11. This contrasts with Lichfield Cathedral, for example, where the floor of the quire of *c.* 1200 sloped by 30 cm from north to south.
12. There are, however, differences between the layout of the eastern arm and the western parts of the church (crossing, transepts and nave) (Sampson 1998, 136–9).
13. I owe the information in this paragraph to Jerry Sampson.
14. Vestigial evidence for the springing of the original high vault over the quire was first noted in 1992, when scaffolding was in place. The present vaulting is fourteenth century.
15. Noted by W.A. Wheeler, when carrying out repairs to the paving in this area.
16. No evidence of a corresponding doorway in the north quire aisle has been seen, but externally the wall is largely obscured by a modern boiler house.
17. Notes on the structural sequence in the quire have kindly been provided by Jerry Sampson, and are incorporated below.
18. Further evidence for this horizontal building method is provided by the course of Chilcote stone which runs beneath the string-course between the arcade and the triforium in both quire and transept.
19. I am grateful to Richard Halsey for his comments on comparisons between Wells and Oxford. See, generally, Halsey 1988.
20. This was drawn to my attention by Tim Tatton-Brown. It was seen as a later doorway by Cocke and Kidson (1993).
21. One of the chapels was dedicated to the Holy Cross, perhaps the more southerly; the dedication of the other is unknown.
22. The design of the vestibule and grand stairway to the chapter house leaves little room for doubt that the intention (in the late thirteenth century) was to open up the north wall of the transept aisle and create a monumental doorway, centred on the new stair. But that never came to pass, and so the

unprepossessing little doorway, incongruously off-centre, remains as the 'temporary' access to one of the most magnificent chapter houses ever built.

23. By 'stone preparation', Buckle probably meant a layer of masons' chippings and stone-dust. Unfortunately, his excavations, and subsequent landscaping, had removed everything that overlay the foundation offset.

24. On Paul's plan of 1891 (Fig. 3) a tiny rectangle is indicated as 'site of sacristy (now destroyed)'. Excavation demonstrated that such a structure would not have fitted on the offset foundation.

25. Just such a construction, formed with scaffolding poles and roofed with corrugated iron, was built in the 1970s to provide an access corridor to one of the doorways of the west front of the cathedral when it was cloaked in scaffolding for several years.

26. Sampson suggests *c.* 1205–10 for the construction of the east nave. Dendrochronological examination of the easternmost roof trusses, in 1998, indicates a felling date for the timber in the range 1212–14 (inf. kindly supplied by Dan Miles). The east nave cannot therefore have been completed before *c.* 1215.

27. Regrettably followed in Rodwell 1980a, 19, n. 6.

28. The font, for example, might have been temporarily stored here before being moved into the transept; p. 151.

29. I owe this suggestion to Richard Halsey, who considers that Romanesque sculptured effigies may have succeeded painted images on chests, paralleling the emergence of capital sculpture from painted work. This would certainly explain the paucity of effigial evidence of Anglo-Saxon bishops and kings.

30. The Chichester cross and some French examples are illustrated in Wylie 1853, pl. XIII.

31. BL: Add. Ms 17,463, fo. 200*v*. Powell included two rough sketches (sepia ink with a little wash).

32. See chapter 1, note 18, Carlos, *op. cit.* (1824), opp. 123.

33. Buckler's pencil sketch is in the BL: Add. Ms, 36,384, fo. 113. For the watercolour see note 47.

34. Plan, elevation and section. BL: Add. Ms Egerton 2738, fo. 1, no. 5. It is unclear whether this was Dollman's own drawing (1844?), or whether it was one of the many that he worked up from sketches of Carter's. No drawings of the font appear to have survived amongst the Carter Mss, and it therefore seems likely that he did not illustrate it.

35. See also references in 1611–12 (HMC 1914, 362) and 1637–38 (HMC 1914, 419).

36. This is not necessarily the correct identification, see p. 341.

37. At Salisbury the font was moved from the nave into the north-east transept in the last century, and is nowhere near any door. For the presumed original position, at the west end of the nave, see Cocke and Kidson 1993, fig. 1.

38. The cover was repaired, coloured and gilded in 1982 (Colchester 1987, 106, 108).

39. The pitch of bays 5 to 8 is 27 cm; bay 1 is 29 cm; bay 4 is 29.5 cm; bay 3 is 30 cm; and bay 2 is 31 cm. In practical terms, this indicates that the sculptor did not set out the whole drum before he began cutting, but made an approximate calculation of the bay pitch as 27 cm (10⅝ ins). He only realized the error after he had cut four bays, after which he widened the arcade incrementally, so that the difference was not made obvious. The next two bays he enlarged to 29 cm and 29.5 cm, and the final two to 30 cm and 31 cm, respectively.

40. For an architectural example, see Avebury (Taylor and Taylor 1965, **1**, fig. 14); and for examples of sculpture, see Breedon-on-the-Hill (Cramp 1977, figs. 58a and 59).

41. Bodleian Library: Ms Junius 27.

42. Almost certainly, the font stood against a wall for some considerable time, which protected the paint from the thorough scrubbing that the other three sides suffered during a 'restoration' purge.

43. The Wells font and two other examples of painted sculpture were briefly discussed in Rodwell 1990, 161–3.

44. The corpus of drawings was assembled in the second quarter of the nineteenth century by J.H.S. Pigott; it is now in the library of SANHS at Taunton Castle. See generally, 'Catalogue of the Pigott Drawings', *Proc. SANHS*, **8**, (1858), 149–90.

45. In the past, several fonts in Somerset parish churches have been pronounced pre-Conquest, but such claims are untenable. The evidence has been reviewed by Foster (1987, 68).

46. See chapter 1, note 18, Carlos *op. cit.*

47. SANHS: Pigott Coll., vol. IV, no. 120, entitled 'Font in the Cathedral Church at Wells'. For the original pencil sketch, see note 33.

48. Dollman Mss, see note 34.

49. The possibility that the font had a high, tabernacled cover in the later Middle Ages should not be overlooked. Such a cover could not have been secured with a hasp fixed to the rim, and it could explain the presence of four straps or hasps attached to the exterior of the bowl.

50. Bath stone does appear in later Gothic work inside the cathedral, where very fine detail had to be carved, as for example on tombs.

51. Information kindly supplied by Dr D.T. Donovan, who has made a particular study of the early building materials used in the area.

52. Attention may be drawn once again to the barrels depicted on the Lanalet Pontifical, p. 112; Fig. 106.

53. These were all discussed and illustrated by F. Bond (1908, ch. X), who considered them to be pre-Conquest, a claim that is no longer sustainable.

54. Glastonbury Abbey Museum: Accn. S.576. The piece is unpublished, but is listed by Foster (1987, 74, no. 28).

55. This piece has interlace similar to that on a fragment of pre-Conquest cross-head, now lost: *Proc. SANHS*, **59** (2), (1913), 61–3.

Chapter 6 (pp. 161–98)

1. See also a later bond, dated 1268, referring to the same subject: HMC 1907, 105.

2. Bishop Stillington's register (SRS 1937), quoted in Church 1894a, 24.

3. In the field record, many more feature numbers were given to the various foundation components: one number

only has been selected here to represent each major structural unit, and lower-case suffix letters have been added to denote buttresses.
4. If the north doorway was centrally placed in the middle bay, it could not have been directly opposite the south doorway. The small deviation is hardly significant in this asymmetrically planned building. A row of cist-graves across the middle of the chapel seems to have marked the transverse axis.
5. There could have been a modest structure built onto the east side of the transept, towards which wall F1378 was heading. The area in question has not been explored. Other, unexplained foundations are known to exist in various parts of the Camery, having been encountered by grave diggers.
6. It has been alleged that the heart of Sir Philip d'Albini, a Crusader who died in the Holy Land in 1236, was enshrined or buried in Wells Cathedral (Bradford 1933, 43). A heart casket was also formerly displayed in the chapter house undercroft (p. 14).
7. *Anastatic Drawing Society, 1886*, pl. 21.
8. WCL: Irvine Mss.
9. *Ibid*. Irvine records that further spandrels still remain *in situ*.
10. Unless demolition and rebuilding was carried out bay by bay, which seems generally improbable.
11. Burial 78, in row 2, was also just clipped by grave-pit F550.
12. Remains of leather footwear were also noted in a medieval stone coffin in the south transept of the cathedral, in 1893: 'the body seemed to have been buried wrapped in some linen substance, and with sandals (leather) on the feet, of which there were remains' (Fielder 1893, 101).
13. The two parts of this stone have now been reunited and placed inside the chapel of the Holy Cross-by-the-Cloister, on the site of its altar.
14. The tiles were of designs 31 and 38, which were used extensively in the nave floor.
15. The contents of the pit were at first thought to be charnel and were partly removed before their true significance was appreciated.
16. One is reminded of the awkward physical relationship between the Romanesque bishop's palace and the cathedral at Norwich. Here, the passage linking the two structures abuts the north nave aisle at a markedly skewed angle (Heywood 1996, 109–11).
17. Formerly Huntingdonshire (Soke of Peterborough). Brandon and Brandon 1848, 13–14. On the originality of the quatrefoiled clerestory windows, see Burton 1997, 53.
18. Jerry Sampson offers the alternative suggestion that the Virgin's head came from a statue which stood on the screen
19. Formerly Rutland. Brandon and Brandon 1848, 1–2.

Chapter 7 (pp. 199–244)

1. For a brief account of the life of Stillington, see Jex-Blake 1894; also Colchester 1972a. One of the primary sources cited by Jex-Blake (*op. cit*., 12), which includes details of Stillington's chapel, is wrongly ascribed to John de Whethamstede's 'Chronicle'. His Register ends in 1464 and he died in 1467; see H.J. Riley (ed.), *Registrum Abbatiae Johannis Whethamstede*, 2 vols. London 1872–73. The true source of this quote has not been traced.
2. Stillington was also responsible for the reconstruction of parts of the cloister (p. 246; Colchester and Harvey 1974, 211–13).
3. The tunnel was discovered after excavating a section of the well-mouth (F767) in the northern angle between Stillington's chapel and the cloister. It was only possible to examine the feature by removing the two end-slabs and partially entering the void from the north; the stub of the nave wall still stands above.
4. *Cf*. the vestibule to the Berkeley chapel in Bristol Cathedral, where there is an integral oven and chimney.
5. It is not known whether the Camery was still being used as a cemetery at the end of the fifteenth century. No graves of that date, or later, have been excavated outside the chapel.
6. The framed boss appears in Carter's elevation of the west cloister, *c*. 1795 (Fig. 341).
7. Although Sugar's chantry was not built until 1489, it is generally believed that the structure was consciously modelled on Bishop Bubwith's chantry chapel which lies opposite, under the north arcade of the nave (Pl. VII). That was built before 1424. The two structures give the superficial impression of being an approximately matched pair, but there are numerous differences. To some extent, Sugar's chantry must have been anachronistic when it was built (Tudor-Craig 1982, 127), but it is curious that the moulding profiles are so closely similar (Fig. 249).
8. Recent analysis of the fabric of Cirencester church, has demonstrated that there was a twin-turreted south portal prior to the construction of the notable three-storied porch: W.J. Rodwell, 'The Parish Church of Saint John the Baptist, Cirencester: An Archaeological Appraisal of the Fabric and Fixtures' (1997). Ms report, Cirencester P.C.C.
9. WCL: Irvine Mss. This is not to be confused with the well-known gypsum tracing-floor in the chamber above the north porch (Colchester and Harvey 1974, fig. 2).
10. Irvine's observations on the chapter house floor were evidently unknown to Wheeler, who referred to various theories which were current in the 1950s concerning the origin of the then-vestigial remains of incised lines: *Friends of Wells Cathedral Report for 1953*, 10.
11. Ditcheat had close connections with Wells: Dean Gunthorpe was rector. Both his arms and Stillington's appear on the chancel parapet there (Pevsner 1958, 149).
12. His relationship to the bishop, if any, is not known.
13. Bishop Bubwith had built his chantry (note 7) some years before his death in 1424.
14. Godwin (1616, 438) described the chapel's demise:
    Decessit vero sub exitum Iunii 1491. Constructa interim capella speciosissima iuxta claustra (in qua conditus est) sed avibus haudquaquam faustis. Nam una cum Aula palatii Episcopalis, a Gatesio antea commemorato, diruta est, ut ex dievendito plumbo quo haec aedificia operiebantur pecuniam corraderet. Et haec sive plumbi sive auri sitis effecit, ut iidem homines, qui adolescentes Episcopum viderant viventem florere, & mortuum tumulari, non solum capellam quam a fundamentis ab eo excitatam quoque viderant, eversam, sed

tumulum disiectum & miseras hominis reliquias plumbo excussas quo fuerant involutae, aetate postea prouectiores conspexerint.

15. The foundations were uniformly wide enough to accommodate wall-benches around the chapel. Since there was no need for a bench behind an altar, the extra width of foundation provided a ready base for a reredos.

16. Modern punctuation has been introduced, for easier reading.

17. For example, the pair of angel-corbels flanking the doorway in the south elevation are probably derived from the hall roof of the fifteenth-century house.

Chapter 8 (pp. 245–308)

1. Likewise, no toothings or returns were provided on the transept buttresses where it was intended to attach the sacristies; see p. 139.

2. The external bay divisions basically correlate with the suggested twelfth- and thirteenth-century plans of the walks, Figs. 277 and 279. Later alterations to the east and west ranges have partly obscured the external bay structure.

3. I am grateful to Jerry Sampson for much fruitful discussion concerning the development of the cloisters, over many years. This chapter has benefitted greatly from his ideas and observations; see also Sampson 1998, chapters 1 and 4.

4. The range is 3.51 m to 3.65 m, with two aberrant bays (abutting the south corners) at 3.38 m and 3.80 m (bays 13 and 27, respectively).

5. For discussion of an intermediate (pre-Bubwith) phase, in which the east cloister was re-bayed to a pitch that set the pattern for the fifteenth century, see pp. 290–1.

6. *Pro constructione et noua edificatione cuiusdam librarie de nouo edificande super paginam siue partem orientalem claustri dicte ecclesie Wellensis inter hostium australe eiusdem ecclesie prope cameram escaetoris ipsius ecclesie situatum et portam qua itur directe a dicta ecclesia per claustrum praedictum in palacium episcopale* (Jacob 1937, **2**, 299).

7. The medieval paving survived substantially intact, although punctuated by tombstones, until the 1960s, when it was regrettably replaced with the present cast concrete slabs: east walk, 1961; south and west walks, 1965 (*Friends of Wells Cathedral Report for 1965*, 5). For a view of the lost paving in the south walk, see Fig. 273.

8. Not only the two corner bays, but also the first bay of the south walk proper, at each end, had already been built (*i.e.* bays 14–15 and 25–26).

9. Carter's illustration showing the south walk with an upper range is erroneous: Fig. 337.

10. Niche next to figure number 383 on face Sk, for which see Sampson 1998, xv.

11. The observation was first made by Irvine, in 'Some Account of the various Cloisters at Wells'. WCL: Irvine Mss.

12. Irvine actually published the evidence for the true width of the early cloister on the west, since he marked the correct line of the screen wall on his plan, annotating it 'Restored plan of part of the second cloister' (Irvine 1873, plan). By 'second' he meant mid-thirteenth century, since he believed there to have been a succession of three cloisters. His assessment was evidently correct: see further, pp. 261–3.

13. The centre roll was mildly pointed, although the evidence for this has largely been eroded away. The mouldings are generally battered, and in some places have been renewed or recut. The benching in the north porch may be as early as *c.* 1190.

14. See notes 11 and 12.

15. It was Jerry Sampson who first noted and interpreted the evidence for the early roof positions in the south and west walks.

16. Since the shaft base was not quite centred on the axis of the buttress, the bay division may have consisted of more than a single component. One might have been tempted to suggest that the bench top had been repositioned in the fifteenth century, but the fact that the lias base was apparently still *in situ* on the bench in Irvine's day militates against such a view (although it is difficult to envisage how the base could have survived the rebuilding of the west walk).

17. The top of the screen-bench is partly visible from within the cloister garth and is now at ground level. The evidence seen by Irvine at the junction of bays 27 and 28 appears to have weathered away.

18. A bay pitch of 3.35 m, or 11 ft, evokes interest since eleven statute feet equate precisely with ten 'northern' feet (or long Roman feet: see p. 97). The theoretical plan of the Wells cloister was thus based on a square of 150 northern feet.

19. Sampson (1998, 27) has demonstrated that the east wall of the north tower was started at the same time as the west nave.

20. *Cf.* the differences in bay pitch at Salisbury: Cocke and Kidson 1993, plan.

21. The overall depth of the porch was the same as the new cloister bay-pitch.

22. Harvey failed to appreciate the implications of Worcestre's record. He dismissed it thus: 'This dimension is correct for the south walk; there is not, and never has been, a north cloister walk at Wells' (Harvey 1969, 289). Worcestre's measurement of 53 yards (48.5 m) is correct.

23. The north slope measures 3.1 m to the ridge and is pitched at 48°; while the south slope measures only 2.0 m and has a pitch of 42°.

24. For the pattern of putlog holes in the south cloister wall, see Fig. 291.

25. Sampson (1998, 73) has drawn attention to the change of angle between the shallow pitch adopted for the main cloister roofs, and the steeply pitched pentice between the buttresses: see Fig. 286.

26. The evidence, in the form of weathering-lines and timber sockets, was revealed during restoration in 1995, and was kindly shown to me by Tim Tatton-Brown.

27. Repointing the south wall began in the late 1970s, with bay S7, and proceeded intermittently westwards, to completion in 1993. Only the two western bays have been archaeologically recorded.

28. Simple chamfered arches with trefoil heads occur as the rear-arches to windows in the west front, at triforium level: see Parker 1866a, pl. IX.

29. Trefoil- and cinquefoil-headed arches with complex mouldings occur as the rear-arches to windows in the Bishop's Palace: see Parker 1866a, pl. VIII.
30. The use of makeshift scaffolding, supported on trestles or empty oil drums, for the first stage of construction is still practised.
31. It is unclear why so much of the string-course should have been removed for the insertion of the medieval window, leaving what are now ungainly gaps to either side.
32. Similarly, projection of the west cloister parapet string onto the face of the cathedral falls at 15 cm below the main string-course at window-head level, as indicated in Fig. 283. The discrepancy of 10 cm between the levels of the east and west cloister abutments is probably an illusion caused by subsidence at the south-east corner.
33. Reid's assertion that the library had a low-pitched, lead covered roof is believed to be baseless (Reid 1973, 103). For the timber mouldings, see Hewett 1985, figs. 251, 287.
34. Normal masonry-supporting abaci at Wells were either round (in lias, at the time of the west front building) or demi-octagonal (as seen in the arcades and vaulting of the aisles and high vaults).
35. Corbel no. 2 is a renewal of a previous timber corbel, which was probably original to Bubwith's library. The other modern corbel (no. 7) is thought to have replaced a broken medieval one. That being so, the known complement of thirteenth-century stone corbels is fourteen.
36. The implausibility of Buckle's thesis was recognized by Reid (1973, 104), who in turn made the mistake of associating the triplet of blocks with Bubwith's vault.
37. There is nothing unlikely about the provision of a wide, single-storied east cloister with a low-pitched lead roof. It could have been constructed without impinging on the transept window. An analogue may be found in Salisbury, where the cloister roofs are still near-flat.
38. While this course serves as a string below Bubwith's library windows, it is of a profile compatible with the late twelfth century. The string has been reused; see p. 270 and Fig. 290.
39. The consistory court at Salisbury met in the link-structure between the west cloister and the west front of the cathedral (Cocke and Kidson 1993).
40. As recorded in the Dean's Consistory Court Book, 1582–83. WCL.
41. I am indebted to Mrs Frances Neale and Miss Patricia Humphries, who kindly read and commented upon the following sections concerning the library and muniments. Their many helpful suggestions have been incorporated.
42. This floor, which is also seen in Church 1901, pl. XXVI, was replaced with concrete and tiles during a comprehensive refurbishment in 1972. A gypsum floor, with its fireproof qualities, was ideal for a library, but here it seems only to have been laid in the vestibule. The original upper floors of the cloisters at Wells were, it seems, all of oak. The floor in part of the library was renewed in oak in 1682, seemingly as the first stage of Busby's refurbishment (HMC 1914, 446; Colchester 1974, 3).

An early thirteenth-century plaster floor — used as a mason's tracing floor — still exists over the vault of the north porch (Colchester and Harvey 1974, 214). There is also a lime-ash floor, probably of the seventeenth century, in the first-floor dorter passage, at Bristol Cathedral; that room was also formerly used as a post-medieval library.
43. One late medieval reading desk with two cupboards below survives, in somewhat mutilated condition. However, there is no proof that it originated in the east cloister, and it could have come from the library of the vicars choral. The desk is now displayed in the outer room. It is also worth mentioning that the wide oak floorboards of Bubwith's library are made from reused timber: the marks of former fittings suggest the possibility that they are from dismantled book-chests.
44. Here, it is relevant to recall that the waste-outlet from the first-floor kitchen, adjacent to and serving Vicars' Hall, was via a high-level shute. It discharged onto the street beneath (Cathedral Green).
45. Lavabos were provided elsewhere in the cathedral, in places where washing was desirable as a result of handling money and plate. There is one in the sacristy (in the vestibule to the chapter house undercroft), and another in the exchequer of the vicars choral (situated on the first floor of the gateway leading up to Vicars' Hall).
46. When restoration work was carried out on the library in 1972, the master mason commented on the exceptionally decayed state of the roof timbers. Inf. W.A. Wheeler.
47. The purpose of this chamber is uncertain. It could have been the escheator's office, which is thought to have lain hereabouts (HMC 1914, 21, 38).
48. *Contra* Colchester and Harvey (1974, 210), that is after the completion of the north-west tower and Bubwith's almshouses in Chamberlain Street. See the discussion regarding the moving of the library to the cloister (p. 296).
49. The existing plaque is a replica, carved in 1970, to replace the original which had eroded away (Colchester 1974, 15). For the arms of Bubwith, see Jewers 1892, 275, pl. VIII.3.
50. After a long period of disuse, the latrine was refurbished in 1978.
51. This discovery was made when the modern flush lavatory was installed, and a hole for the soil-pipe was broken through the floor.
52. Loose boards or a trap-door would have been concealed by rushes on the latrine floor.
53. Church's plan shows all these windows as existing in the masonry, but infilled; whether he had specific evidence on this point is uncertain (Church 1901, fig. 1). We have followed him here in Fig. 308B.
54. The window surrounds are not coursed with the adjacent masonry, and thin strips have been inserted over the heads, as gap-filling material.
55. WCL: Chapter Act Book 1666–1683, fo. 123 (3 March 1669–70); edited and published in SRS 1973, 19.
56. *Ibid.*, 22 (4 July 1670).
57. *Ibid.*, 70–1 (20 October 1679).
58. WCL: Chapter Act Book 1683–1705, fo. 80; HMC 1914, 461; cited in Church 1901, 221.
59. In addition to being canon treasurer of Wells, Busby was also Master of Westminster School for 57 years. He was never resident in Wells, although he retained a canonical

house there. Richard Healy, who acted as his receiver at Wells, wrote numerous letters to Busby, and these are preserved amongst the Busby Charity Papers in the Muniment Room of Westminster Abbey. Copies are held in WCL. I am grateful to the Dean and Chapter of Westminster for permission to cite the correspondence.

60. '... *incommodam ordinando situque & squalore pene obrutam* ...' WCL: Benefactors' Book. See also HMC 1914, 518.

61. Westminster: Busby letter, 10 August 1683.

62. *I.e.* an Oxford college layout was adopted. This was a development of the pre-existing (but still post-medieval) shelving, which seems to have been single depth, crossways, between each window. Westminster: Busby letter, 10 August 1683.

63. The 'square roome' at 'the farther end' is mentioned by Healy in a letter to Busby, 23 December 1685, without specifying its function. It is described as 'an hansome roome for an Archive' in a letter of 7 July 1686, and is the present-day muniment room.

64. A new window in the 'Archive roome' is referred to in a letter. Westminster: Busby letter, 7 July 1686.

65. With the exception of the ceiling in the muniment room, the lath and plaster was all removed in 1939.

66. Westminster: Busby letter, 12 April 1686.

67. *Ibid.*, 4 September 1686.

68. *Ibid.*, 3 October 1686.

69. *Ibid.*, 24 November 1686.

70. WCL: Chapter Act Book 1726–1744, fo. 44; cited in HMC 1914, 518 and Colchester 1974, 4.

71. Inexplicably, Church (1901, 226) claimed the number of double presses as twelve, but there never were more than eight (not including the two new ones added to the outer room in the late nineteenth century). The same paper also contains errors in the dimensions given for the internal spaces.

Chapter 9 (pp. 309–48)

1. WCL: *Liber Albus I*, fo. 97.

2. It must have been another Thomas Goldwege who was promoted to bishop's registrar and canon residentiary, and who died in 1513 (HMC 1914, 234–6). In December 1512 he sought and was granted 'a place of sepulture in the chapel of Corpus Christi on the north side of the church' (HMC 1914, 232). This chapel is in the north-east transept.

3. The earliest drawing was by Carter, probably 1784 (BL: Add. Ms 29,926, fo. 93). Gough described the panel as 'a curious device in the wall of the east cloister at Wells representing the name of Jesus combined with the instruments of his passion' (Gough 1786, 2, cclviii and pl. XXXIII.17). Carlos illustrated the panel in 1824 (see chapter 1, note 18, *op. cit.*, opp. 155). The drawings differ significantly in the treatment of detail, and neither is accurate when compared directly to the object.

4. Carlos, *op. cit.*, opp. 155.

5. Carter confirmed the position of the Ascension sculpture, directly above the doorway to the former Lady Chapel, in his drawing of cloister bay 6 (BL: Add. Ms 29,926, fo. 93). An accompanying note referred to 'an arch in the wall of the east side of the cloister ... above is seen a bassorelievo of the Ascension, below is a device of the instruments of the Passion. Copd for R.G[ough]. Esq.' The panel had probably been in this position since the late fifteenth or early sixteenth century. To avoid any possible confusion, it may also be noted that there is a second Ascension sculpture at Wells, which was acquired from a private source in the late eighteenth century. Carter illustrated it with a watercolour, referring to it as a 'bassorelievo of the Ascension, in the library, presented by Mrs Rickman' (BL: Add. Ms 29,926, fo. 95). This is the medieval alabaster panel, which is framed and now hangs in the Bubwith chantry (Colchester 1970; 1987, 97).

6. The tapered slab shown by Carter just inside the sixteenth-century west cloister porch presumably marked a burial. Carter's pencil sketches in the British Library show more detail than the published plan and, in some cases, surface features of the monument are included.

7. For existing monuments in the cloister, see chapter 1, note 33, Rodwell, *op. cit.*

8. Inf. W.A. Wheeler and S. Spratt, who carried out the work on the cloister floors.

9. The window is dated to *c.* 1310–20 and is illustrated by Marks (1982, pl. 63). Related in style to the Wells indent is the Martyn brass at Puddletown, Dorset, dated 1524 (RCHME 1970, 255, pl. 40). There, the figure and inscription are engraved on a rectangular brass plate.

10. The slight overlapping of slabs here, coupled with the fact that Jewers (1892) makes no mention of the indent, implies that it was concealed beneath wallplaster; it was apparently revealed only in 1927 (Connor 1936, 199). Slight remains of plaster still adhere to the surface of the indent.

11. Like the indent in bay 4, this stone is set flush with the plaster face of the wall, and there is no suggestion that it is a modern introduction. The slab was noted, *en passant*, by Jewers (1892, 232).

12. The letter had gone by 1824, as evidenced by Carlos's careful illustration.

13. Powell, topographical coll. BL: Add. Ms. 17,463, fo. 207*v*.

14. See chapter 1, note 18: Carlos, *op. cit.*, 152–3.

15. WCL: Wheeler Diary 14, 179–80.

16. In discussing the letters in the spandrels, Reid suggested that they were the initials of Nicholas Bubwith, but he was confused: the evidence does not permit that reading. In any case, the pentice is later than Bubwith's cloister.

17. For assistance with this section I am greatly indebted to Mrs Frances Neale, who has researched the documentary evidence relating to the chapel, and who kindly put her notes at my disposal.

18. If this is accepted, then it follows that the north cloister walk, or any eastern part of it which might have been built, must already have gone when Structure 21 was erected; for discussion of the north cloister, see p. 266.

19. *Cf.* their relationship to the two thirteenth-century corbels in the west cloister, on the south-west buttress of the west front (p. 271; Fig. 283).

20. At Salisbury, the tracery lights alone were glazed in the thirteenth century.

21. Wells City Council: Wells Receivers' Accounts, 1684–1759. For the general context, see Baines n.d. [1985].
22. See also Carter's unpublished 'Architectural and Monumental Drawings, viii'. BL: Add. Ms 29,932, fo. 71–2.
23. Carter's sketches were also carefully redrawn by F.T. Dollman, presumably with publication in view. BL: Add. Ms Eg. 2738, fo. 1.
24. Carlos, *op. cit.*, opp. 151.
25. The intrusive tombs are those of Bishop Eden (Baron Auckland, d. 1870), Canon Fagan (d. 1875), his wife (d. 1899), *et al*. See Fig. 266 (left hand group of tombs).
26. Carlos, *op. cit.*, 150–1.
27. Being on a hilltop, it was not possible to have a naturally fed dipping-well at Sarum, and water had to be drawn from a considerable depth. Hence the well-house apparently contained a lifting wheel and a cistern to hold water, once it had been raised to the surface.
28. WCL: Dean's Consistory Court Book, 1582–83. The court repeatedly met *iuxta lavarum*.
29. The buttress plinth is just visible on Carter's elevation, Fig. 341. Ground level in this area has been raised since Carter's time: this occurred in 1874, when the whole of the great cemetery was landscaped. WCL: Chapter Minute Book, 1873–86, entry dated 5 May 1874.
30. WCL: ADD/7045. Irvine's elevation drawings of the choristers' house are also in WCL.
31. The surviving adjuncts to the west cloister are now used as kitchens and storage facilities for the cathedral restaurant; architectural and archaeological detail is largely inaccessible. Considerable alterations, carried out in the early 1980s, are not detailed here.
32. Inconsistent wall thicknesses throughout the porch block present serious difficulties of interpretation. The south wall of the early porch (R1) is 66 cm in thickness, whereas the north wall is only 58 cm, and the west wall containing the entrance is 73 cm. This last is the same as the north wall of the adjacent room (R2). The south wall of the later medieval porch (R6) is 38 cm thick, while its north wall is 45 cm.

Postscript Restoration of the porch in December 1998 confirmed that the original structure was single-celled, and that a cloister buttress was removed when the enlargement took place. The full sequence of west cloister buttresses, as posited here, is thus confirmed.

33. The northern part of the chamber has a timber floor but the southern part (*i.e.* over the primary porch) has lias paving which appears to be carried on a near-flat brick vault. No explanation can be offered: this is probably eighteenth-century work.
34. The four-centred doorway connecting with cloister bay 33 is of curious construction: the head and upper parts of the jambs have hollow-chamfered mouldings, whereas the lower parts have crude plain-chamfered mouldings. It is as though the threshold has been lowered, but this is unlikely: the doorway would have been too short to pass through. An oddly proportioned four-centred doorway in the south wall of R2, connecting with the subdivided porch (R1A), seems to be post-medieval. The door in the west wall, giving access from the exterior, is crudely constructed with a Tudor-type head: it is inscribed 'RW 1607'. The lettering was incised and lead-filled. The north door into the room is modern.
35. The doorway was infilled when the staircase was modified (see below). However, it was reopened and a latrine was installed once again in R4 in 1980. At the same time the medieval head of the doorway, which was too low to meet modern regulations, was raised. This is to be regretted.
36. The arch has been infilled in modern times.
37. Late in the nineteenth century, the doorway was broken right through the wall, as shown on plan, Fig. 338. It has now been infilled again.
38. Anomalies in the crenellations at the north end of the range, shown on Carter's elevation, are unexplained. They may represent post-medieval repairs.
39. Colchester (1985, 15) stated unequivocally that Bekynton established the Grammar School at the south end of the cloister, the choristers' combined practice and school room at the north end, and the exchequer or audit office in the middle. The present writer believes that the two latter assignations should be reversed.
40. The full height of the opening, which may be original to the wall, was not seen in 1990. The low-level lintel appears to be a secondary feature associated with a reduction of the height of the opening.
41. The reference to a 'guest chamber' hereabouts (HMC 1907, 74) is a mistranslation of *hostillaria* for *hastellaria* (masons' workshop). Various trenches dug in this area in the 1970s and 1980s, during the latest west front restoration programme, revealed two successive floors of compact stone-dust and chippings, pierced by medieval graves. These deposits are characteristic of masons' working floors.
42. The north elevation of the porch appears on two of Carter's drawings, in the library of the Society of Antiquaries (see chapter 1, note 25). No indication is given of any features in or abutting the north side of the porch, confirming that they had been expunged by *c.* 1795.
43. Parker's plan omits to show a window here at all. The present window has a Tudor head and is of curious proportions: the masonry suggests it to be entirely nineteenth century.
44. WCL: ADD/7045.
45. BL: Ms Arundel 2, fo. 14*v*.
46. For the possibility that the east wing of the house was pre-fourteenth century, see p. 340.
47. *Cf.* also the Communar's Accounts for 1741 (HMC 1914, 538).
48. It was the Oxford antiquary and publisher, J.H. Parker, who offered to take the building on a repairing lease, as he had done with several houses in the Vicars' Close, and restored them.
49. It may be noted that, had the original plan to incorporate the entrance in the north-west corner of the cloister come to fruition, then the public approach would have been from Cathedral Green and not via the *atrium*.
50. The extant structure of Penniless Porch incorporates pre-Bekynton masonry in its lower parts, most notably the east wall. Here, at the north-east angle, one splay of an east-facing, ground-floor window can be seen, the remainder having been cut away. The window, which overlooked the choristers' garden, belonged to a room situated where the base of the porch and adjoining thoroughfare now are. This evidence, although readily visible, seems not to have been

previously recorded. I suspect that the early gate passage lay just to the south of the present one (*i.e.* on the site of the adjoining shop), and that Bekynton built his gate passage where its northern flanking chamber had been. There is considerable scope for further study of the Penniless Porch complex.

51. Chichester, Exeter, Hereford, Lichfield, Lincoln, London, Salisbury, Wells and York. Exeter differed from the others in that it was non-monastic only after the Norman conquest. The four Welsh cathedrals were also of the old foundation: Bangor, Llandaff, St Asaph and St David's.

52. *Viz.* Lichfield and York. Three of the Welsh cathedrals were also devoid of cloisters, the exception being St David's. There, a 'cloister quadrangle', dating from the later fourteenth century, was attached to the north side of the nave of the cathedral, but was actually part of the adjacent St Mary's College. It is not therefore relevant to the present enquiry.

53. *Viz.* Chichester and London.

54. I am grateful to Tim Tatton-Brown who showed me the evidence for the original roof arrangements in the cloister at Salisbury, when the west walk was under repair in 1993.

Chapter 10 (pp. 349–74)

1. The current spelling is 'Camery', but in the records it is variously Camera, Cammery, Camerey, Cameray, Chambray and Chamery; derivation from the Latin *camera* is indicated.

2. Transcript published in Church 1901, 206n.

3. A brief report, accompanied by a large number of photographs, was prepared at the time: W.J. Rodwell, 'Wells Cathedral: The Camery Wall. Observations made during repointing in 1984' (1985). Copies in WCL and the National Monuments Record (RCHME).

4. The discovery was also described to the writer by the late W.A. Wheeler.

5. Inf. supplied by Mr Wheeler.

6. The nails mostly fell into two size-groups: 20–40 mm and 60–65 mm.

7. Although these burials were approximately on the alignment of the 1477 diversion of the conduit, they were certainly earlier than its construction and cannot have been influenced by it.

8. The figures suggest three doorways, each $6^1/_2$ ft high, with timber lintels (*cf.* the two blocked doorways in the east wall of the Camery).

9. W.A. Wheeler recorded that when a trench was dug in 1946 under the archway, the continuous foundation of a 3 ft thick wall was encountered. This confirms that the present wall-line was established before 1433. WCL: Wheeler Diary 9, 29 (2 April 1946).

10. The southern continuation of this drain, in Area 12 (not shown in detail on Fig. 380), was glimpsed during building works in 1989, and had previously been found in 1946, when a new drain was laid on the north side of the masons' yard office. The seventeenth-century drain was 8 ft from the cloister wall. WCL: Wheeler Diary 9, 31 (11 April 1946).

11. Traces of this house were found when a service trench was cut in 1996, from St Andrew Street to the cathedral boiler house (alongside the north quire aisle).

12. Curiously, Carter shows what appears to be an opening in the east cloister wall in bay E3, but there has never been one here.

13. Confirmation of this is seen in 1686, when the library was being refurbished: the carpenter came from Oxford, and the services of a local plumber and glazier were retained (p. 307).

14. Inf. W.A. Wheeler, who carried out the work; he thought that the house was probably seventeenth century.

15. The sacristy was demolished by order of the dean and chapter in June 1822, in ignorance of its true age and significance (Colchester 1987, 80). It is shown on Paul's plan of 1891, labelled 'destroyed 1824' (Fig. 3). However, it is odd that the sacristy does not appear on Storer's plan (1814), arguably because it was believed at the time to be an inconsequential addition.

16. Features 392, 395, 401/2, 404, 405, 408 and 409.

17. Mary Clarke was the daughter of A.A. Clarke, the Wells artist and antiquary, and friend of A.W.N. Pugin. Clarke undoubtedly designed this singular tombstone — a wheel-head cross on a stepped base — which is decorated with chevron and nail-head ornament. His inspiration for the chevron-work may have come from the local discovery of fragments of Romanesque masonry (*cf.* Figs. 438 and 439A). Carved in Doulting stone, this fine monument has an inscription in Lombardic lettering; the characters were filled with red pigment, only traces of which now remain.

Chapter 11 (pp. 375–411)

1. William Albert Wheeler (1908–90) was the last person on the staff of Wells Cathedral who could truly be described as having had a *long* association with the building. His knowledge spanned more than sixty years: he was a chorister (1916–25), apprentice mason, and later clerk of the works and master mason (1935–78). He kept a remarkable series of diaries, except during the Second World War (a lapse that he deeply regretted in later years), wherein he recorded all the works upon which he and his staff were engaged. There are twenty-one volumes, covering the years 1935–78. Many archaeological discoveries are known only from the pages of these diaries, copies of which are held in WCL. See further, *Friends of Wells Cathedral Annual Report for 1991*, 12–14.

2. W.I. Stanton, 'Report on the causes of instability in the ground beside Saint Andrew's Well, Wells Cathedral'. Ms report, dated 22 September 1974. WCL.

3. Somerset Record Office: DD/CC 10878, 'Map of Canons' Grange, Wells, belonging to the Dean and Chapter'. Undated, but between 1810 and 1827.

4. 'The South View of Wells Palace, in the County of Somerset': Buck 1774, pl. 263 (pl. 7 in the original 1733 issue).

5. There is now a connecting sluice; see below, p. 394.

6. A late or post-medieval stone conduit does indeed cross the market place, and run southwards from Penniless Porch. A manhole in the pavement outside the shop adjoining the Porch on the south gives access to a chamber measuring *c.* 4 m by 1 m, and more than 2 m deep. A channel flows into this chamber from the north-east (*i.e.* from the direction of the cloister), and another from the north (from

Cathedral Green); the outflow is to the south. The northern channel may be that which was constructed in 1459, by permission of the bishop (SRS 1934, 322). The chamber was discovered in 1993, during road works, and has not been investigated in detail. Inf. kindly supplied by R.A. Croft.
7. Although stylistically the bridge could be late eighteenth century, neither it nor a path is shown here by Carter.
8. 'View of the East End of Wells Cathedral', drawn by T. Hearne, and published by W. Byrne, 15 October 1802. SANHS Library: Braikenridge Coll., Wells no. 50.
9. *E.g.* in Stanton 1987–88, 44. L.S. Colchester informed the writer in 1979 that he had been unable to ascertain the date of the lake's formation through documentary evidence.
10. SANHS Library: Pigott Coll., **6**, no. 333.
11. SANHS Library: Pigott Coll., **6**, no. 534. 'East View of Wells Cathedral', signed and dated. Reproduced in McGarvie 1994, 359.
12. The absence of modern scholarly research into the architectural history and archaeology of the Bishop's Palace is acutely felt. With a view to remedying the deficiency, the Bishop's Palace (Wells) Archaeological Research Committee was set up in 1998, under the chairmanship of Bishop James Thompson.
13. The presumed sluice had gone, and a new one was installed here in 1958 (Wheeler 1970, 19).
14. That sluice was apparently rebuilt in 1924 (Wheeler 1970, 19).
15. Terminological clarification is required here. When Bekynton's grant describes a 'head for a water conduit' it is referring to the well-house in the palace grounds, and not to the structure which stood in the Market Place. The former is marked on Ordnance Survey maps as 'well-house', and, prior to its demolition, the latter was generally known as the 'conduit-head'. Today, its successor is referred to as the 'fountain'. The contradistinctions have been followed in this study.
16. L.S. Colchester told the writer that he believed this pipe to have been laid in 1453, but I have been unable to discover the source of his information. Provisionally, it will therefore be referred to as dating from *c.* 1451–53.
17. SANHS Library: Pigott Coll., **6**, no. 328.
18. The cross bore an inscription dating its erection to 1542 (Cassan 1829, 453). For 'the only known picture of the old market cross' (in Wells Museum), see *Forty-Fourth Annu. Rep. WNHAS* (1932), 16. It was reproduced in Scrase 1992, pl. 83; a partial view of the conduit-head is included. A minuscule view of the cross also appears on Simes's map.
19. The original watercolour by Alexander is in the Bishop's Palace archive, and was kindly drawn to my attention by Mrs Pat Robinson. William Alexander (1767–1816) was Keeper of Prints and Drawings at the British Museum, and provided illustrations for Britton's works (Mallalieu 1976, 14). Although Britton acknowledged the original as a 'sketch' by Alexander, enlivened by Samuel Prout, it is clear that the extant watercolour is not the original source for the published engraving. The viewpoints were different.
20. SANHS Library: Braikenridge Coll., Wells no. 65.
21. This is the work of Edward Dayes, 1763–1804 (Mallalieu 1976, 80).
22. *Gentleman's Magazine*, **81** (2), (1811), pl. 1.
23. *Ibid.* 9–10.
24. The article appeared anonymously, entitled 'Antient Conduits', *Gentleman's Magazine*, **77** (1), (1807), 223–4.
25. Balch reported the discovery of what he believed to be one of the stone water troughs used at the conduit, during the construction of the Midland Bank, on the corner of Market Place and Sadler Street (Balch 1925, 23). The trough, now in Wells Museum, is however circular, whereas the one which appears in Britton's illustration is rectangular, with canted corners. The trough shown by Alexander is wooden.
26. Similar clay linings in ducts were found at no. 14 Vicars' Close in 1978, and in the Cathedral Close at Lichfield in 1991 (unpublished investigations by the writer).
27. Resin was commonly used as a building adhesive in the Middle Ages. There are many stone repairs using resin on the west front of Wells Cathedral, dating from the first half of the thirteenth century: see Sampson 1998, 103–8. Purchases of 'rosin' are recorded in the cathedral accounts from time to time.
28. Similar provision occurred in a lease of 1766 (HMC 1914, 544).
29. The streets which bounded the early medieval core of canonical houses, on the north and east, are known as North (or Back) Liberty and East Liberty, respectively. The two have unfortunately been conflated in recent years, and now appear on maps simply as The Liberty.
30. In 1997 the west conduit was exposed under the floor of the south-west corner room in the Vicars' Hall complex, where it was seen to be veering westwards as it emerged into St Andrew Street.
31. Ordnance Survey, Somerset Sheets XLI.5.7, 5.8, 5.12 and 5.13.
32. The re-positioned pump is shown on the 1:500 Ordnance Survey map (1886). Balch (1925, 30) incorrectly located it at the end of Mill Lane.

Chapter 12 (pp. 415–87)

1. BL: Add. Ms 2738, fo. 13, no. 4. The folio volume containing Dollman's drawings is dated 1889, but the material itself was apparently assembled over a long period, and from various sources. A few items are dated 1844.
2. A detailed archive report on this assemblage was prepared by Jerry Sampson in 1990, and the mouldings were recorded by Helen Fuller.
3. It is conceivable that Canon C.M. Church, who resided here from 1876 to 1880, was responsible for this antiquarian display. For the history of the house, see Bailey 1982, 116–22, esp. 120.
4. WCL: Irvine Mss. The finds are also mentioned in Irvine 1873, 3–4.
5. *Ibid.* The letter was addressed to F.H. Wilkinson, Esq.
6. I am grateful to Mr Chris Hawkes, the excavator, who showed me this piece, which is the sinister label-stop from a medium-sized arch.
7. Paint on the Resurrection tier sculptures was always applied over a white ground: it may be that this layer is no more than the residue of red clay.

8. The lost figures are nos. 31, 61b, 62, 66, 102 and 116a (Sampson 1998).
9. The spandrels are all now housed in the cathedral lapidary collection in the south nave triforium.
10. Accurate dimensions for the latter pieces (and for those on Vicars' Chapel) are required to test the theory that all these carvings came from the same workshop source. The Mellifont Abbey and Vicars' Chapel spandrels are not currently accessible for study at close quarters.
11. The earliest representation of the spandrels is in Carter's pencil sketch of the chapel, of 1794 (BL: Add. Ms 29,932, fo. 51). Britton's atmospheric view of 1830 shows the full set (Britton 1830, opp. 72), but Pugin's elevation of the chapel, drawn in the 1832, omits two of the carvings (Pugin and Pugin 1895, 3, pl. VII). These illustrations are all diminutive in scale, and schematic to varying degrees.
12. Since the following descriptions were written, the bosses have been pressure-washed as part of the cleaning and restoration of the east cloister.
13. The earliest published illustration of Wells floor tiles is in the *Architectural Association Sketchbook, 1871–72*, 5, 40.
14. It has been possible to identify and match thirty-one of the designs recorded in 1914. Unfortunately, one of the unillustrated designs, described as 'parts of a stag', cannot be identified, even tentatively. No tiles depicting stags have been found in recent excavations at Wells, although they are known from other sites in the region.
15. A note written by Robinson, attached to the catalogue, failed to record where the tiles were stored in 1914, apart from mentioning a few fragments that were then in the cathedral library. It seems clear that they were not in Wells Museum; perhaps they were held at the Deanery.
16. It also has three tiles from Athelney Abbey, which had become muddled with the Wells material; these are distinctive in fabric, and were donated to the museum by A.A. Clarke (d. 1913).
17. Although a museum label to that effect exists, the items in question cannot be identified.
18. They were exhibited at an archaeological meeting at Wells in that year: *Proc. SANHS*, **34** (2), (1888), 77.
19. Reported in Eames 1981, 42. No tiles were found during the extensive restoration works to the Vicars' Close in 1978–80.
20. The Somerset section of the Census of Medieval Tiles is in preparation by Mrs Barbara Lowe; publication forthcoming in *Proc. SANHS*.
21. These include sites in and around Glastonbury: Silver Street, the Tor, and Beckery Chapel.
22. The Tor material bears no resemblance to the wasters from Silver Street, and is later in date.
23. Corpus Christi is the original dedication, but in the nineteenth century the chapel was alternatively known as St John the Evangelist's.
24. BL: Add. Ms 29,943, fo. 124. The plan is undated.
25. See chapter 1, note 18: Carlos, *op. cit.*, opp. 134.
26. Britton's plan of 1823 shows the Berkeley tomb, which he says was moved here from the quire, to make way for Bishop Kidder's monument of 1703 (Britton 1836a, 113). Carter also places the Berkeley tomb here in 1794 (BL: Add. Ms 29,932, fo. 45). However, Phelps's ms plan of the monuments in the cathedral (1825, or earlier) shows nothing in this corner over the pavement; according to him, the Berkeley tomb was still in the quire, and Kidder's grave is marked at the end of the north quire aisle. Phelps's plan is in his 'Somersetshire Collections', vol. 6 (BL: Add. Ms 33,830). The volume is signed and dated 1825, but the plan may well be earlier. The arrangement shown by Phelps is confirmed by the Bowen Ms on Wells and Glastonbury (1826), in WCL.
27. Opinion given by the late Robert Baker.
28. Jewers 1892, pl. 5.1. His treatment of supporting foliage, in particular, is unreliable, and the fact that the foliage in his sketch does not agree closely with design 64 is of no evidential value.
29. These are exhibited in the vestry at Bath Abbey.
30. Jewers's misgivings on the identification were ill-founded and need not be heeded.
31. The foliage in the corners, recorded by Colchester in 1977, had almost entirely gone by 1990. Most of the cross has now been lost too.
32. 'Powell's Topographical Collections: Somerset'. BL: Add. Ms 17,463, fo. 194–5. In addition to the sketches of paving fragments, Powell made a full-size drawing of a tile bearing the arms of England (design 65). This is by far the earliest detailed record of a tile from Wells (1810).
33. Inf. Robert Bell.
34. It may be noted that there are very many tiles, and fragments, which are worn to the core and it cannot now be determined whether they once bore inlaid designs: in all probability the majority did, but there may well have been some plain specimens amongst them. It is unlikely that the overall proportions of tile types on the site has been distorted by this loss of evidence.
35. Unfortunately, since the data are confused and the ?computer-generated reconstructions of the full tiles are incorrectly drawn, the report is incomprehensible (Bluer and Eames 1991, fiche 1).

Chapter 13 (pp. 488–511)

1. Cambridge, Corpus Christi College: Ms 183, fo. 1*v*.
2. Inf. from W.A. Wheeler, who monitored the stone's condition over half a century. Both natural weathering and encounters with grass-mowing machinery have taken their toll.
3. In all probability the general raising of the ground level had taken place by *c.* 1300, as part of the site preparation for building the new eastern Lady Chapel, the completion of which has been assigned to 1319 (Colchester and Harvey 1974, 205).
4. BL: Add. Ms 29,932. On fo. 92, Carter shows the coffins and floriated slab in 'the avenue' (*i.e.* the vestibule), and on fo. 92*v* rough pencil sketches of the individual items are given. These were the originals for Carter 1795, pls. LXIX, D2, V and LIX, E, F.
5. BL: Add. Ms 33,692, fo. 231, illust. 107.
6. See chapter 1, note 18: Carlos, *op. cit.*, 149, and opp. Also, BL: Add. Ms, Egerton 2738, fo. 1.
7. Carter went to considerable trouble to record indents and other interesting slabs throughout the cathedral, and it is

extremely unlikely that he would voluntarily have overlooked the second floriated cross.

8. See chapter 1, note 30.

9. Many terms are used to describe this type of cross. The 'Corpus of Anglo-Saxon Stone Sculpture' describes crosses in terms of the form of the arm terminals, and then the armpits. Thus a cross of this form would have wedge-shaped terminals and V-shaped armpits, *i.e.* type B6 (Cramp 1991, fig. 2). Ryder (1985) uses the description expanded-arm or Maltese cross, and Butler (1964) the splay-armed cross. Because the Corpus terminology is rather cumbersome in this case and 'expanded-arm' rather imprecise, we have followed Butler's terminology.

10. See Cramp 1984: 'Form and Motif Table', p. 254 *et seq.*

11. Mounted against the south wall of St John's chapel in the church of St Mary Redcliffe, Bristol, there is the upper portion of a grave-cover with a splayed-arm cross and Lombardic inscription in Norman-French which Paul suggests dates from the early fourteenth century (Paul 1882, 2; pl. 2.2).

12. The dimensions and angle of taper of the Muchelney fragment indicate that the cross which is present was towards the narrower end of the slab. Presumably the main cross head was at the broad end. Grave-slabs with crosses at both ends are less common generally, but they are found in local groupings, for instance in the East Midlands (particularly Cambridgeshire) and Gloucestershire.

13. Romanesque architecture in the immediate post-Conquest period was almost totally devoid of ornament. The developing interest in geometric ornament in the first half of the twelfth century became manifest on cross-slabs as straight-line patterns covering the whole surface. Two local examples of this type have recently been recognized at Lullington, Somerset, (fragmentary) and Bradford-on-Avon, Wiltshire (see Gittos and Gittos 1990, 18–19). Both have splayed-arm crosses and are decorated with bold chevrons, a motif which was adopted for architectural decoration in the early twelfth century (Clapham 1934, 125).

14. There are many cross-slabs of this type but a useful comparison can be made with a diminutive coffin-slab, mounted on the north wall of the sanctuary at Alvediston church, Wiltshire. This slab is conceptually similar to the Wells monuments but differs in detail. Its small size may also have influenced the way in which the cross is portrayed. The foliage stems which make up the arms of the cross-head are proportionately thicker and appear less graceful, while the stiff-leaf terminals are broader and more rounded. The Alvediston monument, however, has an additional feature which links it to other types of memorial, particularly the sculptured effigy, and to architectural usage. This is the decoration of all edges of the slab with sprigs of stiff-leaf. This arrangement appears, for example, on the monument to the elder William Longespée in Salisbury Cathedral (d. 1226) and the effigy of Archbishop Walter de Gray in York Minster (d. 1255). Here the sprigs are used to support the canopy shafts in a manner analogous to their use in a purely architectural context: *e.g.* the Wells west front.

15. Butler also mentions fifteen slabs of the Chelmorton group in which the cross-shaft has a broad-leaf termination (Butler 1964, 131).

16. Of approximately one hundred medieval grave-covers recorded by the writers in Dorset, the only case with an occupational symbol is a mason's hammer at Worth Matravers. However, given the itinerant nature of medieval masons, even this may not reflect local tradition. There are four wyverns on a coped slab at Bindon Abbey and a cross-shaft at East Morden is flanked by shields. The sparing use of symbols is similarly apparent in Somerset, with the sword-bearing grave-cover at Muchelney Abbey a notable exception. In the north of England the use of symbols is the norm. Of 310 reasonably complete slabs in County Durham, 77% bear symbols (Ryder 1985).

17. Examples of inscriptions on hollow-moulded chamfers include that to Philip the Priest at Tolpuddle, Dorset (twelfth century) and Abbot John at Tewkesbury Abbey, Gloucestershire (fourteenth century).

18. The use of blue lias for monuments may have been more prevalent than is now obvious, owing to the poor weathering characteristics often exhibited by this material. A coherent group of thirteenth-century lias memorials can be identified in south Somerset, with products which could be considerably more elaborate than the examples under discussion, some having small flowers between the multiple arms of the cross-heads. At Limington there are six cross-slab fragments (Gittos and Gittos 1988, 696). Part of another of the same style was recently found during repairs to St Mary Major, Ilchester. These fragments can be related to the monuments in the north chapel at Curry Rivel (*c.* 1260), and the heart-burial at Combe Florey. These monuments may have been produced in the Ilchester area during the third quarter of the thirteenth century, using material from the quarries to the north (in the area of Charlton Mackrell and Keinton Mandeville). They evidently proved effective competition for the nationally famous Purbeck products, to judge from the scarcity of Purbeck cross-slabs in Somerset as a whole.

19. See note 4.

20. BL: Skinner, *op. cit.* (note 5), fo. 229, illust. 105.

21. The coffins and floriated slab (no. 2) were obviously moved around the undercroft. Carter's first plan shows them in the vestibule, lying east–west, one in each bay. In his drawings of 1794 they are depicted lying north–south, but still in the vestibule. Coney's drawing, however, shows two coffins in the undercroft itself; and Skinner's description implies that the cross-slab was likewise there in 1826. Where the missing slab no. 3 fits into this picture is unclear.

Chapter 14 (pp. 512–36)

1. *Oxoniensia*, **53** (1988), 39–40, fig. 21.

2. See chapter 13, note 5: Skinner, *op. cit.*, fo. 229, illusts. 105–6.

3. See chapter 1, note 18: Carlos, *op. cit.*, opp. 146. The vessel that he illustrates has an angular bowl, damaged on one side, and a small foot, much of which is evidently missing. This would suit our chalice 1, Carlos having failed to include the now-detached footring fragments. However, he shows the knop as pronounced and stepped: that is a characteristic of chalice 7. Although the latter has part of the foot missing, the

full diameter is nevertheless clearly preserved. On balance, it seems more likely that Carlos illustrated chalice 1.

4. An attached exhibition label reads, 'Art Treasures of the West Country, Bristol, 1937. Entry No. 4'.

5. Skinner, *op. cit.* (note 2), fo. 229, illust. 106.

6. Post-medieval silver cups made in the Channel Islands, for example, are identical in form and construction to English pewter chalices of the thirteenth and fourteenth centuries (Mayne 1985).

7. The mould fragments were recovered from F1237, F1264, F1268, F1291, F1319 and F1405.

8. In the braids described here, the wool fibres of the tablet warps survive only in a fragment from the Taplow barrow, but the deep square indentations on the gold strip brocadings from narrower bands clearly suggest a two-thread tie-down.

9. Inf. F. Pritchard.

10. E. Crowfoot: Ancient Monuments Laboratory Report 47/88.

Chapter 15 (pp. 537–68)

1. Reinterment was carried out in November 1990, in a pit specially dug in the centre of the south transept of Stillington's chapel: *Friends of Wells Cathedral Annual Report for 1991*, 18–20. Reburial was actually intended in the north transept, because that had been fully excavated.

2. Even in recent times, the bottoms of fence-posts were often charred to retard their rate of decay.

3. Unpublished: for the context see Rodwell 1993a.

4. Apart from the documented reference to the supposed use of lead in Bishop Stillington's grave, 1491; see p. 242.

5. Grateful thanks are due to Professor Paul Dieppe and Iain Watt, Palaeopathology Study Group, for their assistance in various matters.

6. Skeleton numbers referred to in this chapter are the same as the burial (B) numbers used elsewhere in the text.

7. G. Stroud, 'The Human Bones from Cathedral Close, Exeter', unpublished ms report.

Abbreviations and Bibliography

Abbreviations

ASC	*Anglo-Saxon Chronicle*: see Whitelock (ed.) 1965
BAR	British Archaeological Reports (British Series)
BL	British Library (Department of Manuscripts)
CBA	Council for British Archaeology
HMC	Historic Manuscripts Commission
RCHME	Royal Commission on the Historical Monuments of England
SANHS	Somerset Archaeological and Natural History Society
SRS	Somerset Record Society
VCH	Victoria History of the Counties of England
WCL	Wells Cathedral Library
WNHAS	Wells Natural History and Archaeological Society

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Index

by Susanne Atkin

Note: Page numbers in *italics* refer to illustrations; page numbers in **bold** indicate the main reference to the subject. Figure numbers in italics, eg *Fig.16*, refer to figures placed between pages. Place names without a county designation are in Somerset; n. designates an endnote.

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Front cover
Aerial view of Wells Cathedral and its precinct from the south-east, 1982.
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