

Masters and Masons of the English Cathedrals in the Later Middle Ages

**A study in management based on a systematic analysis
of the surviving Fabric Rolls, 1290-1540**

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Contents

<i>Abstract</i>	ii
Acknowledgements	iii
List of Figures, Maps, and Tables	iv
Abbreviations. Photograph and Illustration Credits	viii
<u>Preliminary Notes</u>	
Sources and Citations	ix
Graphs and Tables, Dates	xi
Currency, Weights and Measures	xii
Introduction	1
Part I: The Evidence of the Fabric Rolls	
1. The Origins of the Cathedral Fabric Rolls	8
2. The Scope and Form of the Accounts	18
3. The Role of the <i>custos operis</i> and the Financial Management of the Accounts	34
4. Modern History and Use of the Fabric Rolls	52
Part II: The Sources of Finance	
5. Individual Donations	66
6. Chapter and Commercial Contributions	103
7. The Role of the Patron	122
Part III: The Developing Role of the Master Mason	
8. The Master Mason as Architect	165
9. The Master Mason as Manager	223
10. Managing Materials, Logistics, and Costs	265
11. Cathedral Building Costs in the Late Medieval Economy	279
Conclusions	307
<i>Bibliography</i>	321
<i>Supplementary Information Tables (presented in separate volume: Tables 1-55)</i>	

Abstract

The English Cathedral fabric rolls have long been known as an essential research resource for architectural history. Yet, despite the emergence of highly significant work on individual great churches in the last fifty years, they have not been much researched as a whole. This study aims to apply modern spreadsheet techniques to the full range of almost 500 surviving accounts rolls from 1290 to 1540 and to explore the common themes which result. A shortage of fifteenth-century material was rectified by the inclusion of Westminster Abbey nave, which operated with similar fabric rolls.

The 250 years (1290-1540) from which these accounts have survived saw significant funds raised to realise the rebuilding and completion in their present form of almost half of the cathedrals. There were changes in the management of large building projects under the master masons, whose role as architects and site managers was new. Part I of the thesis discusses the fabric rolls as evidence, focusing on the origin and purpose of separate funds, the reliability of the rolls as accounts, and the adequacy of the surviving rolls as a sample of cathedral building activities. Part II explores questions of funding, including the sufficiency and sustainability of individual donations, chapter and commercial receipts, and the key role and motives of the bishop-patrons in making these projects affordable. Part III investigates the changing design and management roles and the business models of the master masons, and how these impinged on the masons' working practices and on the ability of the cathedrals to achieve new projects. In Chapter 11 the changing pattern of costs and revenues is set against the context of the late medieval English economy and related to the completion of the cathedral building campaigns.

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L List of Figures, Tables, and Maps

Figure No.		Page No.
1.1	Map of English dioceses, <i>Taxatio</i> values, 1291	9
1.2	Winchester Cathedral, footprint of St Swithun's Minster	11
2.1	Hereford Cathedral Fabric Roll format, 1290-91	28
2.2	Exeter Cathedral Fabric Roll format, 1324-25	29
2.3	York Minster Fabric Roll format, 1415-16	31
2.4	Ely Cathedral Sacrist Roll format, 1322-23	33
3.1	York Minster roll, 1535-36, sum of total 'charges' (YMA E/43)	36
3.2	Ripon Collegiate Church roll, 1396-97, <i>cedula annexa</i> (RCA FR VI)	38
3.3	York Minster roll, 1504, balance with exonerations (YMA E/ 33)	40
3.4	York Minster roll, 1543-44, audit adjustments unresolved (YMA E/45)	40
3.5	<i>Status Prioratus Eliensis</i> , c.1325, Summary account	45
3.6	<i>Status Prioratus Eliensis</i> , c.1325 (EDC 14/21/4)	47
3.7	York Minster roll, 1475-76, auditors' marks (YMA E/27)	49
4.1	York Minster, n. transept bays re-engineered, W. Colchester, 1409 onwards.	59
4.2	Ely Octagon parapet, c.1342 part-finished stonework	60
5.1	Fabric Roll Income by Source, 1290-1540	67
5.2	Fabric Roll Income by Cathedral, 1290-1540	69
5.3	Fabric Roll Longer Series Total Income, 1280-1540	70
5.4	Fabric Roll Shorter Series Total Income, 1280-1540	71
5.5	Fabric Roll Longer Series Average Income, 1280-1540	72
5.6	York Minster Fabric Rolls, offerings by Feast-day, 1404-1498	77
5.7	Ely Cathedral, Altar and Parishioner offerings by decade, 1240-1540	77
5.8	Cathedral Fabric Roll, average annual offerings by decade, 1290-1540	78
5.9	Hereford, St Thomas of Canteloupe shrine, restored to original position.	81
5.10	Exeter, Presbytery, tombs of Bishop Lacy, c.1455 and Bishop Stapeldon, 1327	83
5.11	Exeter, Presbytery, tomb, Bishop Lacy, c.1455, brasses removed c.1537	83
5.12	York, ne. transept, <i>St William shrine and pilgrims window</i> , attr J. Thornton 1414	84
5.13	Ely Octagon, n. choir tombs, <i>Saxon benefactors</i> c.1340, drawn M. Tyson c.1769.	87
5.14	Ely Octagon, sw. arcade corbel relief, <i>Miracle of Byrhtstan's release</i> , 1323-25	88
5.15	Ely Octagon, sw. arch niches, <i>SS James, John, & prophets</i> , J. Redfern, 1868-76	88
5.16	Ely Presbytery, <i>unfurling stiff leaf</i> corbels, indicating shrine position, 1233-50	88
5.17	Ely Presbytery, <i>St Etheldreda</i> boss, indicating shrine position, 1233-50	88
5.18	Ely Octagon, timber dome and lantern vaults, William Hurley. 1234-42	88
5.19	Ely Octagon, <i>Risen Christ</i> boss, J. Burwell, 1339-40, re-carved G. Parry, 1874	88
5.20	Ely n. choir aisle, barely legible pilgrim inscription, prayers for benefactors	90
5.21	Ely Cathedral, average annual shrine offerings by decade, 1240-1540	92
5.22	Comparative cathedral average annual shrine offerings by decade, 1240-1540	93
5.23	Lincoln Cathedral, s. transept, works chantry, late c.13	98
5.24	Lincoln Cathedral, works chantry, <i>two chaplains of the works</i> , c.13	98

6.1	Ely Sacrist Rolls, Farming Accounts, contribution to receipts, 1309-1368	111
6.2	York Rolls, Property Accounts, rentals, defaults, and costs, 1404-1543	115
6.3	York Rolls, Property Accounts, rent payments by area of the city, 1441-1498	117
6.4	Ripon Minster Rolls, Property Accounts, rentals, defaults, and costs, 1354-1541	118
7.1	English bishops: origins, education, and experience, 1307-1377 and 1399-1485	131
7.2	Profiles of Patrons of significant new works in Cathedral Fabric Rolls, 1290-1540	132
7.3	Exeter, Presbytery, tomb effigy, head of Walter Stapeldon (1307-26), c. 1327	134
7.4	Ottery St Mary, Devon, s. Lady Chapel corbel, head of John Grandison (1328-69)	136
7.5	Salisbury, crossing, Richard Beauchamp (1351-81), H Stevyns, master, 1378-81	137
7.6	Salisbury, ne. flying buttress to tower, <i>archebutton</i> , J. Branche, 1381	137
7.7	Durham, Galilee Chapel, buttresses, Thomas Langley patron, 1430-32	139
7.8	Durham, Galilee, Bede's tomb in front, Langley's tomb beyond, 1429-35	139
7.9	Exeter, s transept, effigy tomb-chest. 2 nd Earl of Devon & Mary Bohun, 1378	140
7.10	York, Lady Chapel, s arcade, shield of Archbishop Richard Scrope (1398-1405)	141
7.11	York, c. tower, spandrel, shield of Bishop Walter Skirlaw, Durham (1388--1406)	141
7.12	York Minster, Lady Chapel, patron John Thoresby (1352-73), 1361-73	152
7.13	Ely monastery, Prior John Crauden's Chapel, 1324-25	152
7.14	Ely, Bishop John Hotham, Mortuary Roll 1337 (Canterbury, Ch. Ant.E191)	154
7.15	Ely, Hotham's Choir, lierne vault, 'canopy for Hotham's tomb,' 1322-37	154
7.16	Exeter, Presbytery, Master Roger, 1298-1304, reconstructed V. Jansen 1981	159
7.17	Exeter, Presbytery, three stage arcade, with triforium as completed, 1317-18	159
7.18	Exeter, Throne, as first made T. Witney 1314-16, reconstructed Ferguson, 2014.	159
7.19	Exeter, Bishop's Throne as completed Thomas of Witney, c.1316-17	159
7.20	Canterbury, Prior Sellinge's draft letter to Cardinal Morton (CCA ChCh Let 1/61)	161
8.1	Exeter, se. crossing, corbel head of Mstr Roger, c.1310), <i>W de Montacute</i> 1312	174
8.2	Exeter Fabric Roll, expenses and surpluses under Master Roger, 1298-1310	177
8.3	Exeter, se. crossing, narrow choir bay, Master Roger's 'elegant solution', c.1309	179
8.4	Exeter, s. choir aisle, stinted arch, presbytery/choir Master Roger, c.1307	179
8.5	Exeter, crossing, Master Luve's 'inelegant' wide s. nave aisle bay, 1310-14	179
8.6	Exeter, s. nave aisle, 2 nd bay, scar of Norman respond, repeated through s. aisle	179
8.7	Exeter, high altar screen, Witney, 1316-25, reconstructed P Morris, 1943	181
8.8	Exeter, <i>pulpitum</i> , Thomas of Witney, 1317-25	181
8.9	Exeter, <i>pulpitum</i> , s bay lierne vault, Thomas of Witney, c.1320	181
8.10	Exeter Presbytery, <i>sedilia</i> , Witney, 1316-25, restored, G.G. Scott 1870s	181
8.11	Exeter, n. nave and St Edmund's Chapel elevation traceries, Witney 1328-42	183
8.12	Exeter, w. front, Witney by 1342, lower image screen <i>Thomas Joy</i> , 1346-48	183
8.13	Exeter Fabric Roll, expenses and surpluses under Witney c.1316-42	185
8.14	Ely Octagon, nw. stonework, attrib. John Ramsey, 1322-26, timber lantern above	187
8.15	Ely Octagon, vaulted dome & lantern, William Hurley, after 132 -1342,	187
8.16	Ely Octagon, construction phases, 1322-1360	188
8.17	Ely Sacristy, New Works, new project expenses & cumulative arrears, 1322-60	189
8.18	Ely Octagon, internal platform and vault (C. Hewett, 1985)	191
8.19	Ely Octagon and Lantern framework (C. Hewett, 1985)	192
8.20	Ely Octagon, Interior stonework, 1 of 16 unused corbels below <i>oculae</i> , c.1330	193
8.21	Ely, Lantern structure, great post and raking stays- lower c.1334; higher c.1780	193

8.22	York, Lady Ch, n. elevation, 1361-73, W. Hoton J, 1351-68, R. Patrington, 1368-85	195
8.23	York, w. Choir & c Tower, n side, H Hedon, 1390-1407, W Colchester, 1407-20	195
8,24	Durham, Prior's Kitchen, castellated octagon on square base, John Lewyn, 1366-7	197
8,25	Durham, Prior's Kitchen, parallel ribs of the octagon vault, J Lewyn, 1366-74	197
8.26	Durham, Prior's Kitchen Bursar's Account, J. Lewyn Master, 6 quarters, 1366-68	199
8.27	Westminster Abbey Choir pillar shafts, Wren's model (1710 restored, 2017)	203
8.28	Westminster, s. elevation, H Reyns, 1245, H Yevele, 1387, W Colchester, 1413	203
8.29	York Minster Fabric Rolls, expenses and surpluses by master, 1360-1543	205
8.30	York Minster, c tower rebuilt to William Colchester revised design 1408-1472	206
8.31	York Minster, n. transept, e. wall, as re-engineered by W. Colchester, 1407-10	206
8.32	Westminster Abbey, nave construction sequence 1387-1508, Rackham (1909)	207
8.33	Westminster Abbey, n elevation, 1387-1508	209
8.34	Westminster Abbey Fabric Rolls, nave expenses by category, 1387-1530	209
8.35	Durham Cathedral, Dormitory, built J. Middleton, P. Drying 1398-1404	211
8.36	Hereford, Cloisters, e. range, attributed Master Thomas Denyar, 1412	211
8.37	Canterbury central tower, first stage, 1487-98, second stage, J. Wastell, 1494-8	212
8,38	Canterbury central tower, possible pinnacle design attrib., J. Wastell, c.1494	214
8.39	Cathedral Fabric Rolls Master Masons Remuneration Table, 1280-1544	219
9.1	Exeter, great east window, cusped light 2-3, Robert Lessingham, 1390	229
9.2	Exeter Fabric Rolls, no. of core team and short term workers 1299-1342	231
9.3	Exeter Fabric Rolls, masons' wage lists and service, 1299-1309	233
9.4	Exeter Fabric Rolls, altar team average no. of workers by quarter, 1316-22	235
9.5	Exeter Fabric Rolls, altar team masons' wage lists and service, 1316-1322	236
9.6	Exeter Cathedral, Bishop's Throne, conjectural colouring, Eddie Sinclair (2015)	237
9.7	Exeter Cathedral, n. transept/tower timber vault and bosses, Witney, 2017-18	237
9.8	Exeter Cathedral, nave, s. elevation 1329-33, S Parker reconstruction of cloister	239
9.9	Exeter Cathedral, s, aisle inward sloping roof, Thomas of Witney 1332-33	239
9.10	Exeter Cathedral, no. of core team, short-term workers by quarter, 1316-1342	240
9.11	Exeter Cathedral Fabric Rolls, masons' wage lists and service, 1329-1342	241
9.12	Exeter Cathedral Fabric Rolls, income, cash and expenses, 1316-1342	242
9.13	York Minster Fabric Rolls, masons' wage lists and service, 1360-1472	246
9.14	York Minster Fabric Rolls, masons' wage rates by decade, 1370-1540	248
9.15	York Fabric Rolls, no. of core team and short-term workers, 1399-1498	249
9,16	York Minster Fabric Rolls, carpenters' wage rates by decade, 1370-1540	251
9.17	Westminster Abbey Fabric Rolls, masons' wage lists and service, 1349-1420	254
9.18	Westminster Abbey Fabric Rolls, masons' wage-lists and service, 1423-1498	255
9.19	Westminster Abbey Fabric Rolls, masons' wage rates by decade, 1340-1530	258
9.20	Salisbury Cathedral Fabric Rolls, crossing vault accounts, 1479-81	260
9.21	Exeter Cathedral Fabric Rolls, masons' wage rates by decade, 1370-1480	262
9.22	Summary of standard wage rates at Exeter, York, and Westminster, 1299-1500	263
10.1	Map, Exeter Cathedral, East Devon quarries and sea routes, 1299-1353	267
10.2	Existing Cathedral quarry, Dunscombe manor, East Devon	268
10.3	Exeter Cathedral Fabric Rolls, costs of stone purchased, 1300-1465	270
10.4	Exeter Cathedral Fabric Rolls, volumes of stone purchased, 1300-1454	270
10.5	Map, York Minster, South Yorkshire limestone quarries, 1371-1530	272

10.6	Existing site of Huddleston quarries.	275
10.7	Sherburn, South Yorkshire, Bishop,s Dyke	275
10.8	Cawood, South Yorkshire	275
10.9	Cawood, River Ouse, South Yorkshire	275
10.10	York Minster Fabric Rolls, costs of limestone purchased, 1371-1528	277
10.11	York Minster Fabric Rolls, volumes of limestone purchased, 1371-1528	277
10.12	Westminster Abbey Fabric Rolls, stone purchases by source, 1349-1531	280
10.12	Westminster Abbey Fabric Rolls, costs of Reigate stone, 1349-1531	281
10.13	Westminster Abbey Fabric Rolls, deliveries of Reigate stone, 1349-1531	281
10.14	Comparative costs of quarry stone, Exeter, York, and Westminster 1290-1533	282
10.15	Comparative costs of lime, 1279-1530	283
10.16	Exeter Cathedral, lime price by quarter, 1347-1353	284
10.17	Comparative costs of lead, 1300-1510	285
10.18	Comparative costs of iron, 1300-1510	287
11.1	Building wage rates and GDP indicators, 1270-1500	290
11.2	Masons' wage rates paid (<i>Thorold Rogers</i>), 1300-1400	293
11.3	Masons' wage rates paid (<i>Thorold Rogers</i>), 1400-1500	293
11.4	Masons' wage rates paid (<i>Thorold Rogers</i>), 1500-1544	293
11.5	Statutory wage restrictions and actual rates, 1300-1500	295
11.6	Chronology of large church building works (after R.Morris, 1979), 1300-1540,	298
11.7	Long-term flows, English population (after Hatcher & Bailey, 2001), 1140-1500	299
11.8	Building campaign revenues by source, 1290-1540	300
11.9	Building campaign expenses in English Cathedral Fabric Rolls, 1290-1540	302
11.10	Parts of cathedrals constructed In English Cathedral Fabric Rolls, 1290-1540	303

Tables *Supplementary Information Tables*

1-18	Management Accounts
19-30	Wage List Summaries
31-35	Wage Rates Paid Summaries
36-45	Quarry and Stone Procurement Costs
46-51	Selected Building Materials Costs
52	List of master masons
53-55	List of <i>custodies operis</i>
	Lists of masons
	Masons included on the wages lists by name during the main building campaigns will be found in the following tables:
	Exeter Cathedral , 1299-1309, Fig. 9.3 ; altar team, 1316-22, Fig. 9.5 ; 1329-42, Fig. 9.11 .
	York Minster , 1360-1472, Fig. 9.13 .
	Westminster Abbey , 1349-1420, Fig. 9.17 ; 1423-1498, Fig. 9.18 .

Abbreviations

<i>AHEW</i>	<i>Agrarian History of English and Wales</i> (1989 and 199
<i>Anglia Sacra</i>	<i>Anglia Sacra</i> , H. Wharton, ed. (1691)
/Chapman	Transcription by F.R. Chapman, <i>Sacrist Rolls of Ely</i> (1907), v.2
CDC	Canterbury Dean and Chapter Archives
DCD	Durham Dean and Chapter Archives
DCN	Norwich Dean and Chapter Archives at Norfolk Record Office
D&CE	Exeter Dean and Chapter Archives
EDC	Ely Dean and Chapter Archives at Cambridge University Library
/Erskine	Translation by A.M. Erskine, <i>Accounts of the Fabric of Exeter Cathedral</i> , 1279-1353 (1981-3)
/Findlay	Transcription by D.F. Findlay, 'Fabric Rolls of Exeter Cathedral, 1374-1514', (unpublished, 1939)
HCA	Hereford Dean and Chapter Archives
LD/LDC	London Diocese/Dean and Chapter Archives at London Metropolitan Archive
LCA	Lincoln Dean and Chapter Archives at Lincoln Record Office
<i>Memorials III</i>	J.T. Fowler, ed., <i>Memorials, Church of SS. Peter and Wilfrid, III</i> [Ripon] (1886)
/Rackham	Transcription by R.B. Rackham, unpublished 'Notes' (1909)
RCA	Ripon Cathedral Archives at Brotherton Library, Leeds University
<i>Reg. Bronescombe</i>	Robinson (1995-2003)
<i>Reg. Grandisson</i>	Hingeston-Randolph (1894-1897)
<i>Reg. Stapeldon</i>	Hingeston-Randolph (1892)
SCA	Salisbury Dean and Chapter Archives
TR	J. Thorold Rogers, <i>History of Agriculture and Prices</i> (1866-1903)
WAM	Westminster Abbey Muniments
WCA	Wells Dean and Chapter Archives
YMA	York Minster Archives
/YAT	Transcription, translation, by S. Thomas et al., York Archaeological Trust (forthcoming)

Photograph and Illustration Credits

Figs. 3.1, 3.3, 3.4, 3.7, YMA; Fig. 3.2, RCA; Figs. 3.6, 8.40 EDC; Fig. 4.1, Crown © NMR; Fig. 5.13, Bodleian Library; Figs. 7.14, 7.20, 8.38, CDC; Figs. 7.16, 8.8, 10.1, D&CE; Fig. 7.18, E. Sinclair; Figs. 7.19, 8.27, H. Harrison; Fig. 8.26, DCD; Fig. 8.32, British Academy; Figs. 9.1, 9.7, J. Allan. All other photographs and figures are copyright of the author.

Preliminary Notes

Sources and citations

The evidence base for this thesis is held in a series of Excel workbooks in which approximately 160,000 transactions from 485 surviving fabric rolls and building accounts have been recorded. There are a number of other documents including the fragmentary rolls of the Old Works of St Pauls, building details in the Durham and the Norwich Sacrist Rolls, and single rolls archived away from fabric roll series, which have not been included. In general, the income and expense account entries of the rolls have been fully recorded for the periods of active building campaigns (approximately 40% of the total), but the spreadsheet entries have been restricted to category sub-totals for the periods when no meaningful building work was taking place.

Although there were similarities in the form of the accounts used by the cathedrals at particular times, as discussed in Chapter 2, each *custos* or scribe had his own style of writing up the accounts, and during the process of entering transactions it has proved more efficient to list the items according to local practice at the time rather than impose a unified system. However, the accounts have been re-arranged to identify total current revenues and expenses for each year, excluding the surplus or deficit funds owed by or owing to the *custos*, which may not have appeared separately in the originals. The accounting policies relating to the carrying over of arrears differed widely and the identification of current income and expenses, either by deducting the amounts carried forward or by adding together all current items, wherever possible, is essential for making valid comparisons. Similarly receipts and expenses of the property portfolios at Ripon and York and the overhead costs of lighting, music, bell ringing, and chantries in those cathedrals where, as in York, they were charged to the fabric, are recorded separately from building costs.

Summaries of the accounting information in the spreadsheets have been included in the *Supplementary Information Tables*, which are attached to the thesis. These cover management accounts, wage costs, wage rates paid, quarry and stone costs, other building material costs, and lists of master masons and *custodies operis*, with their dates of employment and remuneration. In addition,

tables of named masons, employment dates, and remuneration during the major building periods at Exeter, Westminster Abbey, and York Minster are included in Chapter 9.

In most cases the direct sources of entries entered in the spreadsheets are published or unpublished English translations or Latin transcriptions from a recognised authority, but a significant number of entries come direct from the original manuscripts. Permissions to photograph manuscripts for academic purposes have made it possible to collect a range of original manuscript images. A list of sources used for the spreadsheets is as follows:

Fabric Roll series and dates	No of Rolls	Primary source	Default source
Canterbury Fabric Rolls.1424-1497 (DCC)	7	J.B. Sheppard (1889)	m/s
Durham Building Accounts 1266-1435 (DCD)	25	m/s	
Durham Sacrist Rolls (Fowler, 1898)	41refs	Not recorded	m/s
Ely Sacrist Rolls 1291-1359 (EDC)	15	Chapman (1907)	m/s
Ely Sacrist Rolls 1368-1388 (EDC)	7	Chapman. np.* notes	m/s
Exeter earlier series 1279-1353 (D&CE)	38	Erskine (1981-83)	m/s
Exeter longer series 1374-1513 (D&CE)	75	Findlay (thesis, np.,*1939)	Oliver (1861)
Hereford Fabric Rolls 1290-1477 (HCA)	5	m/s	Capes (1908)
Lincoln Fabric Rolls, 1463-1475 (LCA)	16	m/s	
Norwich Communar & Pitancer, 1282-1329 (DCN)	18	Fernie, Whittingstall (1972)	m/s
Norwich Communar & Pitancer, 1335 -1454(DCN)	47	m/s	
Norwich Sacrist Rolls (DCN)	8 refs	Not recorded	m/s
Old St Paul's Fabric Rolls (several fragments) (LD)	7 refs	Not recorded	m/s
Ripon Collegiate Ch. Fabric Rolls 1354-1520 (RCA)	28	<i>Memorials III</i>	m/s
Salisbury Cathedral Fabric Rolls.1464-1539 (SCA)	16	m/s	P. Stewart t/s
Wells Cathedral Fabric Rolls 1390=1505 (WCA)	6	L.S. Colchester (1983)	
Winchester Cathedral Fabric Rolls (1408, 1532)	2	G.W. Kitchin (1892)	
Westminster Abbey Eabric Rolls 1341-1533 (WAM)	133	Rackham (np*. notes, 1907)	m/s
York Minster Fabric Rolls 1360-1498 (YMA)	32	York Archaeological Trust, nyp*	m/s
York Minster Fabric Rolls 1500-1543 (YMA)	13	m/s	Raine (1859)
* nyp. Forthcoming.		* np. Not published.	

References to source material in the spreadsheets workbooks begin with the original archive fabric roll number followed by the translator or transcriber edition details and page numbers.

Quotations from source material in Latin whether from the fabric rolls or elsewhere include the translator's or transcriber's punctuation. Names of craftsmen, including any abbreviations, are used in the form presented in the source material.

Graphs and tables

Considerable thought has been given to the presentation of large volumes of source figures at the outset of preparation for this thesis, and it was agreed that a summary of the accounts' transactions would be presented as *Supplementary Information Tables* with the thesis without addition to the word count. There are 51 tables in the supplement covering management accounts, wage costs and rates, and the costs of stone and other building materials. It was intention that key topics would be presented with the aid of illustrative bar graphs and charts which can be produced accurately from Excel spreadsheets and would economise on space for matters already covered in the tables. Almost 40 graphs illustrate progress and problems of individual cathedrals in the thesis.¹ These are straightforward in terms of interpretation, but care should be taken when the years presented include significant gaps in the rolls. Caution is also needed when figures from more than one site are added to ensure that the components of the total included are on a like-for-like basis. This is best ensured through a consistent definition of the figures in the summary spreadsheet accounts. Five figures which include graphs and pie charts (Figs, 5.1-5.5) illustrate the income streams of the period by cathedral and income source as an introduction to the subject.² Further graphs track comparative shrine offerings, wage rates, stone costs, and costs of lime, lead, and iron in which the costs of individual cathedrals are separately shown. Aggregated totals of income by source and by cathedral and of expenditure by parts of the building constructed are presented at the end of the thesis for the discussion of quantification of the English cathedral building programmes.

Dates

The dating of accounts rolls is discussed in detail in Chapter 2.³ The start of the year was normally on Michaelmas Day (29 September), but several other start dates operated in different cathedrals. Almost all involved split calendar years and the normal form used for a split year in this thesis is of four digits for the first year with the last two digits of the second year after a hyphen, thus: 1290-91. (The use of a forward slash has been avoided as it is rejected by computer software in file

¹ See pp. iv-vii.

² pp. 67-72.

³ pp.24-25.

names.). Two four-digit year numbers with a hyphen between them is used to indicate ‘from one calendar year to another’.

Currency amounts

Receipts and expenses of the fabric rolls are in English pounds, shillings, and pence. English currency amounts in £ s d entered in Excel spreadsheets have been converted into decimalised £s in the format £1.00 for ease of use. The convention in this thesis is that amounts quoted from original sources are shown in the £ s d format and amounts sourced from the spreadsheets or tables derived from them are shown in a decimalised format, £1.00. In cases where currency amounts form part of a transcription or translation the format of the amount is as quoted.

Only the English silver penny was in use as currency for the entire period of this thesis. Shilling and pound coins were not introduced until 1489. Pounds and shillings were used as units of account from the Conquest onwards: the pound represented the weight of 240 silver pennies and the shilling 12 silver pennies. The mark was used as a unit of account worth 13s 4d from 1077 for the rest of the period. The values of 3s 4d, 6s 8d, and 13s 4d occur frequently in the account rolls and may refer to items priced in marks. Amounts up to and exceeding 100 shillings (£5) may be expressed in shillings and pence only and amounts of up to 24 pence in pence only.

Amounts quoted in foreign currencies in the source documents have been converted into English currency according to the rates for the nearest date specified in P. Spufford, *Handbook of Medieval Exchange* (1986), when possible.

Weights and measures

Measurements are presented in inches, feet, and yards, as used in the original source documents, with a conversion into metric measurements in mm. or cm. as appropriate. In a small number of cases, the equivalent of measures used in the source manuscripts has not been found. Weights and measures have been converted using Zupko, *Dictionary of English Weights and Measures* (1968) and Chapman, *How Heavy, How Long, and How Much?* (1995).

Introduction

The roots of this thesis lie in a study of the Exeter Cathedral account rolls for a postgraduate certificate undertaken in the 2008-09 academic year.⁴ The early Exeter fabric rolls hold a unique position in the documentary records of medieval cathedrals, because their weekly frequency and their high survival rate during the relatively short construction period provide an extraordinarily well granulated narrative of the building and its builders. Audrey Erskine, the cathedral archivist at Exeter for more than thirty years, edited and translated the exemplary *Accounts of the Fabric of Exeter Cathedral 1279-1353*, which were the basis of the study.⁵ The individual transactions of the rolls were entered on spreadsheets in the form of modern-day management accounts, which could be sorted for the purpose of analysis in which trends and changes in management could be readily identified. After the work had been assessed, Dr Paul Barnwell suggested that the approach could be applied with advantage to all of the surviving English cathedral fabric rolls. The suggestion was an ambitious one, as it was thought that some 250 annual account rolls had survived. In the event, the number of rolls examined is close to 500 – after a decision to include the 133 Westminster Abbey nave Fabric Rolls.⁶ The accident of survival of complete rolls from the earliest, at Hereford of 1290-91, to the latest, at York of 1543-44, defines the period of the thesis.

Access to the full repertoire of the surviving fabric rolls of English cathedrals provides numerous opportunities for research. This thesis is concerned with three principal areas of investigation. The first, which lays the ground for all the rest, is the origin and status of the fabric rolls and the independent fabric funds for which they accounted. The work will address questions as to how these funds were started and why, the sources of their endowments and current revenues, the workings and development of the accounts, their accuracy as statements of cathedral building finance, and

⁴ Paterson (2009).

⁵ Erskine, 2 vols. (1981-83).

⁶ See pp. x, 21.

whether the accounts were fit for purpose during the period. The discussion broadens to consider the usefulness of the account rolls to architectural historians in determining the authorship and construction processes of complex buildings, and the developments in their use as a scholarly resource from the earliest monastic chroniclers up to present-day researchers. The main area of enquiry is the role of the master mason, the prime mover on the medieval building site, who combined the modern-day responsibilities of the architect and the on-site manager, and the evolution of the role over the period. A vital feature of these accounts is that, without exception, the buildings referred to still stand, and the interplay between the documentary records and the visible fabric brings the subject to life. Systematic analysis of evidence using Excel spreadsheets makes it possible to highlight a range of management issues. The themes examined include the relationship between masters and patrons, the transmission of design concepts to patrons for approval – and, in a different format, to the masons for execution – the masters’ involvement in the financial results of their works, and the planning and recruitment of an appropriately sized workforce. The organisation and remuneration of masons and the procurement of stone and other materials were constantly adapting, and the effects of change are central to the investigation. The third area of enquiry is the relationship of masters’ activities and cathedral building finance to the economy at large. The discussion makes use of the extensive archive of comparative wages and materials costs data and the aggregated revenue and expense figures of the spreadsheets to explore the relationship of input costs to those of the wider economy and to the scale of the cathedral building activities over time.

The institution of a separate fund for church building, the *quarta fabricis applicanda*, by each cathedral chapter was ordained by the popes as early as the fifth century.⁷ The separation of episcopal and cathedral chapter estates that followed provided resources for the endowment of fabric funds, and in England this took place from the eleventh century onwards. The allocation of canon law responsibilities for the ‘new work’ of church building to the bishops and for the ‘old work’ of restoration and maintenance of existing churches to the cathedral chapters evolved in the next two centuries. It is not known when the first separate fabric fund was founded, but written fabric accounts

⁷ See p.11 and n.18.

were established from the first half of the thirteenth century, and obligatory audits followed – although no complete rolls have survived from that time other than those of the Royal Works.⁸ The accounts rolls of this thesis come from twelve of the nineteen medieval cathedrals and additionally from Westminster Abbey and Ripon Collegiate Church, a sub-cathedral of the York diocese. No fabric rolls have survived from the other seven medieval cathedrals. A strength, and a weakness, of the sample is that it contains only four long series of major building campaigns – those of the Ely Octagon, the early series at Exeter, Westminster Abbey nave, and York Minster, which provide the great majority of the sample entries. Four sequences from other cathedrals provide significant contributions to the discussion. The complete accounts list represents about 10% of the cathedral fabric rolls which once existed. Nine of the fourteen collections of rolls remain on site in their cathedral or abbey archives, while five are now stored in nearby university archives or in county record offices.

The evidence of the rolls is displayed in the text in the form of computer-generated charts or summary accounts derived from over fifty tables of financial information, which summarise the fabric roll transactions. These are presented separately and outside the thesis as *Supplementary Information Tables*, which include management accounts, property and farming accounts; wage list and wage rate summaries; stone, quarry, and transport costs as well as those of other building materials; staff lists with remuneration and service dates of individual master masons, *custodies*, and masons.

Part I of the thesis examines the form of *compotus* and *status* accounts, and their uses, accuracy, and limitations. The little-known office of the *custos operis*, an elected officer who took charge of the receipts and payments for the works and of the accounts, was an important one. The *computantor*, as the official was frequently called at York, updated the accounting methods at intervals and gradually developed accounts categories that made the records more relevant. The accumulation of unpaid and partly paid rents over several years became a serious drag on the accounting function of some urban fabric funds, such as those of York and Lincoln, in the fifteenth

⁸ Bishop Northwold of Ely's *memorandum*, in BL Cotton *Tiberius B* ff.246-248 (1239-1249), is evidence that such detailed accounts existed.

century. The eventual solution of writing-off of bad debts in a systematic manner, first introduced at Wells from late in the century, was a step towards modern accounting methods. Questions follow as to the reliability of the fabric rolls as evidence, and whether this sample is sufficient in scope and accuracy to provide a reliable guide to the period. The first part concludes by examining the use of rolls as documentary evidence for scholarly purposes.

The management of financial resources and the patronage of medieval cathedral building campaigns, addressed in Part II, is the subject of W.H. Vroom's Europe-wide analysis of *Financing Cathedral Building in the Middle Ages* (2010).⁹ His work first introduced spreadsheet analysis to cathedral financing and gave an exhaustive account of the sources of chapter and individual contributions. Vroom did not apply his analysis to cathedral expenditure on a wide scale. His conclusions served to emphasise the differences with the English church, which was more financially dependent on episcopal patrons and links to the royal administration in which many of them served. Dependency on the cathedral chapters and on civic funding was more the norm in Europe. The rolls of this thesis serve to identify the contributions of eleven significant patrons. Through the use of episcopal registers and the work of twentieth-century medieval historians, it has been possible to build profiles of their social origins, education, career progression, appointment to high offices of state, accumulated wealth, and their capacity and motives for patronage. The eleven patrons supplied almost two-thirds of the costs of the twelve new cathedral building projects of which they were patrons, and Paul Binski has suggested that the master masons of these projects were highly dependent on a select group of bishop-patrons who played a hand in recruiting them.¹⁰ The responsibilities for financial management of the master in relation to those of the *custos* are not easy to pin down, but the master masons' terms were long and those of the *custodies* were short, and the trends in financial surpluses or deficits tended to change according to the terms of the masters, while accounting changes are identified more with the terms of the *custodies*.¹¹ In addition to the mainline campaigns for which the bishops contributed the lion's share, there was a growing number of smaller-scale projects which

⁹ Vroom (1981 and 2010).

¹⁰ See pp. 127.

¹¹ See e.g. pp.41-44, 50, 177, 185. Figs. 8.2, 8.13, 8.29.

bishops funded directly, including Bishop Hotham's Choir at Ely (the largest), Bishop Langley's Galilee Chapel at Durham, Cardinal Morton's Bell Harry Tower at Canterbury, and numerous chantry chapels. The bishops also cajoled their cathedral chapters into medium-term covenants to support building campaigns from their stipends and their archdeacons to promote annual parish giving campaigns in the dioceses. The key question in all of this, which is to be discussed in some detail, is 'what was the motive for building?'

The role of the master mason is the focus of Part III. After emerging at Canterbury, with the recruitment of William of Sens in 1174, and from 1256, when Henry III removed the layer of non-professional advisers who had supervised them at the Royal Works, the master masons combined the roles of architect and manager. Although the administrators no doubt had some understanding of development and building costs, the province of the master masons was what William Lethaby called their 'customary ability' in geometric proportion and design. What was new for the masters was that they took on responsibility for management of the project on site.¹² The evolution of the managerial responsibility of the master mason did not happen in isolation. The early fourteenth century saw the high point of the Decorated style, with significant works in progress at Ely, Exeter, Lichfield, and Wells, and this created a shortage of high-status designers well before the Black Death took its toll after 1348-49, encouraging the use of consultant architects, of whom Thomas of Witney (*fl.* 1316-1342) and later John Wastell (*fl.* 1485-c.1515) were eminent examples. In a further development, John Lewyn (*fl.* 1353-1398), former master of Durham, and Henry Yevele (*fl.* 1356-1400), of Westminster Abbey, set themselves up as multi-site building contractors. The speed and wide-ranging nature of these changes to the master masons' business reflected changing market conditions, which also brought changes to the organisation of the workforce. More than half of the expenses of the fabric rolls relate to the employment and organisation of the masons, carpenters, and labourers. Knoop and Jones' *The Medieval Mason* (1933) and Salzman's *Building in England down to 1540* (1952) revealed much that was new in their time and remain the exhaustive texts on this subject, but neither had full access to the original documents of the cathedral archives which are now available, and this results in

¹² See Lethaby (1906), p. 302.

changes in emphasis. Much was made of the different classifications of masons. Salzman distinguished between two classes, which were apparent in public works and in the Statutes of Labourers; but cathedral works organisations were more flexible.¹³ The traditional model, of a long-standing workforce of masons recruiting, training, and learning their crafts in the lodge before progressing to more skilled roles, was the norm at the beginning of the period, as can be seen in the earliest accounts of Exeter, York, and Westminster. An important distinction is to be made between the masons who served in the core team for the main building period of the year, and those who worked for shorter terms to undertake special tasks, to boost performance in the summer months, or to finish major works before the winter. The earlier core teams were paid according to graduated scales of wage rates reflecting their individual skills and experience. The performance of the masters in their role as managers is examined in considerable detail using colour-coded spreadsheets to examine the changing patterns of individual masons' employment. After the Black Death and the ensuing shortage of masters and masons and with the increasing prevalence of consultant masters, who were less close to their masons, standard rates of pay became the norm and remained constant for more than a century – with important consequences for the ways in which ordinary masons were recruited and managed. The predominant use of smaller teams of craftsmen in the cathedrals, especially after the 1420s, allowed the cathedrals to economise while maintaining access to high-status design and craftsmanship through the appointment of consultant masters.

Perceptive stone selection was key to the achievement of design objectives, and the invariable siting of cathedrals close to navigable waterways and well-developed medieval shipping routes made for ready access to stone from a variety of sources at competitive prices. The costs of stone production and delivery to the masons' yard amounted to a quarter of the total building expenses of the cathedrals in this survey. Cartage charges from the quarries to points of shipment were particularly high and the freight costs were commonly higher than those of production. The long series of Exeter, Westminster, and York accounts show the management choices made and provide comparative costs of location, management, or outsourcing of quarry labour, transport methods and routes, and the alternative of

¹³ Salzman (1952), pp. 30, 31, 36; Knoop and Jones (1933), pp. 81-92.

sub-contracting commercial operations entirely. Consideration is also given to the procurement management of measurable and comparable building materials, notably lime, lead, and iron.

The plateau in cathedral masons' wage rates and the unit costs of stone and materials which lasted from the 1380s to the 1520s, with few exceptions, is surprising in the context of the generally accepted view of inflation in those years, which even after recent downward adjustments postulates significant increases in building costs until the 1420s. The few exceptions to that 'flat' pattern were rises in London carriage charges for stone from the 1470s, which presaged a slight upward pressure on wages there from the beginning of the sixteenth century. Conversely the price of lead dropped in the mid-fifteenth century slump and from the drop in demand later in the century, when iron prices also dropped. The stability of building costs put the larger cathedral fabrics in a favourable position to take advantage of the exceptional patronage of Thomas Arundel, Walter Skirlaw, and others who financed something of a boom between the 1390s and 1420s, when Canterbury, York, and Westminster were all rebuilding furiously, before it ended with the mid-century slump. However, the story was not yet finished, with Cardinal Morton's Bell Harry Tower – a grand full-stop to the century – and significant new starts on the Ripon nave and the rejuvenation of Bath Abbey in the early sixteenth century, which were still to come.

Part I

The Evidence of the Fabric Rolls

Chapter 1

The Origins of the Cathedral Account Rolls

Introduction

This thesis is based on the evidence of the surviving fabric rolls of the medieval English cathedrals and the standing fabric of the buildings they describe. The prime question which this work sets out to address is how the master masons managed the process of resourcing, designing, and creating cathedrals and other great churches in the late medieval period, during which the surviving fabric rolls were generated. The idea of management is posed in a wide context which includes accounting, financing, design, recruitment, motivation and employment, organisation of the workplace, procurement of supplies, and logistics. The account rolls of the fabric funds provide, as closely as is possible in the medieval context, a real-time record of the actual daily transactions of the builder's yard, and these are collated into weekly, quarterly, or annual rolls, which are the subject of this enquiry.

The English church after the Conquest

The Norman invasion and William the Conqueror's ambitious campaign to build seventeen new cathedrals to project the new order constituted a defining break with the past for the English church, despite the efforts of the Norman bishops to legitimise the new establishment by absorbing Saxon minsters and their traditions. Two diocesan cathedrals were added later, at Ely from 1109, where the monastery had previously been excepted from diocesan authority, and at Carlisle from 1133, where

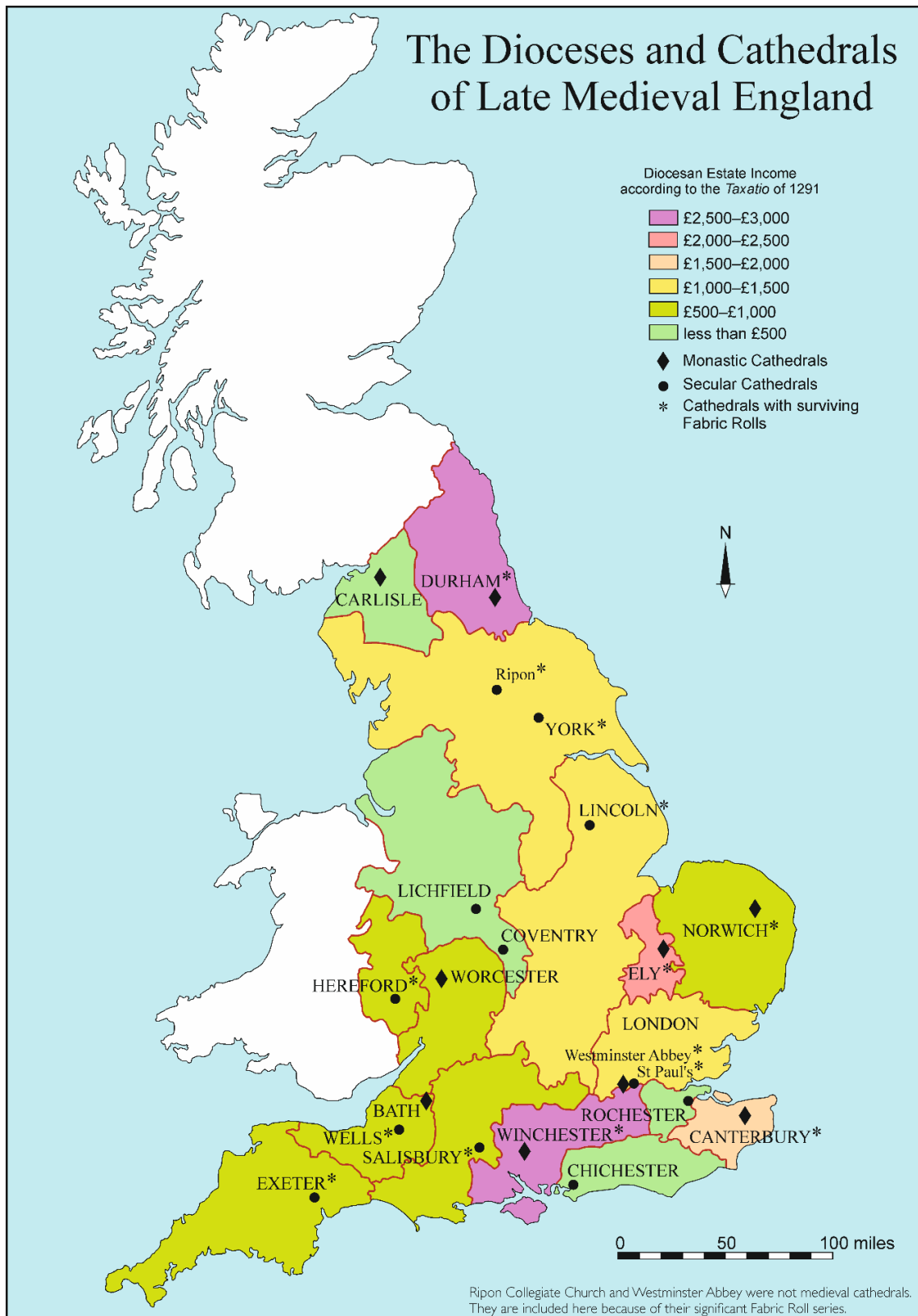


Fig. 1.1: Map of English dioceses after the Conquest with their *Taxatio* values of 1291, after Alexander and Binski (1987)

the border area had recently been annexed by the crown.¹⁴ The opportunity to modernise and update diocesan structures was not lost and seven sees were moved during the century, of which two were moved more than once. The new cathedral cities, including Bath, Coventry, Exeter, Lincoln, and Norwich, tended to be larger, wealthier, and more strategically sited than the previous ones.¹⁵ The remodelled ecclesiastical geography of England was formed by eight dioceses based on Roman jurisdictions, four on Anglo-Saxon boundaries, and seven which were newly created by the Norman administration.¹⁶ As English sees were larger and wealthier than those of Italy and France, which tended to follow the Roman civic structure, they were better able to support cathedral building campaigns from ecclesiastical resources. An impressive list of senior churchmen from Normandy was harnessed to lead the church, including many of the new bishops.¹⁷

Six of the new cathedrals were built on earlier Anglo-Saxon sites, showing due deference to Old English sensitivities. In Winchester, the minster was opposite the royal palace, reinforcing the city's status as the capital and the burial place of the Wessex kings. To reassure the monks, Bishop Walkelin (1070-1098) built the Norman cathedral on virtually the same site, but he changed its orientation to avoid demolishing the Anglo-Saxon feretory immediately, and to make it possible to transfer the relics of St Swithun directly to a new shrine without disruption (see Fig. 1.2 below).¹⁸ Similarly, the new Ely Priory honoured Ealdorman Brythnoth (970-999), Bishop Wulfstan of York (931-956) and five other 'Confessors', whose bones, originally buried within the Anglo-Saxon abbey, were translated to a new high altar feretory, near St Etheldreda, the Anglo-Saxon foundress, whose remains were translated to the centre of the choir on its completion.¹⁹ The construction and staffing of

¹⁴ The seventeen English dioceses were Canterbury, Carlisle, Chichester, Durham, Ely, Exeter, Hereford, Lincoln, London, Norwich, Rochester, Salisbury, Winchester, Worcester, York and the two double-headed bishoprics of Bath and Wells, and Coventry and Lichfield. Swanson (1989), pp. 1-11; Orme (2017), pp. 8-12, 33-41, Figs. 4, 7, 18; Crosby (1994), pp. 31-3.

¹⁵ Crosby (1994), pp. 31-3.

¹⁶ Orme (2017), pp. 8-12, 33-41, Figs. 4, 7, 18; Crosby (1994), pp. 31-3.

¹⁷ Including Lanfranc (Ste Étienne, Caen/Canterbury), Walkelin (Rouen/ Winchester), Simeon (Rouen/Ely), Herbert de Losinga (Argentan/Norwich), Remigius (Fécamp/Lincoln), Thomas (Bayeux/York), Maurice (Le Mans/London), Robert de Losinga (Liège/Hereford) and William St Calais (Durham).

¹⁸ Crook (1993), p. 19, Fig. 2.6, pp. 21, 33, 34, 67.

¹⁹ Lindley (1985), pp. 165-71, and Keynes (2003), p. 9.

a complete range of modern cathedrals, matching the best in Europe in scale and contemporary design, was a massive investment which put the English church in good stead for centuries to come.²⁰

The new bishops lost little time in asserting their authority over the new building programmes. Bishop Walkelin of Winchester allocated estates under the control of the monastic chapter to the fabric, and in Durham it was agreed that Bishop William St Calais (1081-93) should rebuild the church, while the monks rebuilt the monastery. Although the bishops were recognised *ex officio* as the instigators of new building projects, the cathedral chapters, which had been recognised from the ninth



Fig. 1.2 The changed orientation of Walkelin's new cathedral at Winchester showing the original footprint of St Swithun's minster

century were not only responsible for the upkeep of cathedral buildings, but also for keeping separate funds designated for the fabric under the long-established principle of *quarta fabricis applicanda*.²¹

This was to ensure that the wishes of donors to the fabric were respected, and the cathedral's common funds were not diverted to extravagant building projects.²²

²⁰ While several new cathedrals followed the architecture of Norman abbeys, Winchester set out to compete with Speyer and was the longest church in Europe until overtaken by Cluny III in 1130. Crook (1993), pp. 3-6.

²¹ The principles of separate funds for clergy expenses, the bishop's household, the poor, and the fabric were established by Popes Simplicius (468-483) and Gelasius (492-496). Vroom (1981), p. 31.

²² Vroom (2010), p. 34.

Although there was wholesale replacement of the old English hierarchy, the new order was initially built on pre-Conquest structures.²³ According to the York chronicler, Hugh the Chanter, the canons of York lived in common for many years and it was not until the twelfth century that the Archbishop bought individual estates for canons to develop on their own account.²⁴ In Exeter, funds were administered in common by the twelfth century, when there were 24 prebends dependent on the bishop. A good number of the Anglo-Saxon minsters were controlled by religious rather than secular canons, and the retention of monastic chapters became a distinctive feature of the settlement. The lines of authority were similar to those in secular cathedrals and the bishop acted as abbot, the prior as dean, and a group of obedientiaries formed the chapter. As with secular cathedrals, the appointment of bishops was subject not only to election by the chapter, but also to papal provision and approval by the king. All but one of the monastic cathedrals were of the Benedictine order, whose influence increased significantly after the Lateran Council of 1215.²⁵ From 1218 triannual provincial chapters set the pace for modernising monastic finance and administration, and twelve synods between 1218 and 1343 introduced 71 new regulations.²⁶

The development of cathedral chapters

The separation of the *mensa capitularis* from the *mensa episcopalis* fundamentally affected the funding and organisation of cathedral building, and was usually further advanced in the priories than in the secular cathedrals.²⁷ The process began as early as the ninth century at Canterbury and Rochester, and by the tenth at Winchester.²⁸ The process of separation was complete at Worcester and underway in Bath before the compilation of the *Domesday Book* in 1086.²⁹ At Durham, there was a secular establishment before the Conquest, but the *mensa capitularis* of the monastery was not settled

²³ Anglo-Saxon bishops were replaced by Norman bishops in every diocese except Carlisle by 1150. Brooke (1993), pp. 1-12; Crook (1993), pp. 21-36, Maddison (2000), pp. 22-4; Rollason (2015), pp. 27-38.

²⁴ Hugh the Chanter (1990), p. 11, also Hill and Brooke (1977), p. 22.

²⁵ Carlisle was an Augustinian priory.

²⁶ Dobie (2008), pp. 22, 231-5, Tab. 27, based on Pantin (1931-7), v.1, p. 243.

²⁷ *Mensa* 'refers to the entirety of property and goods, which as capital and income, served to support the members of an ecclesiastical body'. Crosby (1994), p. 1.

²⁸ Ibid. The dates for the process of separation are to be found for Canterbury, pp. 67-105; Rochester, pp. 198-213; Winchester, pp. 216-20.

²⁹ Ibid.: Worcester, pp. 234-5; Bath and Wells, pp. 51-66.

-until Bishop Poore's term in 1228.³⁰ The major monasteries were aware of the need for efficiencies on their vast estates, and, as R.A.L. Smith has shown, a system of centralised management was initiated at Canterbury by Prior Henry Eastry (1268-1331), which reduced debts and increased profits; it could not have been possible without the separation of the monastic estates.³¹ In the secular cathedrals the process was in part driven by the decline in communal living and by the Norman introduction of the prebendary system, which linked the individual canons' prebends to their estate incomes. Prebends were introduced by Bishop Maurice in the London diocese by the late-eleventh century, though the urban properties had not been divided from the episcopal *mensa* before the *Domesday* records.³² The chapter had its own seal from 1133 and the ownership of churches, houses, tithes, and 15 estates, of which 13 had formerly belonged to the bishop, was confirmed by the pope in 1153. However, the emergence of independent chapters under their own deans did not generally take place until the next century.³³ The imperative for the separation of episcopal and capitular *mensae* has been attributed to the church's wish to reduce and avoid the appropriation of *sede vacante* payments to the exchequer during lengthy episcopal vacancies, as first introduced by William II.³⁴ Pre-*Domesday* separations of the *mensae* seem to argue otherwise, and, as we have seen, improvement of monastic estate returns, provision of prebendal incomes for secular canons, and the increasing independence of chapters with their own responsibilities were compelling enough reasons for change.³⁵

Responsibilities for church building

While the workings of episcopal and capitular administration had been clarified, the divided responsibilities for patronage of new campaigns and the care of existing buildings still had to be worked out in practice. In the secular cathedrals, a new building campaign, a *novum opus*, was the responsibility of the patron: usually, but not always, the bishop; while the maintenance, repair, and improvement of existing structures, the *vetus opus*, was that of the chapter member responsible for the

³⁰ Ibid.: Durham, pp. 149-51.

³¹ Smith (1943), pp. 53-54; Crosby (1994), p. 8.

³² Crosby (1994), p. 314ff.

³³ Hereford, 1184; Salisbury, 1210-1214; York, 1215-1255; Exeter, 1225; London, 1243-1253; Lincoln, 1245.

³⁴ Crosby (1994), pp. 5-9.

³⁵ See R.A.L. Smith (1943), pp. 53-4; Knowles (1960), v.1, pp. 42-63.

fabric. Both worked through the *custos operis*, the keeper of the works, to prevent confusion and duplication. The first recorded use of the term *novum opus* in the period concerned the new Lady Chapel of St Paul's Cathedral, which was built as an eastward extension of the presbytery from 1259. In an exception to accepted practice, the chapter acted as patron of the *novum opus*, which was in competition with Henry III's magnificent apsidal eastern arm at Westminster Abbey.³⁶ The bishop, for his part, took charge of the *vetus opus*, the existing Norman cathedral, including the crossing tower completed in 1221, which was proving unstable. The distinction between Old and New Work persisted throughout the period: in 1412-13 the *novum opus*, the New Work of Bishop Mascall's cloisters, was begun in Hereford; and in 1512-13 the *novum opus* was the nave being built in Ripon under the patronage of Archbishop Bainbridge (1508-1514).³⁷

In the country's generously resourced monasteries, there was less need for separate funding. Only Winchester and late-fifteenth-century Canterbury had separate fabric funds; most of the priories' New Works were recorded in special building accounts. These were accounted for in episcopal or priory account rolls, and in the largest monasteries each of up to a dozen obedientiaries, all of whom may have had responsibility for some buildings, had their own accounts.³⁸ The Durham rolls for the Prior's Kitchen, monks' dormitory, cloisters, and the rebuilding of the Galilee Chapel between 1366 and 1435 are examples of separate building accounts, which represented episcopal patronage or some pooling of resources.³⁹ The responsibility for the Norwich Cloisters from 1283, an unpopular project with uncertain prospects once the initial funding ran out, was given to two distinctly junior obedientiaries, the *Communar* and the *Pitancer*,⁴⁰ who waited on the whims of future priors for further support. In most priories, the Sacrist was responsible for the running of the church and the Old Work of improvement and repairs for the standing fabric. The Sacrist rolls of Canterbury, Durham, and Norwich have multiple references to building improvement and repairs, which are slipped in between those of the normal business of the Sacrist's office. By contrast, the Ely Sacristy was

³⁶ Cragoe (2004), pp. 135-9.

³⁷ HCA 2369; *Memorials III*, p. 176.

³⁸ See Snape (1980), p. 26.

³⁹ DCD: Misc. Ch. 7264, Lc. II/13 3-15, Lc II/19 1-10, Misc. Ch. 5713-5721.

⁴⁰ Fernie and Whittingham (1972).

endowed with significant estates and tithes to finance its activities, which were accounted for independently of the central Treasury.⁴¹ In the period 1321-1353, when three major projects made Ely the busiest cathedral building site in England, the Sacrist, Alan of Walsingham (1321-1342), took sole responsibility for building the Octagon with Sacristy funds in the wake of the collapse of the collapse of the central tower. Bishops John Hotham (1316-1337) and Simon Montague (1337-1345) successively financed the choir and the Lady Chapel from their episcopal revenues, for which no accounts have survived.⁴²

Fabric fund endowment

Fabric funds were formalised from the early thirteenth century onwards throughout the Western church. No records of the earliest funds have survived, as initially the audit accounts were not in written form. Charge and discharge records, known as *compoti*, had been developed by then, but the annual accounts were given orally for the auditors to hear and approve.⁴³ New rules laid down by Innocent III (1198-1216) required the annual submission of accounts to their superiors by monastic houses, and Gregory IX (1227-1241) ordered that these should be audited in statutes of 1235-1237.⁴⁴ The secular cathedrals soon followed. As Barbara Harvey has pointed out, for as long as an oral account was given at the audit, the audit record was in effect the official account and could not be checked back to source documents.⁴⁵ The formalisation of written accounts was therefore needed as much to protect the interests of the *custos* as those of the Treasurer.

The independence of the fabric funds diminished the role of the Treasurer in important respects, as significant income streams were diverted to the fabric fund. The Treasurer was relieved of the associated costs, including those for the collection of rents and agricultural income, the write-off of unpaid rents, and property repairs. These costs, along with payments for the provision of chantry and obituary masses, lighting, and other services, now became calls on the fabric funds. The financial management of funds and the role of the *custos operis* will be discussed in a later chapter.

⁴¹ Chapman (1907), v.1, pp. 111-23.

⁴² EDC F/1/10/III-XV/Chapman, v.II; Maddison (2000), pp. 61-82.

⁴³ Clanchy (2013), p. 269.

⁴⁴ Knowles (1963), v.1, pp. 57-8.

⁴⁵ Harvey (2004), pp. xv-xvii.

There were three main sources of endowments: appropriations, property transfers, and patron's covenants. In an early use of appropriation to enable the construction of the new cathedral in Lincoln, the king authorised the transfer of the manors of Sleaford and Welton, two churches in Lincoln, and the churches of five royal manors.⁴⁶ In Exeter, Bishop Henry Marshal (1194-1206) first endowed the fund with the livings of the parish church of St Erth in Cornwall for the cathedral *ad eius reperacionem*, which was a far-sighted move, as his Norman cathedral had only been completed for 25 years.⁴⁷ The appropriation of parish income to another religious body was a frequently used method of financing new initiatives in this period, although transfers to monasteries were somewhat constrained by mortmain laws after 1219.⁴⁸ As Haines has pointed out, the diversion of tithe income from parochial uses was a questionable, but commonly accepted, example of the separation of endowed incomes (*beneficium*) from the duties associated with that endowment (*officium*). This was a common practice of that time, which has been justified on the basis that many of the previous advowson beneficiaries were royal clerks, papal officers, or foreign monasteries, who were not connected to the living.⁴⁹ Appropriations were an essential part of the core funding for the fabric funds of Ely (Downham church), Exeter (St Erth), Hereford (Lydney and Shinfield), Lincoln (city and manor churches), Norwich Cloisters (Church Catton), Westminster Abbey (Longdon), and York (Topcliffe Misterton, and the mill of Brotherton).

The transfer of properties from chapter portfolios to the new fabric funds was an equally important source of income. An early charter is evidence of William Percy's grant of Topcliffe church (N. Yorks) to support the fabric during Archbishop Roger Pont l'Evêque's term (1154-1181).⁵⁰ This grant was highly significant, amounting to one quarter (£2,102 7s 0d) of all the recorded revenues of the 32 surviving fabric rolls from 1360 to 1500. In York, the episcopal *mensa* had been acquired long

⁴⁶ See Owen (1971), pp. 37-46.

⁴⁷ D&CE 1129, see Erskine et al. (1988), p. 13.

⁴⁸ E.g. for Longdon mortmain costs, see Haines (1989), pp. 3-14; no mortmain restrictions are recorded on Ely's purchase of Brame estate, but a payment of £5 was made *In dictis terris et tenementis mortificandis per brevem ad quod damnum et carta impetranda*, EDC 1/F/10/VI/Chapman, v.2, pp. 68, 215. For expenses on the later Ely purchase of Mephal, see Evans (1936), pp. 113-20.

⁴⁹ Haines (1989), p. 3.

⁵⁰ Raine (1859), pp. 142-3 (Ms Cotton. *Claudius*, B.III.78a); Brown (2003), pp. 142,165.

before the Conquest and much of it had been transferred to the capitular *mensa* by 1030.⁵¹ Archbishop Thomas (1070-88) had introduced a Norman-style prebendal arrangement, which necessitated further expansion of capitular estates. By the end of his term, 14 prebendaries (out of an eventual 36) had received 12 estates outside the city from the chapter, but residences within the city were still required for them from the episcopal *mensa*. The chapter made further purchases for the foundation of the new college of the vicars choral in the 1240s, and to support the fabric fund. No date has been established for the latter, but a house in Petergate is recorded as having owed rent to the fabric in the 1260s.⁵² In 1432-33 the fund had 98 properties, mostly within the northern part of the walled city,⁵³ yielding £85 18s 6d p.a., equivalent to one eighth of the annual receipts of the fund.⁵⁴ Property endowment income is recorded for most fabric funds, including those of Ely, Exeter (after 1373), Hereford, Lincoln, Ripon, Salisbury, Wells, Westminster Abbey, Winchester, and York.

Fabric funds were also primed by a commitment or covenant by the bishop to contribute specified annual sums to a building campaign. The Exeter fund was transformed by a substantial commitment by Bishop Bitton (1291-1307) in 1298 and renewed by Bishop Stapeldon (1308-26) in 1308, who agreed with the chapter that the bishop and the principal officers would each pay half of their stipend into the fund, yielding a combined annual contribution of £187 8s between 1298 and 1325.⁵⁵ The average annual building costs were £231 18s 9d, so this guarantee provided almost 90% of the total. Likewise, Archbishop John Thoresby's covenant of £200 per year to the York Minster Lady Chapel from 1363 to 1373 guaranteed over half the building costs.⁵⁶ The annual committed revenues to the fabric funds seldom covered the full costs of the major construction campaigns, but the balance was typically made up by legacies and donations, essential to the building programmes.

⁵¹ Rees Jones (1987), p. 83; Brown (1980), pp. 20-22.

⁵² Ibid., p. 129 ('Vicars Choral Cartulary', 190).

⁵³ The city properties included: the Close (13), Petergate (33), Jobritgate (4), Loplayne (13), Marcery (3), Bocherygate (13), Coleyargate (1), Payment (5), Coppergate (3).

⁵⁴ YMA E3/12/YAT. The figures here differ from those in Rees Jones (1987), p. 129.

⁵⁵ Erskine (1981), pp. xiii-xiv, citing DC&E 3673 fo. 99r.; D&CE 2602-2624/Erskine, v.1.

⁵⁶ YMA E/3/2/YAT, and Table 18.

Chapter 2

The Scope and Form of the Accounts

Written records

It is likely that written fabric rolls in the form we now know them were produced by all the cathedrals by the mid-1200s, though none has survived before the fragments of the 1270s. The earliest record of their existence is a series of accounts *memoranda* of the building of Bishop Hugh Northwold's (1229-1254) presbytery at Ely, which were digested from the contemporary account rolls of 1239 to 1250.⁵⁷ Each *memorandum* has a conventional dating clause and gives total receipts, receipts by donor, total expenditure, and the surplus or deficit for the year. The first year is described as '*anno vij ab incepzione nove fabrice ecclesiae de Ely*' suggesting that the work began in 1233-34. The extracts cover eleven years out of a building period thought to have been eighteen years. The documents are given credibility by having been signed off by the Sacrist – with his *socius*, Roger de Stradebrok, from 1240 to 1244; by Stradebrok alone from 1245 to 1246; and finally by Adam de Burgo, his successor, from 1247 to 1250. These were patron's accounts for the bishop, who no doubt used them to check donations received, for there are no details of expenditure.

Original fabric rolls or fragments of the thirteenth century still exist at Exeter (1279), Norwich (1284), Hereford (1290), and Ely (1291). Those at Exeter before the first complete roll of 1299-1300 are not impressive, consisting of a receipts section listing Whitsun offerings 1280-1287 and some expense sections of those years, providing the dates of the treasury and the eastern chapels, but little else.⁵⁸ The eight Norwich Communar accounts between 1282-83 and 1298-99 are the only thirteenth-century sequence which exists, in a format which is familiar in early-fourteenth-century rolls.⁵⁹ The Hereford roll of 1290-91 is the first full roll of a working building campaign, at a time when the

⁵⁷ Ms. Cotton *Tiberius* B II ff.246-248.

⁵⁸ D&CE 2601/ Erskine, v.1, pp. 1-8.

⁵⁹ DCN1/12/1-13 (1029A-1035)/Ferne and Whittingham (1972), pp. 45-75.

revenues from the shrine of St Thomas of Cantilupe were substantial.⁶⁰ The first Sacrist roll of Ely, 1291-92, is organised on a quarterly basis, and in addition to heavy expenditure on wax and lighting includes a payment of £12 16s for sixteen new windows of a clerestory passageway.⁶¹ In the rest of Europe, only two cathedrals have rolls that old, and their introduction in England was well advanced by comparison.⁶²

Influences on the development of the fabric rolls

It is not surprising that the English cathedrals were early movers. As Michael Clanchy has shown, the Norman Conquest brought a centralising bureaucracy which fostered the use of documents at all levels.⁶³ The great monasteries followed later with the introduction of manorial accounts, the earliest of which were the pipe rolls of the bishops of Winchester from 1208.⁶⁴ Initially the rolls were modelled on Exchequer receipt and expense accounts, written up centrally on the basis of reports from the bailiffs and designed to prevent theft and malpractice over their estates. Within a generation Christ Church, Canterbury, began to use their accounting records to manage and calculate surpluses on their demesne holdings. Secular cathedral episcopal and chapter estates, of which very few records remain, must have followed, and by the middle of the century such accounts had been introduced to other institutions and to private landlords.⁶⁵ It is of note that a number of bishop-patrons of the major building campaigns had served in clerical positions in the royal household before taking on the offices of Chancellor and Treasurer, and would have been more than familiar with Exchequer accounts.⁶⁶ Although papal and monastic authorities set the pace for financial reforms, the form and execution of accounting policies were based on local and royal practice.⁶⁷

⁶⁰ HCA 2368/Capes (1908), pp.163-5.

⁶¹ EDC 1/14/10/1./Chapman v.2, pp. 3-13.

⁶² Vroom (2010), pp. 631-5.

⁶³ Clanchy (2013), pp. 18, 19.

⁶⁴ Titow (1972).

⁶⁵ Clanchy (2013), pp. 94-6.

⁶⁶ Chrimes (1952), p. 134.

⁶⁷ See p. 27.

The surviving account rolls as a sample

The core of this study is a systematic analysis of the medieval building accounts of English secular and monastic cathedrals, using spreadsheets for comparative purposes. The sample does not include buildings of the King's Works, which were not as dependent on market price and supply conditions as those discussed here, nor does it cover accounts of buildings which are no longer standing.⁶⁸ The question of what constitutes a fabric roll is relevant to monastic accounts, in which building entries may be scattered through the accounts of several obedientiaries. The repair of the Norman cloisters at Norwich was initially financed by a programme of reparations ordered by Edward I from the citizens for their part in the 1272 fire, which destroyed parts of the cathedral and priory buildings. These ended after one recorded payment of £73 19s 4d in 1282-83, and future progress depended on the enthusiasms of later priors.⁶⁹ The project dragged on for a seemingly interminable 177 years – from which 65 rolls have survived. Of these 28 are recognisable as fabric rolls, 8 are damaged or illegible, 15 have limited numbers of building entries, and 14 have none at all. The series was only brought to a close after 1454-55, when the heading *reparaciones* signalled that the *novum opus* was at last complete.⁷⁰ The practice here is to include those rolls which are predominantly to do with the building process and those marked as pertaining to the *novum opus*, but not the many Sacrist rolls which have unrelated and scattered entries.

The rolls which have survived represent about 10% of those that once existed.⁷¹ The geography and timing of the sample depends entirely on the accident of survival. They are widely spread, with

⁶⁸ Impressment does not appear to have affected availability of labourers for cathedrals. Exceptionally, the Ely roll of 1359-60 includes a payment of 10s to the Under-Sheriff of Cambridge for the recovery of masons impressed for Westminster Palace. EDC 1/F/10/XV, Chapman (1907), v.1, p. 101, v.2, p. 191.

⁶⁹ DCN 1/4/1 (1029A)/Ferne and Whittingstall (1972), p. 45.

⁷⁰ DCN 1/4/84.

⁷¹ It was obligatory for cathedrals to produce audited fabric accounts from the 1240s, the audit of written accounts having become compulsory in the monasteries in 1235-1237, see p. 15. At its simplest, the total number of annual rolls produced by 19 cathedrals and Westminster Abbey in the period of the surviving rolls from 1290 to 1540 is 250 years x 20 institutions = 5,000 of which the sample constitutes 10%. If secular cathedrals only are considered, 200 rolls have survived from 8 secular cathedrals, which must have produced 2,000 annual rolls = 10%. The total number of building accounts produced by the monastic cathedrals would have been reduced by the large number of years in which the volume of building activity was not sufficiently great to justify a group of entries in the Sacrist or other Obedientiary roll to constitute a meaningful building account, especially as the majority of surviving monastic cathedral buildings pre-date the period of surviving rolls.

longer series from Ely (36 rolls), Exeter (117 rolls), Norwich Cloisters (65 rolls), and York (45 rolls), detailed building accounts of individual projects at Canterbury, Durham, and Salisbury, and single rolls and brief sequences from Hereford, Lincoln, St Paul's, Wells, and Winchester. In seven cathedrals, at Bath, Carlisle, Chichester, Coventry, Lichfield, Rochester, and Worcester, none remain. The length of sequences is particularly important for comparative study and for determining how building practices evolved. While two detailed early-fourteenth-century sequences of the new building campaigns at Ely and at Exeter have survived, no significant sequences of the fifteenth and early sixteenth centuries exist other than the 42 rolls of York and the 73 later rolls at Exeter (1374-1514), which are mostly confined to renovation and repair. To rectify the deficit, it was decided to include the 133 fabric accounts of the nave and cloisters of Westminster Abbey. This may be justified on the basis that the building campaigns were financed not by the Royal Works, as was the case with the earlier eastern arm, and Henry VII's later chapel, but through a conventional fabric fund similar to those of the cathedrals. To the extent that it was still dependent on periodic bursts of royal patronage, it was no different from the nave at Canterbury, and there were significant exchanges of craftsmen and ideas between the abbey and the larger cathedrals during the period. Ben Nilson argued in his *Cathedral Shrines of Medieval England* that 'although not a cathedral, Westminster deserves to be included in this study by virtue of its excellent set of Sacrist's accounts ranging from 1317/18 to 1531/2'.⁷² The same is true of the abbey's Fabric Accounts of 1341 to 1534. The extent of the roll series of Ripon Collegiate Church (28 rolls, 1354-1542), a sub-cathedral of the enormous York diocese, also justifies their inclusion. With these, the data set includes almost 500 annual accounts, or parts of them, in fourteen archives from the 250 years between 1290 and 1540.

It has been generally supposed that there was widespread destruction of the records of the monastic cathedrals at the Reformation, but the opposite is the case. This is because Henry VIII's New Foundations, set up to replace monastic administrations, turned out in most cases to be just as vigilant as their predecessors in preserving documents which could legitimise their claims to monastic

⁷² Nilson (1998), p. 162. I am grateful to Julian Luxford for drawing this discussion to my attention.

title.⁷³ The building accounts, appearing in the rolls of different obedientiaries, are a small part of the priory and estate accounts of Canterbury, Durham, Norwich, Westminster, and Winchester, which are the largest collections of medieval documents in the country other than those of government.⁷⁴ The secular cathedrals do not have such a range of supporting accounts. It is notable that the rates of survival are higher in later years, from the last quarter of the fifteenth and the early sixteenth centuries, which indicates perhaps that there may have been as much attrition through misuse and misplacement over time as through deliberate destruction.

Physical form

The accounts take the form of continuous rolls of several membranes of parchment, sewn together at the head and the foot. The width of the rolls is usually in the range of 8-10 inches (20-25 cm), with 8½ inches (22 cm) as the norm. The rolls of the later fifteenth century and later are wider, up to 12 inches (30 cm). Membranes are of variable length, the majority being 2-3 feet (90-150 cm) long. One-membrane rolls are rare, the more usual length for a fabric roll being three to four membranes, showing the receipts details on the first membrane followed by the expense details. The York Minster Fabric Fund purchased 2 dozen parchments annually for the fabric rolls at prices between 3s and 4s per dozen; the Ely Sacrist's office paid between 1s 2d and 2s per annum, and Ripon Fabric Fund 6d. It was seen as an expensive medium, and the fragmentary early rolls of the 1270s and 1280s are written in a notably condensed form. As the purpose of the accounts progressed from one of record to one of examination, the introduction of categories with separate headings and centralised subtotals made for more spacious layouts, and the *dorso* was increasingly used for detailed schedules.⁷⁵ These were otherwise shown on attached lists, *ut patet per parcellam*, at considerable disadvantage to the modern scholar, as the attachments have disappeared in many cases. In general, the increasingly detailed content made for longer rolls. Two of the longest documents of the Ely Sacrist rolls are that of 1339-40, which is 10 feet 8 inches (325 cm) in length and inscribed on both sides, and the Ely *Status*

⁷³ Ely was an exception. Robert Wells, Prior c.1522-1539, later Dean Robert Steward, 1541-1557, of the new foundation, appropriated manuscripts and books and used parchments to bind later titles for the antiquarian market. See EDC1/C/3, Chapman (1907), p. vi; Ramsay (2003), pp. 261-3.

⁷⁴ Durham has 2,087 obedientiary rolls, Norwich 1431, Winchester 840, Ely c.300.

⁷⁵ YMA E/3/13 (1433-34)/YAT stock inventory, and E/3/15 (1441-42)/YAT onwards.

Prioratus roll of 1324-25, which is 12 feet (365 cm) long, though only written on one side.⁷⁶ Towards the end of the period, the use of parchment began to give way to paper, which was lighter and cheaper and had been used for day-to-day reckoning since such records were kept. Initially there were objections to its use for audit, for example in a visitation to St Leonard's by the Bishop of Norwich in 1514, evidence was produced against the Prior '*item quod prior Sancti Leonardi reddit compotum suum in papiro et non in pergameno*'.⁷⁷ In the records which concern us here, the most notable examples of paper folios are those which refer to the upper stages of King Harry Tower of Canterbury in 1493-94 and those recording Brownfleet's carving of the choir stalls of Ripon Minster in 1520.

The rolls were evidently stored in special bags made for the purpose, and a purchase of two *baggis de correo pro rotulis custodiendis* for 4d is recorded in the Ely Sacrist roll of 1341-42.⁷⁸ The York Minster rolls were similarly kept, as is evidenced by the pattern of damage to the rolls, which have suffered from wear and tear over the years. The accounts had their receipts sections at the head of the roll and the financial totals for each line to the right, as is usual, with the stitched membranes rolling up from the bottom. The heads and right-hand columns of the rolls were therefore liable to damage, as parchments were moved in and out of their bags by right-handed users. Numerous cathedral fabric rolls have deteriorated from damp over the centuries, but observation suggests that as many have suffered from the efforts of early preservationists. Common problems with the Exeter rolls include nineteenth-century backing and patching with low-grade paper, which has deteriorated faster than the original manuscript, and covering the surfaces with tissue which becomes opaque and impervious to ultra-violet light. The application of galls from the late eighteenth century onwards has made parts of the texts illegible.⁷⁹ The effect of damage is particularly significant with the York rolls, where revenue information at the head and right-hand sides of the manuscripts is unavailable for 11 out of 45 rolls. Similar damage to the head membranes of the earlier and later rolls series at Exeter has been proportionately less, affecting 12 out of 117 rolls in the years 1299-1514. Much of the

⁷⁶ EDC 1/F/10/VIII/Chapman, v.2 pp. 87-101. EDC 1/F/21/4: the *dorso* was previously used for manorial accounts.

⁷⁷ Saunders (1930), p. 8.

⁷⁸ EDC 1/F/10/IXb/Chapman, v.2, p. 117.

⁷⁹ See Erskine (1981), v.1, p. xiv.

deterioration has continued in modern times. The York Archaeological Trust team, transcribing and translating the Minster rolls, noted that over 170 entries which Canon Raine was able to read in the 1850s are illegible now.⁸⁰ More recently, several entries in the earlier Exeter roll series were at least partially readable in 1916-17 by Sir William Hope, but were illegible by 1980.⁸¹

Writing, dating, and identification

A scribe was normally appointed each year by the *custos* to write up the accounts. Entries for the scribe's costs do not appear in every account, but those which do give us some idea of his duties. In Ely a clerk was paid a fee for 1334-35, '*clerico scribenti compotum Sacriste 3s 4d*'.⁸² By 1357-58 the role had expanded and was more explicit, '*In stipendio clerici facientis compotos de Wynteworth, Grangie Tydbr. et officii Sacriste pro anno instante et ultimo preterito cum eisdem rotulis duplicatis, 13s 4d*'.⁸³ The duties included the accounts of the Sacristy and of its three Ely estates and the duplicate copies. It is not clear who wrote up the weekly books of the office or the estates, but the fee implies that the annual consolidation was a task of limited duration.

The language of the account rolls is uncomplicated medieval Latin, of the type which was used for official rather than ecclesiastical purposes, of which most is formulaic, with a large number of entries appearing in every account. Spelling varies considerably due to the annual change of scribe. The default language is simple English, which provided most technical building words which could not easily be accessed from vernacular Latin. The proportion of English words used increased over the period, with the use of new technical words and the growth in purchases of part-finished stone.

The accounts are usually headed with a title and a dating clause. The title states the name and position of the *custos* responsible for the accounts, the name of the church, and an indication of whether the work is old or new. There may have been more than one responsible accountant, as was originally required in the monasteries and customary in secular cathedrals, but this fell away at an early date in most places. Uniquely, the master mason Roger was formally the *custos* in addition to

⁸⁰ York Archaeological Trust. Unpublished transcription and translation work-in-progress.

⁸¹ Erskine (1981), p. xiv.

⁸² EDC 1/F/10/VI/Chapman, v.2, p. 70.

⁸³ EDC 1/F/10/XIV/Chapman, v.2, p. 179.

Robert Ashburton in the first full roll at Exeter of 1299-1300.⁸⁴ At Ely, the *socius* to the Sacrist was also named, in the period after Alan of Walsingham became prior, from 1342 to 1360; and at York an additional comptroller, the *contrarotulatoris*, was listed from 1415 to 1422, though the position existed for another decade.⁸⁵ Dual responsibility for the accounts continued at Lincoln and Ripon throughout the period, at Salisbury in 1379-80, at St Paul's Lady Chapel in 1388-89, at the Durham monks' dormitory in 1398-1400, and in Wells in 1457-58. Accounting start and end of year dates were surprisingly flexible. The year normally began at Michaelmas (29 September), with the traditional quarter days at Christmas, the Annunciation (25 March), and the Nativity of St John the Baptist (24 June). Cathedrals invariably followed this pattern, except for building activities with an early summer start date. The works at Westminster Abbey started at Michaelmas, but in the years when Dick Whittington and Richard Howarden ran Henry V's major building campaign in the years 1416-1421, the accounts began at the Christmas quarter date, presumably to suit the royal Hanaper.⁸⁶ Only York Minster used different yearly start dates throughout, with 10 to 28 December start dates until 1445, and a late November date after 1457. Years were usually denominated in dominical years, although both Ely and Westminster used regnal years. Exceptionally, Norwich Priory dated its accounts according to the starting year of the prior (and some accounts according to the starting year of the obedientiary concerned); this caused some uncertainty in later years, as their inauguration dates were unknown to most.⁸⁷

Endorsements of the rolled parchments were quite common and were usually placed at the head of the *dorso*. They typically indicate the number, date, and/or title of the roll to assist identification. At Exeter, such endorsements were few, but the differentiation of a second series of rolls from 1298 has been a useful indicator as to when the new funding settlement initiated by Bishop Bitton (1291-1307) actually began. The clue to this is the endorsement 'Year 9' at the head of the *dorso* of 1306-07.⁸⁸ In the Ely rolls, numerous endorsements date from a reorganisation in the mid-fifteenth century

⁸⁴ DC&E 2602/Erskine, v.1, p. 8, see also p. xi.

⁸⁵ EDC 1/F/10/X-XV/Chapman, v.2, pp. 126, 140, 149, 160, 172, 184; YMA E3/6-11/YAT; Table 55.

⁸⁶ WAM 23491-4/Rackham notes.

⁸⁷ Fernie and Whittingham (1972), pp. 7-9; Saunders (1930), p. 11n.

⁸⁸ D&CE 2606/7/Erskine v.1, p. 36 and see p. xii.

in which documents were numbered to enable easier cross-referencing between documents in the cartulary and those in the archives.⁸⁹ Thomas Stillwell (c.1483-1539), a monk of Durham Priory, was responsible for reorganisation of the rolls in the late fifteenth century, and is shown to have endorsed many of the rolls in his own hand.⁹⁰ These systematic endorsements perhaps indicate that more care was given to the good order of the manuscripts than is often supposed.

The form of the *compotus* account

The written form of the *compotus* accounts was a simple listing of all receipts and expenses (charge and discharge) transactions during the year under separate headings with totals. The accounts normally started with an opening balance, either of arrears (money held by the *custos* and owing to the Treasurer representing the previous year(s) surplus cash held) shown at the head of the receipts section, or, less often, of a *superplagium*, representing the previous year's deficit in cash receipts owed to the *custos* by the Treasurer, shown at the head of the expenses section. In the monasteries, the *compotus* accounts were (quite rarely) accompanied by a *status* account, which was a statement of year-end stocks and rent agreements and of liabilities such as outstanding loans and payments due to creditors. The *status* account was audited at Winchester from 1209.⁹¹

The *custos* kept daybooks for purchases of perishables and weekly records for wages and building materials payments. Examples of daily records, or *dietae*, exist in the Ely and Norwich records. The Ely roll of 1341 shows that when Alan of Walsingham was elected prior, he left his position as Sacrist in some haste, as the Sacrist accounts for the first nine weeks of the year during which he had been Sacrist are uncompleted. Instead, the roll consists of the daily and weekly parchments stitched together, which give an invaluable insight into daily menus in the hospice and weekly wage payments, which are not available elsewhere in the Sacrist rolls. There are no closing totals, and it is not known how Walsingham's deficit carried forward from the previous roll was accounted for; it does not appear in his successor's arrears.⁹² In Norwich, daily *diet* accounts exist for

⁸⁹ Ramsay (2003), pp. 163, 164; Owen (1976), pp. 162-4.

⁹⁰ Dobie (2011), p. 97.

⁹¹ Kitchin (1892).

⁹² EDC 1/F/10/IXa/Chapman, v.1, pp. 64-8; v.2, pp. 102-10.

1325-26, and in two separate quarters of 1316 and 1326. It is evident that the daily transactions were summed up by week and by quarter at this time.⁹³

Manorial accounts' development phases

Studies of the manorial account rolls of the monasteries by P.D.A. Harvey (1999) and others have noted that changes in estate management at this time directly affected manorial accounts formats in three phases.⁹⁴ The first, during which the format we have discussed was already operative, lasted from the start of written accounts through most of the thirteenth century. During this long period of economic growth, estate owners tended to reduce their traditional tenant holdings so that they could expand their demesne lands and farm them directly. Unsurprisingly, the change to direct production brought with it a drive to manage agricultural production more efficiently. By 1290, this had resulted in changes to manorial accounts formats, which began to show expenses grouped in quarterly periods, allowing comparisons of wages and other weekly costs to be made more easily. From 1300 onwards, a third phase introduced the grouping of all expense items under category headings, though the contents of each category did not emerge in a generally accepted format until about 1315. The new features in the accounts coincided with a growing awareness of the concept of *proficuum maneriorium*, which emphasised farming surplus rather than income for the first time. Although the *proficuum* rolls of the Norwich monastery, 1301-1309, included workings of formulae relating to sales and stock transfers which were open to question, they confirmed that the great estates were now looking at issues of agricultural productivity and management more critically.⁹⁵

Secular cathedral forms

The question is how closely these changes in manorial accounts were followed in the fabric accounts. The format of the first Hereford roll of 1290-91 is laid out below in Fig. 2.1.⁹⁶ This is an advanced arrangement incorporating the latest changes; it has individual headings for each expense category, and quarterly totals for the five more important ones. A *memorandum* after the expenses and balance

⁹³ Saunders (1930), pp. 95-7.

⁹⁴ See Harvey (1999), pp. 25-40; Saunders (1930), pp. 151-3; Dobie (2011), pp. 134-7.

⁹⁵ Saunders (1930), pp. 50-60.

⁹⁶ HCA 2368/Capes (1908), pp. 163-5.

shows an unrecorded liability for a purchase of lead, by the chapter for the fabric, which was to be shown in the next account.

The format of the early Exeter fabric rolls (2nd series, 1298-1353) was a local variant. In the first year of the accounts, 1299-1300, Master Roger, who was much concerned with cost-effective practices

Hereford Fabric Account		<i>Compotus J. Brecon</i>		
1290-91		<i>Opus ecclesie Herefordensis</i>		
Receipts			£	s d
Cumulative balance from previous years		11	1	5
Oblations, legacies, arrears, saies,				
receipts at the shrine of St Thomas Cantilupe				
donation chests receipts, sales of <i>argento fracto</i>		275	0	4
Total Receipts		286	1	9
Expenses				
Masons wage totals by quarter		117	4	6
Quarrymen and labourers totals by quarter		75	11	4
Iron, ironwork, steel totals by quarter		15	3	4
Timber and stone carriage totals by quarter		21	5	7
Craftsmen's stipends by quarter		5	19	1
Purchases of glass, lead, lime, plaster of Paris, tools		27	5	8
Fees, Master, <i>custos</i> , clerk and parchment		8	10	8
Total expenses		271	19	1
Cumulative Balance owed by the <i>custos</i> to the Treasurer		15	2	8
<i>Memorandum</i> : Unrecorded creditor liability to the				
Chapter for additional purchase of lead.		21	0	0
Fig. 2.1, Hereford Fabric Roll Format, 1290-91, HCA 2368				

throughout his term, was also one of the two *custodies* or ‘accountants’.⁹⁷ Robert Asperton (Ashburton) was the other *custos* and continued to keep the accounts from 1299 to 1309. There is no evidence of additional clerical staff at this time, as there were in Hereford, and Erskine has assumed that the early accounts were written by the accountant himself, rather than an outside scribe as would normally have been the case. Thus, the first six rolls of 1299-1309 are ‘all in the same hand, written in a neat and tidy though highly abbreviated manner’. The rolls of 1309-1313 are ‘in a slightly different

⁹⁷ Joint oversight of the accountants was common practice in the monasteries and in the Royal Works. Ayers (2020), p. 14. At St Stephen’s Chapel (No.1, rot.2), Michael of Canterbury was jointly responsible for the first accounts with Stephen Knolle, the clerk of works. See Colvin, Allen Brown and Taylor, v.1, pp. 164-5, 396-9.

Exeter Fabric Roll	John de Schyreford <i>custos operis ecclesiae</i>			
1324-25				
Receipts		£	s	d
Cumulative balance from previous year.		5	0	1
Bishop, officers, chapter, contributions, rent, offerings,		244	13	8
legacies, diocesan collections, livings, tithes, sales and fees		249	13	9
Expenses				
COST OF MICHAELMAS TERM				
<u>Week.1</u> Wages, W. ,Felstede, Peter Dene, Elias, J. Parco, R.cooke, J. Barrett , J. Reminysbyry, R. Abbotsbyry, R. Prior, J. Orchard, J.Mor, J. Nepperude, W. Lovepitte, W. Byrych, S. Snella, H. Chuddelagh,T. Botiler, J. Benstead 2 carpenters, 2 carters, 2 labourers in the quarry, 4 other labourers there, 4 other labourers there, 4 other labourers there, 4 labourers on the Work, 6 cartloads of timber carried from Lustleigh to Exeter, 4.5 quarters of lime, sharpening,, making 72 horseshoes from our own iron. Fodder of six horses.				
Total			79	8
<u>Weeks 2-12</u>	[Similar entries and order]	51	12	8
Total of the whole quarter		55	12	4
Purchase of Oats etc.			39	3
Total of both		57	11	7
COST OF CHRISTMAS TERM				
Weeks 1-15	[Similar entries and order]	43		20
Purchase of Oats etc.			77	2
Total of both		46	18	10
COST OF EASTER TERM				
Weeks 1-15	[Similar entries and order]	59	10	2
Purchase of Oats etc.			26	3
Total of both	[Altered figure]	59	18	9
COST OF SUMMER TERM				
Weeks 1-15	[Similar entries and order]	79	14	6
Purchase of Oats etc.			79	1
Total of both	[Altered figures]	83	13	8
Memoranda:	Provision for silver table		118	0
	Default in Rent			
Total Expenses		236	13	0
Cumulative balance owing by the <i>custos</i> to the Treasurer		13	0	9
Unrealised credit from William Canon for Purbeck Marble		17	8	0
Fig. 2.2 Exeter Fabric Rolls format 1324-25, DC&E 2623				

script on a smaller scale’, which Erskine concluded was that of a clerk, while the rolls from 1317 onwards, after John de Schyreford had succeeded Asperdon, to the end of his term, are ‘of a quite different script, less neat and legible and with slightly different conventions’.⁹⁸

The Exeter accounts format was designed to reduce duplication of record keeping. Thus, the weekly wages and purchases details were carried over to the quarterly accounts, and brought forward in full into the annual accounts for the audit, without the need to reformat. No headings were used, but a standard order of items was used within the weekly entries for ease of reference, as is shown. Peter de Castro (1328-1334), who followed Sherford as *custos*, was ahead of his time in introducing unit cost information against each purchased item in the accounts from 1328.⁹⁹

An important innovation was the separation of ‘high altar’ accounts for a specialised team of high-status craftsmen from the home counties, who were employed by Master Thomas of Witney (c.1316-1342) to craft the furnishings of the presbytery and choir. The ‘high altar team’ of up to 14 higher-paid craftsmen operated from 6 June 1316 to 26 September 1322, spending £363 1s 2d in five out of the six years for which there were separate records.¹⁰⁰ After the Black Death, there is a gap from 1353 to 1373, after which the rolls were reorganised to accord with the reduced state of the fund. The format used retained the established weekly and quarterly formats for wages and stipends, but accounted for annual purchases of materials under new headings by category. These continued in use in the remaining 73 rolls until 1514.

The earliest six York rolls, from 1360 to 1404, are considerably damaged, and it is not until Roll 7 of 1415-16 that there is a complete roll in good working order, with a full list of headings for income and expenses, and annual totals and unit costs for all items purchased. A summary of the roll is shown below in Fig. 2.3. Weekly wage rates are given with the total number of weeks worked for each employee. The accounts are very full, showing properties in each area of the city and beyond, with lists of rentals, unpaid rents, and repairs as well as detailed lists of legacies and oblations. The list of categories used was retained with few changes from 1415-16 to 1543-1544 and allows for easy

⁹⁸ Erskine (1981), v.1, p. xv.

⁹⁹ D&CE 2626/Erskine, v.2, p. 215.

¹⁰⁰ D&CE 2612A, 2615, 2617, 2619, 2621/Erskine, v.1, pp. 87, 110, 121, 132, 143.

comparisons. What the system did not cater for was transactions which took place in one year but were paid for in another. This was recognised in *memoranda* at the foot of the Hereford and Exeter accounts, and in the provision for the receipt of previous debts and for the cost of unpaid rents by the

York Fabric Roll 1415-16	Richard Blackburn Custodis Fabrice Ecclesie Cathedralis Ebor'			
Receipts				
Cumulative balance from previous years		86	14	0
Rents, within, outside, the city		83	8	7
Valuation of Topcliffe		102	4	0
Perquisites of the Penitentiaries		96	3	0
Oblations		56	12	1
Mortuary payments, canons		6	13	6
Alms and Legacies		16	19	8
Alms of executors		52	0	0
Oblations, Tomb for masons wages		73	8	0
Brotherton Mill		5	0	0
Misterton Church		26	13	4
Sale of Stocks		7	10	0
Debts owed to the fabric		2	0	0
Sum total of receipts		615	6	1
Expenses				
Unpaid rents			10	0
Masons' pay		246	5	8
Carpenters' pay		1	9	4
Labourers' pay		30	14	4
Ironwork, leadwork, and glasswork		16	0	4
Quarrywork		90	10	11
Timber and sawing		21	19	4
Lime, Sand, Iron, Hemp		9	0	2
Costs of livings		3	4	0
Costs of rented properties		14	2	6
Gratuities to craftsmen and workers		1	7	0
Professional fees		10	3	4
Rents payable		9	2	4
Obituary and chantry expenses		38	8	6
Miscellaneous expenses		6	17	9
Sum total of expenses		529	17	9
Cumulative Balance owed by the <i>custos</i> to the Treasurer		85	19	8
Fig. 2.3 York Fabric Roll format 1415-16, YMA E3/7				

accountants in York. Such transactions grew steadily during the fifteenth century, causing multiple provisions against the year-end balances presented at the audit, and the need for new systems to deal with them.

Monastic cathedral forms

There was considerable variety in the forms of monastic accounts. Those of the continuing building campaigns at Norwich Cloisters, Winchester, and Westminster, and later the Canterbury fabric rolls, were not so different from the secular cathedral funds. The Durham building accounts of the period consisted of quarterly listings of masons', labourers', and quarriers' expenses in the case of the bursar's accounts of the Prior's Kitchen (1366-68), while rather more detail of the timing and make-up of the workforce is provided in the accounts of the dormitory (1400-1404), cloisters (1409-1419), and the Galilee Chapel (1429-35). Those of the Ely Octagon are embedded in the Sacrist rolls, which give the wider context to a particularly complex building project. The separation of the Ely Sacrist accounts from those of the rest of the monastery, with which they were not consolidated, was unique and brought the manorial accounts together with those of the Sacristry. The earliest account, that of Clement of Thetford for 1291-92, presents four quarters of expenditure divided into uneven monthly periods. Purchases were in no particular order and must have been recorded as they occurred. A decade later, the form of Ralph of Waltham's account of 1302-3 had progressed to show four quarters of weekly wage totals, both for the Sacrist's office and his household, followed by nine categories for annual purchases.¹⁰¹ The next accounts, of 1322-23, summarised below in Fig. 2.4, were the first supervised by Alan of Walsingham as Sacrist, and were rationalised under 28 headings, and a separate *novum opus* section with 15 categories of building expenditure.¹⁰² This format proved robust and remained in place until 1360 and beyond, though the unusual order showing the expenses section before the receipts in the first nine rolls, 1291-1342, was reversed when Walsingham became prior.¹⁰³ The accounts give some insight into how it was that the resources of the Sacristry were able to finance the building of the Octagon for 20 years without major subventions from the bishops, whose

¹⁰¹ EDC 1/F/10/I, II/Chapman v.2, pp. 1, 14.

¹⁰² EDC 1/F/10/III/Chapman v.2, p. 25. See next page.

¹⁰³ EDC 1/F/10/XV/Chapman v.2, p. 184.

patronage was already committed to the other two projects on the site, or from the monastery at the time when finances were greatly stretched.

Fig. 2.4 Ely Sacrist Roll Format 1322-23 [EDC 1/F/3]									
Ely Sacrist Account 1322-23				<i>Compotus Fratris A de Walsingham Sacriste</i>					
Ordinary Sacrist Account				Custus Novi Operis					
Expenses	£	s	d		Expenses	£	s	d	
Cumulative deficit from previous year	53	3	2						
Rents inc. agricultural					Stone bought	37	11	6	
Allowance for rents due	1	5	0		Lime and sand	5	13	10	
Expenses, Sacrist's Hospice	6	11			Board and Timber	3	9	0	
Expenses, Sacrist's Household	1	8	9		Minor items	1	5	9	
Social expenses	2	12	11		Scaffolding components				
Sums assigned by convocation					Timbers	12	16	5	
Gifts and hospitality, Bishops, Prior, etc.	1	19	2		Iron, nails, ironwork				
Special allowances, monks	4	9	1		Lead, tin				
Treats, senior monks		13	4		New painting				
Purchase, manufacture, wax and candle	35	0	1		Cost of glass				
Tallow for candles	7	0	0		Robes bought				
Spices and groceries	2	2	8		Other- tools, containers, paint				
Clothes and furs, household	12	2	9		Stipends, wages, masons, carpenters	89	5	4	
Wine					Outside expenses, travel				
Iron, nails, ironwork	4	6	6		Stipends, wages, other projects	5	12	9	
Boards and timber					Sum total costs -new work	156	9	0	
Maintenance, causeways	8	11	11						
Maintenance, properties	1	6	1		Receipts				
Minor items	13	15	1		Estate incomes	150	11	11	
Spices, groceries, special occasions	3	0	0		Feretory Collections	27	10	1	
Fees, professional and other	8	16	8		Church collections	16	3	2	
Stipends, official and household	5	14	11		Living and tithes	19	16	7	
Stipends, workers	1	8	6		Rentals	32	2	0	
Wages	2	6	0		Fisheries and courts	7	17	3	
Outside expenses, travel	18	10	5		New Works donations	65	11	1	
Taxes, tenths, <i>procuraciones</i>	14	7	3		Others				
Sum total of all expenses	223	6	6		Sum total of receipts	334	18	1	
Thence for the New Work	4	7	6		[Cumulative Deficit c/f	45	1	7]	

Chapter 3

The Role of the *custos* and the Financial Management of the Funds

The sourcing of finance by the cathedrals invites questions as to whether they had the capacity to manage their funds. While spending was largely in the hands of the master mason, the receipt, accounting, and disbursement of funds was the business of a little-known official, the *custos operis*. In English, the *custos* has variously been known as the keeper, the warden, the chaplain, the master, or the clerk of works, depending on the modern author's perception of the office; the rolls often refer to the accountant.

The absence of an in-depth study of the role has long been noted. In their authoritative study of *The Mediaeval Mason* (1933), Knoop and Jones pointed out that:

‘... there does not appear to be extant any very detailed description of the functions of the *custos fabricae* and of the measures for his control, but a general description may be given based upon the Fabric Rolls.’¹⁰⁴

There has been little debate on the matter since. Kathleen Edwards discussed the constitution of the fourteenth-century Fabric Department in her *English Secular Cathedrals in the Middle Ages*,¹⁰⁵ and a number of significant works on individual priory rolls have been published. These include G.W. Kitchin's early account of Winchester, H.W. Saunders on Norwich, R.A.L. Smith's *Central Financial System of Canterbury*, and R.B. Dobson on Durham.¹⁰⁶ While these are essential to the understanding the monastic cathedral, they have little to say about the fabric rolls. Barbara Harvey's more recent *Obedientiaries of Westminster Abbey*, with its description of the office of Warden of the New Work

¹⁰⁴ Knoop and Jones (1949), p. 31.

¹⁰⁵ Edwards (1967), pp. 227-34.

¹⁰⁶ Kitchin (1892), pp. 209-33, Saunders (1930), Smith (1940 & 1943), Dobson (1973).

and the flexible way in which it evolved, is the exception.¹⁰⁷ The sheer size of the surviving archive at Durham Priory has encouraged much research in recent years, and A.J. Dobie's thesis on accounting, management, and control at Durham Priory is of particular relevance to this chapter.¹⁰⁸ In addition a number of accounting history articles on medieval manor accounts have added to our technical understanding of the workings of the accounts rolls.¹⁰⁹

The workings of the *compotus* account

In the absence of an accepted definition, the duties of the *custos* were characterised by the accounting system for which he was responsible. The financial relationship between the agent and the principal was the basis of the accounts, which had two sections: the 'charge account' consisting of the receipt (*recepta*), and the 'discharge account' of the expense (*expensa*). This is expressed clearly in the formal language of the fabric rolls. The key elements of the Exeter account of 1331-32, which is typical of the early fourteenth century, can be summarised as follows:

The account of Peter de Castro Warden of the Work of the Church

He renders account of £19 10s 9d of arrears of the preceding year. From which he reckons he has paid William Canon of Corfe £12 that year for marble. And thus he owes on the account £7 10s 9d.

He renders account of...

Total of all receipts and arrears: £147 13s.

Total of all the internal and external expenses of the whole year: £145 16s 1¾d.

*And thus the accountant owes 36s 10¼d.*¹¹⁰

¹⁰⁷ Harvey (2004).

¹⁰⁸ Dobie (2011).

¹⁰⁹ Postles (1986), Noke (1991), Baxter (1994).

¹¹⁰ Erskine (1983), pp. 233-42.



Fig. 3.1. York roll 43 (1535-36), sum total of 'charges'

A positive difference between the total of the charges (*recepta* or *onera*) and of the discharges (*expense*) was the amount owed by the agent to the treasurer or principal – or, less frequently, vice versa. The personal liability of the agent was emphasised by the practice of closing the account on the resignation or the death of the *custos*. This was illustrated on the death of Peter de Castro (1328-1334) at Exeter in November 1334, when an unpaid, but collectable, debt owed by the Precentor, of 60 shillings, was assumed by the new *custos*, Walter de Haselholte (1334-1347), but the remaining balance of £7 15s 3¼d remained on de Castro's account.¹¹¹ In York, when Thomas Covell took over from Thomas Belesby in December 1446, arrears of £30 11s 1¾d from the previous term were not carried forward and Covell's starting balance was reduced to '*nulla quia hic primo computum est*'.¹¹²

The idea behind charge and discharge accounts was simple, but the system did not cater easily, or transparently, for transactions which had been paid for or were payable in a different accounting period. However, the *compoti* were not cash accounts, as has often been assumed.¹¹³ According to the *Account Book of Beaulieu Abbey* (1269-70):

'... they should account for rents not yet received, and for debts which are owed for items which have been sold, but since they cannot yet deliver the said debts, which

¹¹¹ D&CE 2630/Erskine, v.2, p. 258.

¹¹² YMA E/3/18-19/YAT.

¹¹³ Knowles (1957), p. 320. Knowles's characterisation of obedientiary accounts as 'mere lists of day-to-day expenses' ignores the details of the Ely Sacrist rolls.

they have not yet received in their account, they will remain in arrears or *ramenentia* just as they ought.’¹¹⁴

Thus, in the early Exeter rolls, in which receipts were invariably received and expenses paid during the current year, the accountant still had to deal with a few out-of-year payments or outstanding dues when the account was finally written up in the weeks after the end of the financial year. They were noted just after the surplus or deficit accounts balance and deducted from the amount which the accountant owed. The most frequent accruals during the first few years were unpaid contributions from the chancellor or the treasurer, but in later years these covenanted donations were only entered when paid. The largest adjustments related to the pre-delivery payments to William Canon of Corfe for Purbeck marble columns, which the accountants evidently found difficult to deal with.¹¹⁵ The pre-payment account was eventually formalised as a ‘*memorandum of arrears*’, which was ‘shown by tally under seal’; and it was added to the record immediately after the final balance from the 1325-26 accounts onwards.¹¹⁶ The Ely account of 1322-23 carefully distinguished between *Redd.* (rents rendered) and *Alloc. Redd.* (allowance for payments due),¹¹⁷ but it was not until the account of 1352-53 that *Decasus redd.* (unpaid rent) appeared as an Ely expense. The increasing level of part-paid and unpaid rent write-offs (*defectus et decasus*) was to have a drastic effect on the income of urban cathedral fabric funds in the fifteenth and sixteenth centuries. The York Minster property portfolio¹¹⁸ was particularly vulnerable, as the city population was declining as a result of the cloth industry’s emigration to more rural areas and the consequent departure of merchants to London.¹¹⁹ An early expression of concern occurs in the *Cedula annexa* attached to the Ripon

¹¹⁴ Hockey (1975), p. 47. Several early medieval accounts manuals have survived: *Dialogus* (n.12), Walter of Henley’s *Husbandry* (1270s). See A.J. Dobie for a full account, pp. 32, 33.

¹¹⁵ Erskine (1981), pp. 98, 163.

¹¹⁶ D&CE 2624-2630/Erskine, v.1 and 2, pp. 163-257.

¹¹⁷ EDC 1/F/10/ III/Chapman, v.2, p. 151.

¹¹⁸ The roll for 1432-33 (E3/12/YAT) lists 95 properties within the city and four without.

¹¹⁹ See Keen (2003), pp. 149, 150; Palliser (2014), pp. 235-8.

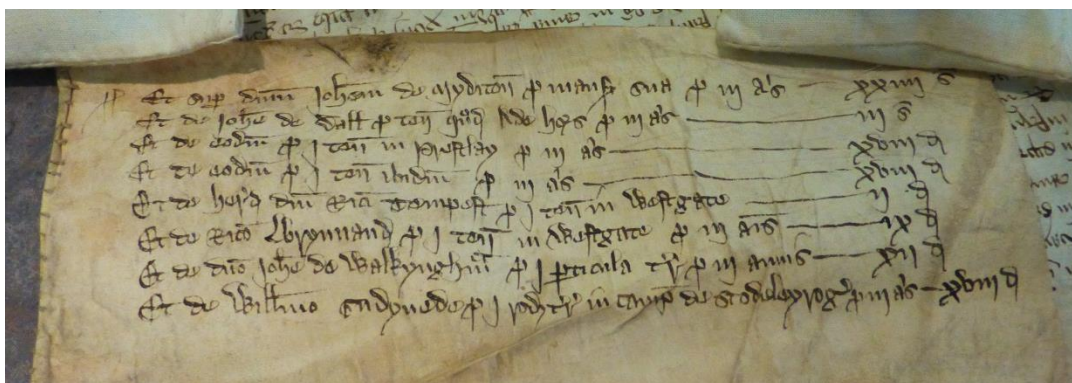


Fig. 3.2 *Cedula annexa* stitched to Ripon fabric roll 6 (1396-97)

accounts for 1396-97, listing eight rentals which had been unpaid for some years (Fig. 3.2).¹²⁰

Decasus rent write-off first appeared in York as an expense in 1404, then reached more than 45% of rents collected (15% of annual income) by the 1450s, and nearly 70% (29% of annual income) by 1540.¹²¹ The very slow implementation of *decasus* write-offs appears to have been the principal reason for the sizable build-up of arrears in late-fifteenth-century accounts. These were gradually contained by the application of write-offs from 1440 onwards.

Arreragia (arrears of payment)¹²² constituted a positive account balance owing to the treasurer as principal by the *custos* as agent. Such a balance could simply represent a positive cash balance at the end of the year (as was usually the case in the monastic cathedrals), or, as was increasingly the case, it could represent unpaid balances on the charge account, which the *custos* was unable to pay his principal. In the early Exeter rolls, the *arreragia* were originally presented as part of the receipts,¹²³ but they appeared under a separate heading from the 1328-29 accounts under Peter de Castro. The York Minster accounts were less consistent – stating the arrears separately three times between 1422 and 1482, but as part of the expenses five times between 1415 and 1446. The Durham Priory controlled its arrears through use of the *magnum cirograffum*, a central record of arrears in all its obedientiary and house accounts. Any debts which the *custos* might claim as *exonerations* (reductions

¹²⁰ *Memorials III*, p. 126.

¹²¹ See Table 18, York Minster Management Accounts, 1360-1544. The schedule lists Current Year Receipts, Fixed and other Rents, and *Defectus* and *Decasus* write-offs for each year. The figures here are derived from E1/3/22/YAT and E1/2/44 (the 1457 and 1537-38 accounts).

¹²² Latham (1965), p. 31.

¹²³ Except in 1303-04.

or waivers of debts) could be identified on this list, which was updated annually.¹²⁴ The scale of accumulating arrears had a depressing effect on the York Minster results, as was also the case at Ripon.¹²⁵ The York accountants wrestled with the problem and made additional recurring debt provisions (*Super*) from the 1470s onwards. Richard Pomeroy, Keeper of the Fabric at Wells from 1488 to 1514,¹²⁶ was more rigorous and listed the unrecoverable bad debts systematically after the accounts balance. His 1500-01 balances can be summarised thus:¹²⁷

<i>Arrears from previous years 1499-1500</i>	<i>£12 5s 4 d</i>
<i>Surplus from current year 1500-01</i>	<i>£70 12s 6½d</i>
<i>Unrecoverable bad debt</i>	<i>£43 6s 3¾d</i>
<i>Current year unpaid debts</i>	<i>£23 0s 0 d</i>
<i>He owes (current year arrears)</i>	<i>£ 4 6s 2½d</i>

The *superplusagium* (balance in favour of accountant)¹²⁸ or *excessus*¹²⁹ consists of a negative account balance owed by the treasurer or principal to the *custos* until the following year. The figure represents an excess of ‘discharges’ (expenditure) over ‘charges’ (income) received, i.e. a deficit owed to the keeper; but this has often (usually) been translated as a surplus, which is misleading. The question of how the *custos* was able to spend more than he received has been the subject of academic debate.¹³⁰ However, if the accruals basis of *compotus* accounts is understood, the answer appears to lie in the *superplusagium* representing expenses ‘on the “discharge” side of the accounts which had not actually been paid’.¹³¹

¹²⁴ Dobie (2011), p. 167.

¹²⁵ Tables 11 (Ripon) and 18 (York); Lincoln LCA Bj1/5/1 (1472-73) arrears constituted 29% of current revenue; Ripon *Memorials III* p. 179 (1520-21) arrears were 23% of current revenue, after write-offs of c.40%.

¹²⁶ His service, which may have been discontinuous, lasted more than 25 years. The accounts of 1513-14 noted in Knoop and Jones, p. 41, do not appear in L.S. Colchester’s transcripts.

¹²⁷ Colchester (1983), pp. 32, 33.

¹²⁸ Latham (1965), p. 468.

¹²⁹ *excessus* is used in monastic accounts; eg. EDC 1/F/10/VI/Chapman (1907), v.2, p. 64.

¹³⁰ Postles (1981), Noke (1994).

¹³¹ Noke (1994), p. 340; Dobie (2011), p. 94.

As the sums outstanding at the year-end account increased, it became common practice for the *custos* to apply for *exoneraciones* from the liabilities stated in his final accounts balance at the annual audit. With the growing complexity of arrears, the insertion of a list of *exoneraciones* at the end of the accounts soon became the norm rather than an exception. When large balances still remained, the *custos* could apply for *condonaciones*, allowing his outstanding debts to be carried over to the following year. The annual process of negotiation must have reduced the credibility of the accounts significantly, but demands for cash repayments of the balance were rare.

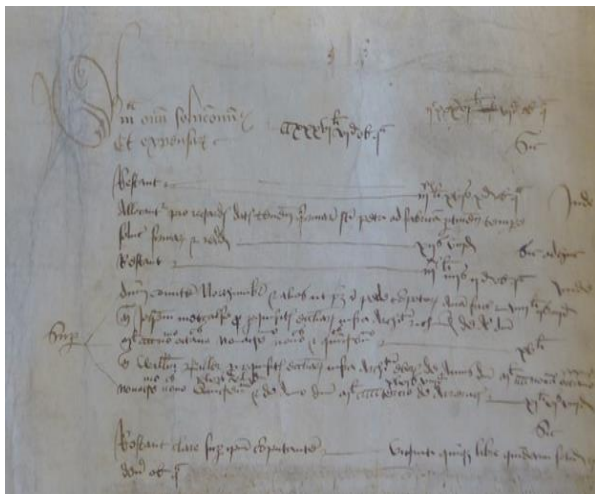


Fig. 3.3 York, 1504, accounts balance with exonerations

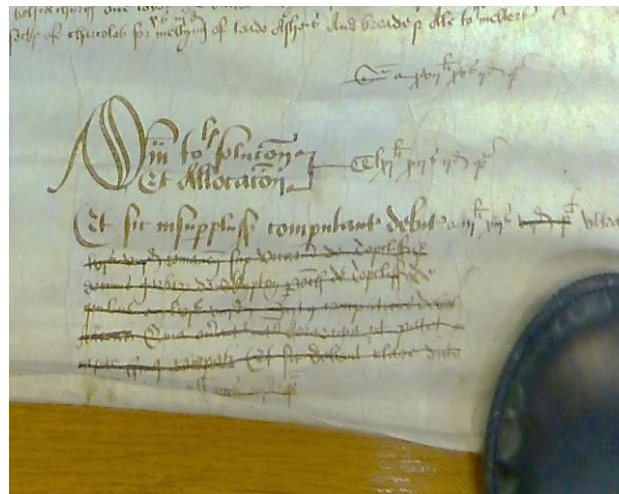


Fig. 3.4 York, 1543-44, audit adjustments unresolved

The role of the *custos* and the *compotus* accounts of the secular cathedrals

A complete listing of the *custodies* who appear at the heads of the rolls, together with their titles, dates of their appearance, clerical appointments, and their fees over the period, is available in the *Supplementary Tables*.¹³² The keepers were elected annually by the chapter, though most continued for several years. They were typically vicars choral or chantry chaplains, who could be expected to have time to perform these duties alongside their other commitments. Their fees were usually £2 per annum or 52s (i.e. 1s per week), the latter being subject to adjustment to cover the actual weeks worked. The fees were additional to their stipends as chaplains, which could have been £3 to £5 per

¹³² Tables 53-55, *Custodies operis* in English cathedral fabric rolls, 1290-1544.

annum, depending on their seniority.¹³³ The relationship of their pay to that of the master masons is significant: during new building campaigns, keepers' fees represented under 40% of those of the master mason at Exeter, 40-60% at Hereford, and 50% at York. By comparison, the prebends of sixteen canons at Exeter (other than the dignitaries and archdeacons) were set at £4 per annum.¹³⁴

Kathleen Edwards, whose work was based largely on the Chapter Acts of Salisbury and Lincoln, suggests that election of two residentiary canons was 'fairly typical' in the fourteenth century.¹³⁵ The evidence of the rolls is that dual responsibility, which was inherited from early monastic practice, had dropped away rapidly almost everywhere except at Lincoln and Ripon, and that the office was normally held by a vicar below the level of canon. However, in Lincoln residentiary canons were elected throughout the period. The keeper was, in present-day terms, a financial manager reporting to the chapter, who would have liaised with the treasurer on a regular basis; and the position of *custos* was at a distinctly lower level than that of the master mason.

Exeter's earlier rolls, 1298-1341, record four keepers during the 44 years of the main building campaign. The sequence of rolls is sufficiently complete for the reader to identify accounting changes as they are introduced.¹³⁶ Robert Asperton (Ashburton), 1298-1315, was in charge at the start, when a second series of rolls for the New Work was developed for Bishop Bitton's new funding settlement from 1298. He is likely to have worked on the practicalities of the reporting format for the new series with Master Roger.¹³⁷ The second year of Asperton's term, 1299-1300, was marked by a currency devaluation. Ballards (equivalent to pollards) were small coins minted by Flemish merchants and traded into England in quantity to fill a serious shortage of silver in the economy. They were regularly re-minted (a new mint in Exeter had started that year), and seigniorage was charged at half of the domestic rate to attract foreign silver. The Statute of Stepney effectively devalued this coinage by doubling the charges from Christmas 1299.¹³⁸ Asperton's end-of-term account seamlessly halved the value of foreign coinage arrears after the first term, at a cost of £6 5s 5¼d. His successor, John

¹³³ Estimates based on YMA E3/18-20 c.1450.

¹³⁴ Erskine (1981-3), v.1, p. x; J.T. Fowler (1886), p. xiv, from 1439.

¹³⁵ Edwards (1967), p. 230.

¹³⁶ This paragraph is based on Paterson (2009), pp. 28-32, Paterson (2011), pp. 32, 33.

¹³⁷ Erskine (1981-3), v.1, p. 8.

¹³⁸ Statute of Stepney, March 1299. Erskine (1981), p. 16n; Crump and Hughes (1895).

Schyreford (1316-1326), made it easy for Master Thomas of Witney (1316-1342) to innovate: he introduced separate accounts for the higher-paid craftsmen of the altar team, 1316-1322, argued against the costs of lengthier direct cartage from the quarries to Exeter on the basis of increased costs of fodder, and ensured that Witney was able to maintain a surplus of up to £20 every year after his first. But the large Canon pre-payment account for Purbeck marble was imperfectly understood, and frequent changes in the accounts caused confusion. Peter de Castro (1328-1334) significantly updated the accounts by bringing in unit cost recording for all purchases and showing annual receipts net of arrears in his first year of office.¹³⁹ His early death in 1334 left Walter de Haselholte (1334-1347) to handle a difficult cash situation in the downturn before the Black Death.

The keeper at York, like the Sacrist of the great monastic cathedrals, was in charge not only of major building and maintenance projects, but also of lighting, bells, the organ, collection of rents and donations, property management, the negotiation of quarry leases, and of law and order within the cathedral precinct.¹⁴⁰ Most of the keepers seem to have been chaplains or vicars at the minster, although at the end of the period both Christopher Seell (1515-1518) and Thomas Mansar (1525-1536) were *succentors vicarorum*.¹⁴¹ The position was not for the faint-hearted, as William Warde discovered in 1472, when 26 shillings was stolen from him by the sheriffs of the city, '*per eos maliciose agitato extortis et surreptis*'.¹⁴² The first York account of 1360 is fragmented and largely illegible. Purchases and allowances were recorded in a regular order of headed categories from 1371, and these were used with few adjustments until the end of the period. The inclusion of unit cost information became a regular feature when Richard Blackburn became keeper from 1415. In 1360, provision had been made for two accountants at senior level: the keeper had full authority as *computantor*, and was paid £5 p.a. from 1399, while the *contrarotulator* (comptroller) checked the keeper's accounts, and was paid £2 to £2 13s 4d p.a. The comptroller's post was discontinued in 1442, and the proceeds were used to upgrade the Collector of Rent's stipend to £1 6s 8d p.a. in an effort to

¹³⁹ D&CE 2626/Ersline, v.2.

¹⁴⁰ Canterbury, Durham, Ely, and Winchester.

¹⁴¹ YMA E/3/36, E/3/45. Thomas Mansar was a residentiary canon under Dean Layton in 1543-44.

¹⁴² YMA E/3/26/YAT.

stem the losses from *defectus* and *decasus*, partly and wholly uncollected rents.¹⁴³ The total cost of the Keeper's office, including the costs of the Keeper, the Collector of Rents, the clerk for the accounts, the gatekeeper of the Close, a player/blower for the organ, and the chaplain of Topcliffe (the main source of income), was only £8 17s 4d in 1457-58, representing remarkably good value for money considering the scale of the operation.¹⁴⁴

The surviving rolls of Ripon, from 1354-55 to 1531-32, show that the dual appointment system persisted there, and the annual fee of 40s was shared.¹⁴⁵ The need to safeguard the fabric funds in this way may have been due to Ripon's unusual status as a collegiate church with seven canons, but no dean and little in the way of authority.

The role of the *custos* and the *compotus* account in the monastic cathedral

The *compotus* accounts of the priories could be simpler than those of the secular cathedrals, as in many cases the chapter agreed the total amount for a specific building project which was then released in tranches directly from priory central funds. Stand-alone fabric funds, with their own appropriated income or property, existed in two out of eight monastic cathedrals and at Westminster Abbey. However, the lines of financial responsibility for the fabric among the various priory officers are more difficult to determine.

A useful starting point for the larger priories is the obedientiary system described by Dean Kitchin in his work on Winchester.¹⁴⁶ There the *custos operum* was a full officer of the priory alongside the Sacrist, the Precentor, and the other obedientiaries, ranking only below the four priors and the treasurer. Each of the 14 obedientiary officers had their own accounts, which were appropriately endowed to enable their functions to be carried out. Westminster Abbey made provision

¹⁴³ Table 18: from £15.60 in E/3/14/YAT 1434-35 to £25.71 in E/3/15/YAT 1441-42.

¹⁴⁴ YMA E/3/23 1457/58: 3.2% of total revenues.

¹⁴⁵ *Memorials III*, pp. 88-198.

¹⁴⁶ Kitchin (1892), pp. 31-3, and Saunders (1930), p. 68.

for central supervision of New Works, by the *custos novi operis*, and later Canterbury appointed its *magister fabricae* in a similar role.¹⁴⁷

At Westminster Abbey the office of *custos novi operis* had existed alongside that of the Sacrist from before 1335, when Longdon church was first appropriated for the fabric fund.¹⁴⁸ The office was usually held by one of the major obedientiaries alongside his other responsibilities, and was conveniently combined with that of the Sacrist in years when the appetite for new building was less. The abbot himself took on the role in the years when the new building campaign was the major priority of the abbey under John Eastney (1471-1497) and John Islip (1500-1532). An additional supervisor was appointed at this time to attend to the building detail.¹⁴⁹

The *status* account

The *status* account was developed in parallel with the *compotus* account and was originally a statement of the assets of a monastery. A.J. Dobie's review of the Durham Priory accounts shows that the accounts, of which the earliest survival dates from 1303,¹⁵⁰ were originally issued to check the assets transferred whenever there was a change of head of department. Later, they were used to account annually for the assets of obedientiaries, while the trading departments of the bursar, the Sacrist, and the individual houses used *compotus* accounts. *Status* accounts are rare in the secular cathedrals, and are mainly inventories of building materials, lifting devices, and tools. Inventories were introduced in Exeter by *custos* John Ynlefyete in 1381-82, and seven more exist up to 1431-32. In York the *status* accounts exist for 1399 and 1443-44. The Exeter reports are uncoded lists of quantities of different building materials in the stores, as well as lists of tools.¹⁵¹ The 1399 inventory at York gives a comprehensive coded list by site of materials, tools, and mechanical devices in the lodge, *les cruddes* (the crypt), the carpenters' lodge, 'the tower', the glazier's shop, the cathedral yard and at Cawood wharf, Stapilton quarry, and on the estates. The stocks were valued at £147 8s 7d in

¹⁴⁷ In Canterbury the appointment of the *magister* in the 1450s was preceded by the appointment of a *supprior* in the 1420s.

¹⁴⁸ Rackham (1909), pp. 60-63.

¹⁴⁹ Harvey (2002), pp. 117-24.

¹⁵⁰ Dobie (2011), p. 139.

¹⁵¹ DC&E 2643-2684/Findlay.

1399, and at £127 9s 5½d in 1344, which compare reasonably with the building costs for those years of £314 17s 2d and £223 6s 8d respectively.¹⁵²

The *Status Prioratus Eliensis* (c.1325)

While *status* accounts were typically produced for housekeeping and security, they could be scaled up for strategic purposes. That was the case with Prior Crauden's *Status Prioratus*

Status Prioratus Eliensis. EDC 14/21/4			
STATUS PRIORATUS ELIENSIS: Summary of transactions at Michaelmas 1325			
	£	s	d
1 Creditors balances paid off proportionately: (19 creditors)			
Total	835	19	11
2 Expenses for repairs and building dykes on the convent's estates paid:			
Total	650	5	10.5
3 Certain other debts paid to five individuals			
Total (besides legal settlement Alex Camayl)	64	6	8
4 Other Outgoings (includes grain security purchases, taxation, and legal fees)			
Total	693	15	8.75
Grand total of liabilities (22.05.1321) PAID as at 25.09.1325	2244	8	2.25
External sales of surplus land, grain, etc			
Total sales of land, goods, and services	336	11	8
New loans received (18 lenders including groups)			
Total	391	17	1.25
Remaining Debts incurred before 22 May 1321 (17 outstanding creditors)			
Total	328	16	1.75
Debts incurred before 29.09.1302 (2 outstanding creditors)			
Total	29	4	4
Creditors for whom the amount owed is unknown (10 unknown amounts))			
Total new loans & overdue creditors outstanding as at 29.09.1325	681	9	11
Item owed to the Lord King for arrears of the biannual tenth, noted in marks	38	14	4

Fig. 3.5 Ely, Summary of *Status Prioratus* transactions, attributed date Michaelmas 1325, EDC 14/21/4

Eliensis (Figs. 3.5 and 3.6).¹⁵³ It is an account of the outstanding debts and liabilities which he inherited on assumption of office in 1321 and of his subsequent campaign to reduce them. The monastery had outstanding liabilities of close to £3,000 – almost three times its annual income. This must have been an open secret within the priory, because 15 of its 72 main creditors were past or present priory officials, of whom nine past stewards of the prior's household had not been paid for supplies. The sums owing were a significant burden on the community and large amounts were due to neighbouring abbeys. The date of the *Status Prioratus* is uncertain. The account is now stitched to the

¹⁵² YMA E/3/3-13.

¹⁵³ EDC 1/F/13/7 and EDC/14/21/4/Chapman unpublished transcription.

Treasurer's roll for 1324-25, otherwise noted for its reference to the cost of the prior's new chapel (Fig. 7.13), which amounted to £138 8s 5d in that year. The juxtaposition is unlikely to have been coincidental, as it would have much in Crauden's interest to place the improvements in the balance sheet on record at a time when he was incurring significant expenses on his personal chapel – which may have proved controversial. The suggestion is that the account must have been drawn up in Michaelmas term 1325. The first part of the *status* lists the reduction in creditor liabilities from 1321 to 1325. The prior had negotiated a proportionate reduction of the 25 largest debts and loans and had paid off the five which proved most litigious, totalling £900 6s 7d. Urgent repairs to estates and precautionary dyke construction had been completed, emergency grain bought in, and overdue tax paid. The total reduction in liabilities thus achieved was £2,244 8s 2¼d; other external liabilities had been reduced to £720 4s 3d and sales of surplus assets had raised £336 11s 8d. The *status* tells us much about Ely Priory's widespread financial and commercial relations. International transactions included payments of £13 6s 6d to Richard of Florence, of £43 to the Peruzzi brothers, the Florentine bankers, and of £11 to John Colonneder, a skinner from Saint Ouen.¹⁵⁴ The reorganisation and reduction of liabilities was negotiated by John Crauden with 19 creditors.¹⁵⁵ He was by reputation a man of prayer, who arranged for a marvellously decorated new chapel

*in which he rendered praises out of prayers to the Lord and engaged in
keeping watch and spiritual meditations frequently through days and nights.*¹⁵⁶

He was evidently no stranger to financial bargaining.

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¹⁵⁴ See EDC14/21/4 for Chapman's unpublished transcript.

¹⁵⁵ Knowles (1957), p. 34.

¹⁵⁶ Wharton (1691), pp. 649-50.

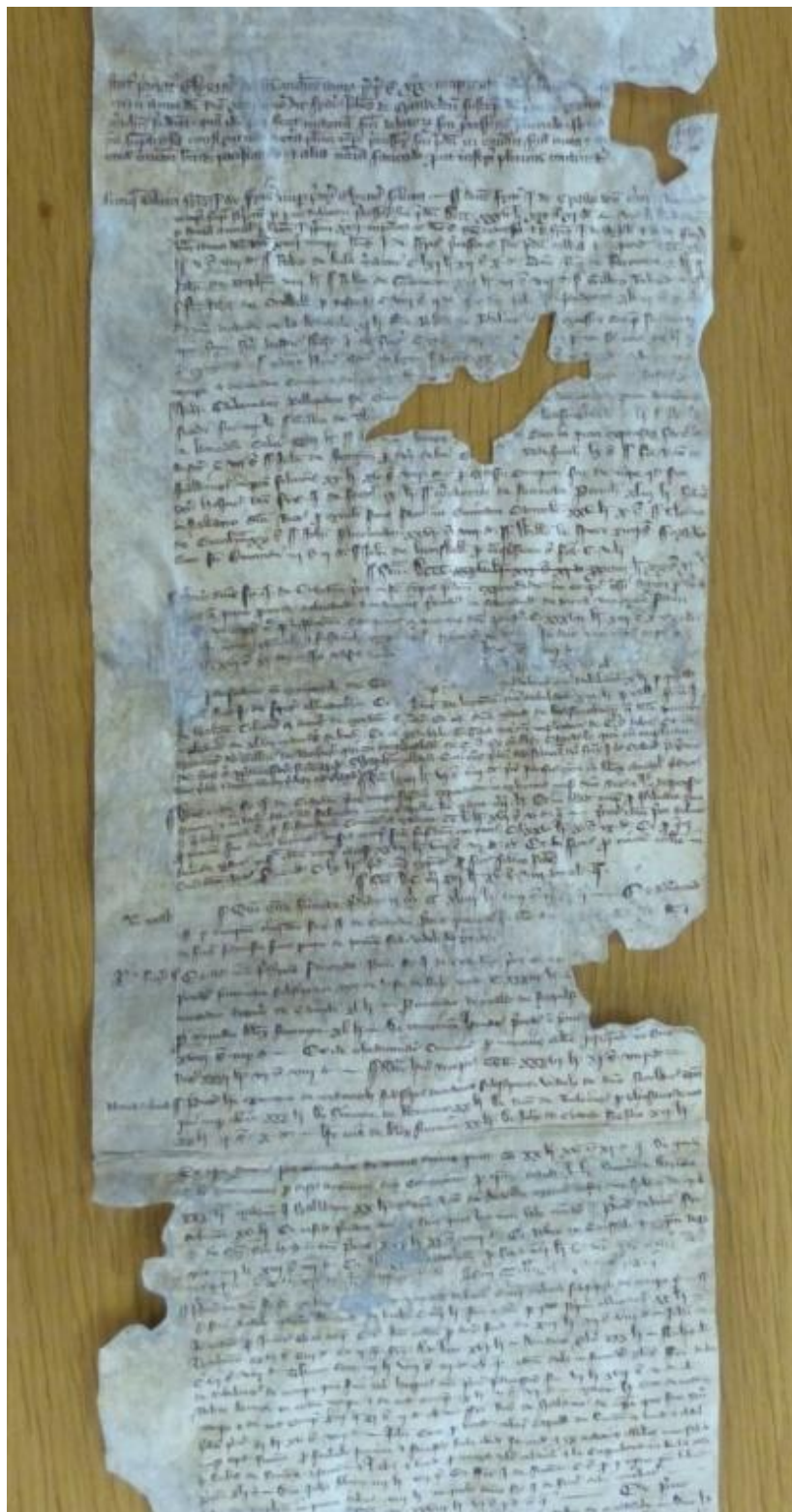


Fig. 3.6 Status Prioratus Eliensis (c.1325)

Accuracy

The accuracy and worth of medieval account rolls as management tools has had a bad press at the hands of historians. Marc Bloch wrote that ‘among the computations that have come down to us – and this was true to the end of the Middle Ages – there are scarcely any that do not have astonishing errors [...] the regard for accuracy... [and] the respect for figures, remained profoundly alien to the minds even of the leading men of that age’.¹⁵⁷ G.G. Coulton claimed that monastic bookkeeping was ‘careless, neglected, and infrequent’.¹⁵⁸ Canon Fowler, who was closer to the account rolls than most, complained of ‘discrepancies’ in the Durham bursar’s account rolls, 1278-1418, but when Dobie examined this he noted that ‘when the long hundred of 120 is used, a re-calculation of the arithmetic... has not revealed any significant errors’.

An analysis of the 25 full rolls of the main Exeter building campaign (1298-1342), which include about 50,000 transactions, shows that for 8 of the 13 rolls for which full receipts and expenses information is available, the added total of transactions recorded on the spreadsheets is within 1% of the fabric roll total. For 20 of these 25 rolls, the total of all expense transactions adds up to within 4% of the fabric roll total, and for 12 of these 25 rolls, the total of expense transactions adds up to within 2% of the fabric roll total. Given that the roll entries include many with undecipherable script as well as damaged and decayed entries, these figures suggest a remarkable degree of accuracy. The question arises as to whether the added totals of individual items should be used for analysis. The suggestion here is that the accountant’s original total should be used, as in addition to including the originals of subsequently unreadable entries, that is what the managers *believed* to be correct at the time. Apart from about twenty special building accounts, the fabric rolls in this study are annual account rolls which have been prepared for audit. The great majority of entries are arranged in standard headed categories, which are capable of analysis. While they are not without error, and in some cases the copies which have been kept may be pre-audit drafts, the account rolls have been through high levels

¹⁵⁷ M. Bloch (1967), p. 75.

¹⁵⁸ Dobie (2011), p. 95; Coulton (1936), v.3, p. 448.

of scrutiny by senior members of the respective chapters.¹⁵⁹ There is evidence of the process not only in the numerous additions to the documents after the year-end balance had been agreed, but also in the widespread audit marks, especially in York and Durham.¹⁶⁰

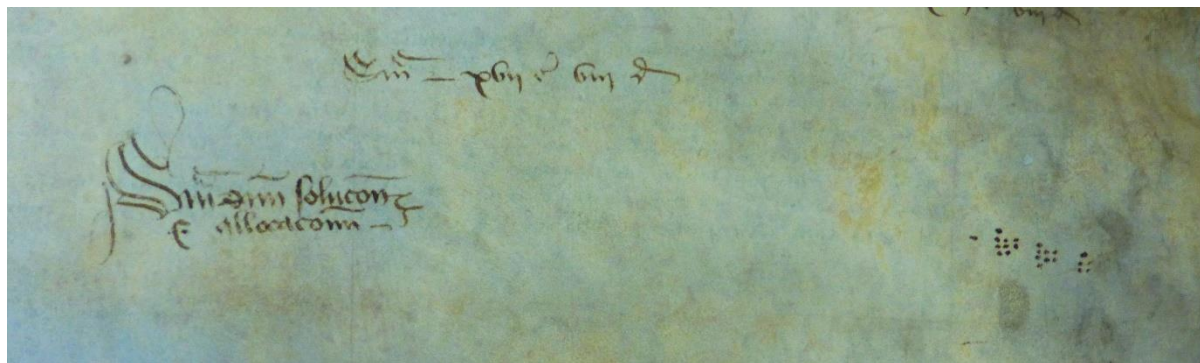


Fig. 3.7 York Minster fabric roll, c.1475-76, auditor's marks (FR E/27)

Management and planning

There is little direct evidence of the use of accounts information for planning and budgeting purposes, but what there is, is persuasive. The earliest example of the digestion of the account roll figures is to be found in the Ely *memoranda* of 1239-1250 prepared for Bishop Northwold to keep track of his contributions, as discussed. The Exeter account roll of 1309-10 showed an unprecedented deficit of £70 3s 8½d. Bishop Stapeldon's immediate reaction was to arrange a 'voluntary' levy on the diocesan clergy for three years and new collections throughout the diocese,¹⁶¹ which entirely redressed the deficit with a surplus of £71 12s 5¾d in the following account of 1310-11. Prior Crauden's *status* of 1325 was a notable example of the use of management information to inform policy and to justify his new project. Analysis was not always correct, as is demonstrated in Communar Worstead of Norwich's ill-conceived *apologia* of 1329-30, summarising seven years of his own accounts in which

¹⁵⁹ Rackham commented on the 'rather bad' arithmetic of Islip's rolls, WAM 23620-21.

¹⁶⁰ See e.g. YMA E3/25 r.h. margins.

¹⁶¹ Table 7.

he sought to justify his re-employment. It was flawed by a significant miscalculation of his own building costs and failed to meet its objectives.¹⁶²

The question remains of what sort of financial results the *custos* might have looked for in the *compotus* accounts. Stephen Murray's work on Troyes cathedral considered whether 'construction was planned carefully in relation to anticipated income, or whether the opposite applied, where funds could be raised to cover the anticipated costs of the current year's construction'.¹⁶³ In the context of Troyes, which suffered two disastrous collapses in 24 years, Murray argued that the latter situation applied; but for most English secular cathedrals in this survey, it was a more delicate balancing act.¹⁶⁴ The charge and discharge system was designed to work best when the balances were close to break-even, and when the arrears and *superplagia* carried forward were kept to a minimum. Thus in Exeter's conservatively run building campaign, 1298-1342, arrears were low at less than 5% of revenue, except for two periods when funds were built up deliberately. In 1302-1304, Bishop Bitton continued to provide generously during the lengthy building break between the completion of the presbytery bays and those of the new choir. From 1326, Bishop Stapeldon's massive gift of 1,000 marks (£667) was released gradually to finance the build-up of stocks of stone and lead by 1329-30, which made early completion of the cathedral possible.¹⁶⁵ The absence of inventories at this juncture has made it difficult to assess the gift's full impact on the whole campaign.

In the case of York, Knoop and Jones noted that 'the fabric rolls suggest on the whole a prudent policy of aiming at extra resources for special building and keeping expenses ordinarily well within income'.¹⁶⁶ Despite the large gaps in the series, the accounts show that the York fund ran its affairs at close to break-even, with more than half of the 19 rolls for which full figures are available achieving a current surplus or deficit within 5% of current revenues, and three-quarters achieving a range within 10% of current revenues.¹⁶⁷

¹⁶² Fernie and Whittingham (1972), pp. 20-25. DCN 1/12/16 Dorso [1042A].

¹⁶³ Murray (1987), p. 23.

¹⁶⁴ Central tower collapse, 1365; nave clerestory collapse, 1389.

¹⁶⁵ Table 7.

¹⁶⁶ Knoop and Jones (1932), p. 29 inc. n7.

¹⁶⁷ Table 18.

After the progressive improvements in the form of accounts in the fourteenth century, there were no significant changes in the fifteenth and early sixteenth centuries. It may be that with the decline in major building projects during the mid-century slump, there were no compelling reasons why there should have been. However, the more systematic annual write-offs of unfulfilled accruals did much to improve the recognition of liabilities in the accounts, and individual accountants were able to improve their accumulated deficits significantly by the end of the period.¹⁶⁸ They could do little to alter the commercial realities which lay behind the accounts, but in ‘writing off bad debts because they cannot be recovered’ they were taking the first tentative steps towards modern accounting practice and the double-entry bookkeeping which would follow.¹⁶⁹

¹⁶⁸ Yamey (1994), p. 261.

¹⁶⁹ Richard Pomeroy at Wells listed *bad debts written off because they cannot be recovered* (£43 6s 8d) in his 1500-01 accounts. WCA, Colchester (1983), p. 33.

Chapter 4

Modern History and Use of the Fabric Rolls

Chronicles and itineraries

A recurring theme in this thesis will be the wide connectivity of the country. The late medieval chronicles, so frequently the source books for later cathedral histories, were not of that mould, and tended to follow the lives of the bishops and their supporters narrowly through the timelines of their sees. There is limited evidence that the monks themselves used the rolls for research, including the Cotton Tiberius memoranda of the costs of Bishop Northwold's presbytery at Ely (c.1239-1250), the accurate references to the costs of the Ely Octagon in *Anglia Sacra*, and an intriguing entry in the Gloucester Abbey chronicle giving the cost of the remodelling of the north transept as £781 0s 2d in the fourteenth century 'as it appears from the rolls of that work'.¹⁷⁰ While the narratives were quick to credit their subject bishops with the honour of building the cathedrals, discussion of the buildings themselves was very rare. Gervase's account of the building of Canterbury and that of the Ely chronicle on the creation of the Octagon are well-known exceptions.¹⁷¹ Yet that there was such discussion is unavoidable, as the regular use of 'source buildings' in building contracts surely indicates.¹⁷² In this context, the *Itineraries* of William Worcestre (1415-c.1485) are remarkable. After a career of service for Sir John Fastolf in England and Normandy, he was described by John Harvey as 'not merely our first antiquary, but in a true sense our first archaeologist'.¹⁷³ In the years 1477-

¹⁷⁰ BL Ms Cotton Tiberius B II ff. 246-248, see p. 18; *Anglia Sacra*, pp. 644, 647, 651; see pp. 54 and 91 and nn.305-308; *Historia et cartularium monasterii Sancti Petri Gloucestriae*, ed. W.H. Hart, 3 vols, Rolls Series, 33, I (London, 1863-7), p. 50. I am grateful to my examiners for this reference (as for much else).

¹⁷¹ Gervase (1879), v.1, pp. 3-29; Wharton (1691), p. 644.

¹⁷² Byng (2016), pp. 126-31.

¹⁷³ John Harvey (1969), pp. x-xii.

1480, he criss-crossed the country in search of historical, topographical, and architectural information to lay out the stall for future studies. William Worcestre's wide interest in buildings was a first. Along the way, he measured out the cathedrals of Exeter, Norwich, Salisbury, Wells, and Winchester in his own *steppes* (c.21 inches or 53 cm), noted details of the buildings and their monuments, and collected documents on subjects of interest. The famous drawing of the series of mouldings at St Stephen's, Bristol, together with the list of moulding terms, have long been assumed to have come from the mason there, Benedict Crosse, and demonstrate a high degree of technical competence.¹⁷⁴ John Leland (c.1503-1552), a successor of sorts, played a role which was quite opaque. From 1535, he was a prebendary of Wilton Abbey with two local livings. His *Itineraries* date from c.1539-1545, when he travelled the country, and among wider concerns of topography and history provided useful contemporary insights on the late medieval cathedrals and their monuments. These included examples at Canterbury, Durham, Exeter, Lichfield, Lincoln, Salisbury, and Wells, but with no particular framework.

Histories of the monasteries and lives of the bishops

The period following the dissolution was a tumultuous one for the cathedrals, despite their embracing Henry VIII's reforms. In 1601, Francis Godwin (1562-1633), a theologian and antiquarian, a sub-dean of Exeter and soon-to-be-installed Bishop of Llandaff, published his *Catalogue of the Bishops of England*. This was intended, like other ecclesiastical histories of the time, to promote the Church of England against continuing attacks from both Catholics and Puritans, and to argue for the good standing of English prelates. While the work was vigorously disputed from both sides, his biographer, Daniel Wolff, notes that 'the *Catalogue* was unevenly researched even by the standards of the day, but it wore well over the next two centuries as a basic reference source'.¹⁷⁵ William Dugdale (1603-1686) established a more scholarly tradition and his *Monasticum Anglicanum*, published in 1655, included all the monastic cathedrals (including Henry VIII's five new ones), as well as Exeter and Wells, which he mistakenly thought had been monasteries. A third volume of the 1680s included the

¹⁷⁴ Harvey, pp. xiii and 315-17. See Willis (1844), p. 3; Buchanan (2013), pp.149-50.

¹⁷⁵ D. Woolff, ODNB, ref:odnb/10890.

remaining secular cathedrals. Dugdale's researches were based on the collection of multiple charters and documents, but he was a compiler rather than a writer and the volumes were somewhat impenetrable. His most lasting contribution was his *History of St Paul's*, with ten architectural plates by Hollar, published in 1658. According to Nicholas Orme, it was the first book wholly devoted to a cathedral and is an indispensable record of old St Paul's.¹⁷⁶ The two-volume *Anglia Sacra* compiled by Henry Wharton (1664-1695) is a rich compilation of monastic chronicles and lives of early bishops published in 1691, which is regularly referred to. The first volume includes the early chronicles of Canterbury, Winchester, Rochester, Norwich, Coventry and Lichfield, Bath and Wells, Durham, and Ely, with the author's updates when needed. The second has 64 biographies, with John of Salisbury's life of St Anselm, William of Malmesbury's of Wulfstan, and Eadmer's life of St Oswald in print for the first time. The author's concept that 'if such histories could be found of every episcopal see, a perfect history of our bishops would then arise' was not achieved, and perhaps was not achievable, but the work is still in use.¹⁷⁷ *Anglia Sacra* was published when Wharton was only twenty-seven years old. By the age of thirty he was dead, and is buried in Westminster Abbey.

The first scholarly use of fabric rolls

By the 1750s, the pressing need to restore cathedral buildings, and the increasing interest in antiquarianism among those responsible for them, brought the need for better-informed narratives. Probably the earliest example of the scholarly use of fabric rolls is Richard Widmore's *History of Westminster Abbey*, published in 1751. He was Librarian to the Dean and Chapter and therefore in a good position to access the archives. His volume is 'a terse and masterly' summary of the rolls,¹⁷⁸ and he evidently took care over every aspect of its publication: it was printed and folded in Westminster Hall and finished in the author's house in the cloisters. Widmore was concerned to put previously held misconceptions to rest and to relate the surges in royal patronage accurately to phases of the building process. He questioned the fulsome credit given to the last abbot, Islip, for the direction and financing of the final phase of the abbey building before the dissolution, writing:

¹⁷⁶ Orme (2017), pp. 171-4.

¹⁷⁷ Laird Okie, ODNB, ref:odnb/29167 14 October 2008.

¹⁷⁸ R.B. Rackham (1909), p. 4.

‘What was built of the two western towers before the dissolution was indeed, as far as ordering and direction go, his work; but it was not done at his own cost; the accounts still remaining shew the money came from the abbey lands, and the contributions of money, in the same manner as before his time.’¹⁷⁹

At Exeter a few years later, Dean Charles Lyttleton (1748-62), also a prominent antiquarian and soon to be Bishop of Carlisle, published extracts from the fabric rolls for the first time.¹⁸⁰ He gave a paper to the Society of Antiquaries in 1754 in which he questioned the established building sequence of the cathedral put forward by John Vowell (alias Hooker) (1526-1601) in 1584 in his *Catalog of the Bishops of Exeter*. The paper was published by the Society of Antiquaries as the preface to John Carter’s folio of illustrations of the cathedral in 1797. John Leland, who had visited Exeter in 1542, had ‘looked back to the time of Bishop Quivil, who first began the cathedral church now standing in Exeter and levied a subsidy on his clergy to setting forward the work’.¹⁸¹ Hooker had assumed that ‘St Mary’s Chapel’, which was built in the years immediately before 1298, was the original ‘Saxon’ choir, despite it being clearly gothic. Lyttleton’s exemplary analysis combined design and documentary evidence from the fabric rolls and established a building sequence for the whole cathedral, which is still accepted as substantially correct. He recognised that ‘Bishop Quivil did not build the towers, I think verily he altered the windows and made a large one in each tower, and remain at this day’, and that the treasury and St Andrew’s and St Katherine’s chapels were earlier than the choir. He noted the relatively small amounts spent in Bishop Bronescombe’s time, comparing them to the record sums which had been spent by Bishop Stapeldon, and concluded that ‘Bishop Grandisson finished the church’.¹⁸² Lyttleton was the likely source of John Britton’s understanding that the rolls were a valuable source for any history of the cathedral, and he turned to them while researching his wider history of several cathedrals in 1823. The cathedral authorities’ reply to his request for information was delayed for five weeks and Britton complained in the preface to his *History* of their ‘insolence of office’ and ‘proud contumelies of haughtiness and arrogance’. In fact, the reply was a

¹⁷⁹ Widmore (1751), p. 125. See Tables 15 and 16.

¹⁸⁰ Erskine (1981), pp. xvi, xvii. He was President in 1865.

¹⁸¹ Leland (1906-10), v.3, p. 52.

¹⁸² Lyttleton (1797), pp. 5, 6.

polite offer to search the rolls for him, which was duly organised by Reverend George Oliver and Pitman Jones in a survey which is still kept in the archives.¹⁸³ It was used extensively by the impetuous Mr Britton and formed the basis of George Oliver's *Lives of the Bishops of Exeter* of 1861, which contains extracts from all 88 rolls to 1438. This became the major source of reference until Erskine's new work was published in the 1980s. Britton's was not, however, the last spat in the story of nineteenth-century access to cathedral fabric rolls, as we shall see.

The York screen controversy

The modern history of the rolls of York began not much later, when what became known as the screen controversy was triggered by a disastrous fire at the minster on the night of 1 February 1829.¹⁸⁴ A restoration appeal was soon established under Canon Vernon Harcourt, and it was decided to rebuild the minster as it was before the fire; but it was subsequently argued that the choir screen should be rebuilt one bay to the east. In the dispute that followed, the issue was where the original screen would have been. The debate turned on the question of whether the rebuilding of the east end was a relatively quick campaign, which began in 1361, completing the Lady Chapel in 1371 and the western choir by 1400; or whether a longer and more carefully-crafted campaign started also in 1361 but finished much later, in the 1430s. The argument for a shorter campaign had some impressive supporters, all of whom supported the screen's removal. Three pamphlets against it were simply signed by *A subscriber*, but were supported by locals including John Browne, who had been the Minster Clerk of Works at the time of the fire. The existence of the fabric rolls appears to have been unknown for generations before the fire, and when the chapter records were removed for safekeeping afterwards, it had fallen to Browne to rearrange the parchment rolls, which led to his coming upon them.¹⁸⁵ Browne's book, which was not published until 1839, and then as a part work, broke new ground in its descriptions of the foundations of two choirs beneath the fourteenth-century east end, and in its extensive use of

¹⁸³ D&CE 4619 of 29 September 1824.

¹⁸⁴ I am grateful to Alex Buchanan, biographer of Robert Willis, for the use of her work in a jointly written paper presented at the BAA York conference 2017 (*BAACT* forthcoming).

¹⁸⁵ Apparently not mentioned by James Torre (1649-1699) in his *Antiquitie*, Buchanan (2013), p. 186.

transcriptions of the fabric rolls. However, the debate was unresolved at the time of the Archaeological Institute's meeting in York in 1846, when Professor Robert Willis, then Jacksonian Professor at Cambridge and newly elected President of the Institute, used his main address, which was based on Browne's published transcriptions of the rolls, to turn the evidence against him and refute his proposed building sequence. As Alex Buchanan has remarked, it is hard to escape the conclusion that Willis's attack was driven by a desire to support the arguments of Harcourt, the chief protagonist for the screen's removal, over those of Browne.¹⁸⁶ In a later address at the minster, when Willis had access to the fabric rolls, he complained that he could only 'pick out detached fragments of written evidence', which is not surprising, as there are just 11 surviving rolls from the relevant 70 years (1360-1431). Only 4 of them applied to the short 40-year campaign for which Willis was arguing. His address, which was published by the Archaeological Institute in 1848, did not close the debate, and in 1849 Browne published an open letter which restated his position. In 1859, James Raine released his edition of the *Fabric Rolls* through the Surtees Society, which made it clear in its introduction and copious notes that its purpose was to make up for deficiencies in Browne's work. Raine had worked with Willis on the Sacrist rolls at Ely and was prominent in the Institute, so it is not surprising that he took up the cudgel. His strident criticisms of Browne's work, particularly those concerning the limitations and selection criteria for rolls extracts and providing English translations without matching Latin transcripts, applied equally to his own work, which, in the absence of anything more thorough, has become the standard access gate to the rolls. Browne's riposte, three years later in 1862, was a full-length book.¹⁸⁷ There the matter rested – with the screen position unchanged.

Attempts to unpick the argument show that the issue was whether the campaign was in two phases, with the Lady Chapel quickly built and completed by 1373 and the choir by 1400, as proposed by Willis; or whether it was in three phases and completed not earlier than 1434, as asserted by Browne. As it turned out, both sides were correct as they were unable to see the elephant in the room,

¹⁸⁶ Buchanan (BAACT 2017, forthcoming).

¹⁸⁷ Browne (1862).

which was the collapse of the central tower in 1407. The exact consequences for the parts of the minster immediately connected to the tower are not known: the recently completed work in the choir was said to have been ‘stricken by a horrible tempest’ according to a petition to the pope, but destroyed ‘by the carelessness of masons’ in the appeal sent to King Henry IV.¹⁸⁸ This defining event determined the course of the rebuilding campaigns of the next half century: the stabilisation of the crossing piers, re-engineering of the transept arcades and rebuilding of the choir from 1407 to 1420, the reconstruction of the upper stages of the tower as a lantern during 1420-1432, and the later completion of the western towers to house the bells during 1432-1473.¹⁸⁹ In dissecting the debate, it is interesting to note that after the pleas to the pope and to the king, each of which received answers, all institutional memory of the tower’s collapse appears to have been lost: it was not regained in the literature until 1894, and its engineering significance was not understood until the 1970s – a long delay with potentially disastrous effects.¹⁹⁰

What both parties had failed to notice, had they been minded so to do, was the exceptional contextual evidence of

- Gregory XII’s provision of Archbishop Henry Bowet in December 1407, and the urgent indulgences which followed,
- William Colchester’s appointment by the king from Westminster Abbey and his re-appointment by Henry V jointly with the abbey which was his top priority 1413-1419,¹⁹¹
- the chapter’s appointment of Canon Haxey, a senior residentiary canon, more senior than any other clerk of works, to supervise the extraordinarily detailed work list of 1409,¹⁹²
- the exceptionally high annual expenditure and the number of masons and their special payments in 1415-16 and 1418-19,¹⁹³ and
- the visible dislocation of the piers and arcades of the transepts which Willis had discussed at length in his *Architectural History* (Fig. 4.1 below).¹⁹⁴

¹⁸⁸ J. Harvey (1977), p. 167 (*CPatR*, 1405-8, p. 3 83; *CPapR*, *Letters*, 1404-15, pp. 137-8, 304-5).

¹⁸⁹ See Brown (2003), pp. 195-7, 206, 212-13.

¹⁹⁰ Brown (2003), pp. 195, 312 nn.81-3, cited W.H. Wylie, *History in the Reign of Henry IV*, Vol. II (1894), p. 354.

¹⁹¹ E/3/7, 8 /YAT. See p. 199.

¹⁹² Browne (1862), p. 75; Willis (1848), p. 40 n.x; Raine (1858), pp. 198, 204.

¹⁹³ E/3/7, 8 /YAT, Browne (1862), p. 81. Special payments for 14 masons £104 8s in 1415-16, including £50 from Walter Skirlawe’s estate, and £150 in 1418-19.

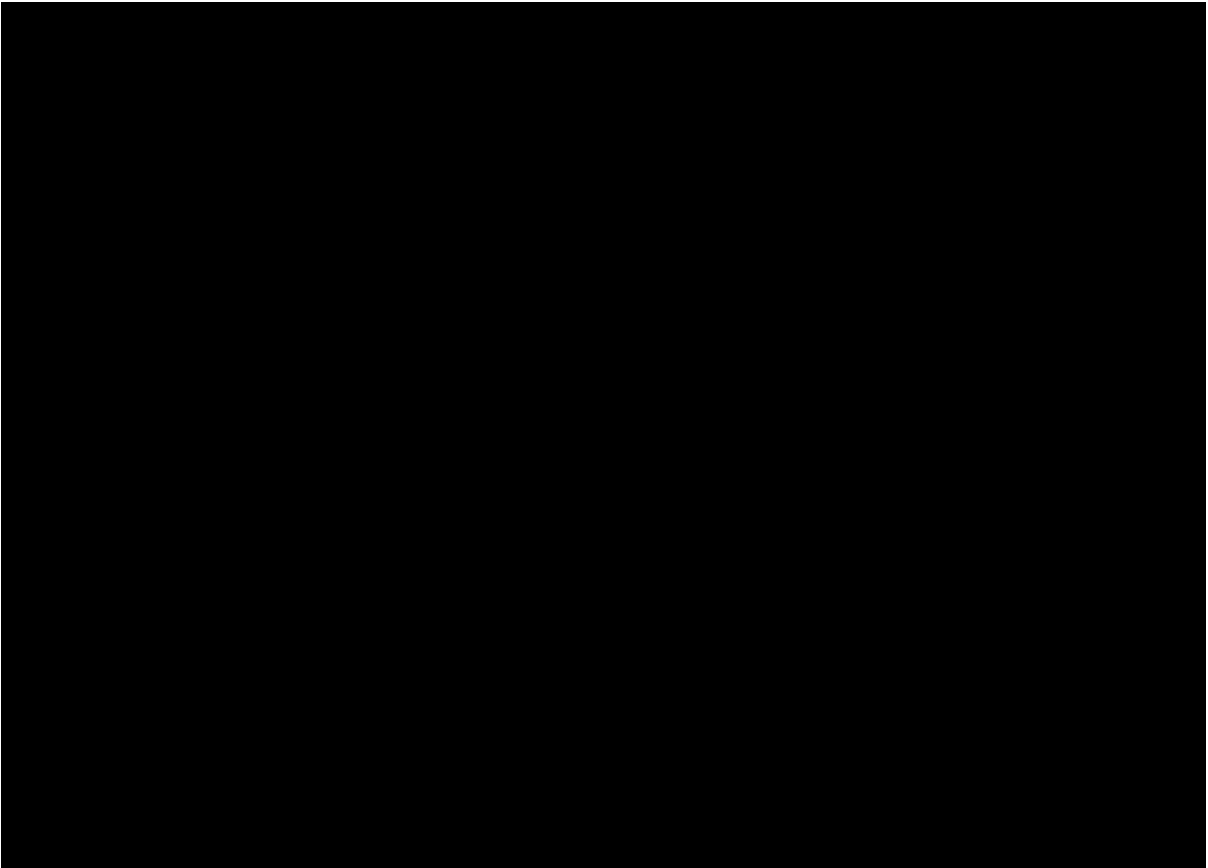


Fig. 4.1 York Minster, north transept bays, re-engineered by William Colchester from 1409, drawn W. Masiewicz BB09697 ©Crown copyright, from Brown (2003), p. 201.

Progress and petulance at Ely

In mid-eighteenth-century Ely, James Bentham, a minor canon and antiquary, was researching the history of the cathedral, motivated by its ‘ruinous’ state and builder James Essex’s radical plans for its renovation. Bentham’s work sought to make his mark by using documentary sources, ‘original rolls, and yearly accounts of several officers of the monastery before the dissolution thereof’.¹⁹⁵ The description of the Octagon is brief, but shows some familiarity with the documents:

‘The stone-work was completed in 6 years; and the woodwork raised thereon and covered with lead, in 14 years more. The whole was finished at the expense of the Convent (with £206 1s 8d in benefactions) in the year 1342 and cost £2,406 6s 11d.’¹⁹⁶

Complete with plans and elevations, it has been described as ‘perhaps the best cathedral history of the eighteenth century’.¹⁹⁷ With its close proximity to Cambridge, Ely was much in the antiquarians’

¹⁹⁴ Willis (1848), pp. 20, 47-50; Brown (2003), pp. 200-204.

¹⁹⁵ Bentham (1771), p. iii.

¹⁹⁶ Bentham (1771), p. 157.

limelight. In the early 1840s Robert Willis, later characterised as being ‘particularly reliant on local informants, (as) he does not seem to have rummaged through the muniments himself’, worked through the rolls searching for examples of finished and part-finished masonry for his *Architectural Nomenclature of the Middle Ages* published in 1844.¹⁹⁸ By 1868, D.J. Stewart, a former Sacrist of the cathedral, who had worked closely with Dean Peacock, Willis, and Raine on the Ely rolls, used



Fig. 4.2 Ely Octagon parapet, c.1342, stonework examples for Willis, *Architectural Nomenclature* (1842)

extracts of his own extensive transcripts in his *Architectural History*.¹⁹⁹ His interpretation of the building sequence and dating of the timber dome and lantern was later contested strongly by F.S. Chapman, who was a canon of Ely for thirty years, much of it in charge of the archives. He was strongly loyal to the priory, and Alan of Walsingham was his hero. Chapman’s ambition to publish a series of transcripts of the Ely accounts rolls was thwarted when the scholarly Dean Stubbs (1894-1906), who may have doubted his capabilities, encouraged the notion that the rolls should be transcribed by the Cambridge Antiquarian Society.²⁰⁰ While this never materialised, Chapman was left to publish his work for private circulation only, though it was printed by Cambridge University Press. The *Sacrist Rolls* are presented in two volumes. While the *Notes* have provided an exceptionally wide range of useful information, mainly drawn from the wider Ely muniments, Chapman over-reached himself in his rambling and intemperate attack on the work of D.J. Stewart

¹⁹⁷ Maddison (2000), p. 116.

¹⁹⁸ Buchanan (2013), p. 194.

¹⁹⁹ Stewart (1868), pp. 82-136, esp. pp. 92-124.

²⁰⁰ Meadows and Ramsay (2003), pp. 355-7.

published forty years earlier.²⁰¹ The lengthy gap in the rolls from 1326, when the stonework arcade base of the Octagon had been completed, until 1334-35, when work on the timber superstructure appears to have resumed, suggested that there had been a long hiatus in the building schedule. Stewart's transcription relates that, on the resumption of the rolls, eight carpenters were employed and boarded at the prior's expense for nine weeks 'for the raising of the great posts in the new choir'.²⁰² Chapman was incensed by this assertion, which implied that the building schedule had lapsed for eight years, thus calling Walsingham's competence into question. What happened during the time is still an open question to which we will return.²⁰³ Fortunately, the contentious criticisms of Chapman's *Notes* are redeemed by the quality of the *Transcripts*, which are laid out unusually so as to follow the format of the rolls with some precision.

The Surtees Society

Transcripts published by the Surtees Society during the late nineteenth century have not always fared as well. The York fabric rolls are difficult to work, as Willis remarked in his 1846 Archaeological Institute address:

'what we have is a series of rolls, or rather of specimens of rolls, for the series is miserably intermitted, including only about thirty-six annual rolls through a period of about 180 years.'²⁰⁴

Raine's transcripts, published in 1859,²⁰⁵ do not help in this regard, as the transcribed content is somewhat randomly selected and leaves the reader uncertain as to whether missing items exist in the original or have been excluded as being of no interest to the transcriber. They have been widely criticised on these grounds, and the commentary and notes are considerably distorted by the Browne–Raine controversy; but they remain the only guide which is widely available. By contrast, Canon Fowler's transcripts of the Ripon Collegiate Church fabric rolls, published in 1886, are full

²⁰¹ Chapman (1907), v.1, pp. 38-42.

²⁰² EDC 1/F/10/VI/Chapman, v.2, p. 65.

²⁰³ See pp. 188-190.

²⁰⁴ Willis (1847-48), p. 36, cited in Buchanan (2013), p. 195. There are 45 rolls from 1360 to 1543-44.

²⁰⁵ Raine (1859).

transcriptions of the accounts, in which the compiler has taken care to explain any variations from the text.²⁰⁶ In tackling the mammoth task of the three-volume *Extracts from the Account Rolls of the Abbey of Durham* in 1898-1901,²⁰⁷ Fowler faced an almost impossible task of satisfying his audience on the selection and extent of his entries.²⁰⁸ Dobie comments that ‘the extracts have been criticised as being unreliable in detail, of little use for economic or statistical purposes, and for confusing rather than clarifying the Priory’s financial organisation’.²⁰⁹ As Snape remarked long ago, ‘in the last resort, there is no substitute for the original rolls themselves’.²¹⁰

The twentieth century

R.B. Rackham (1863-1912), a scholar, theologian, and Secretary to the Dean of Westminster, read the Westminster Abbey nave fabric rolls in 1907-08, filling three notebooks which have been retained in the archives.²¹¹ They are the basis of a lengthy paper presented at the British Academy in 1909.²¹² The notebooks contain all the building transactions transcribed in the writer’s legible but often cramped handwriting, with the occasional bracketed exclamation mark of surprise or humour (!). The work has been overshadowed by Howard Colvin’s *Building Accounts of Henry III*. These have a full transcription and English translation of the earlier abbey rolls of 2 February – 6 December 1253, at the height of Henry III’s building campaign of 1245-1272, which caused much excitement at the time of publication in 1971.²¹³ Colvin called them ‘unique as an administrative record of the construction of a major church in the high Gothic period’, but they are by no means typical. They represent the high plateau of a 28-year campaign during which three masters completed the abbey’s eastern arm for an impatient king. During that nine months, the average number employed was 306, of whom 165 were craftsmen, and the total amount spent on labour and materials in the year was more than

²⁰⁶ Fowler (1886).

²⁰⁷ Fowler (1898).

²⁰⁸ See for example Lomas and Piper (1986), p. 7; Knowles (1957), v.2, pp. 3, 15; Dobson (1973), p. 251.

²⁰⁹ Dobie (2011), pp. 15, 112.

²¹⁰ Snape (1980), p. 26.

²¹¹ WAM LM/02/07/004. I am extremely grateful to Christine Reynolds for drawing the *Note Books* to my attention.

²¹² Rackham (2009).

²¹³ Colvin (1971), pp. 1-13, 203-87. A transcription of the 1253 roll is also to be found in Scott (1861), App. 1.

£2,000.²¹⁴ The accounts of the nave and cloisters (and the beginnings of the western towers) have been somewhat neglected since Rackham's work, and Tim Tatton-Brown has suggested that 'a detailed architectural and archaeological study of this monumental work has yet to be undertaken'.²¹⁵

In his forward to Colvin, Nikolaus Pevsner had called for further publication of full sets of accounts for individual buildings as a basis for further study of the master masons and their workmen.²¹⁶ It was not until 1981-1983 that Audrey Erskine's exemplary *Fabric Accounts of Exeter Cathedral, 1279-1353* were published in two volumes of translation in English, with a comprehensive introduction.²¹⁷ These had a lengthy gestation period, the project having first been broached by Professor Hamilton Thompson on the basis of Sir Vivian Hope's incomplete transcripts.²¹⁸ He arranged for two research students to make full transcripts of the earlier and later series. In addition to her transcripts of the early series, Muriel Clegg provided the weekly wage tables throughout, which are an essential feature of both series of the Exeter work. The Latin transcripts of the later series (1373-1514) were completed by D.H. Findlay, as a doctoral thesis at the University of Leeds in 1939. The transcripts show signs of rushed completion in the pre-war year and the use of Roman numerals in the typescript is occasionally troublesome, but the work could be used as the base for a full translation to match that of the Erskine series. The 1981-1983 volumes were the catalyst and model for Colchester's excellent translation and index of the nine account rolls of *Wells Cathedral Fabric Accounts 1390-1600*, published in typescript form by the Friends of Wells Cathedral in 1983. The long-awaited transcripts and translations of the *York Minster Fabric Rolls 1360-1500*, edited by Sylvia Thomas and a team commissioned by the York Archaeological Trust, is expected to be published shortly.²¹⁹ The monumental two-volume *Fabric Accounts of St Stephen's Chapel, Westminster 1292-1396*, edited by Tim Ayers, translated by Maureen Jurkowski and published in

²¹⁴ Colvin (1971), p. 7; H. Thomson Johnson (1967), pp. 200-201.

²¹⁵ Tatton-Brown (2015), 'The New Work: Aspects of the Late Medieval Fabric of Westminster Abbey', *BAACT* XXXIX (2015).

²¹⁶ Colvin (1971).

²¹⁷ Erskine (1981, 1983).

²¹⁸ Erskine (1981), pp. xvii, xviii.

²¹⁹ York Archaeological Trust (ed. Sylvia Thomas), 'York Minster Fabric Rolls, 1360-1498' (forthcoming).

2020, is a massive addition to available scholarship and will no doubt open further avenues of research.

The account rolls as documentary evidence

To conclude, the surviving fabric rolls of the English cathedrals are a medieval data set which has not yet been fully explored. The information provided by the rolls differs from that of other forms of documentary evidence. Unlike the medieval chronicles, which have been the first call of cathedral history research, the account rolls are as close to real-time evidence of day-to-day transactions as is possible. From a historical perspective, they are evidence of the here and now and of the business of everyday transactions which anticipate the outcome of present actions, in contrast to the reverse lens of the chronicles which tend to filter the evidence through the hindsight of the writer. The latter is particularly true when, as is normally the case, the writer was a monk recounting the story of the monastery of which he was a life-long member. The fabric rolls are more clinical than that, but to the annoyance of modern-day scholars, they frequently fail to provide details of the location and nature of the work, which was not required for audit purposes. The progression of account rolls in the longer sequences provides contextual evidence, which can help a more deductive analysis as to what might have happened in the gaps. There are other sources of relevant evidence available, such as the charters and the chapter act books of the cathedrals and the episcopal registers, which tend to be triggered by events, in contrast to walking the day-to-day beat of the fabric rolls. Increasing interest in the rolls from the mid-eighteenth century has often centred on the reading of specific rolls to verify dates of individual buildings or those of architects and craftsmen and their careers. Other than Vroom's Europe-wide survey, there has been no attempt to catalogue the rolls.²²⁰

The mid-twentieth century was marked by a remarkable flowering of generic studies represented by Knoop and Jones (1933), Pevsner (1951-1974), Salzman (1952), and Harvey (1954-1984), much of which was researched in the pre-war years and published afterwards.²²¹ R.B.

²²⁰ Vroom's original 1981 survey included Exeter, Hereford, Ely, York, and Wells. The 2010 edition adds Norwich, Canterbury, and Lincoln, but Durham, Ripon, Salisbury, St Paul's, and Winchester are not included.

²²¹ Knoop and Jones (1933); Pevsner (1951-1974); Saltzman (1952); and Harvey (1954).

Rackham's early analysis at Westminster, Audrey Erskine's at Exeter, and Sarah Brown's later work at York are outstanding examples of works which have furthered our knowledge of the process.²²²

²²² Rackham (1909) and Brown (2000).

Part II

Sources of Finance

Chapter 5

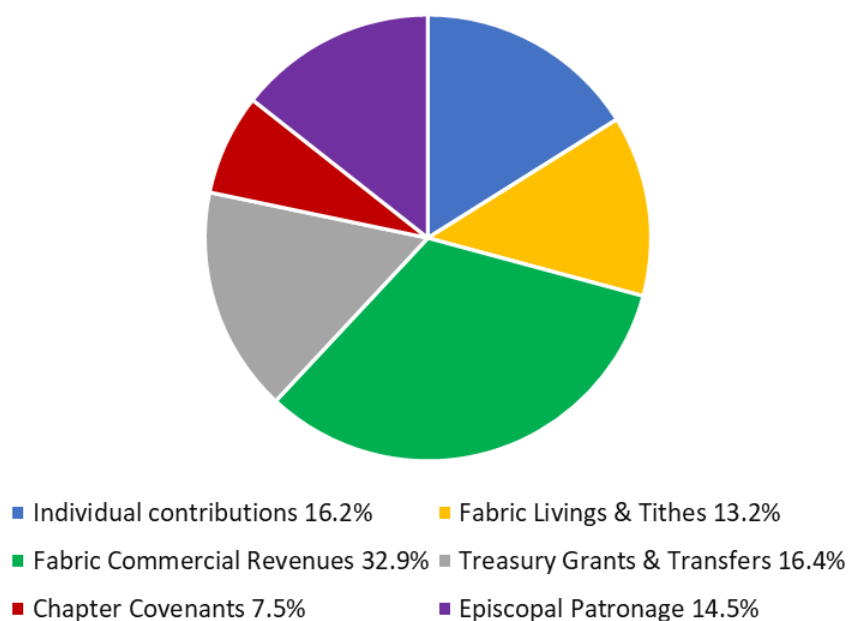
Individual Donations

Overview of the sources of finance

In Part I it was concluded that the role of the fabric fund was to provide the essential framework which assured the completion of the church building programmes of the period. In Part II the discussion moves on to investigate the content of the fabric rolls, and in particular the sources of income in three categories: Individual donations, Chapter and commercial contributions, and Patronage. In laying out the stall for this general overview, the relative size and timing of the cathedral fabric works in the sample will become apparent, and these will determine the nature of much of the subsequent discussion in the thesis.

The total receipts recorded in the surviving account rolls amount to around £47,000, and a breakdown by source is shown in Fig. 5.1 below. Of the total, 16.2% consisted of individual donations from parishioners, visitors, and the dioceses; 29.7% came from chapter revenues, including livings and tithes, and treasury grants and transfers; 32.9% was from commercial income; and 22% from patronage and chapter covenants. The last percentage figure is considerably understated, because the rolls of the down-time between building campaigns, when activities were confined to repairs and maintenance, constitute almost 60% of the annual rolls. In the major building campaigns, episcopal patronage and chapter covenants provided as much as 50% to 80% of the building costs, as will be

Fig. 5.1 Cathedral Fabric Rolls Income by Source
1290-1540: Total £47,000



shown in Chapter 7. The revenues from individuals, livings and tithes, and commercial activities constituted the regular income of the fabric funds, which produced continuing funds for improvement and maintenance, but also increased during large-scale campaigns. Treasury grants and transfers, which make up 16.4% of the total, cover some inconsistencies in the figures. The grants cover deliberate subventions by the chapters, which were rare in secular cathedrals but were common in monasteries, who had the resources or borrowing capacity to fund chosen building projects, as with Westminster Abbey or the Sacrist Fund at Ely, which in many ways acted as a large-scale fabric fund.

A general overview of the surviving fabric roll income in bar graph format is shown in the following three pages. The charts illustrate the information provided in the management accounts of each cathedral, as shown in the *Supplementary Information Tables*.²²³ Total recorded income statistics by source for each ten-year period for the six longer series which yield nearly 90% of the income are shown on the first page, and the totals for seven shorter series follow.²²⁴ Taken together, these pages represent a complete summary of the source and date of all income in the survey. However, the ten-year-period totals, being dependent on the survival dates of the rolls in each period, can be

²²³ Tables 1-18.

²²⁴ Longer series: Ely, Exeter, Ripon, Norwich, Westminster, York.

misleading, and the third page shows the average annual recorded income by ten-year period for each of the six longer series funds and is intended to give a more realistic idea of the relative scale of the works underway on each site.

The total recorded income figure of £47,000 broadly supports the contention that the sample represents about 10% of the cathedral rolls which once existed.²²⁵ The amount was approximately equal to the total cost of building one large and one smaller cathedral.²²⁶ The income figures are subject to three qualifications. Annual totals extracted from the account rolls should show current receipts and exclude cash surpluses (*arreragia*) brought forward from previous years, but that is not always the case as the arrears figure is not always shown separately, and a minority of the earlier revenue totals include brought-forward arrears. Commercial revenues are shown gross without deduction of related costs, such as harvest payments, drainage, and tithes amounting to up to 20% of relevant income at Ely, and repairs and rent collection costs of more than 20% at York and Ripon.²²⁷ The York Minster fund also carried the recurrent expenses of obituary and chantry masses, which amounted to 8% of fabric revenues. Finally, a considerable portion of the income was allocated to more than one department, which is often indicated by payments received in rounded amounts.

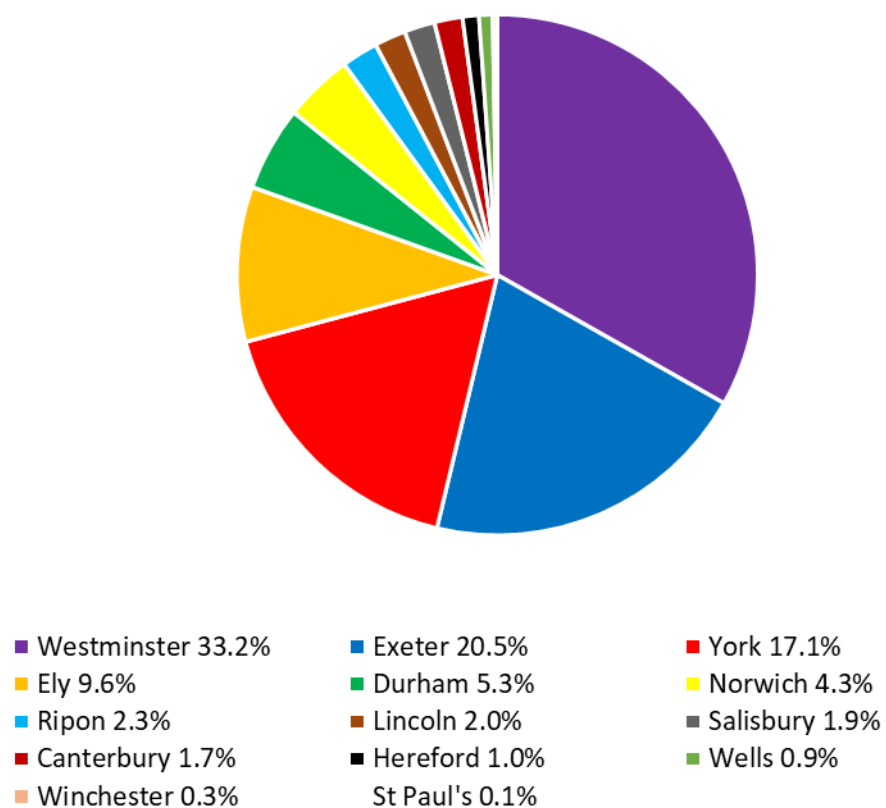
The bar graphs provide a useful guide to the size and timing of each cathedral's building campaigns and their significance in relationship to each other. The income totals should be used with care as they are heavily weighted towards the longer and denser series, and the comparative income by source pie chart (Fig. 5.1) largely follows that of the four longer series at Westminster, Exeter, York, and Ely, which make up more than 80% of the total income. None of the other surviving collections amounts to a substantial series, though Durham, Canterbury, Hereford, Salisbury, and Wells provide significant examples, and the length and incidence of the Norwich Cloisters and Ripon Collegiate Church series illustrate longer-term patterns of patronage for smaller works. The

²²⁵ See p.20 n.71.

²²⁶ See p. 130.

²²⁷ In the late 1400s, the cost of unpaid rents rose to more than 70% of revenue. See Tables 11 and 18.

Fig. 5.2 Total Fabric Roll Income by Cathedral
1290-1540 Total £47,000



relative weight of the revenues in these charts necessarily lays the ground for the relative coverage given to the cathedrals and rolls series in the rest of the work.

Fig. 5.3 Fabric Rolls Longer Series: Total Recorded Income by Source by Decade, 1280-1540

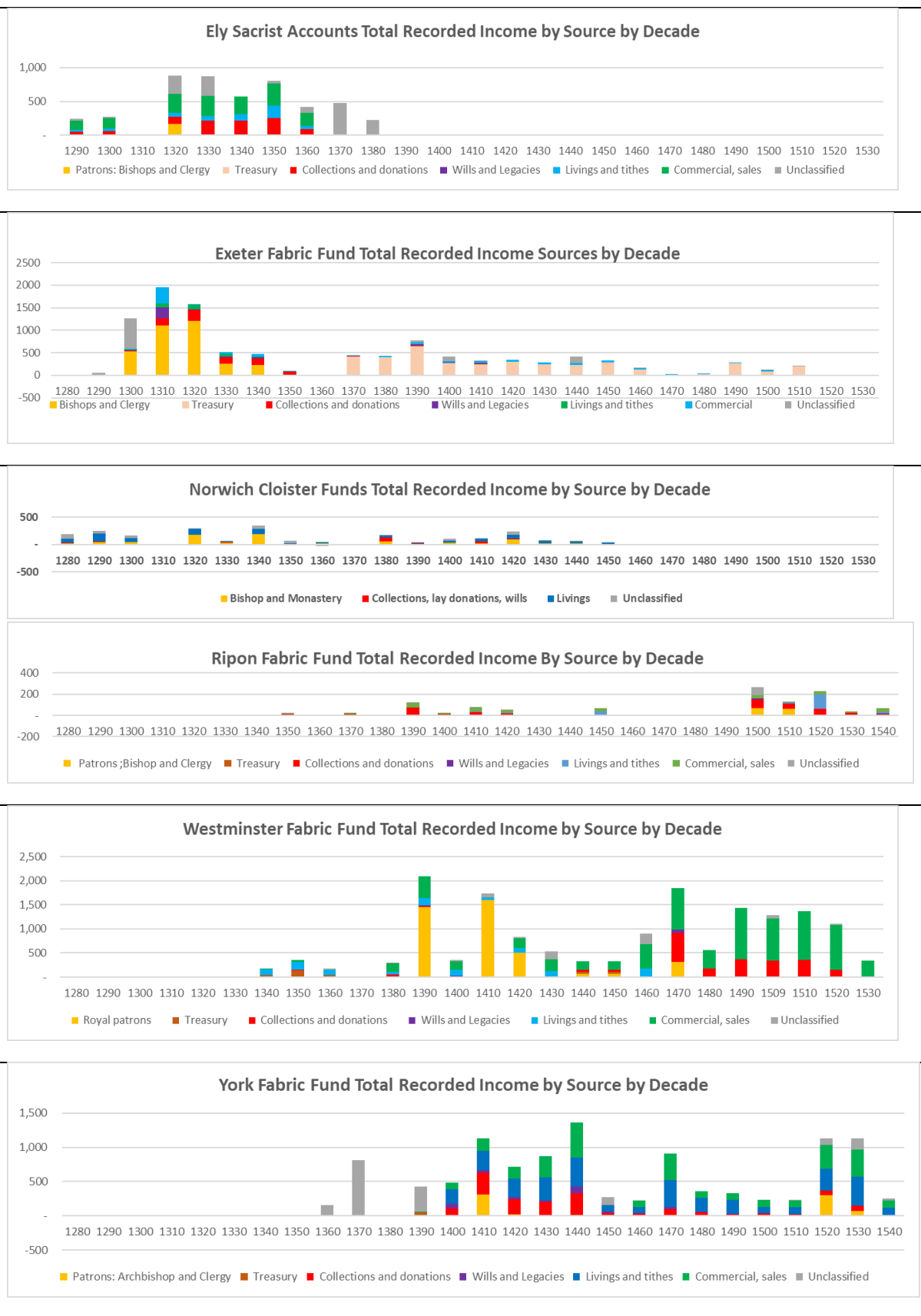


Fig.5.4 Fabric Rolls Shorter Series: Total Recorded Income by Source by Decade, 1280-1540

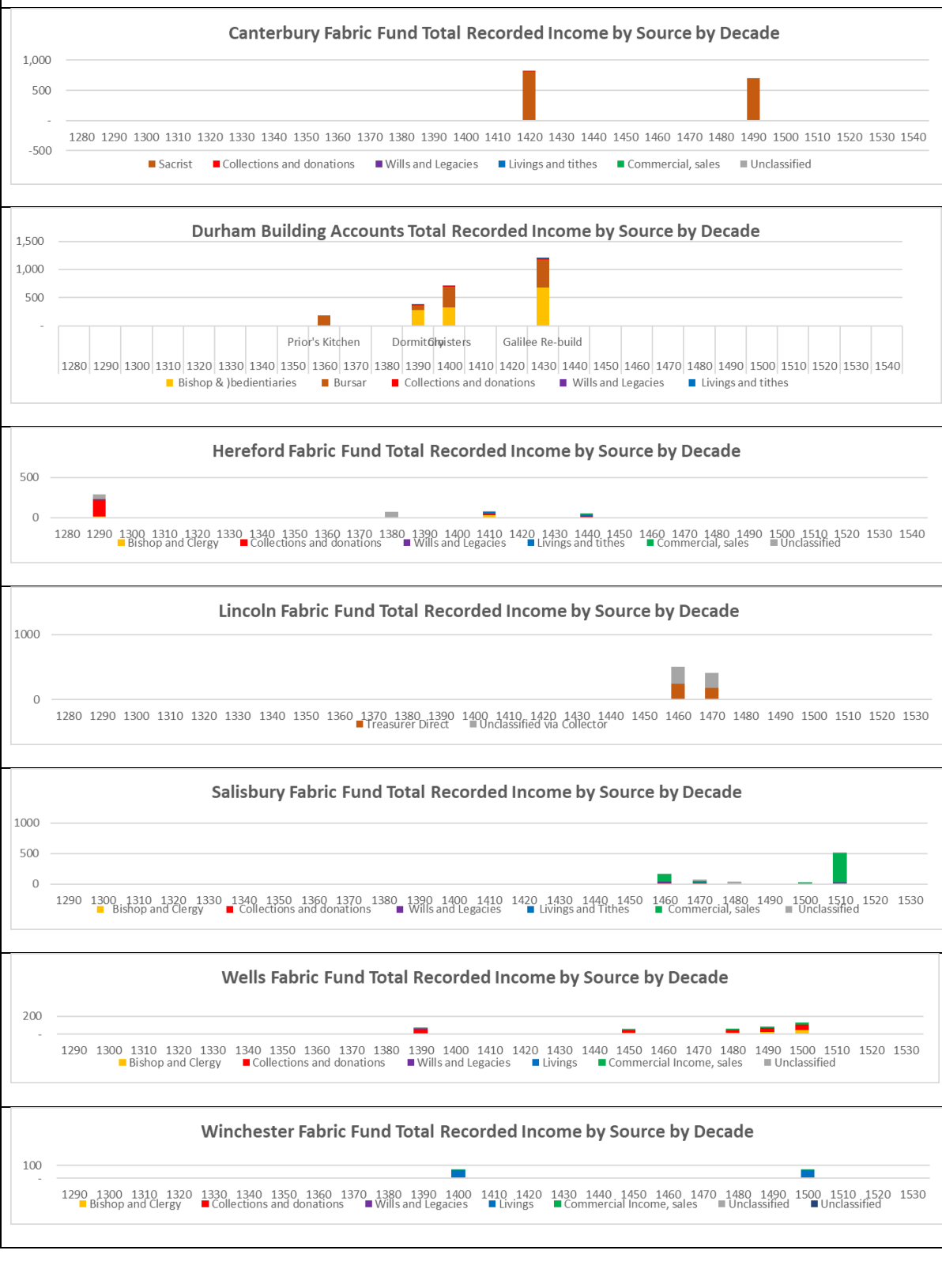
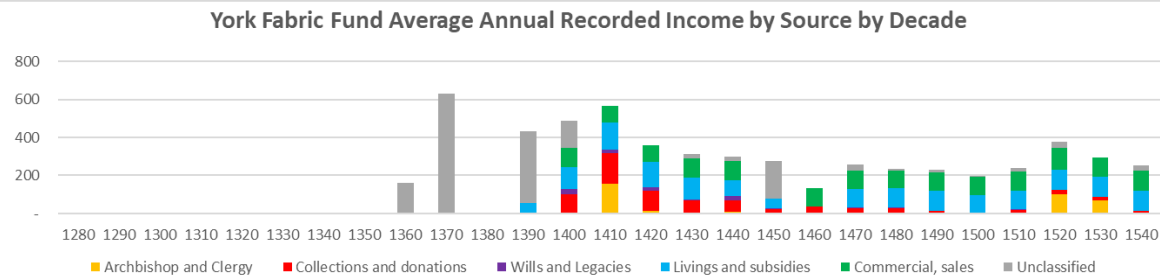
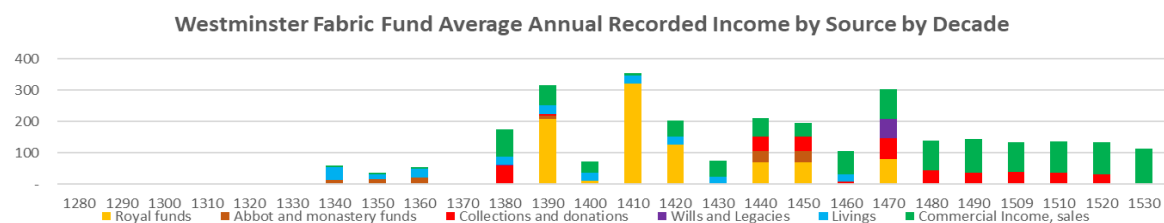
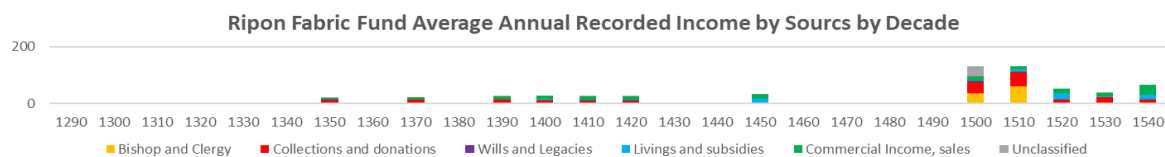
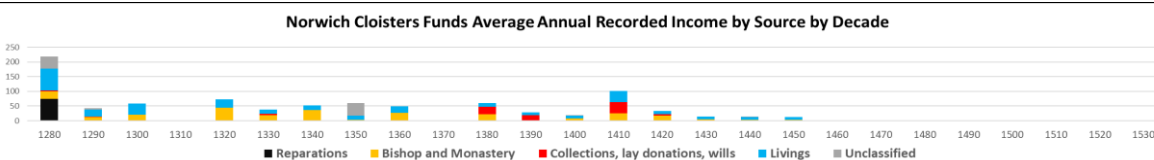
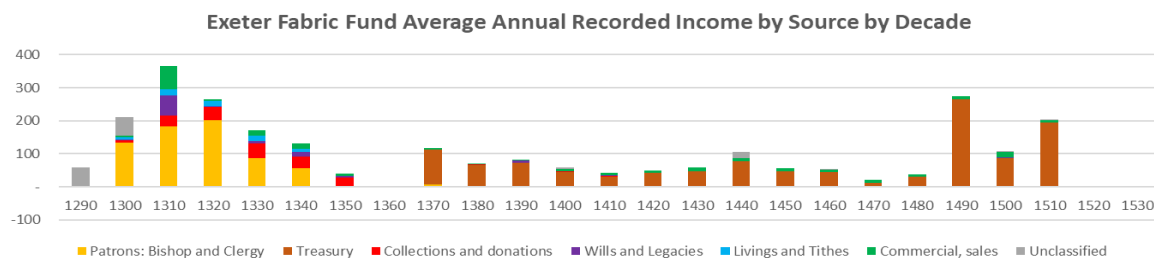
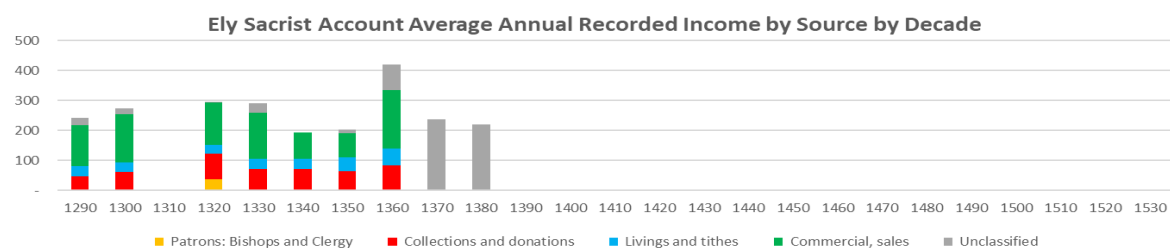


Fig. 5.5 Fabric Roll Longer Series Average Annual Recorded Income by Source by Decade 1280-1540



Individual contributions

Although offerings from individuals provided only 16% of the total revenue, they represented a quarter of the regular income stream of the fabric fund. Individual offerings were considered a key element in the pastoral relationship between the church and its members, and the clergy took great care to harbour and direct them. The church was strongly interventionist in each element of personal giving: offerings within the cathedrals, pilgrimage donations at shrines, diocesan collections, and legacies and wills. Offerings were encouraged by strategic positioning and supervision of collection boxes at chosen points within the cathedrals and by the timing of fabric collections on feast-days and at fairs, to maximise both local and visitor takings according to the season. The income from saints' shrines was the major source of income for some cathedrals, particularly those with patron saints of national importance, where they dominated not only liturgical practices and but the architectural planning of the fabric itself. The use of indulgences permeated all forms of personal giving, and their origins, development, benefits and limitations, will be addressed first.

Indulgences

Modern views of indulgences tend to be somewhat coloured by Martin Luther's attacks on their abuses and their pervasive use in the late medieval church. In the hands of English cathedrals, indulgences appear to have provided an acceptable and effective catalyst for fund-raising. The initiation of indulgences was restricted to bishops and the pope. When first introduced, they involved a simple exchange of good works for remission of penances for up to 40 days, and if the good works were connected to the dedication of a new church, penances could be reduced for up to 100 days.²²⁸ At Exeter 40 days' remission could be gained for visiting the Lady Chapel in 1324, and 100 days' remission could be given for visiting the cathedral for worship on the four feasts of the Blessed Virgin Mary and that of Edward the Confessor in 1345.²²⁹ No specified amount was required to obtain a fabric indulgence, which was intended to attract all levels of the community. As donors went to confession, they reported the amount they had given, and the confessor decided the appropriate level

²²⁸ Lateran Council IV, Canon 61, Nilson (1998), p. 110.

²²⁹ Orme (2009), p. 122.

of remission based on the individual's wealth and the seriousness of penance.²³⁰ While most donations were small and the average pilgrim's offering at a cathedral shrine is estimated at one silver penny, the gifts of the wealthy were also subject to clerical scrutiny.²³¹ No indulgences were recorded in the Exeter rolls until Lent 1329, when the publication of the first St Peter's indulgence was issued *pro venia beati Petri pronunciand.* for the rebuilding of the nave, producing receipts of £16 1s ¾d.²³² That was a disappointing result compared with ordinary collections, and it was not re-promoted until 1346. They were issued in the Black Death years of 1349-1353, and were a minor contributor to the fund from 1390-91 to 1418-19.²³³ At York Minster, indulgences for the fabric were central to the new building campaigns and were issued by Grey for the south transept (1227), and by Corbridge (1304), Greenfield (1306), and Bishop Kellawe of Durham (1312) for the nave.²³⁴ As Brown has shown, 'the sale of indulgences remained a standard fund raiser' throughout the fourteenth century.²³⁵ An indulgence of 40 days was granted for donations to the building of the Lady Chapel by Archbishop John Thoresby in 1363, and papal indulgences followed shortly afterwards. In 1397 the chapter issued letters to the archdeacons requesting them to remind the parishes that indulgences were still available for contributors to the fabric.²³⁶ Archbishop Bowet issued new indulgences immediately after the collapse of the tower in 1407,²³⁷ and the corbel relief of a crowned pope in the south-east corner of the tower is thought to have been in acknowledgement of papal indulgences.²³⁸ However, R.N. Swanson noted that while the links between the Exeter (and Wells) fabric funds and the income from indulgences is explicit in their fabric rolls, the wording in York is ambiguous.²³⁹ The accounts record recurring income from *perquisic' penitenciariorum* and *perquisic' ecclesiarum* between 1415-16 and 1470-71 totalling £66.52.²⁴⁰ The named penitentiaries were evidently wealthy members of the lay

²³⁰ Ibid., p. 48.

²³¹ Nilson (1998), pp. 114-21.

²³² D&CE 2626/Erskine, p. 218.

²³³ D&CE 2626, 2634, 2635/2/3/4/5/Erskine, v.2, pp. 218, 276, 283, 285, 288, 290, D&CE 2651-2673/ Findlay.

²³⁴ Raine (1858), pp. 149, 154, 155, 156n.

²³⁵ Brown (2003), p. 142 and n.53.

²³⁶ Ibid., p. 176 n.35.

²³⁷ Ibid., p. 196 and n.96.

²³⁸ Brown (2003), p. 199, Fig. 5.50.

²³⁹ Swanson (2007), pp. 149-52.

²⁴⁰ YMA E3/6/YAT (1404)-E/3/29/YAT (1481-82).

community, including Sir John Langton, the owner of the Huddleston quarry.²⁴¹ However, it is not clear from the wording whether the receipts are from indulgences or from the proceeds of penances.²⁴² At Ripon Minster, indulgence proceeds from the fraternity of St Wilfrid were allocated to the fabric after the central tower gave way in c.1450, and similar allocations were made for the new nave in 1503-21, raising £23 3s 4d in four rolls.²⁴³ There are fewer references to indulgences in monastic rolls, but the Ely accounts of 1352-53 record £3 6s 8d received from the sale of indulgences to mend the causeway, when funding for public works was scarce.²⁴⁴ At first sight, the rolls as a whole are not unduly full of references to indulgences, and the outcomes of individual donations were undoubtedly obscured in the confessional process; but further investigation shows that their influence underpinned every category of individual offering, and that demand remained high throughout the fifteenth century. However, there were significant problems on the supply side over the quantity of new indulgences which could be issued, and the resulting escalation in their price and terms. Both episcopal and papal indulgences were intended for new works, and the number of new starts of major works reduced in the mid-fifteenth century in favour of chantry chapels, colleges, and larger parish churches. W.H. Vroom's discussion of the rising costs and rewards of indulgences in Western Europe suggests that

‘by the later Middle Ages, when an indulgence of 40 days no longer had the power to impress anyone, cathedral fabrics endeavoured to secure more, and especially larger, indulgences for church-going and donations to their cathedrals’.²⁴⁵

While the evidence to support this in England is sparse, there is evidence of significant inflation in the terms of larger indulgences in at least two cases: Clement IV's grant of 7 years and 7 quadragesimas of remission for the translation of St Thomas of Cantilupe, with 100 days for the octaves, at Hereford in 1349; and Sixtus IV's grant of 12 years and 12 quadragesimas to visitors to Salisbury for the

²⁴¹ YMA E3/7 ff. E3/20/YAT: John Payntour was paid 13s 4d for painting the royal arms and those of Sir John Langton ‘above the south door of the cathedral church’ and the clock dial.

²⁴² Swanson (2007), p. 151 n.208 lists detailed payments.

²⁴³ *Memorials III*, pp. 168, 173, 176, 180 and pp. xxi n.1, xii, xiii, 2, 23.

²⁴⁴ EDC 1/F/XII /Chapman, v.2, p. 151.

²⁴⁵ Vroom (2010), p.172.

translation of St Osmund in 1472.²⁴⁶ The process escalated further with the issue of plenary indulgences, which granted total remission of penances for set periods and were first granted to recruits to the crusades, which later became renewable. They were used at Milan Cathedral to initiate the campaign of 1390-91, offering over 400 days of remission for the cost of half the pilgrim's trip. These proved highly popular and brought in 34,700 lira, or 60% of Milan's revenues for the year.²⁴⁷ Such issues bid up the costs of procuring them from the Curia and made it progressively harder to obtain new grants from the papacy. A case in point is the refusal to grant an indulgence to Canterbury for the 1520 (seventh) jubilee of St Thomas Becket's martyrdom, after protracted negotiations.²⁴⁸ As Nilson points out, the demand for indulgences was intense, and without them the potential visitor might well desert the cathedral shrine in favour of other places of veneration.

Offerings in the cathedrals

Most cathedrals had collection boxes and pyxes placed at strategic points round the building. These included one at the high altar and a trunk or box specifically for the fabric fund, the *cistis operis*, which was customarily painted red.²⁴⁹ There were collection boxes at the foot of painted statues of patronal saints, such as that of 'old Peter' at Exeter, and at statues of the Blessed Virgin Mary. Opportunities for fund-raising were carefully spread through the church year. At Exeter, the main collections were at Whitsuntide and at St Peter's *ad vincula* or Lammastide (1 August). At Whitsun, Bishop Marshall ruled that every parishioner with a hearth in the diocese should make offerings of at least a halfpenny for the cathedral, a part of which would be offered to the fabric, as was the practice in most English churches.²⁵⁰ In the York Rolls of the early fifteenth century, fabric

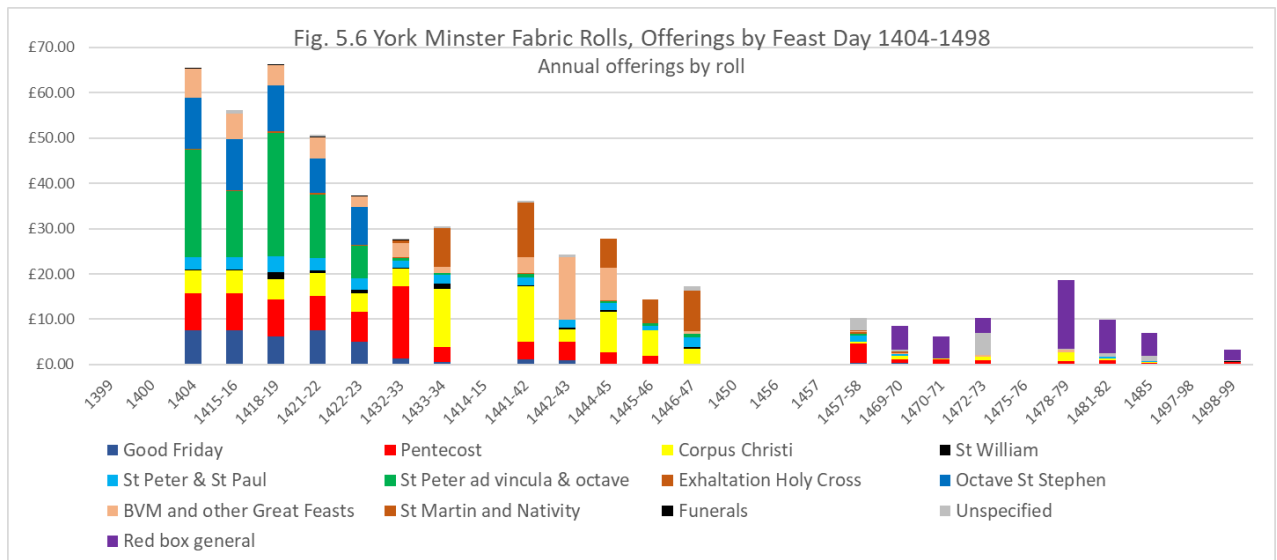
²⁴⁶ Nilson (1998), p. 26 n.91, p. 110.

²⁴⁷ Vroom (2010), pp. 201, 203.

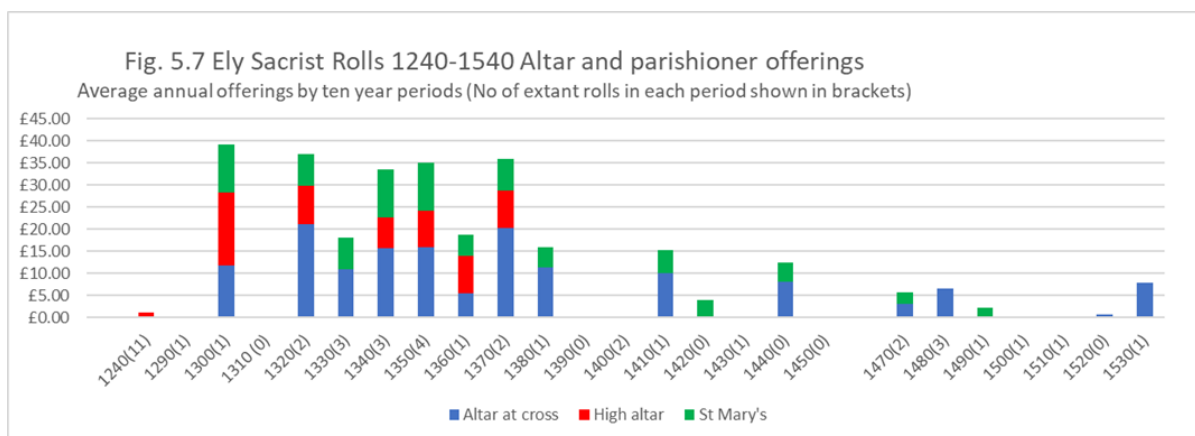
²⁴⁸ Nilson (1998), p.179. See also Nilson (1998), p. 201.

²⁴⁹ The red chest at Exeter was the main point for fabric offerings. Erskine, pp.1, 52, 62, 73, etc. The red chest at York was also used for fabric collections. From 1469-70 it yielded an average of £7.24 p.a.

²⁵⁰ Erskine (1983), v.2, p. x. Marshall's ruling was reissued as an *inspeximus* in 1335, *Reg, Grandisson*, pp. 785-6; Orme (2009), pp. 83, 122.

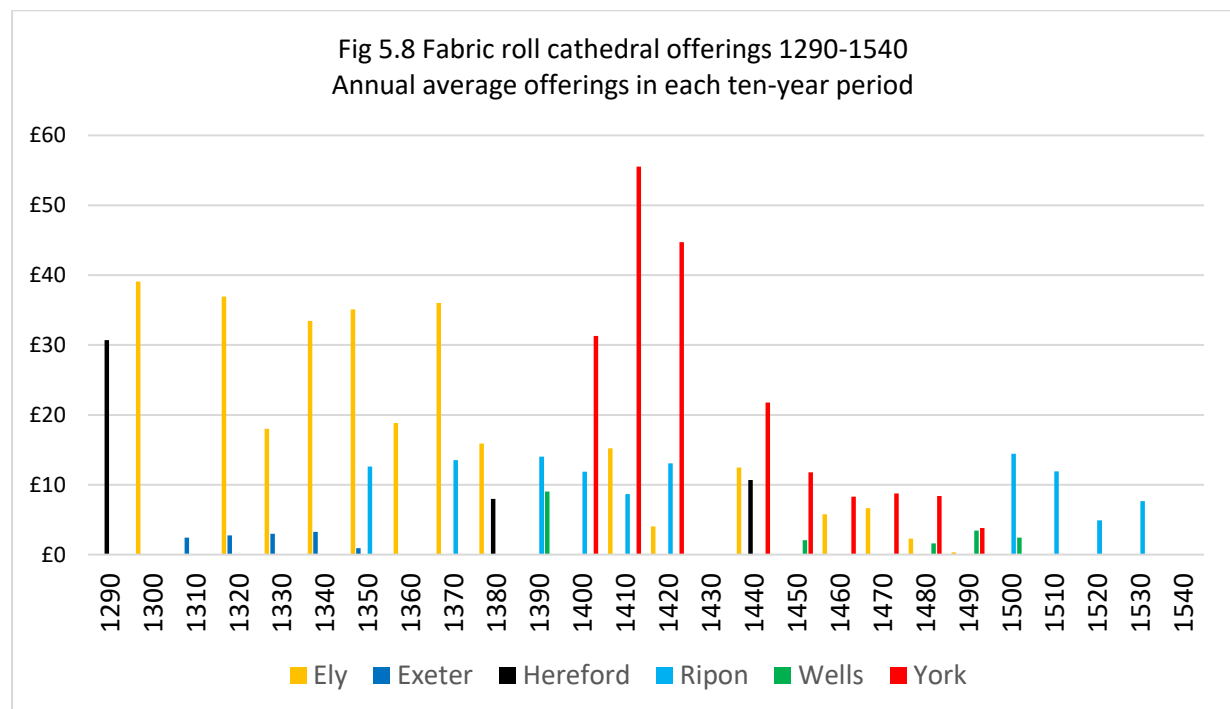


collections took place during the festivals of St Stephen, Good Friday, Pentecost, Corpus Christi, St William, St Peter & St Paul, St Peter *ad vincula*, and at the Exaltation of the Holy Cross. As can be seen from the bar graph Fig. 5.6, the more lucrative feast days for the fund were, variously, Pentecost, Corpus Christi, the Octave of St Peter *ad vincula*, and the Octave of St Stephen. The relative importance of celebrations to the fabric fund was constantly changing, and new fabric collections were introduced which drew in funds for some years; but in the second half of the fifteenth century, receipts dropped away from £30-£70 in the first half to less than £20 p.a.²⁵¹ We have less information about the dates of collections elsewhere. At Ely (Fig. 5.7), church offerings totalled an impressive 12.8% of total receipts: much came from the high altar, which benefited from passing visitors to the shrine, but also striking is the strong support of parishioners of the larger cathedral parish of the nave altar ‘before



²⁵¹ Brown (2000), pp. 214, 215.

the Cross' and of the lesser parish of St Mary's. The long sequence, like others, shows that collections died away completely once the building campaigns had ceased in the fifteenth century. Hereford, with individual offerings of 10% of total income, also benefited from the high pilgrimage traffic: £30 14s 7d was deposited in the cathedral alms box in 1290-91, one sixth of the offerings at the shrine.



A summary of average annual cathedral offerings is presented in the bar graph Fig. 5.8. The information is presented in ten-year periods for the six series for which we have sufficient data. The decline in receipts over the period is the most striking conclusion, and shows in every series except Exeter, where separate figures are not available after 1353. Remarkably, the decline occurs in both the fourteenth and fifteenth centuries. At Ripon, the sixteenth-century fund-raising campaigns for the rebuilding of the nave (1503-21) and the refurbishment of the altar furnishings (1520-22) were boosted by the red chest for the nave and regular Sunday collections, which were an innovation, together with special collections such as the £3 18s 0d given by the boys of the town for the roof of the nave.²⁵² The sales of new indulgences, granted by Archbishop Bainbridge (1508-1514), were notably successful, returning over £40.17 over six account rolls, or 8% of the total income.²⁵³

²⁵² *Memorials III*, pp. 169-89, Rolls 16-25 (1503-32); p. 180 (1520-21).

²⁵³ *Ibid.*, p. 176 and Rolls 16-19 (1503-04, 1509-10, 1512-13, 1520-21) and 24, 25 (1527-28, 1530-31).

Shrines and pilgrimage income

Although the pre-Conquest saints were revered and Edward the Confessor was a national saint, it was the assassination of Thomas Becket in 1170, and his fast-track canonisation three years later, which raised pilgrim numbers and shrine revenues to an entirely new level. The papal bull of canonisation directed that his remains should be removed from the crypt to a more impressive site to receive pilgrims.²⁵⁴ The Prior recruited William of Sens as master mason, who created a distinctive setting for the shrine, introducing new design concepts from northern France. William the Englishman, appointed successor in 1178, built Trinity Chapel as Becket's shrine in an elevated position to the east of the high altar, which would make it the focus of the whole cathedral.²⁵⁵ The new east end, classically apsidal with a wide ambulatory, was built in ten years, by 1184, although the decoration of the shrine and its glazing were not finished until after the interdict. The translation ceremony in 1220 in front of King Henry III, his son, to become Edward I, then twelve years old, and seventeen bishops, was the defining moment for the English cathedral shrine; £1,071 was given in offerings that year.²⁵⁶

The potential of pilgrimage shrine donations had long been understood, but the breath-taking figures achieved at Canterbury gave other cathedral chapters cause for thought. By the mid-thirteenth century, fourteen out of nineteen cathedrals claimed one or more cathedral saints, and eleven had built dedicated shrines, of which seven commemorated traditional saints and four newer post-Conquest saints. Canonisation had become a papal prerogative from 1216, and canonisations of two more cathedral saints were in progress.²⁵⁷ Ben Nilson's *Cathedral Shrines of Medieval England* examined the effect of shrine revenues on cathedral finances based on the surviving feretory accounts of eight cathedrals and Westminster Abbey.²⁵⁸ On the distribution of these revenues to the fabrics, Nilson found that after the deduction of direct costs, much of the income was spent on subsidies for resident clergy and that 'a shrine's revenue was rarely diverted towards building work. In none of the

²⁵⁴ Draper (2006), p. 15.

²⁵⁵ Ibid., pp. 28-36.

²⁵⁶ Canon (2007), pp. 278, 279; Nilson (1998), p. 212.

²⁵⁷ Nilson (1998), pp. 11, 210. Canonisation was the sole right of the papacy from Innocent III (1198-1216). Saints awaiting canonisation in 1250 were Richard (Chichester) and Osmund (Salisbury).

²⁵⁸ Ibid., pp. 147-66, Canterbury, Ely, Norwich, Lincoln, Hereford, Durham, Westminster, and Worcester. Nilson's analysis includes the Ely Sacrist Accounts (1291-92 to 1535-36, c.29 rolls) in addition to the Feretory Accounts (1420-21 to 1498-99, 24 rolls), giving the most extensive series available outside Canterbury.

surviving series of shrine accounts is there a regular entry for transferring offerings to the fabric fund.²⁵⁹

The discussion which follows is based rather on the fabric rolls of five cathedrals where shrine contributions were paid directly into the fabric fund.²⁶⁰ Nilson's discussion of the impact of shrines on late medieval architectural plans and the re-ordering of churches to accommodate pilgrim numbers is of particular interest here, as this is an area where building works were influenced directly by the requirements of fund-raising as well as of the liturgy. His starting point was Francis Bond's argument of long ago that 'all parts of the greater church were subordinate to the shrine: the nave existed primarily to provide shelter and points of assembly for pilgrims, while the aisles gave them access to the shrines without disturbing the *opus dei* in the choir and the presbytery'.²⁶¹ However, there was no set place for the location of the shrines, which were variously positioned close to the high altar, in the retro-choir, in the eastern Lady Chapel, or in one of the transepts. As high altars had been associated with the veneration of relics since the eighth century, Norman and later shrines tended to have the high altar as a reference point where the apsidal architecture permitted.²⁶² In the case of two patron saints, such as St Anselm and St Dunstan in Norman Canterbury or, later, St Wulfstan and St Oswald at Worcester, the tombs were laid out in parallel in equivalent relationship to the high altar. Some scholars have suggested that the main cause of the eastward extension of fifteen English cathedrals after 1200 was the need for adequate space for shrines.²⁶³ However, as Nilson shows, eight cathedrals (out of seventeen) with new retro-choirs had no saintly relics at the time of their building, or chose not to enshrine them east of the high altar. The five cathedrals in our survey settled on a variety of positions, depending on the saint's status and relationship to the cathedral locality.

²⁵⁹ Direct costs were mainly wages, candles, and wax at the shrine. For quotation, see Nilson (1998), p. 139.

²⁶⁰ Exeter, Ely, Hereford, Ripon, York. Canterbury's late-fifteenth-century fabric rolls include limited contributions from the Feretory; see DCC 18 (1426-27) £5 16s 8d. The main Feretory series runs from 1198-99 to 1384-85.

²⁶¹ Nilson (1998), pp. 63-91; Bond (1913), p. 83.

²⁶² As at Norman Canterbury (St Anselm and St Dunstan) and thirteenth-century Worcester (St Wulfstan and St Oswald); Nilson (1998), p. 74, Fig.1 and Pl.8.

²⁶³ Batsford and Fry (1943), p. 47; Draper (1979), pp.10-11, (2006) 143, 147, 167-8, 211-13.

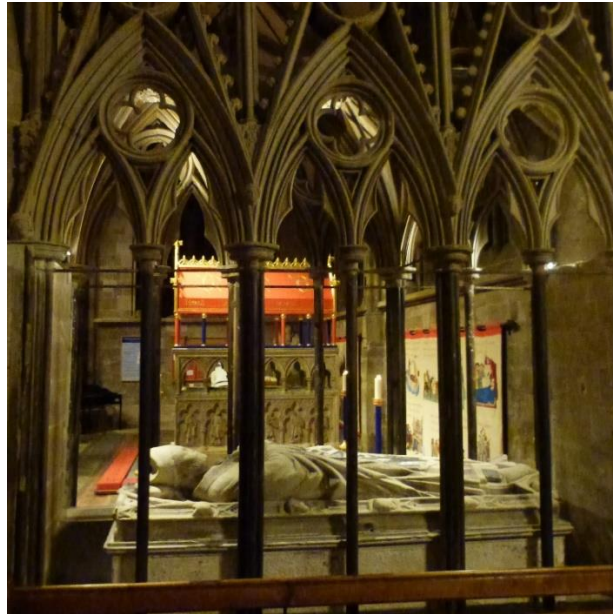


Fig. 5.9 Hereford, St Thomas of Cantelupe shrine, restored to its original position in the north transept, seen through Bishop Aigeblanche's Westminster-style tomb

The first records of shrine takings in the rolls are those of St Thomas at Hereford in 1290-91, where a remarkable £179 6s 6d was collected in the year.²⁶⁴ They show that the cult of Thomas of Cantelupe, a popular local bishop (1275-82), excommunicated following a dispute with the hierarchy, was still at its height nine years after his death, and even impacted on Worcester Cathedral, 27 miles away, which had received an income of £10 from pilgrims en route to his shrine.²⁶⁵ Hereford was fortunate to have had a ready-made setting to receive Thomas of Cantelupe's remains in Bishop Aigeblanche's high-status Westminster-style northern transept: their translation on Easter Day 1287 was accompanied by the declaration that several miracles had already occurred. By the time of the 1290-91 account roll, a campaign to improve the cathedral's facilities for receiving pilgrims was well advanced and work on the northern aisles and the north-east transept was progressing with more than fifty masons in the Easter and Midsummer terms.²⁶⁶ When the papal commissioners visited in 1307, they remarked that the first shrine had already yielded income which 'enlarged the cathedral with two

²⁶⁴ HCA 2368/Capes (1908), p. 164.

²⁶⁵ Nilson (1998), p. 160 n.50.

²⁶⁶ Recorded expenditure, £320 18s 5d.

aisles and in part erected the high bell tower'.²⁶⁷ The canonisation was finally secured in 1320, and a new shrine created in the Lady Chapel by 1349 at a cost of at least £120, by which time his cult may have waned.²⁶⁸ Bishop Adam Orleton's *Register* shows that indulgences were given to those who attended the first feast of St Thomas after his translation.²⁶⁹ The next fabric rolls to have survived occur nearly half a century later in 1383-84 and 1386-87, by which time receipts from the shrine had dwindled to £2 13s 4d (4 marks) and £1 6s 8d (2 marks) respectively.²⁷⁰ However, these figures need to be treated with caution as the fabric accounts reflect only what was allocated to building purposes, and the eight surviving accounts of the Hereford Claviger show resurgent shrine income of £22 16s 3d in 1478-79, which declined to £5 13s 3½d in 1522-23.²⁷¹

The transitory nature of shrine income for all but national saints is illustrated by other cathedrals in our survey. Exeter had no saint, but Walter Stapeldon made efforts to provide the sumptuous surroundings of the presbytery and choir comprising the bishop's throne, *sedilia*, *pulpitum*, and the subsequently destroyed *reredos*. Veronica Sekules has suggested that

‘at the date of the erection of the reredos there was no relic so unique as to make Exeter a place of particular pilgrimage – there was no entire body, not even of a local saint. Perhaps precisely because of this, the formidable group of holy images at the high altar, rising from the floor to the stained-glass window above, was intended to stimulate the effect of a vast reliquary, in a grander and more lavish arrangement than that in any other church.’²⁷²

The costs of the complete suite of altar and choir furnishings recorded in the extant rolls was £292 13s 2½d – almost 6% of the entire recorded cost of the cathedral.²⁷³ Bishop James Berkeley, of whom little is known, succeeded Stapeldon for only three months before he died in June 1327. He was buried in the south side of the presbytery where he was venerated as a saint by local people until at least the

²⁶⁷ Vroom (2010), p. 208, citing Capes (1908), pp. 163-5.

²⁶⁸ Canon (2007), p. 351.

²⁶⁹ *Reg. Ade de Orleton*, pp. 142-3.

²⁷⁰ HCA R 621, 2371. See Nilson (1998), p. 160, Morgan (1982), pp. 145-52, Canon, p. 351.

²⁷¹ Vroom (2010), pp. 208, 209; Nilson (1998), p. 221.

²⁷² Sekules (1991), pp. 174, 175, Morris (1943) Pt 1, pp. 122-47, (1944) Pt 2, pp. 10-21.

²⁷³ High Altar accounts: D&CE 2615, 2617, 2619, 2621.

Black Death. The rolls indicate that his tomb must have been rapidly completed; £20 was received there in 1328-29, and the amounts given peaked at £37 13s 4d in 1331-32, before reducing to £12 in 1333-34, £7 5d in 1341, and £1 10s in 1348.²⁷⁴ A century later, Bishop Edmund Lacy (1420-55) devoted his episcopacy to reorganising the liturgy and the place of the veneration of saints at Exeter. His tomb, parallel to that of James Berkeley in the equivalent position at the north side of the



Fig. 5.10 Exeter, presbytery tomb of Edmund Lacy, c.1455, left; tomb of Walter Stapeldon, c.1326, centre; and high altar, right



Fig. 5.11 Exeter, Lacy Tomb c.1455, position of brass removed c.1537

presbytery, attracted pilgrims from the 1460s.²⁷⁵ A large quantity of wax images of human and animal limbs, discovered in the masonry above Lacy's tomb in 1943, is evidence of the strength of his cult.²⁷⁶ No tomb donations were allocated to the fabric fund in those years. However, Lacy's lingering reputation was evidently a concern to Henry VIII's reforming dean, Simon Heynes, appointed in 1537, who was accused by the chapter of defacing the tomb by tearing off its brasses to make it anonymous.²⁷⁷

²⁷⁴ D&CE 2626, 2628-2632, 2635/1/Erskine, pp. 213, 233, 243, 252, 259, 267, 279; Orme (2009), pp. 64-6.

²⁷⁵ D&CE 2704A/Findlay; Orme (2009), pp. 182-4.

²⁷⁶ Radford (1948); Erskine (1988), p. 146 n.4; ODNB/15846: N. Orme (2009).

²⁷⁷ Erskine (1988), p. 53; Orme (2009), p. 198.



Fig. 5.12 York, north-east transept, St William window, 7n, attributed to J. Thornton, c.1414. *St William's shrine with pilgrims suggesting original architecture of the shrine*

Saint William of York was twice Archbishop, in 1141-1147 and in 1153-1154. As Treasurer of the Minster, he had supported Archbishop Thurlstan against Henry I in defending the authority of the primacy of York against the encroachments of Canterbury. He was buried in the eastern bay of the nave in 1154 and canonised in 1227. The rolls show that his tomb continued to attract gently declining offerings, averaging 5s 9d annually from 1441-42 until at least 1478-79, most of which came from the St Christopher's and Weavers' Guilds.²⁷⁸ The fluctuating receipts of the annual feast of St William's Day were rather more: averaging 11s 9d from 1415-16 to 1446-47.²⁷⁹ The scale of giving at the tomb of Archbishop Richard Scrope (1398-1405) was more significant. He had led a rebellion against Henry IV, the usurper of Richard II, in 1405. Although his uprising was in the same spirit as the Percy rebellion of 1403, its 'articles of revolt' were supported by local clergy and the citizens of York.²⁸⁰ In the event, the rebels were outmanoeuvred, their leaders executed, and Scrope was beheaded on the authority of the Chief Justice. However, his burial at the minster at the north end of the area set aside by Archbishop Thoresby for episcopal burials was permitted. Screens were erected soon afterwards to

²⁷⁸ YMA E/3/15 (1441-42) - E3/32 (1498-99)/YAT, average 5s 9d p.a. Most figures are on the *dorso* ignored in Raine's transcripts. Nilson (1998), p. 164 n.68.

²⁷⁹ YMA E3/7-19/YAT.

²⁸⁰ Palliser (2014), p. 198.

protect the tomb from the pressure of pilgrims.²⁸¹ Three donations related to the work of Richard Scrope are recorded in the fabric rolls. Scrope gave alms of £7 16s during his lifetime in 1404,²⁸² and as Sarah Brown has pointed out, the arms in the fifth bay of the choir arcade honouring his patronage must have been there before his rebellion of 1405.²⁸³ The greater financial contributions were posthumous, however, and his tomb offerings were recorded as £73 8s in 1415-16 and £150 in 1418-19.²⁸⁴ The rounded amounts suggest that the offerings allocated to the fabric may have been part of a larger total. With receipts at this level, the total offering to the fabric over fifteen years from Scrope's execution may have exceeded £1,500, an exceptionally well-timed contribution to the fabric after the central tower collapsed. All the income related to Richard Scrope was specifically earmarked for the employment of masons: one mason in 1404, eight in 1415-16, and a larger unspecified number in 1418-19. Bishop Skirlaw of Durham also gave £52 to provide for six masons. The amount of these offerings was far higher than at any other English shrine except Canterbury at this time, despite the constraints of promoting the shrine against the will of the Lancastrian monarchy.²⁸⁵

The Ely shrine

In *Stripping of the Altars*, Eamon Duffy drew attention to

‘the curious prevalence of devotion to royal saints in East Anglia...[which] is directly traceable to the character of Anglo-Saxon Christianity in the region, and the management of royal cults in the pre-Conquest church to strengthen the monarchy or the great religious houses whose royal founders and foundresses formed the centre of such cults.’²⁸⁶

The aim of the fourteenth-century works at Ely was to address this tradition on a scale incomparable with that of any individual cathedral shrine: in honour of Etheldreda (636-679), the monastery's foundress, a Saxon monarch and a saint in her own right. While the architecture and

²⁸¹ Brown (2003), p. 141, French (1989).

²⁸² E3/6 (1404)/YAT. A much-damaged roll. Raine (1858), p. 24 n.++.

²⁸³ Brown (2003), pp. 177, 178, Pl. 5.12.

²⁸⁴ E3/7, 3/8/Raine (1858), pp. 32, 37.

²⁸⁵ Palliser (1014), p. 214. Henry IV forbade access to the tomb by ‘crowds’ (*conours*).

²⁸⁶ Duffy (1992), p. 166.

engineering of the Ely Octagon will be discussed in a later chapter, the iconography and artwork and its focus on the pilgrim experience will be considered here.²⁸⁷

Bishop Northwold's magnificent six-bay 'Presbytery' (1233-50), with its new 'square' east end in the 'full decorated vocabulary of Lincoln', was 'a confident re-statement of the special status of the Ely Priory', and the forerunner of the fourteenth-century works.²⁸⁸ It provided two bays for the new shrine of St Etheldreda beneath the central boss displaying her image (Fig. 5.16) and adjoining the Norman choir with a further four bays to the east for multiple new altars and processions.²⁸⁹ The eastern extension secured Ely's reputation for architectural innovation and made the cathedral one of the longest in England. Although the timing of the later works on the Octagon (1322-1360), Bishop Hotham's Choir (1322-38), and the Lady Chapel (1321-53) were determined by the collapse of the central tower in 1322, the new projects were part of a coherent plan to provide all the facilities necessary for the monastery and for pilgrim visits and collections. At the centre of the plan was the dome and lantern of the Octagon, with its sculpted and painted figures of Saxon benefactors and founders, reaching up through six levels of confessors, prophets, apostles, evangelists, and kings of the royal house of David to the crowning boss of the risen Christ at the highest point of the lantern.²⁹⁰ This was a wide central space like no other in England, which rose to an internal height of over 140 feet (44 metres), providing the backdrop for worship in the monks' liturgical choir and for the reception of pilgrims in the north transept.²⁹¹ Seventy monks' stalls lay across the central space of the dome and lantern, entered from the west and focused on the altar of Hotham's choir to the east. The tombs of the Saxon benefactors of the abbey, which, like the shrine of St Etheldreda, survived the collapse of the tower, were retained in their positions to the rear of the northern choir stalls. It has been shown convincingly by Phillip Lindley that this was the starting point for the iconography of the new Octagon.²⁹² Pilgrims entering the cathedral at the north door arrived first at this point, where the association of the pilgrims with past benefactors was emphasised by the life-size portraits of the seven

²⁸⁷ See pp. 190-194.

²⁸⁸ Draper (2006), p. 171.

²⁸⁹ T.D. Atkinson shows a conjectural three-bay feretory in *VCH Cambridge* (1953), p. 56. Draper (1979), p. 14 n.35 has a two-bay feretory at the Etheldreda boss and a closer position to the high altar.

²⁹⁰ Lindley (1985), pp. 165-71, Binski (2014), p. 223.

²⁹¹ See Binski (2014), p. 220, White (2007), p. 109.

²⁹² Lindley (1985), pp. 165-71.0-194

major benefactors of the Saxon abbey, which were painted above their tombs on the wall to the rear of the choir stalls.²⁹³ The remains of the benefactors were translated from the Saxon church to the new Norman priory in around 1154. The tombs were destroyed in 1769, but not before Michael Tyson had made detailed drawings of the paintings and tombs, which are now held in the Bodleian Library (see



Fig. 5.13. Ely Octagon, north choir tombs (c.1340), portraits of Saxon benefactors Wulfstan, Aelfgar, and Byhrouth, drawn by Michael Tyson before their destruction, 4 May 1769 (Bodleian Gough Maps f 225 ff.35-41).

Fig. 5.13). From the level of the painted images of the benefactors, the story continued through the seven tiers of stone and wooden statuary. These began with contemporary figures on the label stops of the four aisle arches (a king, a queen, a bishop, a prior, a monk, a mason, a lion and an imp) and continued with the eight corbel-reliefs hewn from the stone columns to show the life and miracles of St Etheldreda. John of Burwell, a local artist, had completed the scheme with his image of Christ in Majesty, the great boss of the higher vault of the lantern. The vault surfaces of the dome consisted of high-quality Baltic *estrich* boards, of which 500 were bought at Lynn for £2 18s 3d, in 1334-35, the year in which the rolls resumed after a

²⁹³ Medieval paintings to the rear of the choir screens are rare, i.e. in Carlisle choir and in the presbytery of Westminster Abbey.



Fig. 5.14 Ely, Octagon south-west, west side corbel relief, *Miracle of Byrhtstan's release by St Benedict and St Etheldreda* (1323-1325)



Fig 5.15 Ely, Octagon south-west stone arcade niches: St John, St James, and prophet heads, J. Redfern after originals (1868-1876)



Fig. 5.16 Ely, Northwold's Presbytery (1233-1250), bays 4-5 gallery showing unfurling stiff-leaf corbels at base of vaulting shafts, indicating shrine position



Fig. 5.17 Ely, Northwold's Presbytery (1233-1250), bays 4-5, St Etheldreda vault boss, indicating shrine position



Fig.5.18 Ely Octagon timber dome and lantern vaults, William Hurley (1334-1342)



Fig.5.19 Ely Octagon, *Risen Christ*, J. Burwell (1339-40), recarved, Gambier Parry, 1874

Iconography and art at Ely Cathedral, the Octagon and St Etheldreda's shrine, 1230-1360

long gap and in which the great posts were erected.²⁹⁴ Decorating materials were purchased in the same year under the heading *Nova Pictura*, including 98 lb of red lead, 20 lb of varnish, and 3 lb of gold colour purchased *pro volta novi Campanalis depingend.* for £1 7s 7d. The *Nova Pictura* purchases in 1339-40 were for the vaults of the lantern.²⁹⁵ Total purchases of £7 1s 4d included 1,500 gold foils for £3 8s 0d, 1,300 silver foils for 6s 9d, 6¾ lb of vermillion, a quantity of sinople, 11 lb of white lead, scrowes (parchment) for making size, 1 lb of pigment for painting gold and 31 gallons of oil. A turner was employed to make the bosses of the higher vault for 5s 9d, and Walter the painter was paid 8d per week for 42 weeks with board and robes provided, and received a gratuity of 4d, presumably for completing his work. The intricately worked scheme was complemented by stained-glass windows depicting Anglo-Saxon bishops and kings, which must have formed part of the overall iconography.²⁹⁶ It is to these that the 1339-40 roll refers with the payment of 4s 10d to Simon the glass-maker ‘for altering the new windows in the tower and changing the head of King Edgar’.²⁹⁷ Fortunately William Stukeley recorded the medieval glasswork of the lower arcade, which is thought to have been destroyed before James Essex’s restoration of 1757. His illustrations of St Wilfrid and King Egfrith are preserved in a notebook at Corpus Christi College, Cambridge.²⁹⁸ It is difficult to imagine the effect of the whole scheme now in the face of Gambier’s Victorian restoration which has shaped the modern-day image of the Octagon. The original scheme remained intact until after 1850, although over-painted, and can be seen in early photographs. It was a repeated tracery pattern which resonated with the blind tracery patterns of the *supercilia* above the four main arches and the four large window traceries of the octagon. An ochre wash was removed from the vault in 1850 revealing widespread evidence of the original painting, and the eastern bay was restored experimentally. *The Ecclesiologist* reported that the bosses and ribs were gilt, the spaces between were covered with quatrefoils in white on a

²⁹⁴ EDC 1/F/ 10/VI/Chapman, v.2, p. 72.

²⁹⁵ EDC 1/F/10/ VIII/Chapman, v.2, p. 99.

²⁹⁶ Lindley (1985), p. 171.

²⁹⁷ EDC1/F/10/XII/Chapman, v.2, p. 143.

²⁹⁸ *Corpus Christi, Cambridge*, Ms 556, illustrated in Meadows and Ramsay (2003), Pl. 10a.

green background, and the whole effect suggested raised tracery work.²⁹⁹ A scheme by C.E. Kempe retaining the tracery patterns and perhaps capturing the brightness of the medieval colours was considered in 1868-69, but Gambier Parry's wholly new design matching his existing work in the nave was commissioned. This was without consultation with Gilbert Scott, then the cathedral architect, and broke all connection with the original work. Burwell's image was also re-carved and re-painted by Gambier Parry and lost its medieval authenticity. It is not clear whether the wounds of the risen Christ, which are a dominant feature, were retained from the fourteenth-century original. This crowns the whole scheme and was completed for the surprisingly low sum of 2s with board, in 1340.³⁰⁰



Fig. 5.20 Ely, north choir aisle, the barely legible pilgrim route inscription encouraging prayers for the benefactors

Ely pilgrims progressed from the Octagon and the tombs of the benefactors through the arch into the Hotham's north choir aisle, more richly vaulted than the south choir aisle as befits the pilgrim route. An inscription on the north choir aisle wall, *pro animis benefactorum ecclesie Eliensis et omnium fidelium defunctorum*, reiterates the call for prayers for the benefactors. It is now scarcely legible, but still visible.³⁰¹ The official route then passed beneath a raised passage which allowed the monks to move directly from Hotham's choir to the Lady Chapel through a covered passageway between the north wall of the choir and the

²⁹⁹ EDC 4/5/68, *Ecclesiologist* XI (1850), see Meadows (2003), p. 322, n.111.

³⁰⁰ EDC 1/F/10/VII/Chapman, p. 98.

³⁰¹ See Fig. 5.19. Transcribed in Maddison (2003), p. 128 n.59.

south door of the chapel, without encountering the laity.³⁰² The pilgrim finally arrived at the feretory from the north, where the shrine of St Etheldreda was housed at the west end of Bishop Northwold's presbytery beneath the boss which commemorates her life. Adjoining on the west side were Bishop Hotham's three choir bays in a framed curvilinear style, where the high altar was positioned beneath the boss of the Coronation of the Virgin Mary.³⁰³ While the joined-up complex represents three distinctive styles, the architects were careful to pay due respect to what had gone before, so that the levels of the east end arcades, triforium galleries, and clerestory are derived from their predecessors and sit easily with the remaining Norman work of the nave and transepts. Elements of decorative work, such as the recurring 'bulls-eye' windows, appear in the Octagon and lantern, in the space above the vaults of the Lady Chapel, and in the twelfth-century work of the western towers.³⁰⁴ Likewise, the magnificent carved stiff-leaf corbels at the base of the vaulting shafts of the presbytery, which unfurl into sprouts where they surround St Etheldreda's shrine in the six bays of the thirteenth-century presbytery, are fully matched in decorated form in the three bays of the fourteenth-century choir.

We have the total costs (including that of the missing rolls) for three of the four new works of the thirteenth and fourteenth centuries, including Northwold's presbytery, £3,576,³⁰⁵ the Octagon, £2,400,³⁰⁶ and Hotham's choir, £2,305,³⁰⁷ a total of £8,281. Unfortunately, no total is recorded for the Lady Chapel which was supported by Bishop Simon of Montacute (1337-45), *circa cuius fabricam sumptuosas fecit expensas, ut superius expressum est*.³⁰⁸ The new buildings constituted a remarkable investment for the monastery, which was in a precarious financial state in the early fourteenth century. These campaigns were rewarded by a significant uplift in shrine revenues, which put Ely's long-term pilgrim income ahead of that of any shrine other than Canterbury at the end of the fourteenth century.

³⁰² Maddison (2000), pp. 81, 82.

³⁰³ Draper (1979), pp. 14-15, Inskipp and Ladd (1930), pp. 51-2, Maddison (2000), pp. 48-50.

³⁰⁴ See Stuart (1868), p. 73, Draper (2006), pp. 171-2, and Maddison (2000), pp. 75-7; and see p. 158, n.117.

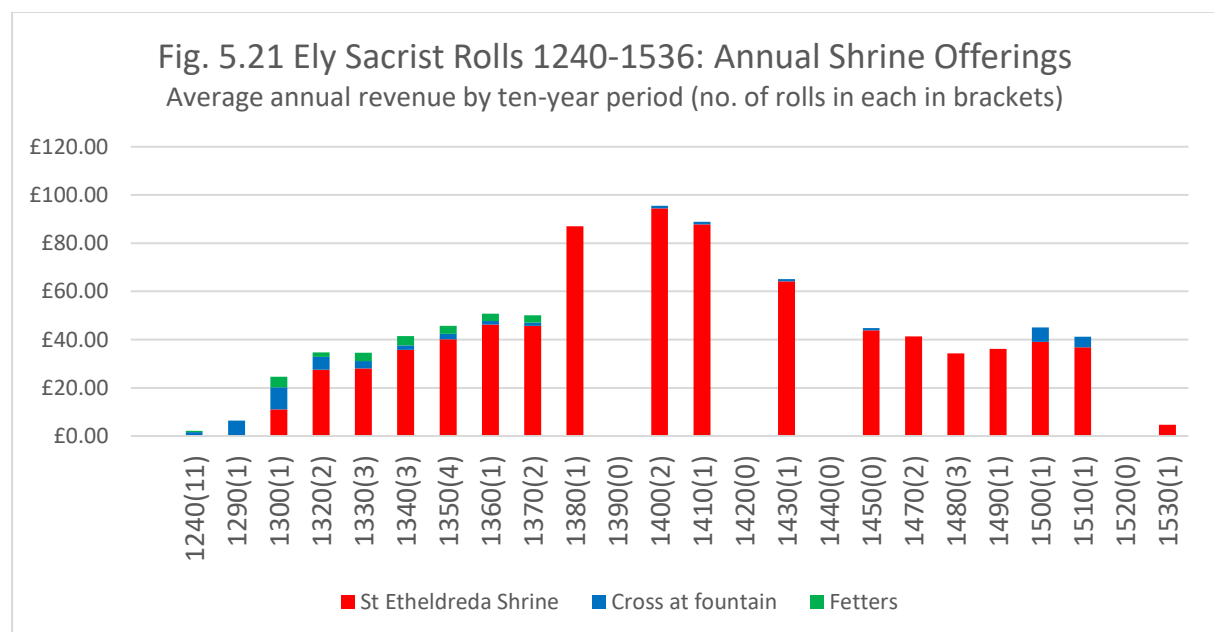
³⁰⁵ *BL MS Cotton Tiberius B II ff. 246-248*. No total expenditure is given. The estimated total of £3,576 is quoted in Stuart (1868), p. 71, and Draper, *BAACT II* (1979), p. 27. Maddison (2003), p. 119, and Canon (2007), p. 322, give the total of £5,040.93 from *Anglia Sacra*, p. 636. The difference may be the cost of the shrine and furnishings.

³⁰⁶ Wharton (1691), p. 644. Montacute's work probably began at the level of his stone crest at the south-west corner.

³⁰⁷ *Ibid.*, p. 647.

³⁰⁸ *Ibid.*, p. 651.

Three collection points for shrine offerings are given in the Ely rolls: the St Etheldreda shrine itself, the ‘Cross at the Fountain’, the site of a miraculous fountain at the saint’s original burial place in the south aisle, and at the ‘fettters’ near the high altar, where a fugitive from a London prison was given refuge in the Ely monastery by Bishop Nigel (1133-1169). The collection points were combined in later years. The bar graph below (Fig. 5.21) shows the average annual offerings by source for each ten-year period recorded in the Sacrist rolls from 1240 to 1536.³⁰⁹ This suggests that shrine offerings were relatively weak at £25 p.a. or less in the three ten-year periods recorded before rebuilding began in 1321. After the collapse of the tower, the shrine and the tombs of the Saxon benefactors must have

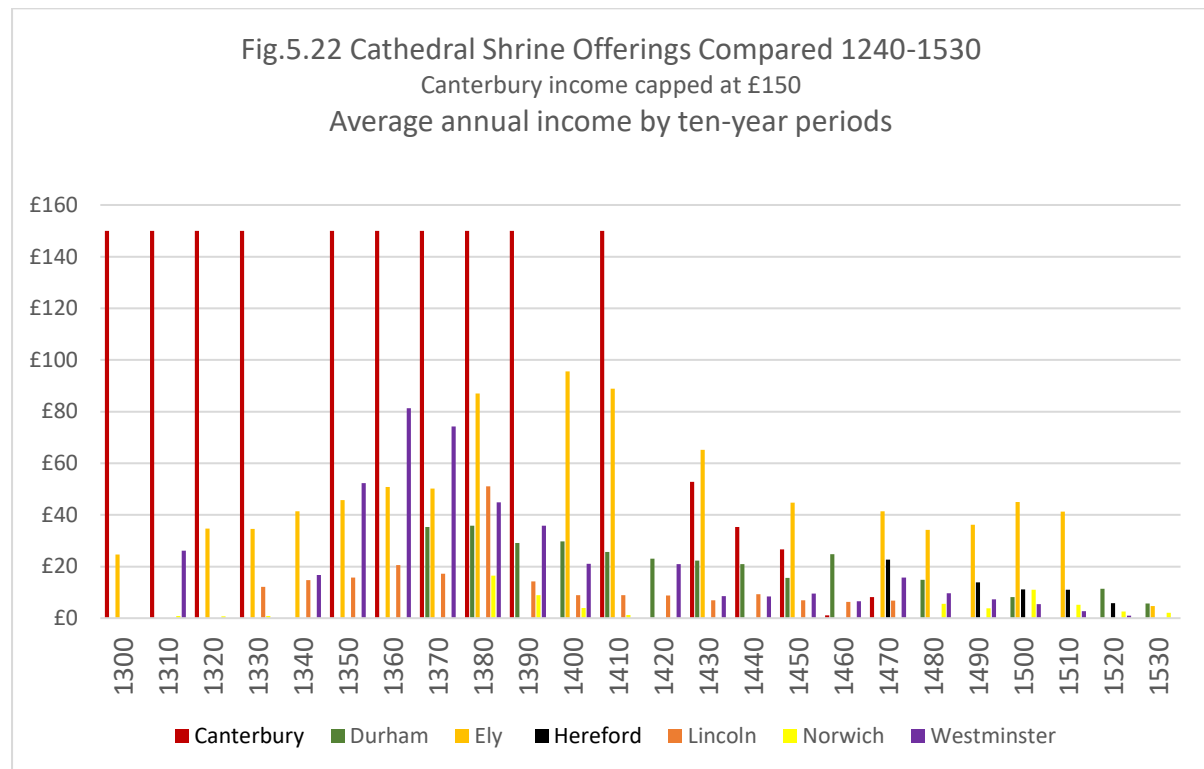


remained accessible, though there must have been special arrangements for pilgrims to reach the shrine. Revenues were at a higher level of £35 p.a. from the 1320s to the 1340s, while the Octagon dome and lantern were being built, and increased sharply to about £50 p.a. in the years after the Black Death (1348-49). After the agricultural recovery of the 1370s,³¹⁰ shrine revenues increased rapidly to £85-£90 p.a. from the 1380s to the 1420s, based on four Sacrist rolls which appear to be consistent. Earnings fell to about £40 p.a. in the slump of the 1450s, but were somewhat ahead of the earnings at the outset in 1322 before inflation is taken into account. It continued at this level until the 1520s, but just £4.68 was reported in 1535-36. The

³⁰⁹ The 1239-1250 figures are taken from the *Cotton Tiberius ms.*, 1290-1387 from Sacrist Rolls 1-21, and 1400-1536 from Nilson (1998), Table 3 for Sacrist Rolls 25-44.

³¹⁰ See Agriculture at Ely, pp. 112-14.

shrine offerings chart should be compared to the chart of altar and parishioner offerings at Ely in the same rolls (Fig. 5.7), which indicates that by contrast local parishioner offerings at Ely fell during the fourteenth century and remained low in the fifteenth.



A wider comparison can be made using Nilson's figures from the cathedral feretory rolls as shown in the bar chart, Fig. 5.22. For the purpose of presentation, the out of scale Canterbury figures have been capped at £150, and are shown in the footnote below.³¹¹ The figures show that there was intermittent growth in feretory earnings in the first half of the fourteenth century, which plateaued before the Black Death (1348-49). After that there were significant increases in shrine revenues, but these peaked and stalled in the 1370s and 80s, and earnings declined to less than £20 p.a. by the 1420s, everywhere except Canterbury and Ely. Canterbury shrine revenues were between £370 and £430 between 1310 and 1340, reached peaks of £657 and £524 between the 1350s and 1370, and declined from £380 to £310

³¹¹ Canterbury feretory average income by decade: 1300, £286.47; 1310, £426; 1320, £388.30; 1330, £373.64; 1350, £656.94; 1360, -; 1370, £524.29; 1380, £378.59; 1390, £365.59; 1410, £318.19; 1420, £15.57; 1440, £35.36; 1450, £26.67.

between 1380 and 1420, before plummeting to between £16 and £35 thereafter. By contrast, Ely Sacristy produced constantly rising incomes, from £35 p.a. at the beginning of the building programmes of the 1320s, rising to over £90 in 1400 and 1410. Thereafter it dropped back to £60 in 1438-39 and to £35-£40 between 1458-59 and 1516-17, which was ahead of all other shrines. Ely's revenues were exceptional, as to a much lesser extent were those of St Cuthbert's at Durham.³¹² The general fall in revenues most likely reflected falling pilgrim numbers after the high point of 1370-80, characterised in the *Canterbury Tales*. However, a 1473 statute of Edward IV which ruled that 'no person go in pilgrimage, not able to perform it without begging' indicates that pilgrims may well have been poorer than they were before.³¹³ Eamon Duffy has argued convincingly that the devotion of saints continued vigorously at the parish level until the eve of the Reformation, and that 'local shrines, as well as the classical pilgrimages to Rome, Jerusalem, and Compostella, remained the focus of devotion up to the very moment when they were outlawed'.³¹⁴ By contrast, the rapid fall in pilgrims at cathedral shrines was most likely due to the short life-span of the post-Conquest saint cults, which fell away within a generation or two of their death as personal memories and devotion faded and there were few new saints or shrines to replace them. Duffy suggests that there was also a change in the objects of veneration:

'where early medieval devotion was focused on relics, late medieval devotion focused on images. The pilgrimages provided for in late medieval wills are usually for local shrines based not on a relic, but on a statue or painting.'³¹⁵

The continuing strength of Ely pilgrimage into the sixteenth century was a remarkable success, which tells a different story. In 1978 Jean Bony drew attention to Ely's particular points of affinity with the oldest of those composite-cruciform octagonal structures: the colossal martyrium of St Simeon Stylites at Qalat Siman of the late fifth century. The martyrial significance of the octagonal

³¹² Nilson (1998), pp. 168-72; Tables 2-9, pp. 211-39; and Graph 15, p. 241, Model Graph of Income.

³¹³ Ibid., p. 179, citing *Calendar of Close Rolls*, 1465-76, p. 299.

³¹⁴ Duffy (1992), pp. 155-90; quotation, p. 191.

³¹⁵ Duffy (1992), p. 167, quoted by Nilson (1998), p. 178.

form may have been deliberately revived at Ely, to pay special honour to St Etheldreda and to all the Saxon saints whose bodies had been venerated for centuries in that old fenland sanctuary.³¹⁶

Philip Lindley mused that the building

‘might have something of the aspect of a “mausoleum” out of the respect accorded to the benefactors of the convent, ...a part of the increased veneration for the Anglo-Saxon past finding contemporary expression.’³¹⁷

Paul Binski interprets the intention of the work as far more wide-ranging:

‘in the fullest sense “choric”, weaving all the significant strands that constituted the institution’s history and identity...so calling the octagon a ‘pantheon’ is not entirely misleading.’³¹⁸

That the late medieval public was aware of ‘the astonishing culmination of inventive energy and vision’ is evident in the results.

Diocesan collections

Unlike other forms of individual offerings, diocesan collections were the responsibility of the bishops. Individual offerings in the diocese were a significant source of income for the secular cathedrals. Diocesan collections were highly organised through the dioceses and archdeacons in Exeter, York, and Wells. The first recorded annual collections in the Exeter diocese from the archdeaconries of Barnstaple, Exeter, Plymouth, and Totnes took place in 1324, a year when a general indulgence for the fabric must have been issued.³¹⁹ In later years a scribe was paid to write out letters of indulgence, known as *venia beati Petri*, which were read out in the parishes each year. The quantities produced varied from 550 in 1328-29 to as many as 1,200 in the years immediately following the Black Death, and

³¹⁶ Bony (1979), p. 40.

³¹⁷ Lindley (1985), p. 171.

³¹⁸ Binski (2014), pp. 223-4.

³¹⁹ D&CE 2611/Erskine, v.1, p. 62 and v.2, p. xi. Erskine suggested this was the first general indulgence for the fabric.

continued at a similar level until at least 1418-19.³²⁰ The terms of the early indulgences have not survived, but the grant of indulgence issued by Bishop Lacy in 1421 is thought to indicate the general form which may have been used.³²¹ Indulgences issued by the bishops (and by the pope when relevant) were published in the consistory court and in the chapter of each archdeaconry and in the three peculiar jurisdictions of the Exeter diocese.³²² The letters were read in parish churches every Sunday, on the holy days of Lent, and in the octave of Easter, until the new works were finally completed. The Exeter benefactors were commemorated at the High Mass of Easter and at the regular masses of the Kalendar fraternity. The collections, which were paid to the fund after the octave of Easter, amounted to £275.85 or 5.9% of the total recorded income of the main rebuilding period of 1299-1342, and averaged £23 p.a. Collectors of indulgence revenues may have been appointed in each archdeaconry, though there is no evidence of this in the early fabric rolls (1298-1353). Diocesan contributions to the fabric fund continued for years after the main building was complete, but in the twelve rolls from 1391 to 1418 the average receipts had reduced to £1.12 p.a. – though it is probable that some proceeds were diverted to the Treasurer’s account. Swanson has noted that the collection of indulgence income was farmed out for a three-year period in 1526 for a fee of £20, but this cannot have been for fabric purposes as the proceeds would not have been worthwhile.³²³ The system at York Minster was similar, and indulgence receipts were collected through the archdeaconries of East Riding, York, Richmond, Cleveland, and Nottingham and two peculiar jurisdictions within the archdiocese.³²⁴ The surviving recorded contributions

³²⁰ Distribution of letters of indulgence is recorded in 1328-29, 1330-31, 1331-32, 1349-50, 1350-51, 1351-52, 1353-54, 1391-92, 1392-93, 1395-96, 1398-99, 1403-04, 1405-06, 1407-08, 1413-14, 1415-16, 1418-19.

³²¹ *Ibid.*

³²² Two of the bishop and one of the dean. These are not normally specified separately in the accounts.

³²³ Swanson (2007), p. 158 and nn.252, 253.

³²⁴ Rector’s chaplains within the City, total £26.05, and Dean’s jurisdiction outside York, total £5.30.

between 1360 and 1499 amount to £744.40 or 8.9% of the total receipts. These eroded quite rapidly from an average annual receipt of £49.87 in 1400-1449 to £20.75 in 1451. It is of interest that Ripon Minster, as a sub-cathedral of the archdiocese, collected indulgence proceeds *in omnibus locis exemptis et non exemptis infra totam diocesam Ebor. cum suis pertinenciis* of £35.10, 2.7% of its own fabric fund (1354-1457).³²⁵

While diocesan collections were a matter for the bishop rather than the chapter, there were a number of fraternities attached to the cathedrals, consisting of lay as well as clergy benefactors, who were admitted to *confraternity* with the chapter and shared in the benefits of worship and *obits* in the cathedrals.³²⁶ Little is known about most fabric fraternities, though the St Paul's confraternity, established by Bishop Foliot in 1175 after an earlier fire had delayed the building, is an exception. Thirty special masses were said for the fraternity each year, fifteen for the living and fifteen for the dead and confraternity members were entitled to a church burial. Members were expected to pay an annual subscription, though poorer members could be exempted. The bishop's writ establishing the fraternity was distributed throughout the diocese by the archdeaconries, and parish priests broadcast the content on Sundays and feast days. He also obtained papal permission to circulate the writ outside the diocese, and the Bishop of Winchester agreed to allow messengers from London to travel through the diocese to promote membership.³²⁷ This was scarcely surprising as the boundaries of the Winchester diocese stretched up to the south bank of the Thames opposite the City of London at the time.³²⁸

³²⁵ *Memorials III*, p. 168.

³²⁶ Edwards (1967), pp. 318, 319.

³²⁷ Graham, *JBAA* ser.3, 10 (1945-7), pp. 73-6.

³²⁸ See Fig. 1.1, Map of the dioceses of England, p. 9.

At Lincoln the donors of lands for the second endowment of lands to the cathedral, such as Richilda and Maud, daughters of Walter Vilein who gave property in St Peter at Arches, were accepted into the Confraternity of the Chapter.³²⁹ A twelfth-century *obit.* roll shows that the donors were of differing social classes, including both William of Romara, the Earl of Lincoln and Gilbert, the clerk, son of Ernald, the mason. Bishop Hugh of Lincoln (1186-1200), who began the rebuilding campaign in 1193-94, had issued an indulgence of 80 days' remission for donors and



Fig 5.23 Lincoln Cathedral, south transept: Works Chantry, late thirteenth century; restored inscription, nineteenth century, beneath hood mould reads *oremus pro benefactoribus istius ecclesiae*. See Vroom (2010), p. 222.



Fig. 5.24 Lincoln Cathedral, south transept: Works Chantry, original carvings, late thirteenth century, *Two chaplains of the Works Chantry*. See Vroom (2010), p. 223.

³²⁹ Owen (1994), p. 117, citing *Registrum Antiquissimum* IX, 2390-91.

formed a guild of St Mary to raise further contributions for the work. The guild predated the founding of the Works Chantry, established by his successor, William of Blois (1203-1206), where three chantry priests nominated by the *custodes operis* said masses for the souls of the benefactors.³³⁰ The chapel still exists in the south transept, with the inscription above its entrance, *oremus pro benefactoribus istius ecclesiae* (Figs. 5.23 and 5.24 above).³³¹ A fraternity of clergy in the Hereford diocese collected £17 13s 2d or 6.5% of the fabric income in 1290-91.³³²

The Confraternity of St Andrew played a crucial role in the organisation of diocesan collections at Wells, and its six surviving rolls between 1390-91 and 1505-06 give a series of snapshots of the workings of the confraternity, which collected £198.31 or 49.4% of the recorded receipts.³³³ Unlike elsewhere, the detailed expenses of the confraternity were punctiliously accounted, amounting to £39.60 or 26% of the receipts in five years, and indicate a highly professional approach to fund-raising. In 1480-81, John Hylle, the *custos*, took charge and made an annual journey throughout the diocese, meeting and entertaining all officials, registrars, rectors, vicars, and other chaplains involved in the collection process at a cost of 26s 6d, plus 2 horses for 18 days at 4d per horse per day amounting to 12s, and a further 3s for an assistant to accompany him throughout the tour. The itinerary progressed through Bath, Axbridge, Frome, Cary, Ilchester, Crewkerne, Taunton, Dunster, Bridgwater, Pawlett, and Glastonbury, before returning to Wells. Regular consistory meetings were held in Wells throughout the year involving the bishop, the archdeacons, and their officials.

³³⁰ Ibid., pp. 120-22, citing Giraldus Cambrensis, *Opera* VII, p. 217, n.219.

³³¹ Ibid., p. 299, citing *Statutes of Lincoln Cathedral*, iii, p. 168. See also Vroom (2010), pp. 220-24 and Pl. 47.

³³² HCA 2368/Capes (1908), p.163; Vroom (2010), p. 240.

³³³ Wells FR1-6/Colchester (1983), pp. 6, 10, 11, 17, 18, 19, 22, 23, 24, 25, 29, 30, 31, 36, 38, 39.

To assist the monitoring process, eight long rolls of lists of names of prebends, parish churches, and chapels were written up by a scribe, together with 480 writs of indulgence at a cost of 16s, with a further 2s for 6 quires of paper for writs and 18d for parchment for the account rolls. Gratuities were paid to local rectors, vicars, and registrars totalling £7 13s 6d for the year.³³⁴ This detailed account of the St Andrew's Confraternity demonstrates a robust and well organised diocesan membership organisation which was capable of collecting substantial contributions to the fabric well into the sixteenth century.

Legacies and wills

Legacies and bequests of the clergy and laity, who are not necessarily distinguishable in the original rolls, underpinned much individual giving and made up 1.9% of total recorded funding. In the main series of account rolls, the revenue consists of a continuing drip-feed of numerous small amounts of a penny or two, with a few larger bequests of up to £10, usually in favour of an active building campaign. Legacies recorded were larger in the secular cathedrals including Exeter (£388.23), York (£326.83), and Salisbury (£53.05 from only 8 rolls), where amounts received typically ranged from a few pence up to £10.

Conclusions

The original records seldom give any indication of contemporary thought about the funding of cathedrals. A rare insight into views on the state of funding at Lincoln is given in the *Liber Niger*:

‘*Memorandum.* That with the chilling of men's devotion towards the church and the saints and the works of God, in this, and also with the adversities and pressures of this world daily increasing, the offerings to the head and shrine of the glorious confessor, [...]which once they had, are so much

³³⁴ WCA FR 3/Colchester (1983), pp. 18, 19.

diminished that the distributions that were customary to the canons, vicars, and other ministers of the said church are so little that to suffice they scarcely extend to the third part of what they used to. Thus, it happens that the distributions in this manner, as much to canons as to vicars and other ministers aforesaid, are totally dragged down.³³⁵

The context was the reinstatement of the twice-yearly opening of the collection trunk at the head and shrine of St Hugh in Lincoln. The first opening was disappointing and produced only one third of what had been expected, which would not cover expenditure that had already been committed. The unsatisfactory state of affairs continued for almost two centuries until the *aperturae* accounts closed in 1531-32.³³⁶ This incident was in the year 1321-22, towards the end of the famine of 1315-1322, which is seen as being close to the highpoint of three centuries of economic expansion.³³⁷ The writer would have been surprised to see the recovery in the Lincoln shrine's fortunes from 1330 to 1380, when collections rose from £10 p.a. to £50 p.a., suggesting that the disaster may have been due more to the consequences of poor weather than the chilling of men's hearts.³³⁸

The trend in cathedral collections, best shown in Fig. 5.8, shows the remarkably steady income of the fourteenth century, followed by a significant change in the fifteenth century when cathedral collections fell away gradually, with more drastic reductions in Ely and York. The sixteenth-century regeneration of fund-raising in Ripon, to promote the new nave, demonstrated that new campaigns for major projects could still attract significant giving. Diocesan collections declined in tandem with cathedral collections. Exeter's diocesan offerings held up well during the main cathedral building period, but reduced after its completion and dried up completely when new issues of indulgences ceased from 1418. York Minster's fifteenth-century diocesan collections reduced from an average of £50 in the first

³³⁵ Nilson (1998), pp. 158, 159, translated from *Liber Niger*, p. 335.

³³⁶ Ibid., Table 7, pp. 222-6.

³³⁷ Dyer (2002), pp. 228-51; Byng (2017), p. 11.

³³⁸ See Fig. 5.22. See Jordan (1996), pp. 24-39.

half to £20 in the second, but the well-organised confraternity at Wells showed that it was still possible to maintain high levels of giving into the sixteenth century. Shrine incomes were more volatile and depended on the regional significance of the saint being honoured. Local saints, usually bishops who had stood up for local causes, inspired cults and shrines which could gather instant momentum. They continued while memories were fresh, but inevitably faded with time. However, the halving of the general population following the Black Death had the reverse effect on the ‘cathedral economy’, and the next half-century brought a boom both in numbers and the donations of pilgrims at the major cathedral shrines as devotional motivation focused on death, remembrance, and the afterlife. National saints, including Northumbrian St Cuthbert, Anglo-Saxon St Etheldreda, and English St Thomas Becket, inspired strong devotion and loyalties. However, even they were not able to withstand the trend towards more private devotion, which set in during the fifteenth century. Collections for the fabric had always been stimulated by ambitious new building campaigns, and as more cathedrals reached a state of completion, there were fewer campaigns to boost the revenues. The most inventive fabric campaigns, notably the massive re-invention of Ely, the well organised confraternity at Wells, or the search for new funding sources for the Ripon nave, could buck the trend, but there could be no denying that it was downward.

Chapter 6

Chapter and Commercial Contributions

Introduction

The larger part of fabric fund incomes came from sources under the control of the cathedral chapters. These revenues came from a variety of sources, including donations by resident and non-resident members of the chapter, usually by covenant agreed with the bishop, grants from treasuries, endowment income from appropriated livings and tithes, and commercial income from agricultural and urban properties and from the sales of goods and services. Whereas the covenanted payments and clergy donations (7.5% of the total income) and the grants from the monastic treasuries (7.3%) were largely directed at new building campaigns, livings and tithes (13.2%) and commercial income (32.9%) were regular and continuing income for the fabric funds. This chapter will seek to answer questions as to how chapter covenants and clergy donations were initiated and renewed, what contribution they made to new campaigns, when and how appropriated livings, tithes, and property portfolios were acquired by the funds, and how much each contributed after the deduction of related costs. An important consideration, as before, is to what extent these chapter and commercial revenues would be sustainable into the future.

Chapter, clergy, and monastic contributions

There were numerous ways in which cathedral chapters could make their contributions; but the predominant one was a limited term covenant. It was not unusual for a diocesan bishop, acting as patron with all the resources of the *mensa episcopalis*, to request the chapter to make similar contributions from the *mensa capitalaris* to demonstrate its support. For the building of

Salisbury Cathedral in the thirteenth century, the canons covenanted annual contributions for seven-year periods which Bishop Richard Poore (1217-1225 and 1235-1238) had initiated in 1219.³³⁹ These covenants were renewed three times, though at the last renewal in 1233 the chapter made it clear that it would have no further obligations for the future.³⁴⁰ In 1387 a unanimous chapter grant of one seventh was made for the expenses of the canonisation of St Osmund and for repairs to the tower and the spire.³⁴¹

When Bishop Thomas Bitton of Exeter (1292-1307) decided to reorganise the rebuilding campaign which had languished since the 1270s,³⁴² the chapter agreed to pay half of their prebends, worth £62 9s 4d annually, to the fund in return for his commitment to make an annual payment of £128 18s 8d, amounting to twice the chapter's contributions.³⁴³ The individual chapter contributions were £6 7s 4d from the Dean, £3 4s 0d from the Treasurer, £3 0s 0d from the Precentor, £2 17s 0d from the Chancellor, and £2 from each of 24 canons.³⁴⁴ Although there were delays in payments, usually on the part of the Treasurer and the Chancellor, the amounts outstanding were invariably paid in the following year. The agreement was successful, and on completion of the main cathedral building in 1342 the total contributions of £2,784 represented over 20% of its cost. The question arises as to whether their contributions were really voluntary on the part of the chapter. That this seems to have been the case is suggested by the fact that the chapter continued to pay their share for 15 years after Bishop Grandisson had pleaded poverty and cancelled his share in 1328. However, while most diocesan clergy offerings were voluntary, those required by Bishop Stapeldon's 'voluntary subsidy' (*gratuito subsidio*), worth £248 in the Exeter rolls of 1310-11 and 1312-13, were not.³⁴⁵ His statute *ad subveniendum fabricam ecclesie Exon'* of 8 May 1310 aimed to put

³³⁹ Vroom, p. 229, citing Jones and Dunn Macray, *Charters Salisbury* (1889).

³⁴⁰ Vroom (2010), p. 117.

³⁴¹ Edwards (1967), p. 92, n.3.

³⁴² D&CE 2601, 2602/Erskine, pp. 1-16: only the side chapels, aisle walls of the presbytery and masonry of the Lady Chapel were completed in over 20 years.

³⁴³ Erskine (1983), v.2, pp. ix, x.

³⁴⁴ D&CE 2602-2632/Erskine, and Erskine, v.2, pp. ix, x.

³⁴⁵ D&CE 2610, 11/Erskine, pp. 51 and 62, for payments by Master J. de Upavene of £158 in 2010-11 and £90 in 1312-13.

the fund onto a better footing after the unforecast deficit of £70 incurred in completing the choir in Master Roger's last year.³⁴⁶ He decreed a subsidy of 6d in the mark (3.8%) for three years for all resident clergy of the diocese, and double that for non-residents. Remarkably, the fabric fund was restored by the proceeds of £158 in the next account roll of 2010-11, and a further £90 in 1312-13.³⁴⁷ In addition, he persuaded local monasteries to provide obituary masses and intercessions for fabric donors, which were promulgated by nine houses in July 1310.³⁴⁸ The total receipts for that year of £385 9s 10d were the largest ever recorded in Exeter, apart for those in 1325-26 when he made a massive gift.³⁴⁹

Chapter covenants were more formal at York, where the chapter had pledged contributions of two-sevenths for three years at the start of Archbishop Romain's nave in 1296 and subsequently renewed them. Similar commitments were made and renewed for Archbishop Thoresby's Lady Chapel in 1360, though the receipts cannot be identified in the single fragmented account of that time.³⁵⁰ Occasionally chapters were also asked for one-off contributions for lesser projects, such as the choir stalls at Wells, which were paid for by a levy of £1 10s on all residentiary canons in 1325 and a further lump sum of £200 from the non-residentiary canons in 1327.³⁵¹ According to G.H. Cook, there was a further levy, raising £1,000 from the residentiaries and £200 'still-owing' from the non-residentiaries, to stabilise the central tower in c.1337.³⁵² The six residential canons at Ripon, who were paid £4 p.a. out of common funds and £2 p.a. from an additional prebend, made one-off grants for the new nave of £27 13s 4½d in 1503-04 and £55 5s 11d in 1512-13.

A substantial covenant of equal significance to that of the Exeter chapter was made by the Westminster Abbey monks at the behest of Thomas Millynge, Prior 1466-1469 and Abbot 1469-1474, to regenerate their rebuilding campaign. After seven bays of the nave had been

³⁴⁶ D&CE 2610/Erskine, v.1, pp. 61, 62; D&CE 3625, fo.29, 30; B.L. Harleian MS. 1027, 31v-35.

³⁴⁷ D&CE 2609/Erskine, p. 51, 2610/Erskine, p. 61.

³⁴⁸ Buck (1983), p. 51. D&CE 2145-2152; Bodleian MS. Top. Devon c.16, ff.41-46.

³⁴⁹ Table 7, D&CE 2610, 2624/Erskine pp. 51, 52, 164. Also Erskine, v.2, p. x.

³⁵⁰ See Raine (1959), pp. x, xi, 173: Ill. Doc. XXVI, *Convocacio pro Nova Factura*.

³⁵¹ Cook (1957), p. 124. No reference is provided to original sources.

³⁵² Ibid., pp. 244-6. No reference is provided to original sources.

completed to the top of the clerestories under the patronage of Henry V from 1413 to 1422, the campaign had run out of steam and they had remained un-roofed and un-vaulted for 45 years. The rolls show that an average of 44 *confratres* (brethren) or monks contributed one mark (13s 4d) each from 1470-71 to 1521-22 and a reduced rate of a quarter of a mark (3s 4d) in the three years from 1523-24.³⁵³ In addition, the monks donated their annual harvest benefits of £5 for 63 years.³⁵⁴ The total contribution was £2,175, representing 21.2% of the recorded income of the fabric fund.³⁵⁵ The monks of Ely had given a similar donation of their annual *O et Olla* benefits to the *novum opus*, but these were sparsely recorded in the Sacrist Rolls.³⁵⁶

In *Financing Cathedral Building*, Vroom explored seven forms of chapter contribution, which involved diversion of income streams to the fabric from their established purposes.³⁵⁷ These were seldom used in England in the fourteenth and fifteenth centuries, though vestiges may have remained. The practice of prebendal incorporation, in which the number of chapter canons was reduced by one and the canon's share of the *mensa capitalaris* income thus saved and transferred to the fabric fund, did not occur in this survey, though it may have been used at Lincoln at the inception of their fund in the 1220s.³⁵⁸ The proceeds of prebends paid during canonical vacancies, the *fructus prebendae defunctorum*, were a major source of income for northern European cathedrals, of which about one third was allocated to the fabrics, but no such payments are recorded in this survey.³⁵⁹ However, small vacancy payments from chantry chaplaincies were credited to the York fund in the late 1400s.³⁶⁰ More important were the proceeds of parish vacancies which made a significant contribution to the Wells fabric fund. These must have been introduced after the 1390-91 account roll, when there were none. The vacancies occurred in the five surviving rolls between 1457 and 1505, when payments were made for 58 quarters rising to 94 quarters annually, totalling 409 quarters of vacancy payments

³⁵³ WAM 23535/6-23613/4/Rackham.

³⁵⁴ WAM 23549/50/Rackham, and Rackham (1909), pp. 32, 59.

³⁵⁵ Tables 15 and 16.

³⁵⁶ *O and Olla* refers to special benefits given to monks during Advent. EDC 1/F/8, 10, Chapman, v.1, p. 15.

³⁵⁷ Vroom (2010), pp. 99-139.

³⁵⁸ Owen (1981), pp. 42-3.

³⁵⁹ Vroom (2010), pp. 104-6.

³⁶⁰ YMA E3/6, 7, 10, 11/YAT.

from 55 parishes in all. These realised £106 2s 8d, which is equivalent to 26.4% of the fund's recorded income.³⁶¹ Canons were asked to pay entry fees when admitted to the chapters, some of which were transferred to the fabric. Under a statute of 1251, new canons at Chichester were required to pay 150 marks for admission, plus a further donation of 25 marks to the chapter and 25 marks to the fabric.³⁶² A number of fines payable by chapter canons, normally for non-residency, were also directed to the fabric, and Bishop Stapeldon made his dispensations for non-residence and other payments conditional on a prior payment to the fund.³⁶³

Other contributions included burial fees and the mortuary gifts in canons' wills in cash and in kind. In York, most of the proceeds came from palfreys and copes, presumably difficult items to dispose of. Three high-status palfreys fetched between £5 and £6 13s 6d each from 1404 to 1423.³⁶⁴

The fabric funds seldom benefited from major lay donations. In most cases they were provided by aristocratic families related to the bishops and will be discussed in the next chapter. However, the monastic cathedral chapters maintained good relationships with local individuals of substance, which were used to good effect when required.³⁶⁵ In 1325, a vital year for the building programmes at Ely, Prior Crauden was in serious financial difficulties and was able to raise new loans of £391 15s 1¼d to invest in grain stocks and dyke construction, £220 of which was from 'private friends whom he does not wish to name' and nine others allowed a postponement of the current year dues.³⁶⁶ A local widow, Joanna of Bray, lent the Priory £40 and received an annual pension in lieu of repayments.³⁶⁷ Later at Westminster Abbey the announcement of Millyng's campaign to complete the nave in 1468 brought a series of significant lay gifts and bequests which amounted to £264 2s 8d in John

³⁶¹ Colchester (1983), p. 68, Appendix C.

³⁶² Edwards (1967), p. 64.

³⁶³ Buck (1983), p. 51.

³⁶⁴ YMA E3/27, 29, 32/YAT.

³⁶⁵ See pp. 140-2.

³⁶⁶ EDC *Status Prioratus Elyensis* EDC 1/F/13/7 and photo of m/s in Fig. 3.5b. Unpublished transcript by Chapman, EDC 14/21/4.

³⁶⁷ EDC 1/F/3/Chapman v.2, p. 25.

Estney's term (1471-1497). Gifts of 40 oaks from the Duke of Gloucester and a further 40 from Sir Thomas Bowcer in 1472-73 completed the picture.³⁶⁸

Central treasury funds

Treasury subsidies were rare in the secular cathedrals. A subsidy of £54 was granted by the chapter to the York Minster fund in 1398, and from 1522 annual subsidies of £20 were provided at Ripon for the high altar works created by William Bronflet.³⁶⁹ In the monastic cathedrals, subsidies were regularly voted from treasury funds for new work. The Ely Sacristy was an exception in that it had the resources to finance its own building operations. It received £6 13s 4d in 1322-23 and £51 9s 3d in 1323-24 from the Prior and Convocation as work on the new Octagon began, but these should be regarded as tokens of support. In the Durham building accounts between 1366 and 1419, the Bursar paid out £180.93 for the Prior's Kitchen in full; £196.44 or 30.7% of the cost of rebuilding the monks' dormitory, which was otherwise financed by Bishop Skirlaw and heads of Durham's subsidiary houses; and £583.52 for rebuilding the new cloisters. The treasurer's subsidies for the Westminster Abbey nave (1376-1532) amounted to a colossal £14,416 8s 8d, or 60% of the total cost of £24,221 0s 0d, calculated by Rackham using averages for the account rolls that were missing.³⁷⁰

After a reorganisation in the wake of the Black Death, the treasurer at Exeter collected most fabric fund revenues and patronage and paid over the proceeds as lump sums at the beginning of each year.³⁷¹ These were specified on indentures which have not survived. The uncategorised revenues collected amounted to £3,766.21. A similar system was in use at Lincoln, where Peter Oakland collected unspecified payments for the fabric in 1464-65 and 1465-66, about 40% of total receipts, which were no doubt listed in separate indents.³⁷²

³⁶⁸ Rackham (1909), see Appendix IVB p. 59.

³⁶⁹ *Memorials III*, pp. 183, 184, 185, 186.

³⁷⁰ Rackham (1909), App. IVB, p. 59. The total income recorded in the surviving rolls is £15,651.92, or 64.6% of the total.

³⁷¹ Table 8.

³⁷² LCA Bj/1/4 and Bj/3/7/3 (Fabric Rolls 3 and 4 of the series).

Living and tithes

Fabric funds were invariably provided with opening endowments, as discussed in Chapter 1, and these produced a reliable 13.2% of the total recorded income.³⁷³ The appropriated livings to start new fabric funds included Topcliffe church, transferred to York in c.1175; St Erth church, appropriated to Exeter in c.1204; St Andrew's, Cambridge, Wentworth church, and Downham church, appropriated to Ely in 1229, c.1230, and before 1291 respectively; Lydney Rectory, acquired by Hereford chapter in 1270; Catton church, transferred to Norwich Cloisters before 1283; and Longdon church, acquired by Westminster Abbey in 1335. The aggregated income from these livings provided at least £185 p.a.³⁷⁴ All of the initial endowments produced reliable incomes, which continued throughout the period. Yields received were net of costs, though the expenses of significant repairs and improvements were normally borne by the fabric fund. The associated costs of appropriation will be discussed in more detail at the end of the section. Additional appropriations were added to the larger fabric funds as and when extra funds were needed for significant projects. Hereford Chapter, which acquired the advowson of Shinfield, Berkshire worth £20 p.a. in 1269, pursued this appropriation for many years, which was finally approved by the diocesan, Bishop Martival of Salisbury, in 1320. The acquisition was intended to provide for large costs of canonisation and a new building programme, which was no longer supported by shrine earnings. Fortunately the appropriation revenues doubled to £40 by 1386-87, at which stage the Cantilupe shrine proceeds had fallen away, earning just £1 8s 6d p.a.³⁷⁵ The appropriation of the church at Misterton to York Minster in July 1378, initially for ten years, was to produce a gross income averaging £23.98 p.a. over 26 years, to provide for the new work of the western choir.³⁷⁶ At Westminster, the new fabric fund was established from 1341 to rebuild the cloister and the infirmary, which were in poor shape after the fire of 1298. Once that was complete, the nave

³⁷³ See pp. 15-17.

³⁷⁴ See Tables 5-7, 9-11, 14-18; EDC 1/F/3-/Chapman, p. 35-, D&CE 2610/ Erskine, p.51, HCA 2368-, DCN 1/12/2 [1030], Fernie and Whittingstall (1972), p. 51, WAM 23452/ Rackham, YMA E3/3-32/YAT; Chapman, v.1, pp. 112-16; Erskine, v.1, p. xii.

³⁷⁵ HCA2371/Yates (1973), pp. 79-86.

³⁷⁶ Raine (1859), p. 13 n.3, and YMA E3/3-29.

took priority and the Longdon revenue of 40 marks (£26 13s 4d) became insufficient. The treasurer purchased new lands and tenements in Westminster for £66 13s 4d from the widow of a certain Robert Longdon, settled first on the Sacrist and then on the fabric fund in 1377-78. These properties, confusingly known as ‘Longdon’s rents’, included the Bell and the Sarsenhed public houses and yielded about £25 per year, which was extraordinarily good value. In the absence of additional subventions, the chapter also transferred the farms of the manor of ‘Paddington’ (£20 p.a.) and of the manor of ‘Hide’ (£13 6s 8d p.a.) to the fund, which was thus assured of annual income of £85 as the *novum opus* of the nave began.³⁷⁷

While most tithes and estate incomes had originally been transferred direct to the *mensa capitalaris* and were used to finance prebends, significant settlements were also made direct to the fabric funds. In Ely these consisted of lamb, wool, and flax tithes, income from three mills and fisheries, and a traditional payment from the Bishop, *de Garbis Episcopi*, consisting of a sheaf of corn for every acre of wheat grown on his demesne.³⁷⁸ These payments amounted to 9.2% of the Sacrist’s total recorded income. In York, the mill of Brotherton provided annual surpluses of £5 to £7. The Winchester fund was the beneficiary of the livings of Nutshalling and Millbrook Manors and of the Provost of Wymanstone. This income changed little over the years, contributing £56 9s 0d in 1408 and £59 16s 9d in 1532, a large proportion of the total income of about £65 p.a.³⁷⁹

Appropriated livings carried with them responsibilities for maintenance and improvements, but these were by no means burdensome. At St Erth, the Exeter fabric fund undertook repairs to the chancel, payment of papal taxes and the king’s tithes, and the glazing of three windows in the church at a cost of £2 1s 6¾d. The figure should be set against the income received of £119 in the same years.³⁸⁰ In York, £63 11s 7½d was paid for repairs and costs of Topcliffe church, representing less than 2% of the total income in the 21 years for

³⁷⁷ See Rackham (1909), pp. 4, 5. A full list of rents with tenants is to be found in WAM 23478/Rackham (1412-13).

³⁷⁸ Chapman (1909), p. 121.

³⁷⁹ Kitchin (1892), pp. 209-23.

³⁸⁰ Papal taxes were charged at ¼d in the £, *de libre q.* and the king’s tithe at 5s in the mark. See Erskine (1981), v.1, pp. 141, 172.

which both expenses and receipts are available. The fund also paid for a chaplain to celebrate obituary masses for the benefactors of the Percy family in Topcliffe church at a cost of £5 p.a. and for the fees of the steward of the church at 13s 4d. p.a.³⁸¹ The combined costs amounted to just 7.2% of the £95.29 average annual income received, of which 5.2% was the cost of the chaplain. The Misterton costs were rather higher for the four years for which we have both figures, at 37.1% of revenues of £23.98 p.a., but they include significant costs for clergy for two years, which were not paid subsequently.

The rolls contain little detail of the appropriations for new fabric funds, as almost all pre-dated the introduction of accounts rolls. This was not the case for the Westminster Abbey fund, which started with the benefit of two livings in 1341-1344 after a long process which had begun with the disastrous Westminster fire of 1298. The Longdon appropriation turned out to be exceptionally complex after the monastery's decision in 1331 to arrange it by papal bull rather than the more usual route through the diocesan authority; this was because the bishop, Adam Orleton (1327-1333), was not sympathetic and had used delaying tactics. By the time a second bull had been issued and accepted, Orleton had been translated to Winchester and the incumbent had died, making it necessary to restart the process under a new bishop. The process was finally settled in 1341 after 37 years and 13 years of legal and travel expenses of at least £68 9s 5½d.³⁸² However, by the mid-fifteenth century the stipend provided for the vicar proved insufficient and further litigation ensued. A ruling in favour of local interests was unsuccessfully appealed in the Court of Arches and in Rome. The settlement costs amounted to £80 17s, more than three years' receipts of the Longdon appropriation, after which the arrangement returned to one of significant surplus.³⁸³

Although appropriated livings proved to be a stable source of finance for the fabric funds, there is no doubt that the diversion of resources from the intended beneficiaries was controversial even in the fourteenth century. Bishop Cobham of Worcester (1317-1327), who

³⁸¹ YMA E3/3-32/YAT.

³⁸² Haines (1989), pp. 5-11.

³⁸³ WAM 21262/Rackham; the details are examined in Haines (1989), pp. 3-14.

according to Haines was ‘not averse to appropriation in principle’ and ‘looked upon the benefices as essential remuneration for those engaged in the wider business of the church’, was principally against the permanent transfer of benefits from parishes to religious houses. However, as he had noted to an archdeacon’s official in 1322, there were constant complaints that in appropriated churches ‘the portion assigned to vicars is so small and mean that they cannot pay their ordinary dues, exercise hospitality, or fulfil other obligations’.³⁸⁴ Lunt has shown that the average stipend of 74 rectors in the Norwich diocese in the *Taxatio* of 1291 was £19 2s 7d, whereas the average remuneration of 77 vicars was only £7 3s 7d.³⁸⁵ The complaint was an important one, as appropriated churches constituted 18.7% of all parish churches, which was to rise to 39.6% by the early sixteenth century.

Commercial income

Commercial income made up the larger part of the regular income for most secular cathedrals, and in general amounted to about one third of the total recorded income. While agriculture was the basis of the Ely Sacrist’s revenues, urban property rentals were a major source of regular income for Westminster Abbey, York Minster, and Ripon.³⁸⁶

Agriculture at Ely

Agriculture was the mainstay of most cathedral revenues through the rents and surpluses of farming estates which generated both episcopal and chapter incomes. While a large proportion of such income was stable, coming in the form of fixed rents from tenanted farms, the Ely Sacristy was dependent on the more variable farming surpluses from its demesne lands which are shown in the account rolls. The only surviving Treasurer’s Roll of this time, that for 1335-36, includes the receipts of all the Ely Priory estates except those managed by the Sacrist. They produced a total income for the year of £861 11 10d.³⁸⁷ The Sacrist roll for that year has

³⁸⁴ Coulton (1923-30), v.3, pp. 163-78; quotation p. 169; see Haines (1989), p. 3.

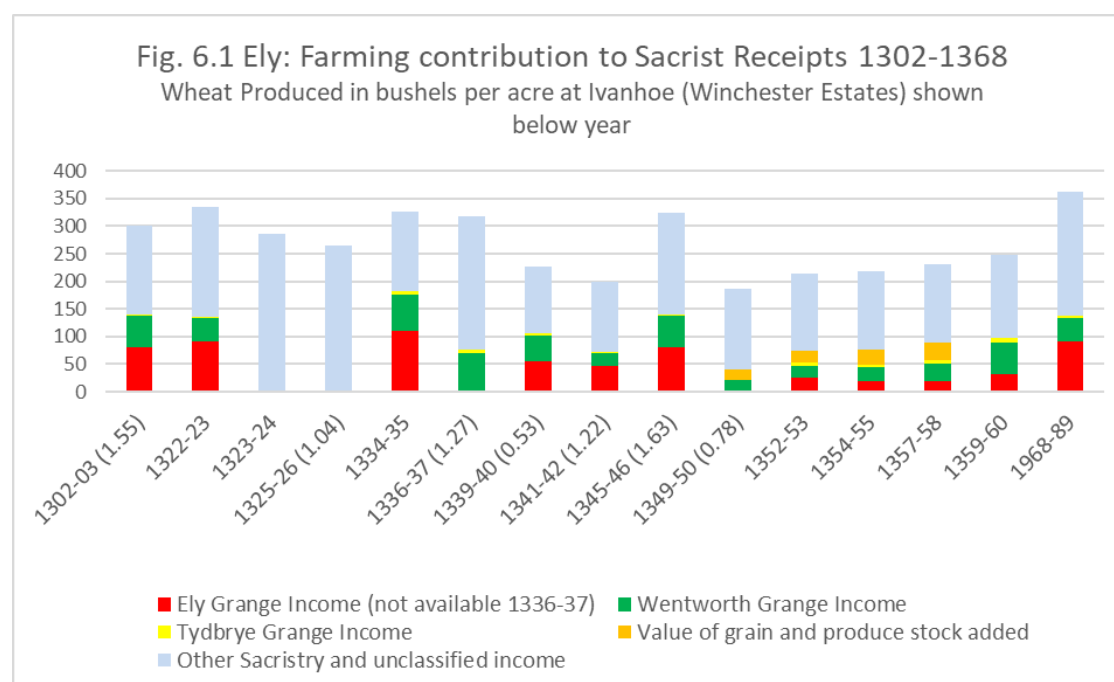
³⁸⁵ Lunt (1926), see p.127, 8; Coulton (1923-30), v.3, p. 170.

³⁸⁶ Figs. 5.1, 5.5.

³⁸⁷ EDC 1/F/13/10 (35-36). See F.R. Chapman unpublished transcript, EDC 1/F/14/21.

not survived, but the receipts for the previous and following years were close to £320.³⁸⁸

Taking the rolls together, 85% of the priory annual income was agricultural. The Sacristy was beneficial owner of the granges of Ely, Wentworth, and Tydebrye, and a farm in Cambridge which together financed the building programme.³⁸⁹ The annual income for each from 1302 to 1360 is shown in bar graph Fig. 6.1.



While long-term agricultural income is known to have been improving in the Ely fenlands through the gradual development of enclosure and drainage systems, short-term fluctuations in conditions had a far greater effect on the immediate results of demesne farming. These included the extreme weather of the early fourteenth century, the shortage of labour after the Black Death, and the later recovery.³⁹⁰ The account rolls show that income increased from £140.02 in 1302-03 to £182.65 in 1334-35, despite the great famine of 1315-1322. The variations mirror the crop productivity results at Ivanhoe, Bedfordshire, the nearest of the Winchester estates, which were researched by J. Titow; the wheat yield per acre there is shown

³⁸⁸ EDC 1/F/10/VI/ Chapman, pp. 74, 75. EDC 1/F/10/VII/ Chapman, pp. 85, 86.

³⁸⁹ Only two payments are recorded in 1302-03 and 1359-60 amounting to 9s. Most years have a nil return. For 1357-58, *De granario in Canteburgia nihil quia vacat*, EDC 1/F/10/XIV/Chapman, p. 173.

³⁹⁰ See Darby (1983), pp. 42-60, Appendix A.

after the year when available.³⁹¹ Excessive cold during the winter of 1339-40, at a time when ‘servants of the grange and watchers and workers [were] preserving, guarding, and defending the great bridge at the time of the ice’, was followed by the poor harvest of 1340. This was reflected by the low receipts in 1339-40, which were mirrored in the lowest gross yield of 0.53 bushels per acre at Ivanhoe that year. The results improved by 1345-46, the year in which Ivanhoe productivity was at its highest at 1.63 bushels per acre. The value of production fell by 85% after the onset of the Black Death in 1349-50, with the yield at Ivanhoe of 0.73 per acre. The extreme drought conditions of 1352-53, when fish catches and fishery tithes were reported as ‘nothing’ and ‘not more [...] this year because of the drought’, held back the recovery of estate revenues; they only reached 70% of their former value by 1359-60, due to continuing shortage of labour and harvest helpers. From 1349-50 onwards, inventory reports were provided of physical stocks of grain produced for the stores at the Sacrist’s great barn at Ely, to improve the food security of the monastery. The slow recovery of agricultural revenues was supplemented by the value of increasing holdings of grain, which are valued in the bar graph by reference to current prices at the nearest point quoted in Thorold Rogers, normally in Cambridgeshire or Essex.³⁹² Additions to stock were valued at 20-30% of the Sacrist’s total income by 1359-60. Full recovery was not achieved until at least 1368-69, when the Sacrist account of agricultural income reached £138.75, a figure only previously exceeded in the high years of the mid-1330s.

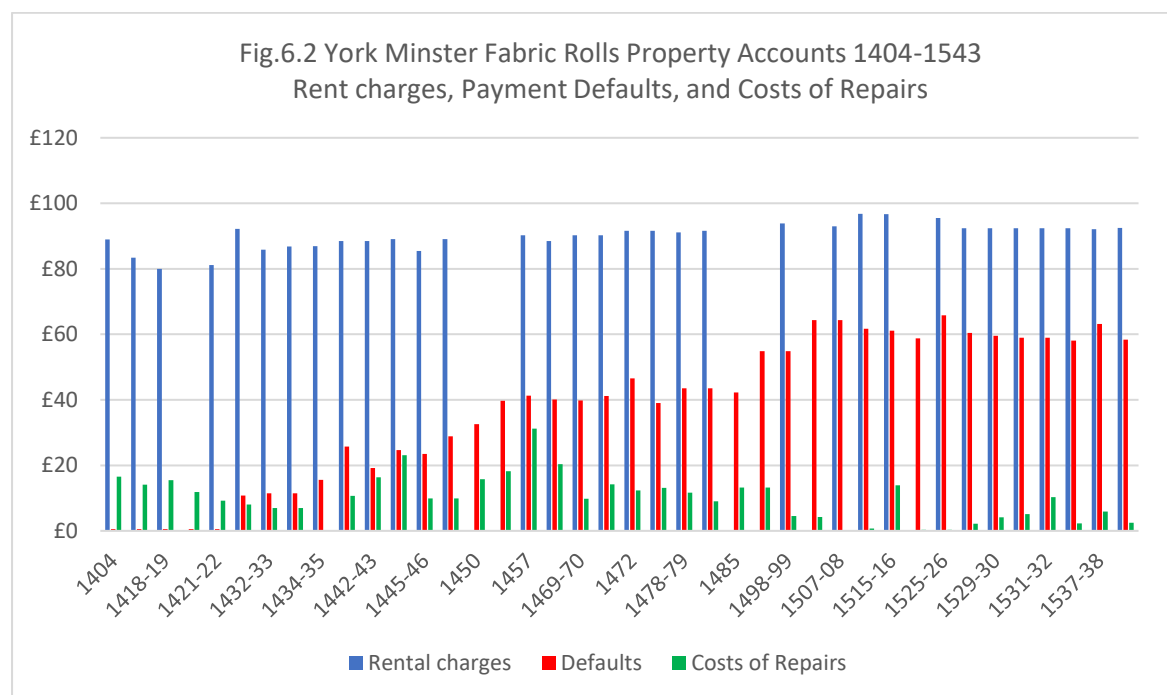
Property revenues

Most secular cathedrals had property portfolios of some size, consisting of local residential property and shops in the vicinity of the cathedral. In Exeter no property was endowed to the fabric fund before Dean Richard Brayleigh’s bequest of 23 February 1345, after the main building campaign was complete. With small acquisitions and new shops between 1395-96

³⁹¹ The gross yields of wheat per acre in bushels at Ivanhoe in each year are from Titow (1972), Appendix G, pp. 87-91.

³⁹² Unlike other great monasteries, Ely did not actively trade in the grain market till the late fourteenth century. See Slavin (2012), Tab. 2.2, p. 21.

and 1491-92, revenues gradually increased to a total of £331.68 or 7% of receipts of the later series of 1373 to 1513.³⁹³ In Wells rental income of about £8 per year produced 12.3% of income in the six surviving rolls.³⁹⁴ The Ripon Minster properties included 8 landholdings, 8 tenements, and 4 school rooms in 1424-25, and accounted for 24.7% of recorded income through 1354-1541. Although much of the income came from properties which had been settled on the chapters before or at the Conquest, both Lincoln and Salisbury had significant portfolios on new sites established after the Conquest. The Salisbury roll of 1464-65 shows that income of £113 8s 4½d, totalling over 55% of the total, was received from 24 properties, and that the costs of defaults (14s 6½d) and repairs (5s 10d) were low. By contrast



the Lincoln roll of 1512-13 shows that rents of £43 16s 6½d were charged on 133 properties, but that 57 payment deficits amounted to almost one third of rental income at £14 13s 2d.³⁹⁵

The payment defaults in Lincoln were symptomatic of industrial decline in other larger towns and cities in the fifteenth century, of which York is the prime example. The reduction in economic activity there was caused by the migration of the local wool trade to west Yorkshire

³⁹³ Erskine (1983), v.2, pp. xii, 275, 276, 278 n.4, D&CE 2228, 2633/Erskine.

³⁹⁴ Colchester (1983), pp. 5-42.

³⁹⁵ Lincoln, LCA bj. 3/7/3; Salisbury, SCA F/1/1/1 (1464-65).

in search of less expensive labour and mills, and the consequent movement of merchants to Hull and London. This hit the York Minster property portfolio directly, as vacancies and rental defaults grew (see Fig. 6.3 below). It had the largest portfolio in this survey, which had originated in a pre-Conquest settlement and consisted of 95 properties within the city and three beyond.³⁹⁶ The gross income from rents was a sizable proportion of total fund revenues, rising from 13.9% to 31.3% in the first half of the fifteenth century and 40% thereafter, when other sources of income declined. Total rents chargeable rose slightly, from £86.91 p.a. in 1434-35 to £93.86 p.a. in 1498-99, and remained at that level. However, *decasus et defectus* charges, i.e. the provision for rent reductions and defaults, of which there were none in earlier accounts, grew rapidly from 1432-33, when there were 13 empty properties, three which had not paid in full, and 13.3% of the rent went uncollected.³⁹⁷ This increased to 45.3% in 1457-58, when 20 tenants had vacated or were unable to pay rent, and 45 tenants had been offered reductions of rent from 10% to 50%, but averaging about one third.³⁹⁸ They plateaued at that level, only to rise again from 1485 to 58.4% by 1498-99, when 44 defaults (vacancies) and 46 rent reductions affected almost all of the properties in the city.³⁹⁹ It is evident that the cathedral authorities exercised discretion with some kindness and Marjorie Stirtevaunce, who lived in Petersgate, had her rent cancelled *quia valde pauper est*. The costs of repairs which rose to 25% in the early fifteenth century reduced to about 10% for the remainder of the period, though this may have been due to neglect. The effects of the high levels of *defectus et decasus* on the accounts were discussed in Chapter 3.⁴⁰⁰ The surviving rolls include the addresses of the properties, the names of tenants, rents charged, *defectus et decasus* allowances and the cost of repairs for each property, which make it possible to see what was going on each area of the city (see Fig. 6.3 below).

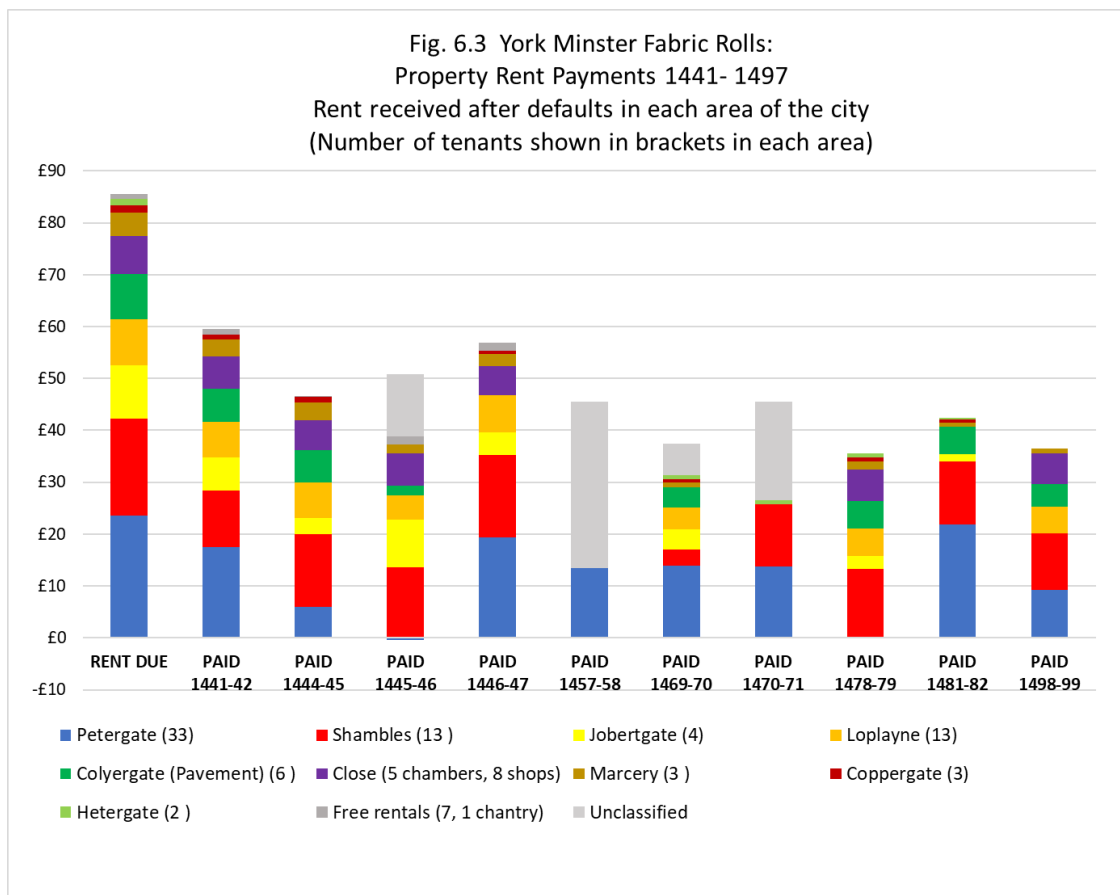
³⁹⁶ For York endowments, see p. 17.

³⁹⁷ YMA E3/12/YAT.

³⁹⁸ YMA E3/22/YAT.

³⁹⁹ YMA E3/32/YAT.

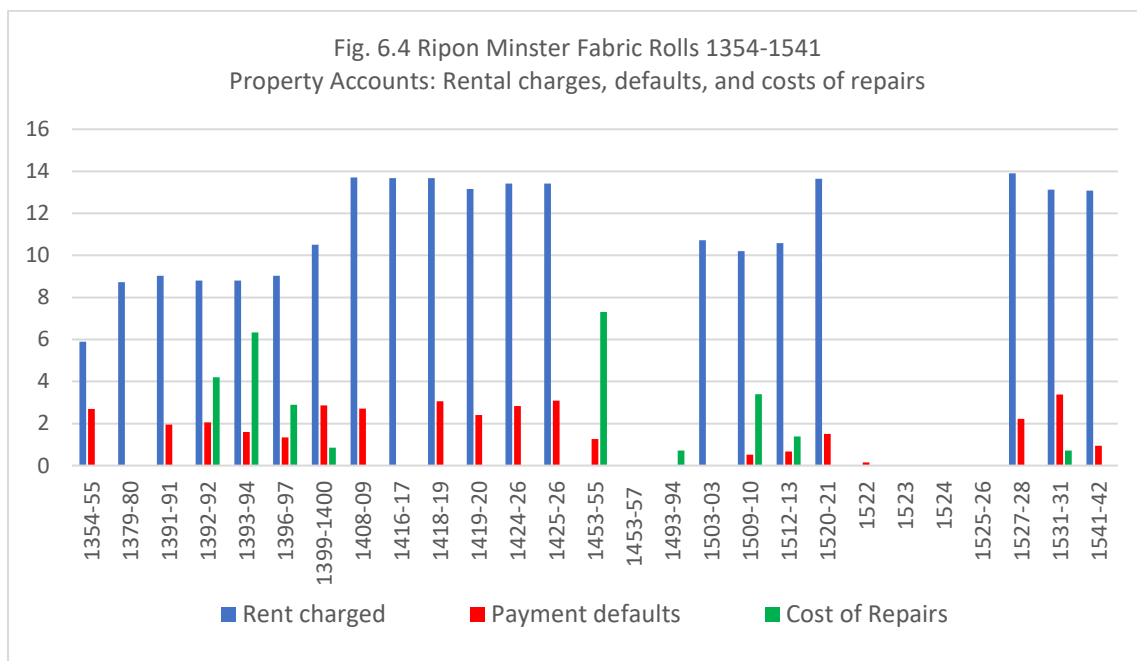
⁴⁰⁰ See pp. 36-40.



Within the close there were 8 shops and 8 chambers, usually let out for a total of £6; unsurprisingly, these were fully occupied throughout the period. Loplayne (now Dunscombe Place), immediately south of the west front of the Minster on the way to St Leonard's landing, had 13 tenancies producing 9% of total revenue and a 55% default rate in the period. Petergate, running from east to west to Bootham Bar and crossing Loplayne, had 33 tenements belonging to the Minster, representing 30% of rental income and a higher default rate of c.60%. The Shambles, south-east of Petergate, produced a further 25% of the revenue from 13 properties with a similar default rate. The remaining 36 properties were further south and east, and were more likely to have been affected by the collapse of the wool trade, with 35% of the chargeable rent and higher default rates.⁴⁰¹ No revenue improvements occurred in the early sixteenth century, and the fact that nothing was done to mitigate significant financial losses

⁴⁰¹ See Fenwick (2005), pp. 140-56, Palliser (2014), pp. 235-8, 275-8.

must indicate that the possibilities for improvement were limited. The situation in towns which were not subject to the wool trade restructuring was different, as was the case at Ripon, where the rental values were lower and unpaid rentals were below 20% throughout the period (see Fig. 6.4 below). It is a point of interest that the intermittent costs of repair as a proportion of total rental receipts in York (11.1%) were similar to those in Ripon (9.7%), although the materials bought for repairs in York were typically tiles and brick, whereas those for Ripon were timber and straw.⁴⁰²



Sales of goods and services

The importance of sales of goods and services at different cathedrals varied, depending on how the masons' yard was run at a particular time. At Exeter they were not substantial, with a total of £16.10 during the main building campaign (1298-1342), less than half a percent of recorded revenues. It is evident that the masons' yard was efficiently run, and surpluses of building stocks for sale were few. Down-time for horses and carts was put to good use in the service of local wine merchants, and carpenters and labourers working temporarily on the bishop's premises were charged out at cost. In 1319-20, 15s 10d was charged to the cathedral

⁴⁰² Property accounts for Ripon and York are shown in Figs. 6.2, 6.3, 6.4. and Tables 11 and 18

stewards for felling and cutting timber for the gates of the close. Perhaps the most notable transaction was the sale of stone to Master Roger for £2 3s 4d in 1306-07, including carriage, showing that he like other masters traded in building materials on his own account. In the later rolls of 1373-1514, sales mainly of lead and timber continued at low levels, bringing in little more than £1 annually. Likewise at Ely, external sales during the building of the Octagon were minimal. At York, where the works team operated at a full capacity for a much longer period, recorded sales amounted to £232.37 or 2.8% of total revenues, of which about 30% came from stone, 30% from timber, and 5% from lead. At Wells, sales revenues of £17.89 were 4.5% of total income, of which lead was the largest component followed by boards, stone, and glass. Details of the customers are scant, but it is evident that most went to clerical and building staff, to tradesmen and to other churches.

Conclusions and prospects

The significance of chapter contributions, endowments, and commercial incomes was not only that they provided more than half of the recorded revenues, but that they were the most reliable part of the portfolio. Income from chapter covenants (7.5%) was a key element as it represented the chapter canons' individual and corporate commitment to the fabric. As such, covenants were usually subject to chapter resolutions and statutory agreements with the bishop, were securely backed by the canons' statutory prebends, and provided a strong mandate. Covenants typically lasted for 3 to 7 years before renewal, if not for the life of the new building campaign as at Exeter or at Westminster, where coincidentally contributions continued for 51 years in both cases. Total endowment income amounted to over 13% of the funds, and income received was almost constant for the duration of the longer series of rolls of Exeter, Ely, York, and Westminster.⁴⁰³ Commercial income was 33% of the total, and consisted of agricultural and rental property income and sales of goods and services. The only example of direct agricultural income in the rolls is that of the Ely Sacrist's demesne estates.

⁴⁰³ See Figs. 5.3-5.5. Variations in the totals for York are due to inconsistencies in Misterton church proceeds. Exeter earlier series livings and tithes are included in 1299-1353, but are not available for the later series, 1373-1513.

Despite volatile conditions, the resources of the Sacrist's office proved adequate to finance the building of the Octagon and the purchase of the Brame and Mepal estates between 1321 and 1369.⁴⁰⁴ For most of the fabric funds, property rental was a dependable low-cost investment and the combined gross receipts were 23% of the total. The Westminster fund was able to double its rental incomes as a result of its chapter's preference for transferring properties rather than increasing subsidies to the fund and its well-chosen property purchases in urban Westminster, 'Hide', and Paddington. As has been shown, Lincoln and York rents were subject to severe defaults in the late 1400s and early 1500s, but the reduced income still made a significant contribution to their funds.

Apart from issues of volatility and sustainability, there remains the question as to whether the funds provided were adequate for the task in hand. The patrons, whose contribution will be discussed next, would have been well aware of the condition of their particular fabric funds in advance of any new campaign and would have planned their new fund-raising campaigns accordingly. The responsibility of the *custos* to balance the books was dependent not only on the patron for new resources but also on the continued adequacy of the fund's regular sources. The two longest secular cathedral accounts series in our sample show that current year receipts and expenses were normally well matched at the year-end audit. In Exeter full account rolls have survived for 22 years of the 44 years of the main building period. In only four of those years was there a deficit, and only one (1309-10) resulted in a cumulative deficit, which was rapidly remedied by the bishop.⁴⁰⁵ In York, 11 full account rolls survived from the first 50 years of the fifteenth century, of which only three show cumulative deficits, none appreciably over 10% of annual revenues. In the following 50 years results were similar, and the fund was well able to absorb the effects of the economic downturn which so reduced city rental incomes. The need to match year-to-year balances did not apply in the same way to the monastic cathedrals, which depended less on external funding and more on

⁴⁰⁴ For the Brame estate purchase, see Chapman (1907), v.1, pp. 118, 119 n.158, 159.

⁴⁰⁵ D&CE 2609/ Erskine, p.51 deficit of £70 3¼d remedied by the surplus of £71 2s 4¼d in DC&E 2610/ Erskine, v.1, p.61.

the willingness of the house to support their building projects.⁴⁰⁶ In some cases, the largest projects were entirely funded out of separately accounted episcopal resources: Bishop Hotham's choir and the Lady Chapel at Ely being prime examples.

Despite, or perhaps because of, their wide variety of sources, the fabric funds persisted and prospered throughout the period during which all of the English cathedrals (which needed to) reached completion. Despite a considerable fall-off in individual donations in the later years, they provided a well-established framework, which enabled a new generation of patrons to fund, rebuild, and modernise the cathedrals with confidence, in ways that we can deduce, at least in part, from the fabric rolls.

⁴⁰⁶ See Tables 5, 14, 15, 16, 18

Chapter 7

The Role of the Patron

Introduction

While the fabric fund provided the framework for regular streams of income for continuing repairs and improvements to existing buildings, it was the role of patron to initiate new work. His role was to articulate the concept, stimulate support from the chapter and the diocese, secure the requisite funds, and recruit a master craftsman of appropriate calibre to design and deliver it. With few exceptions the patron was the diocesan bishop; in most cathedrals only he could bring the necessary financial clout to bear on such large-scale projects.

The purpose of this chapter is to gain an understanding of the role and importance of the patron, based on the documentary evidence and the standing fabric. It will examine the context in which the late medieval bishop became the main patron of English cathedral building campaigns, the nature of the available evidence, recent literature, the selection of bishops, and their accumulation of wealth for the purposes of patronage. The discussion will focus on eleven significant patrons who made a major contribution to the projects defined in the fabric rolls, the sources of their funds, and the motivation for their support of individual projects. Finally, the patron's role in recruiting and briefing the master mason will be discussed, as a prelude to the discussion of the role of the master mason, which is the subject of Part III.

Patronage is now perceived as increasingly relevant to the literature of architectural history, as a 'core theme' which enriches the discussion of commissioning and design through the consideration

of motive and agency in the transmission of individual and corporate values in the identity of buildings.⁴⁰⁷ Julian Luxford identifies two ways in which medievalists define patronage: ‘Most commonly historians use the term to denote the patron-client relationship that existed between those in positions of power and their dependents or protégés. For art historians patronage refers essentially to the commission, financing, and gifting of works art and architecture or the materials (e.g. timber, stone) from which such works were made.’⁴⁰⁸ Other aspects of patronage include ‘general auspices, exerted independently of physical or financial input’ including those from anonymous or less important players, who could have a significant institutional effect on the work. In the context of this thesis and its reliance on the evidence of the fabric rolls and focus on the role of masters and masons in English late medieval cathedral building campaigns, the emphasis of our consideration will be on the financing and commissioning of cathedral works, with some consideration given to the patron-client relationship in terms of that between the episcopal patron and the master mason.

The argument is informed by the narrative of early fabric funding and later canonical obligation developed in Vroom (1984 and 2010), the evidence of episcopal activities in the longer rolls series, the profiles of episcopal patrons developed from secondary sources in this chapter, the approach to fourteenth century cathedral patronage in Binski (2014), and the consideration given to individual patronage motives in Luxford (2008).⁴⁰⁹ Luxford stresses that in medieval patronage of art and architecture, there were layers of motive and intent, which make for a phenomenon of great complexity – the more so for a construct as multifaceted and as long in conception as the works of a cathedral. In the later part of this chapter, the motives attributed to individual patrons are discussed to show how this impacted on their works. Identification of such single threads are not intended to imply that the results of medieval patronage were at all simple, but rather the reverse.⁴¹⁰

⁴⁰⁷ See Luxford (2008), p. 82.

⁴⁰⁸ Ibid.

⁴⁰⁹ Vroom (2010) see following page n.412. Binski (2014,) see e.g. patronage, pp. 98, 109, 112, 216, 343. Luxford (2008) pp. 84-106. For episcopal profiles, see Figs.7.1 and 7.2, pp. 132 and 133. For episcopal motive, see pp. 150-158..

⁴¹⁰ Luxford (2005), pp. xvii, xviii, 35-36, 54-60, 115-118, and Luxford (2008), pp. 82-3.

The evidence of the fabric rolls

At the beginning of this thesis, a distinction was made between the *vetus opus* accounts, for the improvement and repair of existing buildings, and the *novum opus* accounts for new building campaigns.⁴¹¹ Traditionally, and mainly in the secular cathedrals, the diocesan bishop took charge of the ‘new work’ while a senior member of chapter, normally the Sacrist or Treasurer, was responsible for the ‘old work’.⁴¹² In the cathedrals of this survey, Archbishop Walter de Grey of York (1216-1255), Bishop Hugh Northwold of Ely (1228-1254), and Bishop Walter Bronescombe of Exeter (1258-1280) followed earlier traditions of episcopal leadership in their thirteenth-century new building programmes, which laid the foundations for the major fourteenth-century campaigns of this thesis.⁴¹³

In Exeter the original fabric fund, wisely funded by Bishop Marshall (1194-1206) as early as 1204, followed closely on the completion of the works of the Norman Cathedral *ad eius reparacionem*, with the proceeds of the living of St Erth, which were paid directly to the *custos* of the work.⁴¹⁴ Much later Bishop Quinil (1280-1291) endowed the fund for a *novum opus* before his death in 1292 and *quoad navam eius fabricam ampliando et pro magni sui parte sumptu proprio consummando*.⁴¹⁵ The first fabric accounts after Bitton’s settlement of 1299 were clearly marked as those of the *novum opus*. According to the Steward’s account of 1296-97, the earlier fund for *custodis veteris fabrice* continued to receive the St Erth tithes, and a dual accounting system was maintained until 1310, when the two funds were brought together by the Dean and Chapter.⁴¹⁶ The new arrangement hardly affected Bishop Stapeldon’s interest in the matter, as we will see later in the chapter.

⁴¹¹ See pp. 13, 14.

⁴¹² For a discussion of bishops’ canonical responsibilities for church building in Western Europe, after the Council of Trent, see Vroom (2010), pp. 78-80, 86-98. Exceptions to traditional responsibilities included Old St Paul’s, where the chapter took charge of the new eastward extension from 1259; see pp. 13, 14.

⁴¹³ Grey commissioned the south transept at York (1227-1241), Northwold the new presbytery at Ely (1233-1250), and Bronescombe the eastern chapels at Exeter (1270s-1300).

⁴¹⁴ See Erskine (1981-3) v.1, p. xi.

⁴¹⁵ Erskine cites D&CE 2124, printed in Oliver (1861), p. 51.

⁴¹⁶ *Ibid.*, pp. xiii. xiv, citing D&CE 3673.

The tradition of dividing the allocation the funds and expenses of the *Custos Novi Operis* from other building projects was also apparent in the Ely Sacrist rolls in the years from 1322-23 to 1359-60, during which, exceptionally, the Sacrist, not the Bishop, was in charge of the ‘new work’ of the Octagon, owing to its coexistence with two other large-scale projects at Ely: the Choir, 1322-1338, and the Lady Chapel, 1321-1352, which were under the control of Bishops John Hotham (1316-1337) and Simon Montacute (1337-1345).⁴¹⁷

There was a similar exception at Old St Paul’s, where, as already noted, the bishop was in charge of the ‘old work’ including the work on the Norman Tower completed 40 years before.⁴¹⁸ The fabric rolls were specified for the new works in the Hereford cloister accounts of Bishop Marchall (1412-13) and in the Ripon nave accounts under Archbishop Bainbridge (1508-1514).⁴¹⁹

The situation was less clear in the monastic cathedrals, and in Durham, where Bishop William de St Calais (1081-1096) had ruled that the bishop would fund the cathedral from his own income and the monastery would fund the claustral buildings. The arrangement was changed by Bishop Ranulf Flambard (1099-1128), once he had completed the eastern arm and crossing and the work of the nave commenced.⁴²⁰ However, during the period of this thesis, well after the completion of the Norman cathedrals, most new works of scale, as opposed to refenestration or refurbishment projects which tend to be recorded in the Sacrist accounts, were provided by the bishops and recorded in separate building accounts, or in the Fabric Accounts of those priories which had them.⁴²¹

The evidence of patronage income in the accounts rolls is surprisingly limited in comparison to the detailed evidence of other forms of funding. More than half of the roll sequences cover long years

⁴¹⁷ Chapman (1907), Glossary note on *Novum Operis*, v.2, p. 227.

⁴¹⁸ See pp. 13 and 14, and Vroom (2010), p. 43 n.99, citing *Reg. Baldock et al.*, pp. 74-5 and 91-4; also Edwards (1967), p. 231.

⁴¹⁹ See p. 14.

⁴²⁰ Salzman (1952), pp. 364-5, from *Anglia Sacra*, v., p. 708.

⁴²¹ E.g. for episcopal funded projects in monastic cathedrals, see Fig. 7.2, *Profiles of Patrons in English Cathedral Fabric Rolls*; Canterbury Nave, SW and Central Tower, pp. 162-3, 212-13; Durham Dormitory, Cloisters, and Galilee Chapel, pp. 140-1, 212-3; Ely Presbytery, Choir, and Lady Chapel, pp. 154-6; Norwich Cloisters (part); Fabric Rolls for Canterbury, Westminster Abbey (Rackham), and Winchester (2 only): see Tables 1 and 14-17. For projects recorded in Sacrist Rolls of monastic cathedrals, see Durham, Fowler (1898), 1318-1536, 24 rolls listed, p. 325; Norwich Sacrist Rolls, NDC 1/4/84- 1/4/92 (not comprehensive), p. 324; Ely , Table 5 and Chapman, v.2.

of low-level maintenance and repair, punctuated by shorter runs of high spending during the major building campaigns. Some 60% of the 500 surviving accounts in this thesis relate to old work and 40% to new, and for the latter most of the rolls contain no evidence of patronage sources. There are no more than 70 entries which describe *magna elemosina*, as major patronage was described in the York rolls. By contrast there are several thousand entries of relatively small amounts contributed regularly to the fabric funds. Fortunately, the evidence of episcopal registers, wills and other documentary sources have made it possible for a number of twentieth-century scholars, including Kathleen Edwards, J.R.L. Highfield, Alfred Larsen, and J.T. Rosenthal, to analyse and publish detailed analyses of the social and educational background, professional careers, and remuneration of the more than 200 bishops of the period. These have been used to draw up a profile of the significant bishop-patrons whose projects appear in the surviving fabric rolls.⁴²² Other than royal patrons and the generosity of the monks and the monasteries themselves, the business of patronage belonged overwhelmingly to the bishops.

Literature review

For medievalists, the debate has traditionally centred on the royal court and royal works, informed by the formidable collection of documentary records of English royal buildings. Interest was encouraged in the mid-twentieth century by the publication of Howard Colvin's early volumes of the *History of the King's Works* (1963) and the *Building Accounts of Henry III* (1971). Contemporaneously, the master mason was finally recognised as the medieval architect, leading to biographical approaches focusing on the authorship and transmission of designs of individual masters, including W.R. Lethaby's earlier discussion of Exeter (1903) and Westminster (1906), John Harvey's mid-century *Biographical Dictionary of Medieval Architects* (1954), and Christopher Wilson's exploration of the transmission of the Perpendicular style in his thesis of 1980.⁴²³

With the changing orientation of scholarship, there has been a surprising silence on the role of the bishops, who were no longer to be credited with 'building' their cathedrals, but rather seen as

⁴²² For details, see pp. 131-2.

⁴²³ W.R. Lethaby (1906), J. Harvey (1954), C. Wilson (1980) and (1990).

patrons. As late as 1962, Paul Frankl consciously sidelined the role and ‘showed how little he was prepared to concede to the patron and benefactor in the shaping of the medieval church’.⁴²⁴ In the same year, Jean Bony drew attention to a group of powerful bishops – Walter de Merton (Rochester, 1274-1277), Robert Burnell (Bath and Wells, 1275-1277), and John Kirkby (Ely, 1286-1290) – who had played a vital role in transmitting the latest Westminster styles to the regions in the early days of the new ‘Court style’.⁴²⁵ He drew attention to a drastic revision in styling of the walls of Exeter Lady Chapel in the 1290s, describing it as a ‘reinterpretation of the London style, which developed more complex repercussions when they arrived in the more distant parts of the country’.⁴²⁶ The role of the bishops and their responsibilities for cathedral building in the early church and the Middle Ages was a key component in Wim Vroom’s Europe-wide study, *Financing Cathedral Building in the Middle Ages*, of which the first edition was first published in 1984.⁴²⁷

Renewed interest in the agency of episcopal patrons has been stimulated by Paul Binski’s suggestion that a wider and more sustained network – including Walter Stapeldon of Exeter, John Salmon of Norwich, John Hotham of Ely, Walter Langton of Lichfield, and William Melton of York, together with Prior Henry Eastry of Canterbury – formed ‘a sort of club’ which promoted the development of the Decorated style in the course of their patronage. To those could be joined ‘the architects themselves’, of whom six had performed work at ten cathedrals and great abbeys.⁴²⁸ James Hillson’s recent thesis on St Stephen’s Chapel has drawn attention to the fragmentation of architect-centred, iconographic, and socio-economic approaches to the analysis of royal patronage and proposed a more integrated approach by ‘rendering politics the focal point ... within a far wider framework of architectural causality’.⁴²⁹ The subject of episcopal patronage has not been studied generically and could benefit from a similar approach.

⁴²⁴ Paul Crossley, introduction to P. Frankl (1962, 2000 edn), p. 21.

⁴²⁵ J. Bony (1962, 1979 edn), p. 11. James Hillson (2015) noted that the notion of the ‘Court style’ in Bony’s narrative has been challenged by Colvin (1983) and Binski (1995). This does not detract from the transmission of stylistic ideas, since the St Stephen’s and Westminster projects remained central to Gothic innovation in England.

⁴²⁶ Ibid.

⁴²⁷ Vroom (1984), Vroom (2010).

⁴²⁸ P. Binski (2014), ‘Mandarins and Oligopoly’, pp. 95-7.

⁴²⁹ J. Hillson (2015), pp. 1-5, 11, 12, 12-29, 31-8, 211-27.

Lordship and elections

Whereas the post-Conquest construction of cathedrals had been royally directed and demonstrated the new dynastic presence through ‘the sharpest distinction in style anywhere in Europe in the eleventh century’, the prevalence of episcopal patronage in the later medieval campaigns emerged in a strikingly different context.⁴³⁰ By the thirteenth century the bishops had become potent and independent advocates of the English Church, capable of holding the balance of power between the monarchy and powerful baronial families. The formal procedure for the selection of bishops ‘by canonical selection with confirmation by the king’, agreed by King John under pressure from the pope in 1214, ceded direct control and granted that ‘the election of all prelates shall be free for ever’.⁴³¹ However, the monarchy was still able to influence the results of elections through its rights to grant the *cong   d’  lire* and to hold episcopal temporalities during vacancies. Renewed papal claims caused Edward II to re-assert ‘the rights and temporalities saved by his great-grandfather for himself and his successors’ in a letter to the pope in 1307.⁴³² Kathleen Edwards noted that papal provisions increased after Pope John XXII’s accession in 1316.⁴³³ However, by the mid-century appointments made by the popes were in practice recommended by the kings. As G.W. Barnard has shown, there were few exceptions and Edward III ‘had little difficulty in securing the bishops he wanted’. While the bishops of the ‘monarchical church’ were undoubtedly the prime movers of cathedral building and much else, they acted within a system in which the resources and interests of church and state were inextricably intertwined. It was this which distinguished patronage in England from that of other Western churches.⁴³⁴

Episcopal resources

English episcopal resources were substantial. The ecclesiastical estates of the episcopal *mensa* put the bishops and archbishops on an equal footing with the great aristocratic families of the land, and as

⁴³⁰ E. Fernie (2014), pp. 147, 148.

⁴³¹ K. Harvey (2010), pp. 9-16.

⁴³² Ibid., p. 15, Worcester *Sede Vacante* Register.

⁴³³ K. Edwards (1944), p. 322.

⁴³⁴ See Vroom (2010), pp. 73-98.

Christopher Dyer has shown, the position of ecclesiastics ‘was clearly analogous to that of the secular lords ... apart from the fact that they held their lands on behalf of an institution rather than in a personal capacity’.⁴³⁵ The 1379 poll tax schedule explicitly defined the rank of archbishops, bishops, and the wealthiest abbots as being on the same level in the hierarchy as that of dukes and earls. Pope Nicholas IV’s earlier *Taxatio* of 1291 was the only comprehensive series of tax valuations of temporalities and spiritualities for the parishes and prebends of England and Wales, and after a downgrade of northern provincial valuations following the Anglo-Scottish wars, it was used extensively until the sixteenth century.⁴³⁶ Episcopal incomes of the dioceses for which cathedral fabric rolls remain were listed as: Winchester, £2,977; Durham, £2,667; Ely, £2,000; Canterbury, £1,965; York, £1,333; Lincoln, £1,000; London, £1,000; Salisbury, £985; Norwich, £667; Bath and Wells, £610; Hereford, £526; and Exeter, £503.⁴³⁷ These figures were the gross incomes of the diocesan bishops, after manorial estate expenses but before the deduction of the household and official expenses, as will be discussed later in this chapter.⁴³⁸ In addition to their temporalities, bishops received stipends, revenues from benefices and sinecures, and, for many, the rewards of the offices of state and diplomatic assignments, which were not inconsiderable. As can be seen, the *taxatio* incomes of the great monastic cathedral bishops were considerably greater than those of secular cathedral bishops, and taken together with the rewards of high office and royal assignments, the wealth of the bishops of the greater episcopal estates was of a similar order to those of the great baronial estates. Christopher Dyer compares them to those of the Clares of Gloucester at £3,700 (gross) in 1266-67 and £6,000 in 1317, the Percy family of Northumberland at £3,100 gross in 1455 and £4,044 (gross) or £2,161 (net) in 1489, or of the Stafford family and dukes of Buckingham at £3,000 in 1372.⁴³⁹

⁴³⁵ Dyer (1989), pp. 10-16, and see Tab. 1, pp. 20-21.

⁴³⁶ Denton (1997), p. 97.

⁴³⁷ Values for Canterbury province dioceses are from J. Denton et al., *Taxatio Online* (2014); for York and Durham from ed. T. Astle et al., *Taxatio ecclesiastica* (1802). The distribution of gross incomes is shown in the English dioceses map, p. 9.

⁴³⁸ See pp. 141-6.

⁴³⁹ C. Dyer (1989), p. 36, Tab. 2.

The scale and continuity of funding

Of the total recorded income in the surviving cathedral fabric rolls of c.£47,000, £6,800 (14.5%) was donated by bishop-patrons and a further £3,500 (7.5%) was raised from their chapters, invariably at their behest.⁴⁴⁰ These figures seriously under-represent the contribution of patronage to cathedral building campaigns. A more realistic idea is given by the figure of about £15,000 which was contributed by the ten bishop-patrons of the survey which follows. This sum represents the total of all documented patronal contributions to the recorded projects and is not limited to entries in the surviving fabric rolls.

The availability of patronage was a vital determinant of the length of the building time needed for cathedral projects, to which the overall costs were also closely related. The construction of Salisbury Cathedral, including the first stage of the tower on a green-field site, was achieved with great efficiency in one extended campaign of 39 years, costing £28,000.⁴⁴¹ In the next century the main vessel of Exeter Cathedral was rebuilt to a plan which re-used the lower level of the existing walls and the Norman transept towers in a cost-effective manner. It took 44 years and the cost was not more than £15,000.⁴⁴² On the other hand, the third rebuilding of York from Grey's south transept (1227) to the finishing of the central tower (1472) in about 250 years was the result of at least six campaigns interspersed with long periods of inactivity.⁴⁴³ Similar hiatuses followed the death of Prior Eastry of Canterbury, who left the cathedral 'considerably enriched' in 1331; but by 1371 the old nave, 'in a notorious and evident state of ruin', had been demolished and the aisles rebuilt before 1381. After ten years, Thomas Chillendon, 'the greatest builder of a Prior', resumed the new work of the nave; it was finally completed under the patronage of Thomas Arundel in 1401.⁴⁴⁴

⁴⁴⁰ See Part II Introduction, Chapter 5, pp. 66-9, Fig. 5.1.

⁴⁴¹ Cocke and Kidson (1993), p. 43; Binski (2014), p. 84.

⁴⁴² Author's estimate, based on averaging surviving fabric roll expenditure 1298-1342, D&CE 2602-2632.

⁴⁴³ Brown (2003), pp. 13, 215.

⁴⁴⁴ Woodman (1981), pp. 152-4.

The origins, education, experience, and profiles of significant bishop-patrons

For a better understanding of the context of patronage, two tables are provided. The first, Fig. 7.1, showing social origins, university education, and career experience, is based on studies by Kathleen Edwards (1944 and 1959), J.R.L. Highfield (1956), and J.T. Rosenthal (1970), and lists data on 209 bishops appointed 1307-1485.⁴⁴⁵ The information is not available for Richard II's reign, 1377-99.⁴⁴⁶

The second table (Fig. 7.2) lists thirteen projects in the surviving fabric rolls funded by 'significant' patrons (ten bishops and one obedientiary), with details of their patrons' geographical and social origins, university education, church and state offices held, benefices and prebends, incomes, wealth at death, the amount funded by the patron and the total cost of the projects.

Fig. 7.1 English bishops, 1307-1377 and 1399-1485: origins, education, and experience

	<u>1307-1327</u>	<u>1328-1377</u>	<u>1399-1485</u>
Total no. of bishops appointed	45	85	79
<i>Total provided by the pope (% of total)</i>	<i>1254-1326: 43 (36%)</i>	<i>From 1342 (100%)</i>	<i>79 (100%)</i>
Bishops from religious orders		15 (19%)	12 (15%)
<u>Social origin</u>			
Local origin through family or service	27(60%)		(c.60%)
Families of baronial origin	6 (13%)	15 (19%)	17 (22%)
Families of knightly or gentry origin	13 (29%)		23 (39%)
<u>University education</u>			
Theology (% of university educated)		60 (71%)	73 (92%)
Law (% of university educated)		c.15 (25%)	33 (45%)
Arts (% of university educated)		30 (50%)	30 (41%)
<u>Ecclesiastical service</u>		10 (12%)	
Papal court service			
Archdeacons			43 (64%)
Deans			12 (15%)
Bishop's service			30 (38%)
<u>Royal service</u>	16 (20%)	26 (31%)	49 (62%)
Clerical		18 (21%)	
Ministers of the Crown		21 (25%)	14 (18%)
Officers in the Royal Household			12 (15%)
<i>Totals should be regarded as indicative of general trends as author definitions vary.</i>			
<i>Sources: K. Edwards (1944, 1959); J.R.L. Highfield (1956); J.T. Rosenthal (1970).</i>			

⁴⁴⁵ Edwards (1944 and 1959); Highfield (1956); Rosenthal (1970).

⁴⁴⁶ Pantin (1955) relates that in Richard II's reign, not covered in these tables, translations were used 'to reward supporters and punish opponents', and appointment of 'courtier bishops' was favoured.

Fig.7.2 Profiles of Significant Patrons of New Work in English Cathedral Fabric Rolls, 1290-1540													
Dates	Project	Patron	Title/Prov.	Orig	Fam	Univ/Subject	Eccles. Offices	State Offices	Benefices, prebends	Taxatio	Wealth at death	Patron amount	Project cost
1298/1307	<u>Exeter</u> , Presbyter y	Thomas <u>Bitton</u>	Bp, R	Reg	Eccl	OX	Archdc Dean		2 x canon York	503	5,396	1,160	1,568
1307/1326	<u>Exeter</u> , Choir/Xing	Walter <u>Stapeldon</u>	Bp, R	Loc	G	OX DCn & CvL	Par, Can, As to Bp	Dipl.Bu s TR x2	Canon Extr	503	2,000	2,850	4,471
1327/1369	<u>Exeter</u> / Nave	John <u>Grandisson</u>	Bp, P	Herefd	A	OX Paris T	Archdcn Pap Chpl	Pap Dipl	3 prebends	503	c.244	141	1,154
1316/1342	<u>Ely</u> /Choir	John <u>Hotham</u>	Bp, R	Reg	Ec	Nil		Irel Dipl TRx2 CH	Multi benef 1 prebend	2,000	NK	2,034	2,034
1321/1342	<u>Ely</u> /Octagon	Alan of <u>Walsingham</u>	Sacrst	Loc	Ec	Nil	NA	Monk Supprio r			NK	2,069	2,408
1361/1373	<u>York</u> /Lady Chapel	John <u>Thoresby</u>	Abp, P	Loc	G	OX BCnL	Bp Chpln	Law Dipl KPS CH	21 benefices	1,367	c. 833	2,034	2,034
1400/1404	<u>Durham</u> /dormitory	Walter <u>Skirlaw</u>	Bp, P	Reg	G	OX DL	Archd As to Bp	King Chpl Dipl KPS		2,667	4,000	350	499
1429/1435	<u>Durham</u> /Galilee Ch	Thomas <u>Langley</u>	Bp, P	Reg	G	Nil		Duchy Lanc KPS CH		2,667	4,000	470	507
1388/1390	<u>Ely</u> Altar Screen	Thomas <u>Arundel</u>	Abp, P York	Susx	A	OX BA		Dipl Stats mn CH x3	Many benefices	2,000	6,009	109	149
c.1390	<u>York</u> West Choir	"	"	"	"	"		"	"	1,367	"	NK	c.2,400
1400/1401	<u>Canterbury</u> /Nave vault	"	Abp, P Cant.	"	"	"		"	"	"	"	£667	£667
1479/1481	<u>Salisbury</u> /Crossing vault	Richard <u>Beauchamp</u>	Bp, P	Loc	A	OX D CnL	Dean, Windsor	Universt y King's Counncil	3 benefices 2 prebends	985	NK	£45	£45
1494/1497	<u>Canterbury</u>	John <u>Morton</u>	ABP, P	Dorset	G	OX DCL Louvin		Lawr, Dipl KPS CH	many benefic >5 prebends 6 Archd	1,965	c.1014	1,207	1,036
Notes Column 4: Provisions: R= by the King, P= by the Pope Column 5: Origins: Reg= from the Region; Loc = from the same city/diocese Column 6: Family origins: Eccl= Ecclesiastical, G= Gentry, A=Aristocratic Column 7: University/Subject: OX=Oxford, L=Law, T=Theology, A= Arts, Cn =Canon, Cv= Civil, D=Doctor, B=Bachelor Column 8: Ecclesiastical Offices: Archd=Archdeacon, Par=Parish, Can=Canon, As to Bp=Assistant to the Bishop, Chpl=Chaplain Column 9: Bus = Business activities, Dipl = Diplomatic duties, Pap = papal, Chpl = Chaplain, TR=Treasurer, CH = Chancellor, KPS =Keeper of the Privy Seal Column 10: Benef, Benefic =Benefice Column 12: c.= cash bequests in will, not total wealth. Sources Column 11: Figures from <i>Taxatio</i> of 1291, J. Denton <i>et al</i> , (hronline, 2014) or T.Astle <i>et al</i> (1802) Column 12: Wealth at Death: Episcopal Registers or ondb biographies (2004); Also for Stapeldon, see Maddicott (2009), p.15; <i>Reg. Grandisson</i> , p.1511, and for Morton, see C. Woodruff, <i>Sede Vacante Wills</i> (1914), pp.88-93 Column 13: Patron amount donated: from Fabric Rolls or quoted sources in text Column 14: Project expenses: extracted from Fabric Rolls, <i>Supplementary Informartion Tables</i> , or quoted sources in text													

Local origins

In the fourteenth century, some 60% of bishops were reckoned to have family origins or previous service in their dioceses, though this dropped back to about 50% in the fifteenth century, probably as a result of increased translations. No less than eight of the eleven significant patrons in the survey had strong local or at least regional links.

At Exeter, four out of five bishops installed between 1258 and 1327 were born in the diocese and were instrumental in building programmes.⁴⁴⁷ The early career of Thomas Bitton (1291-1307) was in the neighbouring diocese of Wells.⁴⁴⁸ As already noted, he revamped the finances through a new covenant with the chapter in 1298, which dramatically increased annual income, and appointed Roger (c.1298-1310), as master. His templates for the presbytery and choir were followed through the rest of the cathedral, which qualified him to be honoured as its designer.⁴⁴⁹ Bitton left £5,396 in his will, a sum which confirms that regional bishops who had church rather than civil service careers could also accumulate significant sums for patronage.⁴⁵⁰ Walter Stapeldon (1307-1326), who followed, is the foremost example of a local bishop and spent his whole career in the diocese, apart from his studies at Oxford and public service as a diplomat and as treasurer. Born of a minor gentry family in remote north-west Devon, he served first as a rector in south Devon, and then at Exeter as Bitton's assistant and a canon by 1301.⁴⁵¹ Stapeldon had already been admitted as a freeman of Exeter and owned rental properties there, including that of the master mason in the close.⁴⁵² His achievements as bishop cannot be understood in isolation from his royal service and business, for which his studies in law had qualified him before he became bishop in 1307. In a parallel career, his younger brother Richard qualified in civil law and was twice MP for Devon. He

⁴⁴⁷ Oliver (1861), pp. 39, 46, 52, 54-5, 70-71; M. Buck (1983), p. 48.

⁴⁴⁸ Orme (2008), odnb/95143. He had been canon, archdeacon, and Dean of Wells.

⁴⁴⁹ See pp. 173-177

⁴⁵⁰ Orme (2008): odnb/95143.

⁴⁵¹ Maddicott (2009), p. 2.

⁴⁵² Buck (1983), p. 13; D&CE 350, 2123. Sir Richard's effigy tomb is opposite that of his brother in the north choir aisle.

acted for the brothers jointly in nine property transactions in six counties from 1315 to 1325.⁴⁵³ High diplomacy, mostly in France, was a prelude to an active role in parliament for thirteen years, where he deputised for the king on occasion. As a conscientious bishop spending 40% of his time visiting the diocese between 1308 and 1320, he ordained 2,523 priests, deacons and sub-deacons during his term.⁴⁵⁴ His concern for clergy education led to his founding the eponymous Stapeldon Hall in Oxford, which later became Exeter College, and educated generations of clergy of the diocese for 600 years. As patron, Stapeldon's contributions



Fig. 7.3 Walter Stapeldon (1307-1326), head of tomb effigy in Exeter Cathedral presbytery, c.1327

amounted to at least £2,850, 22% of the estimated cost of the rebuilding and more than 80% of the recorded fabric receipts of his term. He was much involved in the detail of the fabric and proactive in its annual financing. He originally supported a centrist position in parliament, but as Lancaster's enmity to the king's protégés hardened, he tended to side with the monarchy. He was twice appointed Treasurer of England between 1320 and 1325, but still found time to

⁴⁵³ Buck (1983), pp. 21, 22.

⁴⁵⁴ *Reg. Stapeldon*, p. 384; Cawthron (1955), p. 384; Buck (1983), pp. 60-61.

buy white lead, foils of gold, and azure for the altar furnishings and to choose specialist timbers in London.⁴⁵⁵ He was exceptionally paid for his efforts, receiving 100 marks (£66 13s 4d) p.a. as Treasurer, and a supplement of £100 and the living of the manor of Whitgift for his work of returning the treasury from York to Westminster following the truce in the Anglo-Scottish wars.⁴⁵⁶ As parliament refused to vote further funds for the wars, and with disaster looming in Gascony, Stapeldon was tasked with restoring the royal finances.⁴⁵⁷ He pursued the task mercilessly and ‘debts uncollected for half-a-century were called in, men were forced to pay again what they claimed to have already paid, arrangements for payment by instalments were cancelled, while payments were refused to those owed money by the crown’.⁴⁵⁸ The task was achieved and Edward II died with £62,000 in the exchequer, probably more than was left by any other English king. In what was later seen as an act of some percipience, Stapeldon donated 1,000 marks (£666 13s 4d) of his rewards to the fabric, but three months later he was dead, beheaded by the city mob in Cheapside on 15 October 1326.⁴⁵⁹ His death was attributed by his biographer less to his part in the detested Edward II’s regime than to his extortionate collection of debts.⁴⁶⁰ His gift, worth five years of episcopal contributions, was wisely spent in building up substantial stocks of stone and lead, which enabled the cathedral to be completed well before the Black Death.⁴⁶¹

After the short interregnum of the local James Berkeley in 1327, John Grandisson (1328-1369) was provided by the pope from a third generation Savoyard family in Herefordshire with a family seat in Neuchâtel. He had studied theology in Paris under the future pope, Jacques Fournier, and was John XXII’s chaplain at Avignon (1316-1334). As a papal diplomat, he was rewarded with prebends in three dioceses and the archdeaconry of

⁴⁵⁵ DC&E 2618/ Erskine, v.1, pp. 126 and 134, DC&E 2624/Erskine, p. 171.

⁴⁵⁶ *Ibid.*, pp. 134, 142.

⁴⁵⁷ See e.g. Ayers (2020), p. 14.

⁴⁵⁸ Maddicott (2009), p. 13; Buck (1983), Ch. 8, pp. 163-96.

⁴⁵⁹ Erskine (1981), v.1, p. x.

⁴⁶⁰ Maddicott (2009), p. 13.

⁴⁶¹ D&CE 2624-2628/ Erskine, v.1, p. 164, and v.2, pp. 213, 233; see Tables 7 and 38 for large shipments of stone and 36 fothers of lead from 1325-26 to 1330-31.



Fig. 7.4 John Grandisson (1328-69),
Ottery St Mary, Devon, Lady Chapel

Nottingham. The *curia* claimed an unprecedented 12,800 florins (£1,706 13s 4d) for his nomination, reduced after an expensive appeal to 5,000 florins (1,000 marks /£666 13s 4d). Grandisson pleaded to the pope that ‘a rich bishop had been succeeded by a poor one, who was poverty stricken, and he did not see how anything could be done for a long time unless the pope could help him’.⁴⁶² He stopped his annual contribution to the fabric, worth £1,800 if it had been continued to the completion of the work. Grandisson was resident in his manors for much of his long episcopate, due to the unsettled state of the diocese in his early years and the uncertainties of the plague in the later years. He is remembered for his considerable contribution to liturgy, arts, and learning and the founding of St Mary’s College at Ottery. His donations in thirteen surviving fabric rolls amounted to a mere £141, of which £30 was for the porch close to his tomb.⁴⁶³

Bishop Richard Beauchamp (1451-1481), another local patron, was translated to Salisbury from Hereford after the murder of his predecessor in 1450. From a well-connected Wiltshire family and son of a speaker of the House of Commons, he resigned from high offices on the Yorkist accession and devoted his last twenty years to the diocese. He was

⁴⁶² *Reg. Grandisson*, v.3, pp. xxi, 97, 98.

⁴⁶³ D&CE 2626, 2628, 2632, 2633, 2634/Erskine, pp. 233, 234, 266, 273, 275.

unusually well-versed in architectural processes, having been involved in the planning of the Oxford Divinity Schools in c.1447, and employed by Edward IV as master and surveyor of St George's, Windsor, from 1473. At Salisbury he built two chantry chapels, both removed in later centuries, His lesser-known lierne crossing vault (1479-1481) is now his only memorial and a paper account roll of 29 folios details the weekly progress of 'breaking [the wooden] vault' at the base of the tower, carpenters erecting and moving scaffold and 'syntryn' for the new vault, and masons setting and pargeting (Fig. 7.5).⁴⁶⁴ The vault is of advanced lierne design reticulated in four hexagons with 44 bosses carefully positioned so as not to intrude on the wholly Early English backdrop. It was likely designed by Henry Stevyns, 'the stone-mason



Fig. 7.5 Salisbury, crossing vault, 1479-81, Richard Beauchamp, patron, Henry Stevyns, Master



Fig. 7.6 Salisbury, north-east tower *archebuttoon*, J. Branche, 1481

of the church'.⁴⁶⁵ Its purpose cannot have been wholly decorative and should be associated with continuing concerns about the stability of the spire and tower, which had been strengthened by the strainer arches to the north and south crossing arches inserted some years before.⁴⁶⁶ This is suggested by the insertion of an *archebuttoon* (flying buttress, Fig. 7.6) to the north-east corner of the tower by John Branche, with the acknowledged assistance of

⁴⁶⁴ SCA F1/1/4; Tatton-Brown and Crook (2009), pp. 106, 107.

⁴⁶⁵ SCA F1/1/4, f.29.

⁴⁶⁶ Cocke and Kidson (1993), pp. 11, 12. For iron reinforcements, Fig. 2, p. 11.

Stevyns.⁴⁶⁷ Beauchamp's patronage may have been acknowledged in one of four shields adjoining the iron-ringed central aperture, but no trace of the medieval colouring was found when the vault and shields were redecorated in the 1970s.⁴⁶⁸ He died less than six months after its completion.

Local loyalties remained strong even after the translation of patrons to other dioceses. The loyalties extended not only to a particular place of worship but also to past colleagues. When Walter Skirlaw, the protégé and secretary of John Thoresby of York, was appointed to Durham in 1388 and funded the rebuilding of the monks' dormitory, he remained a major benefactor of York.⁴⁶⁹ He funded the great stained-glass east window of 1405, 'the culmination of de Thoresby's Lady Chapel and ... probably planned with Thoresby's wishes in mind'.⁴⁷⁰ Other bishops who continued to provide for their former dioceses included John Salmon of Norwich, former prior of Ely, possibly related to Alan of Walsingham, who was an early donor of 20 marks (£13 6s 8d) to the Ely Octagon in 1323-24.⁴⁷¹

Social origins and aristocratic connections

Although aristocratic connections were no longer essential and only one fifth of bishops came from aristocratic families, their influence on patronage increased during the period. The families with particularly long associations with the church included the Courtenays of Devon, the Arundels of Sussex, the Nevilles of Durham, and the Scropes of York. However, as Pantin noted, aristocratic bishops started their careers earlier, held their offices correspondingly longer, and were translated more frequently as a result.⁴⁷² Thomas Arundel is the only example of such a bishop in this sample. As the youngest of three sons of the tenth earl, he was provided to Ely by the pope at the age of 20 in 1373. His patronage of the lost high altar reredos at Ely (1384-1390) post-dated his translation to York, where he committed himself to

⁴⁶⁷ SCA F/1/1/4, f.29 as above.

⁴⁶⁸ Spring (1987), pp. 69, 70.

⁴⁶⁹ DCD *Misc. Ch.* Loc II 3/3-15 5), p. 144.

⁴⁷⁰ S. Brown (2003), pp. 179, 80.

⁴⁷¹ EDC 1/F/10/IV/Chapman, p. 50 and Chapman (1907), v.1, pp. 151-66.

⁴⁷² Pantin (1955), pp. 23-5.

the rebuilding of the western choir shortly after his arrival.⁴⁷³ On translation to Canterbury in 1397, his patronage was again called upon to complete the high vault of the Canterbury nave with two contributions amounting to 2,000 marks (£1,333 5s 6d [*sic*]) in total.⁴⁷⁴ It was a contribution which Arundel could well afford – his wealth at death was £6,000, the highest in the sample.

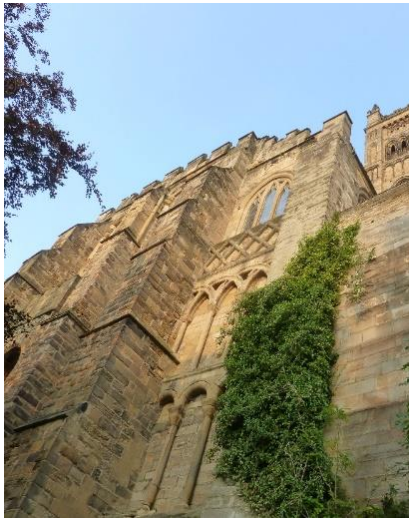


Fig. 7.7 Durham, buttresses below west end of Galilee Chapel above, as rebuilt during Bishop Thomas Langley's restoration, 1430-1432

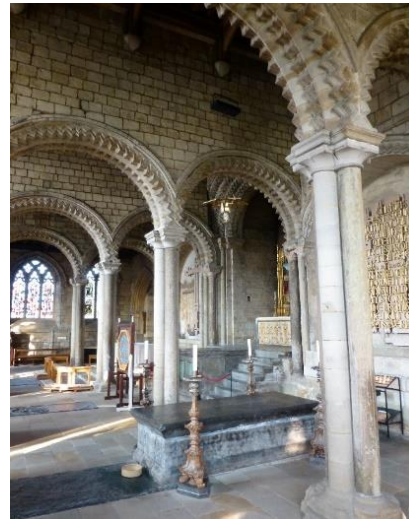


Fig. 7.8 Durham Galilee, restored 1429-1435: Venerable Bede's tomb to fore, Langley's tomb chest just beyond the steps up to the Lady Chapel altar

Thomas Langley of Durham (1406-1437) was from a gentry family of a manor close to Manchester which carried his name. He was not of the aristocracy and had no university qualification.⁴⁷⁵ However, he served in the Lancashire palatinate administration of John of Gaunt, and thrived on his connections after Gaunt's son acceded as Henry IV and after a term as Chancellor, he was rewarded with the bishopric and palatinate of Durham. He was said to have the fifth highest income of any landowner in England. His receiver-general accounted for an average of £2,972 p.a. in five years between 1416-17 and 1435-36.⁴⁷⁶ Additional income of £250 p.a. came from coal mines and forests, and sales of lead totalling to £215 p.a. from 1428 to 1431 was paid to his bishop's

⁴⁷³ EDC 1/F/10/XXII.

⁴⁷⁴ Woodman (1981), pp. 152-4; Woodruff (1936), p. 80. The first payment of 1000 marks in c.1398 is not recorded in Woodruff's summary.

⁴⁷⁵ Storey (1961), p. 2.

⁴⁷⁶ *Ibid.*, p. 68.

exchequer directly, after which he actively invested in new mine shafts and smelters in the 1430s.⁴⁷⁷ As patron, Langley undertook the reconstruction of the west-end structural buttresses of the cathedral and the narthex chapel over them at a cost of £506 14s.⁴⁷⁸ The restored Galilee Chapel of 1435 provided for Langley's tomb chest, prominently decorated with his green and white shields, in prime position between two sets of steps which rose to the platform of the new Lady altar, and beside the tomb of the Venerable Bede. It was ready to receive Langley's remains there before he died in 1437.

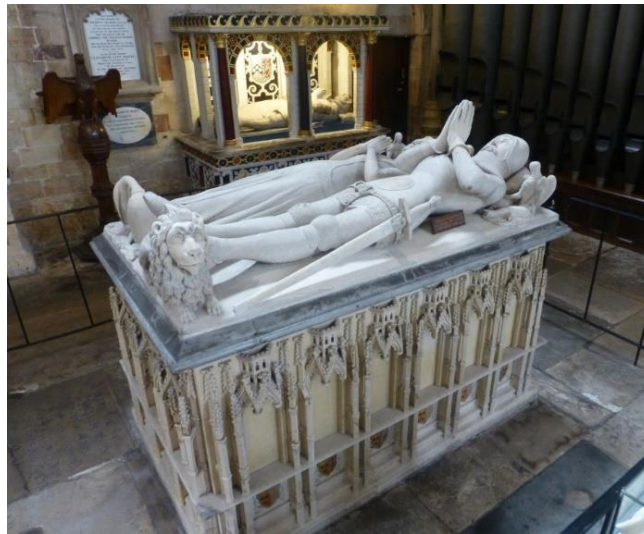


Fig. 7.9 Exeter, south transept, effigy tomb chest of the second Earl of Devon and Mary Bohun, formerly in 'cage-chantry' in Bay 2 of the nave, 1378.

At Exeter, the cathedral's relationship with the Courteney family 'combined two important characteristics of medieval life, the exercise of lordship and patronage and the expression of religious piety'.⁴⁷⁹ In return for the support of the earls and supplying a 'significant proportion of canons', the cathedral offered spiritual benefits to the family and a chantry chapel, which displayed their status and prestige.⁴⁸⁰ Initially the relationship had been fractious, and when the newly-installed John Grandisson pleaded for a loan of £200 to defray fees demanded by the *curia* in 1328, the first earl of Devon, a cousin of his, turned him down; it was not until 1340-41 that he made amends with a gift of 100

⁴⁷⁷ Ibid., p. 71.

⁴⁷⁸ DCD *Misc.Ch.* 5713-5721.

⁴⁷⁹ Lepine (1992), p. 41.

⁴⁸⁰ Ibid., p. 45: 57 canons between 1300 and 1540 had connections with the family.

marks (£66 13s 4d), the largest lay gift recorded in the Exeter rolls.⁴⁸¹ He died the following year.⁴⁸²

The family went on to produce four canons and Bishop Peter (1478-1487) for Exeter and Archbishop William (1381-1396) for Canterbury, a generous patron of its nave.⁴⁸³

The links between the aristocracy and the cathedral were prominently displayed at York, where the Minster took care to acknowledge the contribution of the northern aristocratic families, as shown in the pride of place given to the thirty-six carved and painted stone shields in the spandrels of the



Fig 7.10 York, Lady Chapel, arcade
Archbishop Richard Scrope
(1398-1405)



Fig. 7.11 York, central tower, spandrel
Bishop Walter Skirlaw, Durham
(1388-1406)

eastern arcades and in the central tower. These include, *inter alia*, the arms of Henry Percy, Bishop Walter Skirlaw, Archbishop Richard Scrope, and Henry Scrope. A further 32 painted shields, which pre-dated the surviving fabric rolls, are displayed in the nave arcades.⁴⁸⁴ The continuing proceeds of William Percy's late-twelfth-century endowment of Topcliffe, according to the *Taxatio* one of the two most valuable livings in England, are acknowledged in five family shields of the Percy family.⁴⁸⁵

However, there are no references to the display of shields in the fabric rolls, apart from those of the

⁴⁸¹ D&CE 2631/Ersline, p. 259.

⁴⁸² Lepine (1992), p. 49.

⁴⁸³ Woodman (1981), p. 152.

⁴⁸⁴ Brown (2003), pp. 278, 279, Appendix 2.

⁴⁸⁵ See p. 10, Fabric Fund Endowments. For Topcliffe at £300, see S. Davnall et al. (1992), p. 93 and Fig. 2. For stone shields, see Brown (2003), App. 2, pp. 278-9.

archbishops, and the scale and application of lay donations is a matter for conjecture. It is most likely that over two troubled centuries in the northern province, many of the shields acknowledge 'good lordship and patronage' in its wider sense, rather than donations of cash to the fabric.

University education

There were important changes in the university qualifications held by bishops. Two-thirds (c.60 out of 85) of those appointed in Edward III's reign had an Oxford or Cambridge education. Half of the graduates (30 out of 60) read canon or civil law in the fourteenth century. The preference for law reflected the opportunities for ordained men in the royal service, where a Doctorate in Law was the accepted entry point for diplomatic assignments. University was expensive, especially for those who were not from aristocratic or gentry backgrounds and needed patrons or subsidies. The resulting pressure to obtain benefices and sinecures following graduation would have been great. For the more wealthy episcopal candidates, qualifications were less important as aristocratic connections were routes to early patronage and benefices. Both Thomas Langley as an administrator for the Duchy of Lancaster and John Hotham of Ely (1316-1337) in his early legal career in the Irish administration progressed to high rank without a university education; and when Thomas Arundel was installed at Ely, he had passed the point when a Bachelor of Arts degree might be useful. However, by the fifteenth century a university qualification had become the *sine qua non* for episcopal promotion and had been completed by over 90% (73 out of 79) of those selected. University qualifications did not in themselves influence patronage of the cathedrals, but they unlocked the gate to career selection and wealth.

Career progression

Most bishops had spent almost twenty years as ordained men in royal service or ecclesiastical careers. These were years in which they established their reputations through administrative service rather than pastoral duties, but much of their income came from the benefices of parishes and prebends of cathedrals or collegiate churches. As most of the duties of these livings could be delegated, they allowed the recipients to concentrate on improving their positions in the hierarchy, while

accumulating several streams of income. There were great advantages to royal service in recompensing its civil servants with the revenues of the church in this way, as it encouraged the recruitment of a well-trained cadre of administrators at low cost and allowed the English state to develop a larger and more professional service than it would otherwise have done.⁴⁸⁶ After papal provision had become the norm in the mid-1300s, ‘king’s clerks’, often ‘distinguished scholars with high qualifications in canon and civil law’, were appointed to more than half of the bishoprics.⁴⁸⁷ There was a permanent improvement in the quality and experience of administrators who filled these posts, and their proportion increased gradually from 30% in Edward III’s reign to more than 60% in the following century.⁴⁸⁸ David Knowles concluded that ‘the hierarchy of England and Wales became increasingly ... composed of past and present servants of the crown’,⁴⁸⁹ and the proportion of those who had undertaken diplomatic missions rose to more than half of the total.⁴⁹⁰ The increase in papal provision had direct consequences for bishop’s treasuries. Between 1254 and 1327, more than one third of bishops were confirmed by the pope, and fees of one third of the bishop’s annual income were charged.⁴⁹¹ They were collected in full from 1342, except in 1416. The total amounts were significant: £29,805 from 1328 to 1350, and £62,244 from 1501 to 1533.⁴⁹² The kings secured the bishops and the officers of state whom they wanted, and the popes collected their fees.

Income and expenses

Bishops’ incomes listed in the *Taxatio* of 1291 have frequently been used as an index of diocesan or episcopal wealth.⁴⁹³ The figures can be misleading as they are shown net of expenses at the manor level, but gross before the deduction of the bishops’ official and household expenses. Although documentary evidence is limited, what exists suggests that the finances of poorer regional dioceses like Exeter or Hereford whose bishops nevertheless played

⁴⁸⁶ Rosenthal (1970), pp. 48, 49.

⁴⁸⁷ Edwards (1944), p. 312.

⁴⁸⁸ Ibid., pp. 37, 38.

⁴⁸⁹ Knowles (1961), p. 288; Rosenthal (1970), pp. 5, 6.

⁴⁹⁰ Rosenthal (1970), pp. 41, 50.

⁴⁹¹ Lunt, v.1 (1939), pp. 461-505.

⁴⁹² Lunt, v.2 (1969), App. III, pp. 825-34; for exchange rates see Spufford (1988), pp. 291, 292.

⁴⁹³ See p. 9.

their part in national affairs might have been precarious. Grandisson was not wrong in his protest that a poor bishop would not be able to contribute patronage towards new building for a long time without recourse to other sources of income.⁴⁹⁴

The entries in the *Taxatio* for the episcopal income of Hereford can be summarised as follows:⁴⁹⁵

Temporalities of the Bishop of Hereford	£452 6s 5d	678.5m
Church of Bosumbur (listed in a different section)	£20 0s 0d	30m
Temporalities outside the diocese of Hereford	£54 2s 6.5d	81.2m
Total Bishop of Hereford episcopal income	£526 8s 11.5d	789.7m

Fortunately an almost complete roll of the episcopal household expenses for the diocese, those of Richard Swinfield (1283-1317) for 1289-90, has survived from just two years earlier, which should be a reliable guide to the bishop's affairs.⁴⁹⁶ There are two sections: 'the rolls', which deal with the weekly provisioning of the household, whether in residence or on tour, including bread, wine, beer, fish, meat, poultry, fruits, charcoal, and wood; and 'the endorsement', which covers the household and official needs of an 'episcopal aristocrat', such as winter and summer 'wardrobes', wax for lighting, transport, building, and travel costs, as well as royal gifts, advocates in London, proctors at the *curia*, and repayments of debts. The expenses of 'the rolls' for 43 weeks amounted to £370, or, if we allow for the missing nine weeks at their average cost, £447 for the year; while 'the endorsement' came to £383 for the year, making a total of £830. Of this, only £36 was for extraordinary expenses, incurred at Womenswold, a Swinfield family property in Kent, on a winter visit to the royal court, so it can be guessed that the regular expenses were in the region of £800. The endorsement gives summer and winter wages for 40 named staff including 4 *armigeri*, headed by 'Willo Cantilupe' (13s 4d-£1 p.a.), 14 *valletti* (5s-

⁴⁹⁴ See p. 136.

⁴⁹⁵ Taxatio Database, Denton et al. (Sheffield, 2014), <http://www.hrionline.ac.uk>; see also *Taxatio Ecclesiastica angliae et walliae auctoritate P. Nicholai IV circa A.D. 1291*, Record Commission (London, 1802), p.168.

⁴⁹⁶ Webb (1854); P. Hoskin (2004): [odnb/26843](https://odnb.com/entry/26843).

8s p.a.), 13 *garciones* (2s-4s p.a.), and 14 *pagii* (2-3s p.a.).⁴⁹⁷ The accounts show that although household staff wages were low, amounting to £12 5s 1d for the year, total expenses were driven by the size of the household and the number of its guests. The costs of provisioning, clothing, and hospitality – all related to household numbers – came to over £500. As the editor of the accounts roll noticed, ‘the sum total of the rolls and the endorsement, though the former is incomplete, amount collectively to nearly double the income returned in the taxation’.⁴⁹⁸

Swinfield’s household numbers were not exceptional. Dyer reckoned that 40-80 was the range of household numbers for a wealthy abbot.⁴⁹⁹ We have more detail of the *familia* of Walter Bronescombe (1258-1280), first patron of Exeter, from his register.⁵⁰⁰ His chancellor, registrar, notary public, chamberlain, steward, chaplains, and four household knights formed the *commonsales*, who ate at the bishop’s board. Of thirty men known to have served during his term, fourteen had canonries in Crediton, thirteen at the cathedral, and fourteen at other diocesan churches, giving them a sufficient source of income. Bishop Ralph of Bath and Wells (1329-1363) was accompanied by 16 *familia*, 17 *officiales*, and 56 *garciones* when he stayed at Dogmersfield, Hampshire on 9 March 1337.⁵⁰¹ Provisioning for the night cost 14s 1d from the coffers and 14s 10½d from the stores. Given the size of these retinues, it seems that Bishop Swinfield’s financial situation was not unusual. The lower income bishoprics with valuations of below £800 must have been at risk, unless they had substantial sources of other income or were willing to downsize their retinues. Those at risk would have included Bath and Wells, Chichester, Exeter, Hereford, Lichfield, and Worcester. Exeter had been in ‘special measures’ once before, when Bronescombe took charge of the diocese in 1258. The pope granted him a faculty to retain the income from all his benefices for one year before releasing them, and he

⁴⁹⁷ Probably a nephew of Thomas of Cantilupe. See Webb (1854), v.1, p. 167 n.2.

⁴⁹⁸ Ibid., v.2, p. lxi.

⁴⁹⁹ Dyer (1989), p. 50.

⁵⁰⁰ *Reg. Bronescombe* (1995), pp. xxi-xxvi.

⁵⁰¹ Dyer (1989), pp. 50, 51; Robinson (1924), p. 156.

was able to borrow from Florentine bankers to pay off shorter-term debts. He managed to clear the debts before the end of his long term and left £2,083 15s 1d at his death in 1280.⁵⁰²

The rewards of high office

Five of the ten bishop-patrons in the sample were high officers of state before they became bishops; and eight were granted new offices after their installation.⁵⁰³ They were paid around 100 marks (£67 6s 8d) in annual fees, plus a daily wage of £1, while members of the King's Council received additional fees of at least £40 p.a. for their office.⁵⁰⁴ While payments for royal service may not always have been reliable, some were rewarded with lucrative properties and offices surrendered by those who had lost favour with the king.

Six of the bishop-patrons had been employed on diplomatic missions, and six were appointed to new missions after their installation.⁵⁰⁵ In a study of 95 records for 1327-1336, Larsen worked out a scale of daily payments made to 42 envoys to the continent.⁵⁰⁶ The *per diem* rate was 100s for archbishops, 66s 8d for bishops, 30s or 40s for abbots, 13s 4d, 20s, or 40s for knights, and 13s 4d or 20s for professors of civil law. These fees were gross and should be used with caution, as diplomats were invariably accompanied by their own sizable retinues, with horses and baggage, though there would doubtless have been a margin.⁵⁰⁷

In the case of ecclesiastical remuneration, the distinction between working stipends and sinecures was not always clear. However, the position of archdeacon, which was concerned solely with administration rather than pastoral care, was held by two-thirds of fifteenth-century secular

⁵⁰² *Reg. Bronescombe* (1995), pp. xxi, xli, xlii.

⁵⁰³ Hotham, Langley, Morton, Skirlaw, and Thoresby were Chancellor or Keeper of the Privy Seal, prior to installation. Arundel and Stapeldon became Chancellor and Treasurer respectively after installation, and Beauchamp a member of the King's Council.

⁵⁰⁴ Rosenthal (1970), pp. 38-41. Langley was paid 200 marks p.a. from 1407 to 1433; see *odnb/16027*.

⁵⁰⁵ Arundel, Hotham, Morton, Skirlaw, Stapeldon, Thoresby had prior experience (and Grandisson as a papal diplomat); Thoresby and Grandisson did not continue after installation.

⁵⁰⁶ Larsen (1939), pp. 404-8.

⁵⁰⁷ Storey (1961), p. 92. Langley departed for the Council of Pisa *cum magno apparatu*; his household at the embassy in France amounted to 86 people.

bishops prior to their election.⁵⁰⁸ The position was valued from 100 marks upwards p.a. At least thirty new bishops had previously worked for other bishops as diocesan officials or as chaplains, some serving in more than one diocese, and two-thirds of these had been trained in law.⁵⁰⁹

Benefices and sinecures

Sinecures in the form of benefices and prebends were granted as a reward to ordained men employed in secular or ecclesiastical administration. Despite the abuses of absenteeism and pluralism, these provided income and support for episcopal candidates. Rosenthal noted that the number of papal licences of dispensation had increased by the fifteenth century, suggesting that multiple benefices were on the increase, though the effects must have been mitigated to some degree by the proviso that 'the cure of souls is not neglected'.⁵¹⁰ The gradual accumulation of benefices, by exchange of those which had been previously awarded, is reckoned to have brought 250 benefices to 67 secular bishops in the course of their careers.⁵¹¹ The annual income of each benefice ranged from between £26 and £67 p.a.⁵¹² The prebends of cathedrals and collegiate churches were more popular, as their duties were less demanding than those of parish rectors and could be delegated more easily. In general, they yielded up to £67 p.a. Canonries produced a wide range of incomes, from less than £20 to as much as £160 p.a.⁵¹³ The accumulation of prebends is reckoned to have brought 315 livings to the 67 secular bishops during the course of their careers.⁵¹⁴ However, there is little information to show when benefices were surrendered, and the expectation that incoming bishops would release their benefices on installation may not always have been honoured to the letter, and some peculiars such as royal free chapels and colleges may have been exempt.⁵¹⁵

⁵⁰⁸ Rosenthal (1970), p. 27, including Bitton, Grandison, Morton, Stapeldon, and Skirlaw.

⁵⁰⁹ Ibid., p. 30, including Stapeldon and Skirlaw.

⁵¹⁰ Rosenthal (1970), pp. 22-5.

⁵¹¹ *Reg Bronescombe* (1995), pp. xvi-xvii, for the process of exchanging benefices and dispensations permitting plurality.

⁵¹² Rosenthal (1970), pp. 23, 33, but note Davnall et al. (1992), p. 94: the *Taxatio* database shows 61 benefices worth £100 p.a. or more, 28 worth £120 or more, and 4 above £200.

⁵¹³ Rosenthal (1970), p. 25.

⁵¹⁴ Ibid., p.23.

⁵¹⁵ Ibid., p.22.

Wealth at death

In the event, with eight of the bishops in the sample receiving substantial new income from high offices of state and eight engaging in diplomacy, pressure for continuation of benefices and sinecures is likely to have reduced. The top-earning bishop was Thomas Langley, one of the five wealthiest landowners in the country. His official and household expenses were reckoned by his biographer to have been c.£2,000, leaving net income of as much as £2,000 p.a.⁵¹⁶ In more ordinary dioceses, informed guesswork suggests that household overhead expenses would have been covered and that net incomes in the range of £300-£400 p.a. may not have been unusual.

Evidence of high net incomes is supported by the wealth at death figures from five bishops' wills, which range from £2,000 to £6,000, averaging over £4,000, and from three bishops' cash bequests which averaged over £700.⁵¹⁷ There is no suggestion that episcopal funds available for patronage were anything other than robust. The system had accelerated the appointment of senior royal servants and wealthier diplomats in the fourteenth century and the royal quest for aristocratic support in the fifteenth had served to re-emphasise the role of the wealthy bishops.

The question arises as to what motives might have propelled the making over of large sums of patronage funding?

Questions of motive

The motives of patrons have not been much discussed in the literature. Gervase's account of the master-client relationship in the building of the Canterbury choir from 1174 and Mathew Paris's assertion of the 1250s that the abbots took credit for the building works, whether they

⁵¹⁶ Storey (1961), pp. 68-74, 88-97; C.M. Fraser (2004): odnb/16027.

⁵¹⁷ Fig. 7.2.

had had any part in them or not, give glimpses of the thinking in earlier periods.⁵¹⁸ By the fourteenth century, the sources available are predominantly account rolls, episcopal registers, chapter act books, and wills, through which it is not easy to discern the thoughts of participants.⁵¹⁹ Julian Luxford has proposed a useful framework for the assessment of patronal motives based on concepts of obligation, aesthetics, devotion, salvation, and of collective and royal motives, which would have been understood at the time. He notes that none were exclusive and that ‘at an individual level there were at least as many motives for patronage as there were works’.⁵²⁰

Obligation

The most common attribution of motive was provided by Mathew Paris when he stated that ‘each successive abbot initiates new building works ... ignoring the works of his predecessor’, and it would be difficult to deny that most patrons felt obliged to raise the standing of their office, which would have been inseparable from other motives.⁵²¹ In five projects of the sample, the works derived from a major disaster. The central towers collapsed at Ely in 1322, York in 1407, and Ripon in 1450; Norwich cloisters were destroyed by fire in the uprising of 1272, and the rebuilding of Westminster Abbey was necessitated by the fire which damaged nearly all its buildings in 1298. Tower collapses were blamed on earthquakes or storms for the purposes of fund-raising, but human agency was usually involved.⁵²² Patrons’ responses to these ‘necessities’ were mixed and depended on the capacity of the institution. In York, the collapse was treated as a national emergency; Henry Bowet was urgently provided to the Archbishopric, and William Colchester to the works.⁵²³ With insufficient resources and little patronage, the damaged south-east corner of Ripon’s tower was quickly recast, but the Perpendicular tower arches were later left uncompleted.

⁵¹⁸ Gervase, ed. Stubbs, *Chronica Gervasii*, v.I, pp. 3-29; Paris, ed. Luard, *Chronica Majora*, pp. 289-90.

⁵¹⁹ Harvey (1984), pp. xxxix, xl; Wilson (1990), pp. 10-11; Luxford (2008), pp. 83-4; Binski (2014), pp. 1-6.

⁵²⁰ Luxford (2008), pp. 83, 84-8.

⁵²¹ Riley (1867-69), II, p. 283.

⁵²² Forster, Robson, and Deadman (1993), pp. 67, 69, 70.

⁵²³ See pp. 57-58

Aesthetics

Luxford noted that one of the ‘most remarkable aspects of the vocabulary of patronage [is] its emphasis on aesthetics’, and the documents show that objects of patronage of differing quality were described in broadly similar terms.⁵²⁴ Descriptions of the works in this chapter included the words ‘beautiful’, ‘marvellous’, ‘glory’, ‘perfection’, ‘becoming’, ‘costly’, and ‘magnificence’. Stapeldon’s cathedral at Exeter was described by Grandisson as ‘only half-built, marvellous and destined to exceed in glory all other churches in England and France, if only it can be brought to perfection and completed’.⁵²⁵ The indenture between John Thoresby and the York chapter for the new Lady Chapel at York in 1361 states ‘how fitting it is that that every church should be adorned in all its parts with uniform beauty and that most especially the choir should be adorned with becoming workmanship’, adding that the old ‘great choir ... seemed to many persons ... too homely a structure in regard to the magnificence of the nave of the church’.⁵²⁶ Later calls for funds repeated the message in similar terms.⁵²⁷ The wish for ‘uniform beauty’ expressed here was not unique to York; it is a recurring theme in the longer building sequences described here. At Westminster Abbey the masters followed designs of the nave set in the 1250s through to its completion in 1534, as Lethaby first noted.⁵²⁸ In Exeter Witney took care to maintain Master Roger’s designs of 1298-99 through the cathedral until its completion in 1342.⁵²⁹ While Ely is celebrated for its Decorated architecture, successive patrons and masters paid respect to earlier designs. In Hotham’s choir (c.1322-1337), the designer carefully maintained the proportions of Barnack stone and Purbeck marble used in Northwold’s presbytery (1234-52); the repeated sprouting leaf corbel *motif* in honour of St Etheldreda was repeated in the new choir; and Northwold’s proportions for the arcade, galleries, and clerestory had followed the Norman work.⁵³⁰ The use of the O windows in the lantern was a repetition of

⁵²⁴ Luxford (2008), p. 84; Binski (2010); Binski (2014), pp. 7-9.

⁵²⁵ *Reg. Grandisson*, v.1, p. 97; Erskine, Hope, and Lloyd (1988), p. 35.

⁵²⁶ Browne (1847) pp. 148, 149; Raine (1858), p. 174.

⁵²⁷ Raine (1858), pp. 175-7, Indulgence and Letter to the Diocese of Lincoln, c.1363.

⁵²⁸ Lethaby (1906), pp. 27, 148, 160.

⁵²⁹ Cherry and Pevsner (1989), p. 372; Morris (1991), p. 62.

⁵³⁰ Maddison (2000), pp. 46, 72.

the *oculus* motif used in the western towers in the twelfth century and in the spandrels of the Octagon and Lady Chapel in the fourteenth century. John Maddison has described the conservative approach as ‘a modest expression of the important transaction between the past and the present that is a unifying theme in ... the building campaigns’.⁵³¹

While the language of aesthetics was used in appreciation of the buildings and called attention to the standing of the patron by association, the lengthy narrative in *Anglia Sacra* on the collapse of Ely’s crossing tower and the creation of the Octagon centres on people.⁵³² Paul Binski, following Maddison, has argued that the ‘Walsingham Memorandum’ was written as a personal account by Alan of Walsingham and deposited for publication in the priory chronicle at a later date.⁵³³ The passage is a remarkable description of Alan’s emotions as he recovered from the shock of the collapse; ‘restored in spirit by God’s help, ... *manum misit ad fortia*’⁵³⁴ (he put forth his hand to mighty things) to restore the church; and laid claim to the concept of the Octagon – a safer, innovative, and cost-effective structure to replace the imploded tower. It shows a rare appreciation of the aesthetics of the project, and positions Walsingham autobiographically as ‘the most important agent in the initial process of architectural *ordination*’, reserving for William Hurley, as architect and engineer of the timber lantern, the tribute of *artificiosa structura lignea Campinalis summo ac mirabilia mentis ingenio ymaginata*, described by Binski as ‘the most fulsome ... and justifiable ... passage of admiration accorded to any English building, or at least building process, in the fourteenth century’.⁵³⁵ The wide use of the language of aesthetics in the promotion of new works makes it hard to deny its essential part in the perceived reputation of their patrons.

Devotional motives

While all patronage of church buildings is religious, it is difficult to discern purely devotional motives as distinct from those of more explicit salvational concerns. As G.W. Barnard noted,

⁵³¹ EDC F/1/10/VIII/Chapman, p. 97; Maddison (2003); see also p. 99 n.87.

⁵³² *Anglia Sacra*, v.1, p. 644.

⁵³³ Maddison (2000), p. 63; Binski (2014), pp. 188-9, 224-9; Binski (2010), pp. 14-41.

⁵³⁴ Proverbs ch.31, v.19.

⁵³⁵ Binski (2014), p. 227; see p. 176 n.6.

the standards for an individual bishop's piety and behaviour were set at a high level in the public mind by the often-repeated assertion that their role was to act as successors to the apostles, and few could match the expectation of blamelessness set out in St Paul's letter to the Ephesians. He concludes, as did Martin Haines, that 'the *Ecclesia Anglicana* of the late middle ages counted few men of deep religious conviction among those who were appointed to high office'.⁵³⁶

One man of conviction was John Thoresby of York. He resigned from a high-profile career as Keeper of the Privy Seal and later as Chancellor in 1356, turning his priorities to restoring his archdiocese after the ravages of the Black Death, which he pursued by increasing the number of priests and introducing lay prayers in English. At the Minster, he encouraged the 'more speedy consummation' of the nave work which had started in 1291. Work on his new Lady Chapel began by 1361 and the first two bays were roofed in 1371, when the great timber vault was raised by the carpenters at a cost of £55 8s 9d.⁵³⁷ The stress on 'costly workmanship' and 'uniform beauty' of the work could not have prepared its supporters for the magnificence



Fig. 7.12 York, John Thoresby's Lady Chapel, 1361-1373, east window. Glazing, 1405-1408, gift of Walter Skirlaw



Fig.7.13 Ely, Prior John Crauden's Chapel, canopies, 1324-25

⁵³⁶ Barnard (2012), p. 51, Haines (1998), p. 228.

⁵³⁷ YMA E/3/2/YAT. Total expenditure was £631 9s 4d – the highest recorded in the York fabric rolls.

and scale of the full-height chapel, which went far beyond that of any other building devoted to Marian worship in England. It was finally completed with Skirlaw's magnificent gift of Thornton's east window glazing of 1405. Thoresby chose to be buried behind the altar, which was positioned at the centre of the wall along with the graves of six of his predecessors from the old choir. His biographer, Thomas Stubbs (*fl.* 1371), recorded that *capellam Virginis Mariae miribli artis sculptura atque notabili picture peregit*.⁵³⁸ There were no doubt many other works where the patron's own purpose was devotional, but subsequent stripping of decoration and objects of devotion has made it difficult to perceive them. An exception is Prior Crauden's chapel at Ely, a place of prayer and refuge from the building site which the priory had become in the years when the Octagon, choir, and Lady Chapel (1322-1342) were progressing simultaneously.⁵³⁹ The Treasurer's Roll for 1325-26 tells us that the costs for the year were £138 8s 5d, which Pevsner thought amounted to 'a great deal (which) may mark (its) completion'.⁵⁴⁰ The exquisite carvings, the rich tiled floor, and the remains of the large Italianate wall paintings show that it was designed to the highest order.

Salvational motive

The motive of spiritual salvation was frequently expressed in smaller spaces which provided a setting for the regular obituary masses of their patron. Luxford noted that historians consider this motive to be the single most important purpose of ecclesiastical patronage.⁵⁴¹ Bishop Hotham's choir, still so-called after 700 years, is the largest work for which the motive was explicit. In 1321, Hotham had indicated to Prior Crauden that he wished to be buried 'at the space east of the altar in the choir towards the high altar' of the Norman cathedral.⁵⁴² The decision was an important one as it precipitated his offer to rebuild the choir at his own expense in the wake of the collapse of the tower.

⁵³⁸ Raine (1858), p. 13 n.

⁵³⁹ *Anglia Sacra*, p. 644.

⁵⁴⁰ EDC1/F/13/7/ Chapman, N. Coldstream (1979), p. 29 n.14. The figure, quoted by Pevsner and Coldstream, is not secure. The Stewart (1868), p. 244, transcription reads '*In nova constructione capellae et camerae domini Prioris, cxxxviiij li viiis vd.*' The exquisite working of the chapel canopies is similar to those of the Lady Chapel. Pevsner (1970), p. 374.

⁵⁴¹ Luxford (2008), p. 95.

⁵⁴² Wharton (1691), v.1, p. 650; Stewart (1868), p. 85.



Fig.7.14 Bishop John Hotham, Mortuary Roll 1337 (Canterbury Cathedral, Ch. Ant.E191 r)



Fig. 7.15 Ely, Hotham's choir, 1322-1337, lierne vault, 'canopy for Hotham's tomb'

In the absence of the bishop's records, the detail of the choir tells its own story. The intricate curvilinear tracery of the tribune and clerestory and the advanced 'star' design of the lierne vault were at the forefront of late Decorated design, and as Christopher Wilson has pointed out, the rectilinear arcade mouldings were a forerunner of the Perpendicular style.⁵⁴³ The whole composition could be seen as a magnificent canopy to house John Hotham's tomb, for which the prime position had been reserved at the centre of the choir. It is likely that both John (senior) and William Ramsey were associated with the project during its seventeen-year building period.⁵⁴⁴

In addition to large works which stand as *de facto* memorials to their patrons, including Arundel, Bitton, Hotham, Moreton, Stapeldon, Thoresby, and Walsingham, the patronage of this sample includes smaller sepulchral monuments in privileged positions at the east end of their cathedrals and later chantry chapels. The building campaigns of the period brought with them a re-ordering of the tombs of previous Saxon and Norman founders and benefactors, after Norman presbyteries were demolished in favour of extended east ends at Exeter, Ely, and York.

⁵⁴³ Wilson (1980), pp. 188-95.

⁵⁴⁴ Harvey (1984), pp. 163, 242. See William de Ramsey II and John the Mason VII.

Once the burial places in the most honoured spaces before the high altars in Lady Chapels and presbyteries had been taken, tomb chests with effigies were positioned as close to the high altar as possible in the arcades to the sides of eastern chapels, presbyteries, and, later, the naves. Some were placed in positions more clearly associated with their benefactors, such as Grey's tomb in his great city-facing transept at York and Aigeblanche's tomb in his Westminster-style transept at Hereford. The increase in daily masses encouraged the creation of new private spaces in chantry chapels, once those closest to the high altars had been exhausted. These included Grandisson's tiny chapel within the west front of Exeter, and Langley's prominent space in the Durham Galilee. Other patrons chose to build new structures in the outside corners of the east ends of the choir, such as the extant fifteenth- and sixteenth-century Oldham and Speke chantries at Exeter, those of Alcock and West at Ely, and the long-removed Beauchamp and Hungerford chapels on either side of the Trinity chapel at Salisbury.⁵⁴⁵ The exhaustion of available space led to the development of 'stone-cage' chantry chapels usually housed between the pillars of the nave, such as the earliest examples at Winchester, those of William Edington (1346-66) and of his successor, William Wykeham (1366-1404).⁵⁴⁶ While the screen-enclosed structures are still in place in the wide-walled arcades of Winchester, those in the thin-walled arcades at Exeter, of the second Earl of Devon (1303-77) and his wife (Fig. 7.9) and of Bishop Brantingham (1370-94), were removed in 1833.⁵⁴⁷ Pressures for additional space within the cathedrals must have caused significant funding to have been diverted to the foundation of secular or university colleges, where the canons or fellows would add to the supplicants for their founders' souls. John Grandisson founded the Collegiate Church of St Mary at Ottery in 1337, and the two chaplains at Langley's Galilee Chapel taught grammar and song in what became Durham school in 1437. The crowding of cathedral burial places was exacerbated at times by changes in the micro-architecture of cathedral tombs. Luxford remarks that in an earlier period, when in-church burials were reserved for the most prestigious, monuments were rare, and the

⁵⁴⁵ The Beauchamp and Hungerford Chapels were demolished in 1789.

⁵⁴⁶ Luxford (2011), pp. 44-52.

⁵⁴⁷ ED&C 2640/ Findlay, records 3½ stones of marble and lyes sold for the tomb of the count by the stores for 1s.(1377-78) The double-effigy tomb still stands in the centre of the south transept. Erskine (1988), p. 48.

translated graves of Norman prelates were usually of incised marble or stonework of some simplicity. The use of sculptured effigies surmounting the tombs became prevalent during the twelfth century, but was followed by the use of monumental brasses which became fashionable in the thirteenth century, reducing three-dimensional pressures.⁵⁴⁸ By the onset of the sixteenth century sentiment appears to have changed. Cardinal Morton's will of 1500 stipulated that he should be buried discreetly in the Lady Chapel of the undercroft of the cathedral beneath a plain marble stone without any unnecessary expense – *absque aliis voluptuosis expensis* – and that a chantry fund for two priests should be served by the monks of the priory. The sumptuous effigy and tomb chest which followed was certainly against the terms of his will.⁵⁴⁹

Corporate motives

The corporate motive was more relevant to the joint efforts of cathedral chapters and diocesan clergy, discussed earlier, and to the collective effort of monastic cathedrals which will be discussed here.⁵⁵⁰ The Ely Priory recurs throughout this narrative, pointing to the unique contribution of the St Etheldreda shrine to its cathedral finances.⁵⁵¹ At the centre of the work was Alan of Walsingham, who was not the architect but commissioner and patron of the work, who first articulated the concept, mobilised the financial resources of the Sacrist's office, and secured the services of the Ramseys and of William Hurley to construct the work. The project demanded considerable leadership, as both Bishop Hotham and Prior Crauden were involved in other building projects on the site, and the monks had been deprived of their traditional place for their daily offices for some years. The burden of finance for the Octagon fell to the Sacristy, which paid almost 60% of its costs.⁵⁵² It fell to Walsingham to integrate the iconographic and decorative elements of the Octagon and lantern and coordinate the new choir and the Lady

⁵⁴⁸ Luxford (2004), p. 97.

⁵⁴⁹ Woodruff (1914), pp. xii, 85.

⁵⁵⁰ See pp. 95-102 and 103-107.

⁵⁵¹ EDC F/1/10/3-15/Chapman, v,2, pp. 29-30, 45-8, 91-101, 156-7, 158, 159-60. See Figs. 5.22 and 5.23.

⁵⁵² Table 5, EDC F/3/3-10 (1322-42). New work donations and feretory contributions paid 41.6% of the direct building costs.

Chapel in a collective project to re-establish the Ely monastery as the premier site for pilgrimage in East Anglia, second only to Canterbury in England.

Political motives

Political motives were a central feature of the royal works, but were rarely expressed outside them. The fact that prominent patrons such as Stapeldon and Hotham may have been on opposite sides of the political divide in the reign of Edward II does not seem to have affected their capacity for patronage. As noted by Brown, it is unusual to see a display of distinct Lancastrian overtones in the presentation of Henry VI in an unbroken line of fifteen English kings in the little-documented choir screen at York of c.1440-1460.⁵⁵³

A detailed discussion of the royal patronage of the abbey nave is beyond the scope of this thesis. Only three of the ten monarchs between 1335 and 1534 were significant patrons, contributing £6,066 8s 4d or one quarter of the total cost of the nave, while the monastery itself financed 60% or £14,416 8s 8d.⁵⁵⁴ The difficulties of the reign of Richard II (1377-1399) prevented him from providing his promised £100 p.a., but the unexpected appropriation of foreign priories as a result of the war with France contributed half of his total patronage of £1,685 18s 8d.⁵⁵⁵ The most professional royal patron was undoubtedly Henry V, for whom the progress in completing the nave was a visible sign of his English concerns during his lengthy absences in France. He appointed Richard (Dick) Whittington and Abbot Richard Harwarden to act as his commissioners, and provided £3,861 in the years 1413-1422. William Colchester was his Master, and completed the triforium and clerestory levels of seven bays whilst rebuilding the crossing tower and choir at York.⁵⁵⁶ Henry V's interest in the abbey was to reassert its status as the royal mausoleum, where he also would be buried 'among the tombs of kings in the place

⁵⁵³ Brown (2003), pp. 233-4; YMA E/3/ 20 and 22/YAT. The rolls refer only to its cleaning in c.1450 and 1457. A statue of James I was carved for the York screen later, now at the new crossing pier at Ripon. Wilson (2009), p. 661.

⁵⁵⁴ Rackham (1909), p. 59.

⁵⁵⁵ Rackham (1909), pp. 9-12, 57, 59.

⁵⁵⁶ YMA E/3/7-10/YAT; Brown (2000), pp. 200-203, 206; WMA 23492-4/Rackham.

where the relics of saints are kept'.⁵⁵⁷ Finally Edward IV (1461-83) and his family contributed £519 9s 8d towards the remaining roof-work between 1471 and 1481.⁵⁵⁸

Patrons and master masons

Of the patron's role of introducing the concept and recruiting the master mason, less is known. The role of the bishops, which Binski recognised in the transmission of architectural style in the early fourteenth century, must have become more considerable after the disorientation of the Black Death and the loss of numerous masons' lives. The appointments by patrons of masters such as Richard Farleigh (1352-1353) from Wells and Robert Lessingham (1376-1397) from Gloucester to Exeter, of Robert Wodehurst (1387-1393) from Norwich (1385-1386) and from Westminster (1358) to Ely, and the triangular career of Thomas Mapilton between 1408 and 1428 at Durham, Westminster, and Canterbury must have been generated through a well-informed network.⁵⁵⁹

Patrons no doubt took varying degrees of interest in the detail of their works. Walter Stapeldon supported a radical intervention in the planned elevations of the new choir at Exeter in 1307-08, shortly after his election. The high-raking 'regional-style' splays of the clerestory windows of the existing two-staged presbytery were replaced in the new design by a triforium of marble-columned hooded arches above the string course of the arcade. The re-invented three-stage choir design stressed dignity and grandeur, in contrast to the earlier presbytery space which was filled with light.⁵⁶⁰ The change resulted in an awkward juxtaposition of the two designs, which was rectified retrospectively in 1317-18, when the accounts record the payment of £10 8s to William Canon 'for thirty-eight marble columns with capitals and bases

⁵⁵⁷ See Vale (2016), pp. 243, 244.

⁵⁵⁸ WAM 23535-56/Rackham, pp. 32-5 and 59.

⁵⁵⁹ Table 52.

⁵⁶⁰ D&CE 2610/Ersline, p. 61. Jansen (1991), pp. 47-9; Coldstream (1991), pp. 51-3. The columns were paid for in 1311. The 'regional-style' presbytery followed two-stage churches at Southwell Minster (1230s) and Tintern Abbey (1270).

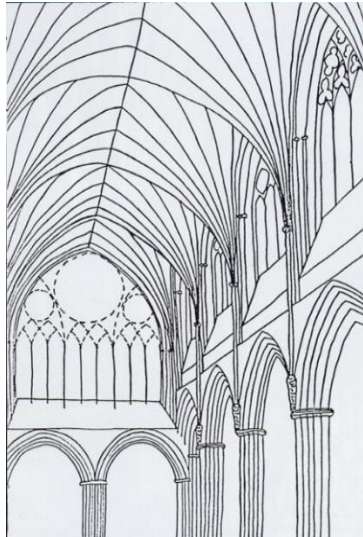


Fig. 7.16 Exeter presbytery, 2 stage as executed, Master Roger 1298-1304. Reconstruction, Virginia Jansen (1981)



Fig. 7.17 Exeter presbytery, 3 stage with triforium inserted, 1317-18

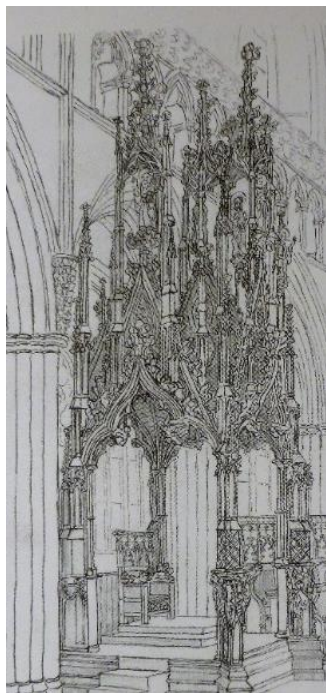


Fig. 7.18 Exeter, Choir, Bishop's Throne, first plan, Thomas of Witney, 1314-1316; reconstruction P. Ferguson, 2012, (courtesy Hugh Harrison)



Fig. 7.19 Exeter, Choir, Bishop's Throne as completed by Thomas of Witney c.1316-1317

for the galleries between the high altar and the quire'.⁵⁶¹ The episcopal throne, designed by Master Thomas of Witney (c.1314-1342) and described by Pevsner as 'the most exquisite piece of woodwork of its date in England and perhaps Europe', was also subject to intervention by Stapeldon to aggrandise the structure in a similar manner to the triforium.⁵⁶² In the initial plan, the throne had consisted of four corner buttresses with ogee gables on three fronts supporting the episcopal canopy, surmounted by three canopied and finialed tripods with figures.⁵⁶³ The structure was of modest height and its brightly coloured canopies would have resonated with those of the new high altar screen and *sedilia*.⁵⁶⁴

The radical change during the construction phase in c.1316, identified by John Allan and Hugh Harrison, is of a similar date to the second phase of the triforium.⁵⁶⁵ It added a two-stage tower, encased by crenelated panels at the first stage and fish-scale traceries on the lantern of the upper stage, which was topped with a gabled canopy for a sculpted figure rising to a four-sided crocketed open spire. The throne canopy was increased in height by over one third to 53 feet (16.15 m) – a significant addition to its grandeur for the bishop and his office.

The one surviving fabric roll of Cardinal Morton's term at Canterbury refers to the years 1494-1497, during which at least £1,035 17s 3½d was spent on the final stage of the Bell Harry Tower. Morton gave more than 1,000 *dolia* (tun-tight) of stone worth over £300 in these years, as well as cash donations of £240.⁵⁶⁶ His obituary in *Anglia Sacra* acknowledges that 'with his help, and at his expense, a great part of the tower in the middle of the church was erected'.⁵⁶⁷

A rare insight into the relationship between Morton and his master mason is provided by a draft letter written for the Cardinal in c.1494 by the Prior, William Sellinge, in which the latter recounts in his own handwriting a conversation he has just had with Master John Wastell:

⁵⁶¹ D&CE 2613/Erskine, p. 98.

⁵⁶² Cherry and Pevsner (1989), p. 377.

⁵⁶³ Tracy (2015), pp. 34, 35, Figs. 2.1.9, 2.1.10.

⁵⁶⁴ *Ibid.*, pp. 29, 32-4.

⁵⁶⁵ Alexander and Binski (1987), p. 413 notes Allan's investigation of the early 1980s; Harrison and Fergusson in Tracy (2015), App. 3, pp. 144-6.

⁵⁶⁶ Based on 176 tt delivered to Canterbury in 1425-26, CDC Fabric/17.

⁵⁶⁷ *Anglia Sacra*, p. 63.

‘Most Reverent Father in God and my most singler gode Lorde, please it the same to understonde, that Master Surveyor and I have communed with Jo. Wastell your mason, berer hereof, to purseyyve of hym what forme and shape he will keep in revysyng up of the pynaclys of your new towre here. He drew unto us ij patrons of hem. The on was with doble fineall withowte crocketts and the other was with crocketts and sengle fineall. Thys ij patrons please yt your gode Grace to commaunde the seyd Jo. Wastell to draw and shew hem unto you, and upon the sycht your good Grace shew hem your advise ⁵⁶⁸

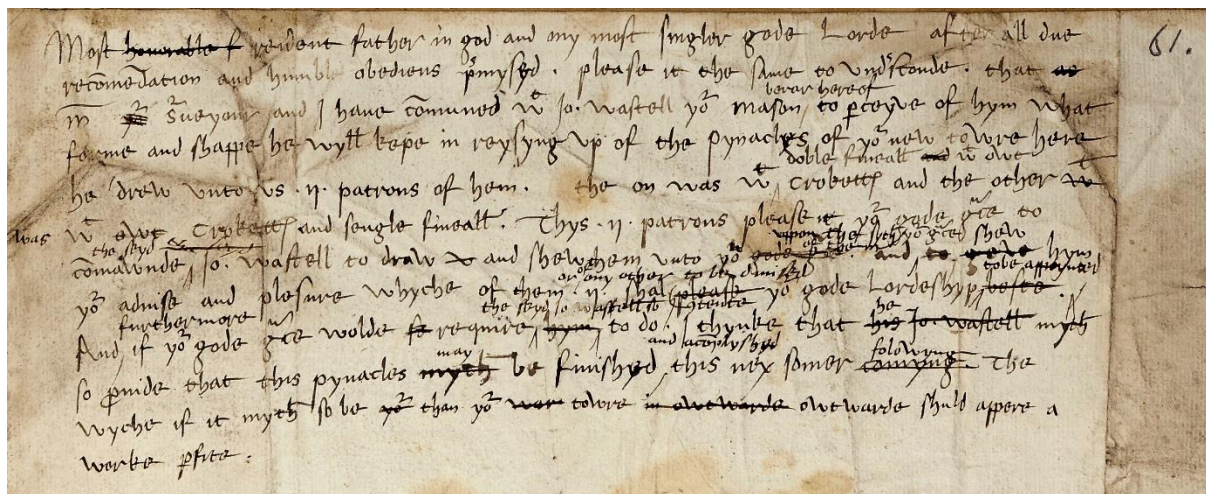


Fig. 7.20 Prior Sellinge’s draft letter to Cardinal Morton, c.1494 [CCA DCC ChCh Let 1/61]

The draft letter is of considerable importance on two points. Firstly, Sellinge refers to John Wastell as ‘your mason’, that is the archbishop’s mason, not the prior’s. This serves as written confirmation of the master mason’s lines of authority here, which have often been assumed by scholars but are nowhere else stated. It is clear from the multiple crossings out and alterations in the draft that Sellinge was taking great care in describing the relationship to his own superior. Secondly, as Urry pointed out, Sellinge died on 4 December 1494, which thus becomes the *terminus ante quem* the draft must have been written, and the draft clearly assumes that the finials were to complete the project, which may be ‘finished and acomplyshed this nex somer’. The evidence of the fabric roll is that rather than complete the project as planned, the cardinal and his master mason must have decided

⁵⁶⁸ See Fig. 7.20. Urry (1965), pp. 9-21. The handwriting was identified by William Urry, Cathedral Archivist (1948-1968), as ‘being in his characteristic humanist script’, closely comparable with that of his signed letters. Sheppard (1877); Woodruff and Danks (1912), p. 208.

to add another stage: a bell chamber of almost 50 feet (15.24 m), rising above the completed stage of the lantern tower. We will return to that in the next chapter. Cardinal Morton died in 1500 in a recurring episode of the plague.⁵⁶⁹

Morton's collegial relations with John Wastell were not unique. Grandisson had a high regard for Thomas of Witney, for whom he wrote a letter requesting the Prior of Winchester to reinstate Witney's daily corody and pension to 'a dearly loved member of our household and an invaluable and willing servant to us and our church in Exeter'.⁵⁷⁰ Such relationships were evidence of the workings of the close coterie of bishops and masters who controlled much of the architectural development of the period.

Summary

Episcopal patronage played a critical role in bringing the cathedral building campaigns to fruition. As evidence of the sources of patronage in the fabric rolls is slender, profiles of the careers of the ten most significant bishop-patrons identified in this survey have largely been drawn from additional sources. Following long-established church practice, the English bishops accepted their responsibility for the 'new work' of building cathedrals. Their unique position, as a small aristocratic élite with the resources of large dioceses behind them, put them in a good position to take up the task. They played key public roles, and the monarchs relied on them to fill high offices of state and diplomacy. These duties were paid for by annual fees and daily wages, and rewarded through livings of parishes and prebends of great churches in the gift of the monarchy. The system of 'papal provision confirmed by the king', fully accepted from the mid-fourteenth century, changed the character of the episcopal bench, and from 1400 almost all were involved in high office during their careers. The system favoured university-educated men, especially those who had local connections. Although the number of aristocratic bishops had reduced to one fifth of the total, they were of growing importance, as their early career starts brought multiple translations and additional opportunities for patronage.

⁵⁶⁹ C. Harper-Bill (2004): ondb/19363.

⁵⁷⁰ *Reg. Grandisson*, v.1, p. 218.

The bishops were extraordinarily rich. The recorded wealth at death figures for the sample include five bishops who left total wealth of £4,000 or more, and three who left cash bequests of at least £700. They provided donations of more than £10,000, amounting to more than half the costs for their chosen projects.⁵⁷¹ The earnings of bishops are not known, but this chapter suggests that most bishops would have received £200-£400 net annually. Secular bishops would have struggled if their gross diocesan incomes were £800 or less and their households exceeded 40 people. The wealthiest may have received as much as £2,000 p.a. Such figures of conspicuous wealth were quite out of scale with the regular transactions in the fabric rolls, and constituted a significant vulnerability for the future.

The question of motive has not been much discussed in the literature. While the intention of patrons must almost always have been to improve the standing of the donor and his institution, most new works in cathedrals attracted several layers of motive. Necessity, aesthetics, devotion, salvation, collective reputation, and politics all played their part. Salvation was increasingly at the core as large numbers of sepulchral monuments bore witness, though many were furnishings rather than structural in character. The shortage of suitable burial spaces in the cathedrals would have driven some patrons elsewhere, particularly to collegial institutions, where multiple prayers for the founders' souls could be expected.

The dynamic patronage of the early fourteenth century has often been credited as the impetus for the flowering of Decorated architecture at that time. After the Black Death, York led the way to recovery with the magnificent design and scale of the new Lady Chapel. The turn of the century from the 1390s to the 1420s was marked by impressive acts of patronage, including the western choir and new great east window glazing of York, the nave of Canterbury, and the nave at Westminster Abbey, and these were followed late in the century with the great crossing towers of York, Durham, and Canterbury. The fifteenth century was also notable for smaller projects which attracted high-level

⁵⁷¹ From Fig. 7.2. The data is incomplete for Hotham and Skirlaw. The figures for Arundel do not include his patronage at York Minster.

patronage and enriched existing spaces, such as Langley's Galilee Chapel at Durham, and Beauchamp's lierne crossing vault at Salisbury.

Less is known of the patrons' relations with their master masons. The shortage of master masons after the Black Death, the numerous resultant job changes, and the increasing use of consultant masters must have relied on an informal network of bishop-patrons who shared information on design capabilities. The early design changes in the Exeter choir and furnishings suggest that bishops could and did intervene significantly and masters responded effectively. The dialogue between the Archbishop and 'his' master at Canterbury was evidently collegial and productive, and sets the background for the discussion of the role of the master mason which follows.

Part III

The Developing Role of the Master Mason

Chapter 8

The Role of the Master Mason as Architect

Introduction

The role of the master mason as architect evolved from the twelfth century, when the masters had been subject to close oversight by royal and ecclesiastical administrators. By the fourteenth century the master had established a more independent role in which he controlled both design and process, and the most able were fully accountable for their work to their patrons.⁵⁷² In the 250 years of this thesis, the role developed and diversified further, driven by ecclesiastical, social, and economic trends, particularly in the years after the Black Death. The process of change was influenced by factors such as the competitive demand for design and building talents, the proliferation of smaller-scale projects, and the shorter duration of many projects. During this period, the traditional model of the residential master mason leading a continuously employed workforce of masons and other craftsmen progressively building a great cathedral was gradually eroded by other methods of working. ‘Consultant masters’ who designed several works on their own account, like Thomas of Witney at Winchester, Exeter, and Wells (c.1316-1342) and much later John Wastell at Canterbury and Cambridge (1485-c.1515), emerged from the early fourteenth century onwards.⁵⁷³ A few ‘multi-site masters’, who acted as central contractors with their own employees on site and performing a mix of services, such as Henry Yevele (c.1353-1400) and John Lewyn (c.1368-1398), traded from the mid-

⁵⁷² See for example Knoop and Jones (1933), pp. 16-20, 27-30; Salzman (1952), pp. 3-8; Colvin (1963), pp. 55-64, 97-105.

⁵⁷³ See Harvey (1984), pp. 339-41, 316-25.

fourteenth century, and some of the cathedrals outsourced building projects to master masons and their teams of workmen.⁵⁷⁴ The transition from the long-standing traditional organisations to more flexible arrangements made it possible for the most talented designers to work on a spread of works, and for cathedrals to achieve a higher standard of architectural innovation and output than they otherwise would have done.

This chapter will address the changes in the role of the master mason by looking in detail at the careers of the individual masters whose activities can best be discerned from the fabric rolls. The sample emphasises the building campaigns of the longer series of rolls and of those in which it is easier to identify the detail of the specific works undertaken by individual masters. In many of the rest of the rolls, a named master was in charge of a small team of workers in the traditional manner, but the names of the masons and labourers was not disclosed nor is the exact work in which they were engaged discernible. The biographical essays on the masters which follow are approached in chronological order when possible, and their activities are headed according to the nature of their practices. It becomes clear that the developing practice models emerged pragmatically at different times in individual cathedrals and regions. Questions related to the recruitment and remuneration of masons will be dealt with after the discussion of individual masters, to facilitate comparative analysis. The chapter concludes with an overall assessment of the developments in the masters' role and practice models.

The questions to which this chapter will seek answers include: What were the functions of the master masons? How were they recruited and paid? What were their accomplishments and reputations as designers and managers? How did they organise their practices and to what extent did they outsource work? How did their practice models develop, and what effect did this have on cathedral building programmes? For the purposes of the discussion, we will consider the external and public role of the master as designer and builder in this chapter, and the role of the master as internal and organisational manager in the subsequent chapters.

⁵⁷⁴ Harvey (1984), pp. 181-4, 358-66.

The origins of the master mason in the literature

The earliest account of a master mason in England was written by a monk, Gervase of Canterbury (c.1141-c.1210), who portrayed William of Sens as a master of some authority who gained the confidence of the monks and persuaded them to rebuild their fire-damaged cathedral in a new style:

‘residing many days with the monks and carefully surveying the burnt walls in their upper and lower parts, within and without, [and] did yet for some time conceal what he found necessary to be done, lest the truth should kill us in our present state of hopelessness...

And when he found that the monks began to be somewhat comforted, he confessed that the pillars damaged with the fire and all that they supported must be destroyed if the monks wished to have a safe and excellent building. At length they agreed, being convinced by reason and wishing to have the work as good as he had promised, and above all to live in security.’⁵⁷⁵

His successor, William the Englishman, presented alternatives to the monks as to how their presbytery could best be extended retaining the existing side towers:

‘the architect, therefore, not willing to lose these towers, but not able to move them entire, formed the breadth of the Choir, as far as the confines of these towers in a straight line. Afterwards, by degrees, avoiding the towers on both sides, and yet preserving the breadth of that passage which is without the Choir as much as possible, on account of the processions which were frequently to be made there, he narrowed his work with a gradual obliquity, so as neatly to contract it over against the altar, and from thence, as far as the third pillar, to reduce it to the breadth of the Chapel of the Holy Trinity.’⁵⁷⁶

⁵⁷⁵ Gervase, The translation in the *Gentleman’s Magazine* 42 (1772), pp. 259-61, 312-13, 362-4, translated from Twyden’s edition, *Decem Scriptores* (1652) from the British Library, Cotton *Vespasian* B.19 (mid-thirteenth century), collated and reprinted by C. Cotton, Librarian of Canterbury Cathedral (1930), pp. 7-19, printed at Cambridge University Press for the Friends of Canterbury Cathedral. It is reputed to be the earliest English translation; see Cotton, p.4.

⁵⁷⁶ *Ibid.*

Gervase had evidently been close to William of Sens. He is thought to have taken care of his well-being after his fall from the scaffold, and to have helped in the selection process for his successor. There have been questions as to his motive for writing the treatise, but the quality of his appreciation of the design and the negotiating skills of the two masters is not in doubt.⁵⁷⁷ It is of interest that in the earliest translation of his work recorded above, Gervase describes both Williams as *artifex*, which is translated in this edition as ‘architect’, possibly the earliest use of the title for a cathedral master mason in an English publication. In Robert Willis’s somewhat dramatised translation which he read *in situ* at the British Archaeological Association meeting in Canterbury in 1844, he used the word ‘artificer’, but it is not known whether he had seen the previous translation.⁵⁷⁸ There is a striking resemblance between Gervase’s treatise and Walsingham’s much later Ely ‘memorandum’ in their descriptions of the disasters, the reactions of the monks, the positive assertion of the will to rebuild, the setting out of new sites, and their reference to Old Testament precedent.⁵⁷⁹ What they also shared in common is their authors’ own participation in the events they portray, bringing a sense of autobiographical closeness as well as an element of Benedictine heroism in the face of adversity which runs through both accounts.⁵⁸⁰

By comparison, the early master masons at Westminster appear to have had a more structured line of authority to the King’s Works. Colvin has shown how most royal building work of the twelfth century was ordered by the king through his county sheriffs, or by the constable in the case of castles, who employed local craftsmen to carry out the work and used the revenues of royal manors and local levies as their first call for funds. The satisfactory completion of the works was usually verified by viewers, ‘law-worthy men’ whose views would be accepted by a court, who testified that the king’s wishes had been fulfilled. They were mostly professionals or tradesmen, who rarely had relevant technical qualifications or experience. By Henry III’s reign, *custodes operacionum*, ‘keepers of the

⁵⁷⁷ For Gervase’s motivation, see Crossley (2000), p. 314 n.27; for the work of the two masters, see Wilson (1990), pp. 11, 20, 84-6, and Draper (2006), pp. 13-31.

⁵⁷⁸ See Woodman (1981), pp. 91-8 for extracts of Robert Willis’s translation in Willis (1845), pp. 34-6, 48-62, based on Cotton MS *Vespasian* XIX. See Buchanan (2013), pp. 172-80. BAA *Transactions* (1844), translation by Edward Cresy jnr.

⁵⁷⁹ See p. 151.

⁵⁸⁰ See Binski (2014), pp. 224-9 for the ‘Walsingham memorandum’.

works', were appointed to inspect the works and certify the costs, reporting to the Exchequer independently of the sheriffs.⁵⁸¹

Henry de Reyns, who first received a robe as 'master of the King's masons' at Windsor Castle in 1243, was designated 'master of the work' at the abbey in c.1245, and was regarded by Lethaby as its designer, combining the roles of master mason and keeper of the works on site. This arrangement continued when his successor, John of Gloucester (1254-1263), with Master Alexander the Carpenter (c.1234-1269), were ordered to take charge of the Royal Works without the intermediation of royal clerks in 1256.⁵⁸² Colvin's *Building Accounts* for these years consist of receipts for 11 months of 1253 and 4 months of 1265 and expenses for 3 months of 1253. They are of intense interest as they record the accounting information of the Royal Works at its busiest period, when it employed 433 craftsmen and labourers at the abbey.⁵⁸³ However, little can be gleaned about the master mason's activities. Henry Reyns was directed by the king to have all the marble work erected in the winter of 1252, to accelerate the work, and to be present for the receipt of the king's funds on at least three occasions: he received 100 shillings as a travel advance for himself and three servants in 1252, and two shipments of coloured glass in 1253. The separation of the office from the usual supervision by non-professional keepers was a significant change. As William Lethaby pointed out, while the sacrists and keepers of the great churches must have known a great deal about the practice of building and prepared the outlines of new schemes, they must have depended on their skilled craftsmen to execute the schemes with their 'customary' ability – and that 'customary' ability included questions of geometric proportion and design.⁵⁸⁴ Once the master masons had assumed overall responsibility for the work, the situation reversed and the creative master craftsmen had to take on the business of finance and logistics as well as their 'customary tasks'. The acceptance of the master mason as the architect of major medieval buildings was significant in its implied recognition of the importance of craftsmen in the late Middle Ages.

⁵⁸¹ Colvin (1963), v.1, pp. 51-7.

⁵⁸² Lethaby (1904), pp. 150-73; Salzman (1952), pp. 11, 12; Colvin (1963), pp. 136-43; J. Harvey (1984), p. xliii.

⁵⁸³ Colvin (1971), pp. 202-7, 388-99, 413-15.

⁵⁸⁴ Lethaby (1904), p. 362.

Despite the early understanding of the work of twelfth- and thirteenth-century architects of Canterbury and Westminster, the recognition of the mason's role as architect was particularly late in England, handicapped by what John Harvey called 'the gratuitous assumption that it was anonymous'.⁵⁸⁵ Architectural historians working in Germany, France, and Spain suffered under no similar illusions. In Italy George Vasari had published his *Lives of the painters, sculptors, and architects*, which featured at least one English architect as early as 1550.⁵⁸⁶ Even among antiquarians and clerics who made it their business to investigate cathedral rolls, there were few who looked behind the assumption that the patrons 'built' their cathedrals. As late as 1861, George Oliver named at least five bishops as 'builders' of the cathedral in his *Lives of the Bishops of Exeter*, while Roger *cementarius*, who appeared in his specimen transcriptions of the fabric rolls, was ignored.⁵⁸⁷ At about the same time Canon Raine wrote tentatively in the preface to his *Fabric Rolls of York Minster* of his 'inclination to think that a great share of the responsibility [for the architecture] fell upon the master mason, but [that] he was probably assisted ... by the keeper of the fabric and the treasurer'.⁵⁸⁸ By 1868, Canon D.J. Stewart credited the 'superintendence' of Master William Hurley for the design of the timber lantern of Ely in his *Architectural History*, but the designer of the stonework Octagon remained anonymous.⁵⁸⁹ It was not until 1906 that Lethaby, by then surveyor of Westminster Abbey and Professor of Design at the Royal College of Art, asserted authoritatively that 'an account of the architects of several cathedrals could be made out with some fullness', as he had satisfied himself of their identity at Canterbury, Lincoln, Durham, Salisbury, Wells, and Exeter, thus indicating that the matter had been finally settled.⁵⁹⁰ Lethaby was a Devonian and had taken great pains to establish a robust building time-line for Exeter Cathedral in a two-part article in the *Architectural Review* of 1903. While the main thrust of Lethaby's argument was the attribution of the building of each phase to the bishop, his concluding section, *The Architects and other Artists*, based on access to Oliver's two rolls of 1861, assigned the design of the Lady Chapel vault, the upper part of the presbytery, and the

⁵⁸⁵ Harvey (1984), p. vii.

⁵⁸⁶ Supposed to have been Thomas Mapilton, King's Master Mason from 1421, formerly master of Durham Cloisters (1408-16); see Harvey (1984), p. 195.

⁵⁸⁷ Oliver (1861), transcription of 1299-1300 Fabric Roll, pp. 396, 400, 403, 407.

⁵⁸⁸ Raine (1859), p. xix.

⁵⁸⁹ Stewart (1868), p. 99.

⁵⁹⁰ Lethaby (1906), pp. vii, viii.

beginning of the choir to Master Roger and remarked that ‘possibly he was the architect of the presbytery from the first’.⁵⁹¹ Master Thomas of Witney was not similarly recognised, as he did not appear in the rolls which Oliver had chosen. The recognition of the master as architect brought significant changes in the direction of scholarship in the early and mid-twentieth century with Knoop and Jones’s *Medieval Mason* (1933), Salzman’s, *Building in England* (1952), and Harvey’s *Biographical Dictionary of English Medieval Architects* (1954), which together sowed the seeds of the growth in medieval architectural history and design in England in more recent years.

The formalisation of the master’s role and contracts of employment

Gervase’s treatise had drawn attention to the variety of tasks of the master, and the energy that drove their projects forward was passed on to their successors, whose contributions will be investigated in this chapter. While the range of the masters’ activities must have been determined by custom and practice on individual sites, contractual letters of employment became the norm in some cathedrals. Very few have survived, and it is not clear when and how they were first introduced or how widely. Salzman recorded ten masters’ contracts, four of which were from cathedrals: York (1351), Hereford (1359), Canterbury (1435), and Durham (1488). A further contract at York (1368) was recorded by Browne and Raine.⁵⁹² It is not surprising that York Minster was an early mover in the formalisation of contracts. Not only did they employ more staff for the fabric than any other English cathedral, but, as Salzman has pointed out, the York Minster masons ‘were not by any means a “happy family”, but rather prone to quarrels’. After an inquiry into defects in the works management and delays in the construction of the nave in 1344-45, of which detailed evidence given has survived, ordinances governing the behaviour of masons were introduced in 1351, and revised in 1370.⁵⁹³ However, the difficulties persisted and an inquiry into ‘conspiracies among the stone-cutters and...evil-doers to hinder the work’ was set up in 1408 after William Colchester was attacked soon after his arrival to replace Hugh Hedon after the collapse of the tower. His associate, William Waddeswyk, was maimed

⁵⁹¹ Lethaby (1903), pp. 174-5.

⁵⁹² Salzman (1952), App. C, 3, p. 586; 4, p. 587; 8, p. 390; 10, p. 592; Browne (1847), pp. 129, 162; Raine (1859), pp. 166, 180; Capes (1908), pp. 230, 231 (HCA2372).

⁵⁹³ See pp. 244-7; *Inquisitio* (1344)/ Raine (1859), App. XVII, p. 161. For details of the proceedings, see Salzman (1952), pp. 54, 55.

and granted annual payments for life.⁵⁹⁴ The terms of the master's contract were settled by the chapter in 1343, when Thomas Pacenham was master. He was succeeded by William Hoton, senior, in c.1348, and then his son, William Hoton, junior, in 1351, whose letter of appointment has survived. This provided a yearly pension of £10 in silver paid in two equal portions, and the use of a dwelling for life, which his father had occupied. If he were 'hindered by blindness or any other calamitous disease preventing him from working or from directing the said work in a fitting manner', he would grant the under-mason, the second mason, one half of the salary of the mason. The contract would continue 'provided only that he do not superintend any other works, whereby our work might be omitted, neglected, or in any way delayed'.⁵⁹⁵ In a similar contract drawn up for Robert Patrington in 1368, work for third parties was prohibited, voluntary leaving terms were made more explicit, and the terms of disability pay were improved to 10 marks (£6 13s 4d) annually.⁵⁹⁶ The York masters' contracts should be seen in the context of the masons' ordinances of 1352 (revised in 1370), in which the masters were required to ensure strict timekeeping and quality management at the masons' workplace:

'to the observance whereof the first and second masters, who are also called masters of the same, and the carpenter of the aforesaid fabric, shall make oath before the Chapter, that they will cause the ancient customs underwritten to be faithfully observed henceforth by the other masons, carpenters, and other workmen there working.'⁵⁹⁷

John of Evesham's Hereford contract (1359), also for life, suggested a wider interpretation of the role referring to the duty of instruction *in artibus lathamorum et carpientariorum et in omnibus aliis operibus fabrica*.⁵⁹⁸ Under his contract with Christ Church, Canterbury (1435), Richard Beek provided services relating 'to the office, servyse, and craft of masonrye', for the Priory and its outbuildings in Canterbury, London, and elsewhere.⁵⁹⁹ He was specifically

⁵⁹⁴ Raine (1859), *Ordinationes* (1409), p. 199, Saltzman (1952), pp. 55-6 citing *Cal Pat* 482.

⁵⁹⁵ *Pensio Willelmi Hoton* (1351), Browne (1847), p. 129, Raine (1859), App. XXI, p. 166 (some omissions and different dates), Saltzman (1952), App. C3, p. 586.

⁵⁹⁶ *Pensio magistri Robert de Patrington* (1368), Browne (1847), p. 162, Raine (1859), App. XXXII, p. 180.

⁵⁹⁷ *Ordinacio pro cementariis* (1352), Browne (1847), pp. 134, 135, Raine (1859), pp. 171, 172, Saltzman (1952), pp. 56-7; *Ordinacio cementariorum* (1370), Browne (1847), pp. 165, 166, Raine (1859), pp. 171-3, Saltzman (1952), pp. 57-8.

⁵⁹⁸ Capes (1908), pp. 230-31, Saltzman (1952), pp. 587-8.

⁵⁹⁹ *Ibid.*, App. C 8, pp. 590-91.

allowed to work for other parties for up to a month provided the Prior approved any such absence for eight days or more, the other party paid for his work, and the Prior was exonerated from paying him the amounts earned from the other party. John Bell's agreement at Durham of 1488, also for life, emphasised the master's responsibility to train apprentices in the 'foresaid mason's craft', and allowed for a succession of apprentices, one for the Prior and one for the master, each employed for ten-year terms.⁶⁰⁰ He was paid 10 marks (£6 13s 4d) in 8 instalments each year, allowed the house traditionally occupied by the master, not allowed to work for others without special licence, and was to be paid 4 marks (£2 13s 4d) in retirement or in ill health.

It is of interest that the surviving contracts show a gradual loosening of the conditions relating to the masters taking on work from outside clients. Despite the apparent straitjacket of formal contracts, the organisation and business models of the masters were to change significantly in the period, reflecting a shortage of designers and experienced craftsmen on the supply side, and changes in the range and scale of projects on the demand side.

The traditional master mason

Master Roger of Exeter (c.1298-1310)

The documented details of Master Roger's working career are fuller than those of any other master in this thesis, based on the receipts and weekly expenditure accounts for seven of the twelve years of his term.⁶⁰¹ He is one of a small group of master masons of whom a sculpted head can be identified with some certainty (Fig. 8.1). The carving is attributed to William de Montacute who carved 'capitals and one head of freestone in the second week of the Michaelmas term 1312, and forms part of the corbel of the south east crossing pier which marks the end of Master Roger's work in 1310.⁶⁰² Roger was most likely a local man. His date and place of birth are not known, but he is assumed to have died in

⁶⁰⁰ Salzman (1952), App. C 10, pp. 592-4.

⁶⁰¹ D&CE 2602, 2603, 2604, 2605, 2606/7, 2608, 2609/Erskine, pp. 8-51.

⁶⁰² Fig. 8.1; D&CE 2611, Erskine (1981), p. 63; For discussion of this attribution, see Harvey (1984), Appendix I, Portraits of English Medieval Architects, p. 375, and Erskine, Hope, and Lloyd (1988), p. 115. For earlier



Fig. 8.1 Exeter, south-east crossing pier, carved head of Master Roger (c.1298-1310)
by William de Montacute, 1312

post in July 1310, as his last fees were paid for the Easter term, and he was commemorated in the local Kalendar Guild obits. of July.⁶⁰³ He was first mentioned in 1297 as living in a house rented for him by the Dean and Chapter from Walter Stapeldon, then a rector in south Devon.⁶⁰⁴ He appears in the rolls as *cementarius* from Michaelmas term 1299 in the first surviving roll of the series.⁶⁰⁵ The concept of a new eastern extension to the cathedral had been settled and plans made during Bishop Walter Bronescombe's term (1258-1280).⁶⁰⁶ Erskine questioned whether the Master R. who appears in 1280-81 in the fragmentary accounts of 1279-1287 could be identified as Master Roger, but this is unlikely due to the lengthy period of sixteen years which elapsed. It is more likely that Master R. was the same person as Richard the carpenter, who was paid at the same rate of 2s 1½d per week in 1280-81, when roofing and carpentry activities predominated.⁶⁰⁷ An earlier master than Roger created the first designs for the lower part of the Lady Chapel, its side chapels, and the retro-choir, which Lethaby asserted were part of one campaign and of an earlier date, noting that that the *sedilia* of the Lady Chapel were decorated with 'the only example in the church of the trefoil foliage typical of Early

attributions see Cave (1953), Pl. 8 and p. 33, and Prideaux and Shafto (1910), pp. 192, 193; see also Woodcock (2013), Fig. 2.1, pp. 16, 17.

⁶⁰³ D&CE 3875, fo.13v. and Lepine and Orme (2003), p. 268, 'Roger le Machoun', Erskine (1983), v.2, pp. xix, xx.

⁶⁰⁴ D&CE 350, 2123 cited in Buck (1983), p. 13.

⁶⁰⁵ D&CE 2602/Erskine pp. 12, 13.

⁶⁰⁶ The early existence of the plan is confirmed by the alterations of the northern side walls of St Paul's and St John's Towers in 1280-81 and 1285-86 and the early completion of St Gabriel's Chapel, the chosen location of Bronescombe's tomb in 1280, D&CE 668, pp. 317, 318.

⁶⁰⁷ Erskine (1981/3), v.2, p. vi, D&CE 2600/1 /Erskine, pp. 3-5.

English, and it is associated with a naturalistic leafage which could only be found in work not later than the earlier years of Edward I'.⁶⁰⁸ The overall design was drastically revised in the late 1290s above the string course over the blind arcades of the lower wall.⁶⁰⁹ This marked the critical juncture when the earlier 'piecemeal buildings on the periphery' gave way to Bitton's larger-scale campaign from 1298, made possible by the new funding covenant between the bishop and the chapter and marked by a new series of accounts and, in all likelihood, the appointment of Master Roger.⁶¹⁰

Roger's designs for the presbytery and the choir were completed in his term of at least twelve years. The key to rebuilding the existing church was the retention of the Norman towers, which determined the height of the vaults and roofs of the central vessel, and the wall-lines of the arcades and aisles of the nave and choir, which were continued eastward to define the profile of the new work. The design featured multiple marble columns and rich arcade mouldings emphasising verticality and enhancing the thickness of the walls inherited from the Norman footprint; the rich palm-like tierceron vaults offset the height limitations set by the existing towers, which were opened up to serve as full-height transepts. The master was able to make significant economies not only by using the existing Norman structures to the top of the lower wall, but to continue the uniform vault through the length of the cathedral, untrammelled by central crossing arches, to become one of the glories of the cathedral. Pevsner described it as 'the *nec plus ultra*, the most developed of the tierceron vaults which had been developed since the 1250s'.⁶¹¹

Despite the remarkable unity of the design, Roger demonstrated considerable flexibility in acceding to his patron's request for adjustments to the bold and bright elevations of the presbytery as first implemented.⁶¹² Whilst his designs have met with general approval, his work has not been in the mainstream of architectural commentary. Nicola Coldstream described him as 'not an innovator but ... extremely inventive', and assumed that he was trained in London and that 'the general source of

⁶⁰⁸ Lethaby (1903), p. 170, Wilson (1980), p.180 also noted the advanced ogee curves of the tomb niches of the northern wall (before 1298).

⁶⁰⁹ See pp. 172-3 and Lethaby (1903), p. 170.

⁶¹⁰ For the change in pace, see Jansen (1991), p. 43. For the new campaign, see pp. 24, 104, 133.

⁶¹¹ Pevsner (1952), p. 138.

⁶¹² See p.158-9 and Figs. 7.16-7.19.

his style of vaulting, tracery, and flying buttresses' was of Old St Paul's.⁶¹³ One reason for Master Roger's rather muted reputation was the star rating of his successor but one, Thomas of Witney, whom John Harvey rated as 'one of the 'greatest creative personalities of English architecture'.⁶¹⁴ Harvey proposed that

'in the vaulting of the Exeter nave, sharply contrasting with the earlier vault of the choir, Witney introduced the method of 'hand-drawn' adjustment to the true geometric curves of the ribs, in order to present a suave appearance at the springing without the diagonals lurching off awkwardly. This was perhaps a revolutionary change indicating the onset of later Gothic.'

However, the recent laser scan survey undertaken by the Liverpool *Tracing the Past* project in 2016 has shown that the design, achieved by two-dimensional planning to a 'star-cut' design, is consistent throughout the Exeter vault from east to west. Further study has shown that both arms of the vaulting had used two-centred arcs and that the innovation should thus be credited not to Witney, but to Master Roger. The revision bears out Christopher Wilson's observation in 1980, that the two-centred arc existed in the Exeter eastern arm in the first years of the 1300s under Master Roger's direction.⁶¹⁵

Roger was appointed joint *custos operis* with Robert de Asperton (Ashburton), as well as master, in the first years of the new campaign in an effort to ensure an integrated approach.⁶¹⁶ Asperton stayed the course and remained in post until at least 1312-1323, and together they ran an efficient organisation with conservative financial policies. There were two phases of the renewed campaign: 1298-1304, when the Lady Chapel and ambulatory were vaulted and roofed and the four bays of the presbytery constructed; and 1306-1310, when the three-and-a-half bay choir was built and completed. The bar graph (Fig. 8.2, below) shows the ebbs and flows of the work, with heavier expenditure in the completion years of each phase, 1303-04 and 1309-10.

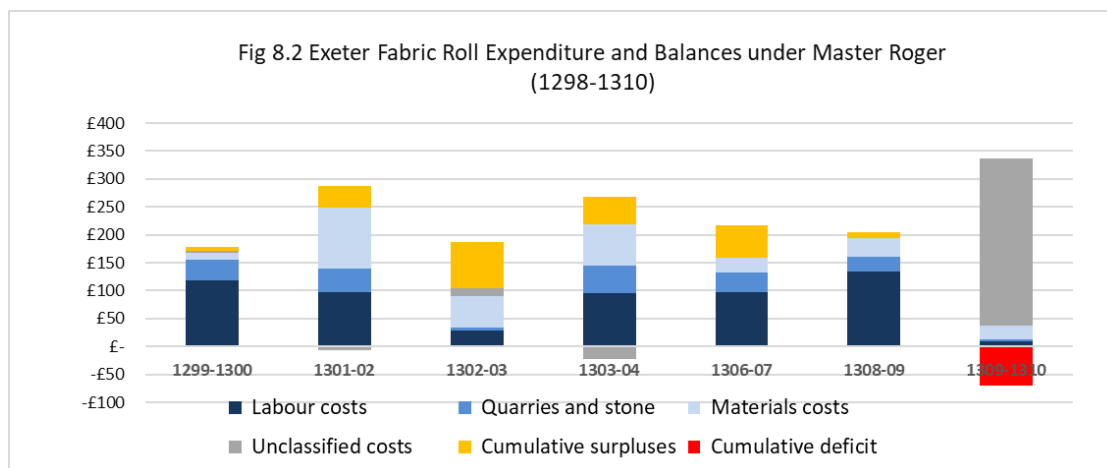
⁶¹³ Coldstream (1991), p. 52.

⁶¹⁴ Harvey (1984), p. 340.

⁶¹⁵ Buchanan and Webb (2018), pp. 391-7; Wilson (1980), pp. 262-3.

⁶¹⁶ DC&E 2602/Erskine, p. 8.

Each bar shows three categories of expenditure, labour, stonework, and materials, topped by the surplus for the year, if there was one, with the brought-forward accumulated surplus. Current year deficits are shown below the zero line when they occurred. Master Roger ran a surplus in five years of seven, while a deficit in the closing year of the first phase (1303-04) was covered by the accumulated surpluses. In the closing year of the second phase, the year of Roger's death,



the expenses for 19 weeks are missing – but it is clear that clerestory glazing, 3 fother of lead, and 2 boatloads of marble from Corfe contributed to the high costs of finishing off the work of £376 19s 11¼d producing an exceptional deficit of £70 3¼d for the year. Walter Stapeldon was not slow to react and introduced his *ad subveniendum fabricam ecclesie Exon*, a ‘voluntary tax’ on the diocesan clergy, in May 1311. This raised 6d in the mark from resident clergy and 12d in the mark from non-residents, which more than made up for the preceding year’s deficit.⁶¹⁷ The account rolls show that Master Roger’s east arm was built at a price per bay of about £350, which represented remarkably good value in the context of the building accounts of the period.⁶¹⁸

⁶¹⁷ See pp. 105-6, D&CE 2609, p. 51, 2610, p. 61 and pp. 61, 62 ed. n.

⁶¹⁸ Comparative figures include Ely’s Choir (3 bays), 1322-37, £2034 12s 8¼d, *Anglia Sacra* p. 644; York Lady Chapel (4 bays,) 1361-73, c. £4,000, est. based on YMA E/3/2; Canterbury’s nave (8 bays), 1377-1400, £4,773 8s 6d, Woodruff (1936), pp. 79, 80, amended for Arundel’s further contribution of £666 8s 10d; Westminster Abbey nave (7½ bays), 1376-1532, £24,221, Rackham (1909), pp. 58, 59.

Master William Luve (1310-c.1314)

The background of Master William Luve, who was master by Michaelmas 1310, is not known. He appears to have been under some pressure from the bishop to accelerate the work, as expenditure in his two surviving rolls of 1310-11 and 1312-13 was high.⁶¹⁹ There is little information in the accounts to identify the work of these years, though the crossing and transept arches and the east bay of the nave must have been completed. Tree-ring dating analysis shows that the high roofs of the crossing were constructed after 1314 and of the eastern bay of the nave after 1315.⁶²⁰ The fabric rolls support this as Witney's 18 wooden bosses for the timber vaults of the tower transepts were carved in 1318.⁶²¹ The average number of craftsmen and labourers employed was 21 in Roger's term, and 45 in these two account rolls: over 69 names appeared on the payroll in 1310-11 and over 96 in 1312-13.⁶²² The increase includes an additional 8 men in the quarries, where the work had been outsourced in previous years.⁶²³ Costs of stone and quarries in 1310-11 were the highest in the series at £113.10, and expenses of materials purchased were the second highest at £92.62.⁶²⁴ Yet progress on the crossing was slow and the work was not completed until 1325-26.

The problems posed by the bulk of the Norman walls had found elegant solutions under Master Roger with the stunted joining of the presbytery and choir arcades (Fig. 8.4) and in his shortened western bay of the choir which neatly bridged a gap of 7 feet (2.13 metres) to

⁶¹⁹ D&CE 2610, 11/Erskine.

⁶²⁰ Howard, Laxton, and Litton (2002). The last measured felling dates for the crossing roof were 1290-1314 and for the eastern bay of the nave 1297-1315.

⁶²¹ D&CE 2613/Erskine p. 97; D&CE 2624/Erskine, p. 166.

⁶²² Erskine (1981), v.1, pp. 191-4.

⁶²³ See Chapter 10, p. 269.

⁶²⁴ Tables 7, 37.



Fig. 8.3 Exeter, north-east crossing, narrow choir bay, 'Master Roger's elegant solution', c.1309.



Fig. 8.4 Exeter, south choir aisle, stinted arch to join presbytery/choir, Master Roger, c.1307.



Fig. 8.5 Exeter, crossing, wide south-west crossing bay, Master Louve's 'inelegant solution'



Fig. 8.6 Exeter, south nave aisle, scar of Norman respond repeated through south aisle

match the width of the tower walls (Fig. 8.3). Luve's inelegant solution was to widen the eastern nave bay arch by adding an additional 3 feet (91.5 cm) to the 18 feet 6 inch (5.64 m) span of the other six arches of the nave arcade and take the full width of the Norman western transept wall into the bay. This resulted in the unsatisfactory composition of the south nave aisle wall where the eastern light of the aisle window is blind to conceal the extension of the tower wall (Fig. 8.5). The

north aisle window is similarly treated.⁶²⁵ As a consequence, the new arcade piers and their corresponding aisle wall responds no longer matched the positions of the Norman arches, leaving the scars of alternating red and white sandstone of the original responds visible in the south aisle wall and consequential adjustments still to be made at the western end of the cathedral (Fig. 8.6).

Luve's inadequacies may have been recognised early as William de Schoverville, master of Salisbury Cathedral (*fl.* c.1311-), was brought in as a visiting consultant in Easter term 1311 to advise on the new work for the sum of 20s.⁶²⁶ Thomas of Witney ('de Winton') was first recorded as a consultant 'concerning the felling of timber' for the bishop's throne at Chudleigh and Norton for four weeks at the beginning of Midsummer term 1313.⁶²⁷ A three-year gap in the surviving rolls prevents us from knowing when Luve left, but Witney was receiving the master's fee when the rolls resumed in Michaelmas term 1316.⁶²⁸

The consultant master mason

Master Thomas of Witney (c.1316 -1342)

The interests of Thomas of Witney and Walter Stapeldon must have been closely aligned when he moved to Exeter. Master Robert had completed the eastern arm before his death, and the carpenter, Master John of Glastonbury, had moved the choir stalls into their new positions in 1309-10.⁶²⁹ However, the sumptuous altar furnishings with which Stapeldon wanted to complete the scheme required a designer of exceptional ability in both stone and timber. Witney, who had worked at St Stephen's Chapel (1292-1294) and possibly as a junior mason at Merton College, Oxford, had been Master at Winchester since c.1310, where he had built the feretory bay adjoining the Early English

⁶²⁵ The difference in the window areas due to the varied sill height is noted in D&CE roll 2614 (1318-19)/Erskine, p. 108, where one *forme* beyond the door of the cloister contains 69 feet of glass and one *forme* near the breadhouse contains 110 feet.

⁶²⁶ D&CE 2611/Erskine, p. 71.

⁶²⁷ D&CE 2612/Erskine, p. 77.

⁶²⁸ Harvey (1984) pp. 339-41. The acceptance of Master Thomas as being identical with Thomas of Witney is essential to the established narrative, as Richard Morris has pointed out. Morris (1991), p. 57 n.8, Erskine (1983), p. xx, Harvey (1984), p. 337.

⁶²⁹ D&CE 2609/Erskine, pp. 49, 50.

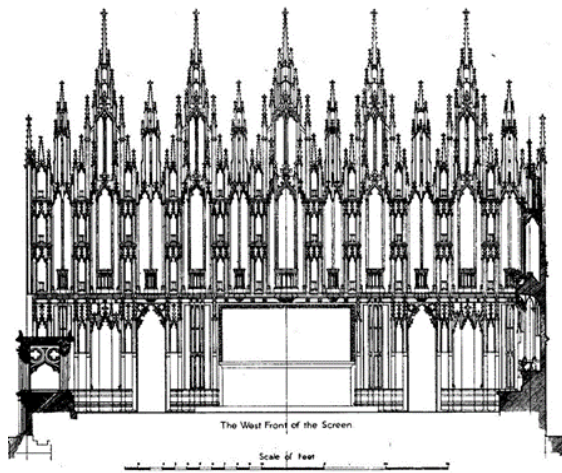


Fig. 8.7 Exeter, High Altar Screen, 1316-25
Thomas of Witney
Reconstruction by Percy Morris, 1943/44

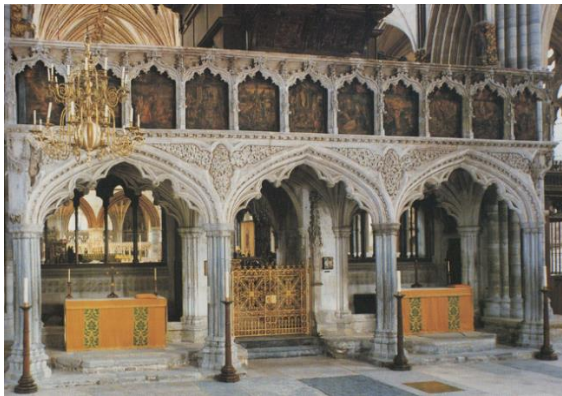


Fig. 8.8 Exeter, *pulpitum*, 1317-25
Thomas of Witney (D&CE)

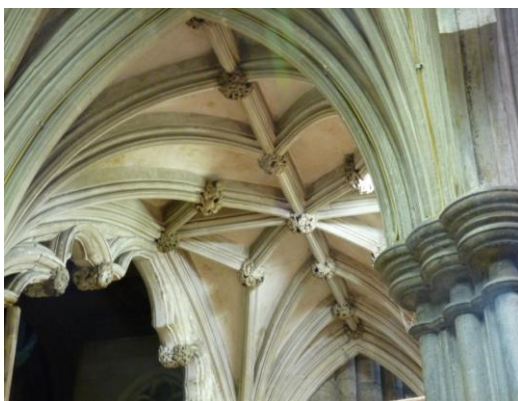


Fig 8.9 Exeter, *Pulpitum*, s. bay lierne vault c.1320
Thomas of Witney



Fig 8.10 Exeter Presbytery, *Sedilia*, 1316-25
Thomas of Witney
Restored by G.G. Scott 1870s

retro-choir to the Norman east end.⁶³⁰ His appointment at Exeter was to ‘usher in the full-blown fantasy of the Decorated style, rooted in his previous experience with the Kentish masons working for the court’.⁶³¹ The suite of high altar furnishings, comprising the high altar reredos (1316-1325), the *sedilia* (1316-1326), the bishop’s throne (1313-1319), the *pulpitum* (1317-1325), and above it the great cross (1325-1326), was conceived as the centrepiece for the whole cathedral (Figs. 8.7-8.10). Leland, an early visitor, commented on the ‘riche front of stone worke of the High Altare and the riche silver table in the middle of it’.⁶³² The rolls provide sufficient detail of the canopies and pinnacles of the reredos, later stripped of its images and then restored by order of Elizabeth I’s ‘visitors’ in 1559 but finally removed in 1639, for Percy Morris to draw up an intricate reconstruction in 1944.⁶³³ Master Thomas recruited a separate ‘high altar team’ of eight highly-paid skilled craftsmen, under John de Baunebiri, who crafted most of the work between Michaelmas 1316 and the summer of 1322. He introduced the latest variants of the ogee arch, already used at Exeter in its simple form by John of Glastonbury, and new lierne vault designs in the *pulpitum* and *sedilia* (Figs. 8.7-8.10). Six painters were employed to complete the decoration in the summer of 1326, when azure, ‘tenabr’, ‘verdegrys’, white varnish, and 1,000 gold and 1,000 silver foils were purchased for the great cross.⁶³⁴ Separate accounts exist for five of the six years of the high altar team’s work and show that the team’s wages averaged £44.82 per year, representing 62% of the fabric wages in those years.

The virtuosity of the altar furnishing designs was not to be repeated in the main architectural work of the nave, where, as discussed earlier, Roger’s templates prevailed to maintain the unified design and the uninterrupted vault, perhaps the most widely admired feature of the cathedral.⁶³⁵ However, the north cloister range emerging from the south elevations of the nave was a new concept, in which the south-facing battlemented cloister arcade was linked into the south aisle wall parapet, and again to the clerestory wall above, presenting a remarkable series of rising battlements to

⁶³⁰ D&CE 2611/Erskine, p. 71; Ayers (2020), see Index, p. 1504.

⁶³¹ Morris (1991), p. 57.

⁶³² Bishop and Prideaux (1922), p. 59.

⁶³³ Morris (1944), p. 123.

⁶³⁴ D&CE 2612A, 2515, 2617, 2619, 2621/Erskine, pp. 87, 110, 121, 132, 143, Table 7. The roll of 1317-18 has not survived; Morris (1943), pp. 123-47, (1944), pp. 10-21.

⁶³⁵ See discussion pp. 175-177.

represent the ‘city of God’⁶³⁶ (see Figs. 8.12 and 9.8). The composition was strengthened by the height of the battlements at both stages, which was made possible by the unique inward sloping cloister roofs, still witnessed in the deep roof scars on the south buttresses and the inward sloping aisle roofs of the six western bays, which exist in their original form.⁶³⁷ These made it possible to achieve an impressive display whilst maximising the height and light given by the clerestory, aisle, and cloister windows. Numerous references to the project, including the purchase of columns, the carving of heads, the vaults, gutters, and roofs, occur in the rolls throughout the nave building period, and it is evident that this was a substantial project.⁶³⁸ Witney’s influence is most apparent in the wooden tierceron tower vaults and bell-openings, the corbelled triforium passage galleries of the towers, the nave portals, and especially the exquisite window traceries of the nave clerestories,



Fig 8.11 Exeter, north nave and St Edmund’s chapel, traceries, 1328-42, Thomas of Witney

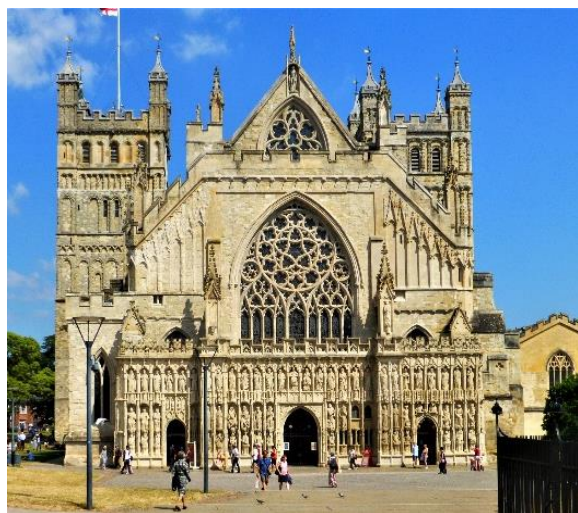


Fig 8.12 Exeter, west front, Thomas Witney, to 1342; lower image screen, Thomas Joy, 1346-1348; upper screen, Robert Lesingham, 1374-1387

including his signature ‘fish-scale’ meshes, which first appeared in the openwork of the bishop’s throne, and in the great west window (Figs. 8.11, 8.12, and 9.6).⁶³⁹ It was the latter which caused

⁶³⁶ I am grateful to Peter Bird (1947-2011), consultant architect at Exeter, Wells, and Winchester, for this allusion.

⁶³⁷ See Monckton (2006), pp. 262-9.

⁶³⁸ The north range was destroyed by the Exeter Puritans in the 1350s. A detailed reconstruction was published in Stead and Parker (2013); DC&E 2627-32/Erskine, pp. 224-72.

⁶³⁹ Hewitt (1985), p. 113, Tracy (2015), p. 40.

Richard Morris to comment that ‘today his achievement is best appreciated by standing looking west into the nave at Exeter – one of the finest interior spaces which has come down to us from the later Middle Ages’.⁶⁴⁰

Witney was master at Exeter for 26 years and his work there is well documented, but the records of his time at Winchester and Wells confirm little other than his presence there. He was resident in a house provided in Exeter from 1317 until 1324, after which he was based at Wells, though his continuing retainer of £6 13s 4d must have given Exeter first call on his services.⁶⁴¹ Unlike Master Roger, Witney took on other assignments. His work on the Winchester feretory screen post-dates his first visit to Exeter (1313) and may have been executed before he became Exeter master, and he was supervising the works at Exeter Castle from 1321 to 1325.⁶⁴² As Morris has shown, ‘the relevant dates recorded at Exeter and Wells coincide with almost suspicious tidiness, but they are in agreement with the evidence provided by the development of his ideas in vaulting and tracery design’.⁶⁴³ He appears to have given first priority to his work on the Lady Chapel at Wells from 1323 to 1329, and to his work at Malmesbury Abbey where the easterly windows follow Exeter’s north transept window.⁶⁴⁴ Master Thomas resumed his work on the Exeter nave after the dedication of the high altar in December 1328, and William Joy became master at Wells in 1329. Witney’s last recorded payment was at Michaelmas 1342, when ‘60 ells of canvas (were) bought to cover the great gable at the end of the church’ and ‘gold, silver, and various colours for painting the image of blessed Peter’ at the apex of the western gable, indicating that the structural work of the cathedral had been completed.⁶⁴⁵ Witney had reached his seventies by this time and it is likely that he died shortly afterwards.

As one of the first consultant architects, Thomas of Witney demonstrated an ability to design and manage on different sites simultaneously. The Exeter accounts portray a man wholly focused on his ‘home’ site, and evidence of his working elsewhere is limited to the few entries referring to his

⁶⁴⁰ Morris (1991), p. 78.

⁶⁴¹ Erskine (1981-83), v.2, p. xx, D&CE 2612/Erskine, pp. 77, 80, 82, 85.

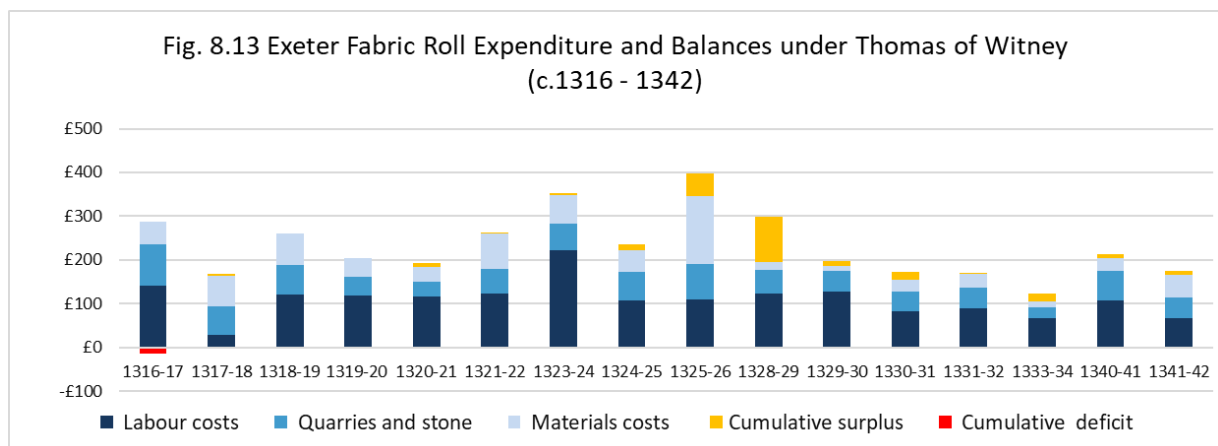
⁶⁴² Harvey (1984), p. 339; Morris (1991), p. 77.

⁶⁴³ *Ibid.*, pp. 77, 78.

⁶⁴⁴ Morris (1991), pp. 73, 74.

⁶⁴⁵ D&CE 2632/Erskine pp. 269, 270.

housing. As with his predecessors, he was paid his annual fee in four termly instalments, and there was no adjustment of fees to take account of his other assignments. The average number of craftsmen employed each year during his term varied from 7 to 21, averaging 13 with an additional 8 high altar craftsmen during the six years of their work; meanwhile the average number of labourers varied from 5 to 19 each year, averaging 10 – numbers which are slightly lower than those during Roger’s term. There is no evidence of special management arrangements during Witney’s absences, but the long-standing tradition of seniority based on the weekly wage lists would have applied. The senior mason in Master Roger’s first six years was Ric. Streme. Rob. Forde, who had worked with Streme since 1301-02, followed in 1306-07 and continued through two changes of master until 1321-22, showing that the long-service traditions under Master Roger continued. Witney appointed Will. Felstead from outside the team in 1323-24, and he handed over to Rob. Paine by 1328-29. Paine had joined the high altar team in 1320-21 and continued until Rob. Priour, who joined in 1323-24, took over in 1331-32, and continued as the senior mason until the end of Witney’s time. Despite Witney’s changes in design and his long absences at other sites, the traditions of self-management continued, apparently unaffected by the master’s change to multi-site working. One should add that under Witney’s leadership, the financial management of the fabric was first class (Fig. 8.13). In the sixteen account rolls of his term, there were varying current surpluses and deficits; but after a deficit in his first year, the cumulative balance remained in surplus – finely judged at less than £20 for thirteen out of fifteen years. There is more to say about Witney’s management initiatives, but that will wait for the following chapter.



The consultant engineer

William Hurley and the making of the Ely Octagon 1328-1342

Anglia Sacra tells us that ‘the eight columns with their dependent stonework’ of the Ely Octagon ‘were completed up to the upper cornice in six years to the year of our Lord 1328’⁶⁴⁶ (Figs. 8.14 and 8.15). Master John, thought to have been John Ramsey the elder, was paid an annual fee of £2 in addition to his wages and provided with a room which cost the Sacrist 11s 2d each year. If the same mix of wage levels applied as in 1341-42, it is estimated that 18 masons and 7 workers were employed in 1322-23, 12 masons and 4 workers in 1323-24, and 5 masons and 4 workers in 1325-26 to complete the stonework.⁶⁴⁷

The stage was then set for the timber dome and lantern. Walsingham’s concept of building a wooden structure above the stone octagon was intended to avoid the possibility of a further collapse and to accomplish the task cost-effectively within the means of the monastery. The task of spanning the 70-foot (21.33 metre) diameter with a 30-foot (9.14 metre) void at its centre appeared beyond the frontiers of contemporary timber technology (Figs. 8.15, 8.18, 8.19). The nearest precedent was the timber vault of York Chapter House (c.1286), which stretched across 59 feet (17.9 metres) without central support, but it was suspended from a spire-type construction which would not have allowed for a central lantern opening.⁶⁴⁸ For that we have to look to the 34 foot square (10.3 m x 10.3 m) vault framing the chimney opening at the Bishop’s Palace kitchen in Chichester (c.1300) or the 37 foot span (11.2 metres) of Witney’s wooden tierceron vaults of Exeter’s transept towers with bell openings (1317).

The identity of the ‘certain man from London’ who visited Ely in 1323-24 to ‘initiate’ the New

⁶⁴⁶ *Anglia Sacra* (1691), p. 644.

⁶⁴⁷ EDC1/F/10/III-V and IX/Chapman, v.2, pp. 34, 48, 61, 110; Harvey (1984), John the Mason VII (*fl.* 1322-1326), p. 163 and John Ramsey the Elder, pp. 240, 241; for detailed discussion, see Wilson (1980, b), pp. 188, 190-95.

⁶⁴⁸ Fletcher (1979), pp. 61-5; Brown (2003), p. 69 and Fig. 2.29; Hewitt (1985), pp. 108-10.



Fig 8.14 Ely Octagon, north-west, stonework, 1322-1326, attributed to John Ramsey; timber lantern above



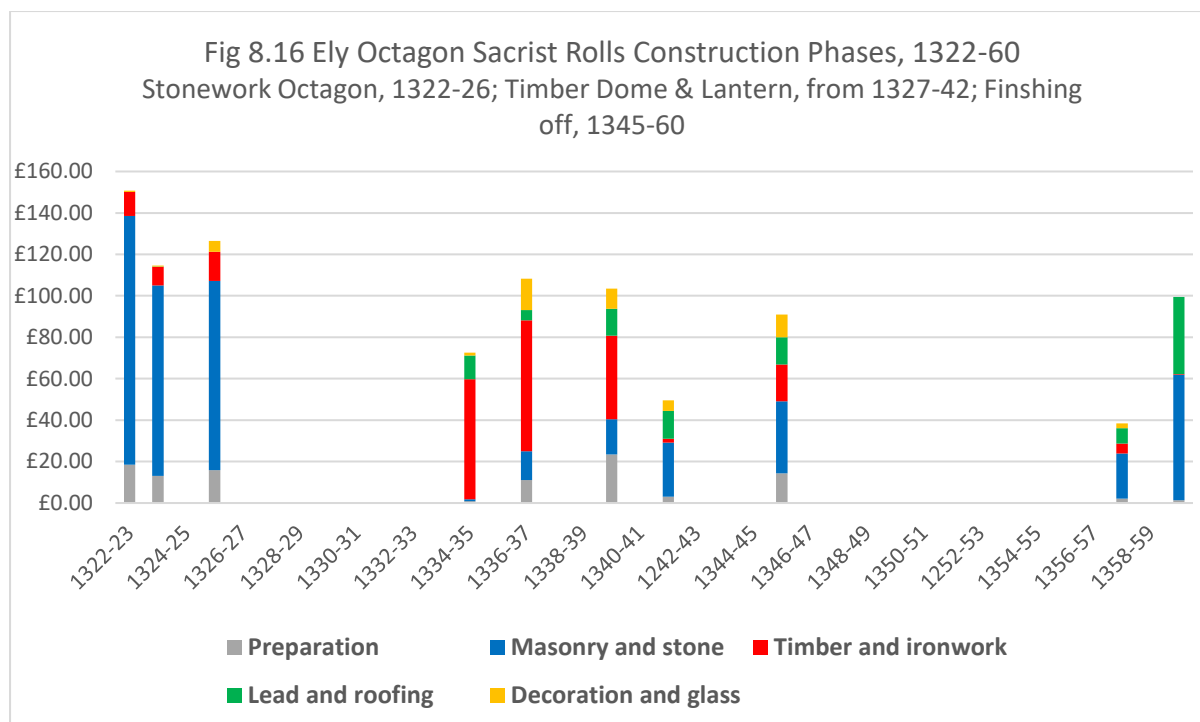
Fig 8.15 Ely Octagon, vaulted dome and lantern, 1327-1342, after William Hurley

Works has intrigued scholars for many years, but he is unlikely to have been William Hurley.⁶⁴⁹ He had major new commitments at the Tower and in Kent at that time, and the 3s 4d fee paid to the ‘certain man’ would not have matched Hurley’s expectations. The expenses of the Sacrist going to London to meet Bishop Hotham in 1323-24 were 13s 2¼d.⁶⁵⁰ Not only was there an eight-year break in the rolls at this juncture, but there must also have been a standstill in building operation.⁶⁵¹ This is indicated by the first roll after the break, of 1334-35, which includes the inserted memo recording that ‘eight carpenters stayed with full board with the servants of the Sacrist for nine weeks for elevating

⁶⁴⁹ EDC1/F/10/IV/Chapman, p. 45, and see v.1, p. 22; Harvey (1984), p. 142; Coldstream (1979), p. 29; Lindley (1986), pp. 120-21. Binski (2014), p. 220, n.165 has ingeniously closed the argument by arguing that the payment was for a thing (a template), not a person.

⁶⁵⁰ EDC1/F/10/IV/Chapman, v.2, p. 45. The Sacrist spent considerably more than this on ceremonial visits with his retinue, see EDC1/F/10/VII/Chapman, v.2, pp. 81, 82.

⁶⁵¹ Such a delay was first proposed in Atkinson (1953), p. 64, but this has been ignored in subsequent commentary. See also Fletcher (1979), p. 70 n.19. Binski’s assumption that Hurley was ‘closely involved in the project from its inception’ (Binski 2014, p. 192) speaks against this.



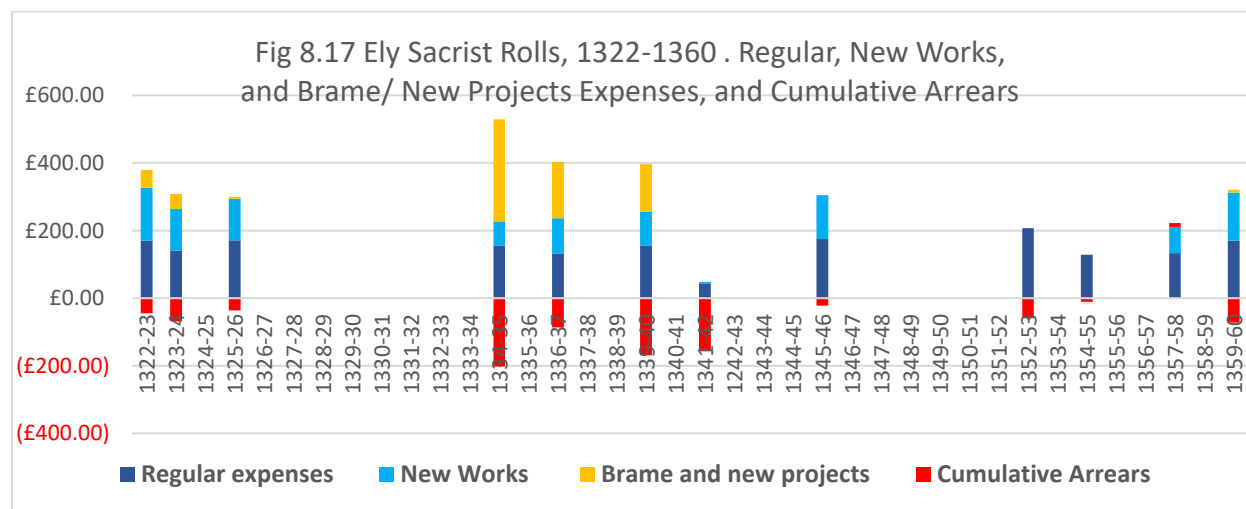
the great posts in the new choir’, demonstrating that at this stage, six years after the completion of the stonework, only the internal timber platform had been erected.⁶⁵² (Figs. 8.16, 8.18). This begs the question, which so vexed Chapman, as to what had happened in the long interval.⁶⁵³ The argument for a significant delay can be justified both through the evidence in the standing fabric and the contextual evidence of the rolls. There appears to have been some uncertainty as to how to proceed with the timberwork in the absence of the early appointment of an experienced master, and the apparent stop-start progress and the use of semi-finished stonework on the parapet between 1336-37 and 1339-40 suggests that there may have been a period of experimentation before the structure was finalised⁶⁵⁴ (Figs. 4.2, 8.14). The series of sixteen unused stone corbels at the interior corners of the stonework, slightly lower than the level of the *oculae* below the exterior string course (Fig. 8.20), first noted by Philip Dixon, may be an indication of an earlier plan to complete the Octagon with a lighter structure

⁶⁵² See discussion on pp. 59-61. For internal platform, see Fig. 8.18.

⁶⁵³ Chapman (1907), v.1, pp. 38-40.

⁶⁵⁴ Masonry works under John Attegreene from 1336-37 to 1341-42 are of a different character to the first-stage work, with its plain Perpendicular style openings and outsourced decorative components at the upper stage to the parapet level. See EDC 1/F/10/ VII-IXa/Chapman, pp. 83, 96, 109, 110; Willis (1844), pp. 35, 36; Chapman (1907), v.i, p. 82.

and a slender steeple to match that of the western tower.⁶⁵⁵ As Sacrist, Walsingham may well have been happy to delay restarting the new works because there were several pressing demands for funds at this time of stringency. Bishop Hotham's peremptory dismissal of Prior Fressingfield and appointment of John Crauden in 1321 was intended to stop recurring financial crises.⁶⁵⁶ The Choir was making progress and the Lady Chapel walls had risen to about a third of their full height. However, a once-off opportunity to purchase the neighbouring Brame estate had arisen, which Sacrist Alan was very reluctant to forego.⁶⁵⁷ It consisted of 200 acres with houses, tenements, and stalls, accessible from the Ouse and upstream of the town.⁶⁵⁸ This and other improvement projects cost the Sacrist's office £475 11s 11¼d, more than three times the annual building expenses of the Octagon in those years (Fig. 8.17). The cumulative arrears rose to as much as £200 by 1334-35, in contrast to an average of £50 in the first and final building phases.⁶⁵⁹ Walsingham's cautious financial stance at this juncture may have allowed him the opportunity to secure the services of William Hurley.



Hurley was by this time at the top of his profession as Master Carpenter and Engineer. He had joined the king's service in 1323-24, when he earned 6d per day for managing the works of the Tower

⁶⁵⁵ See Fig. 8.14 for *oculae* and Fig. 8.20 for corbels. These were first pointed out to me by Michael White, see White (2007), p. 43 and illustration on p. 44. See also Binski (2014), pp. 217, 218 n.149. The western steeple is illustrated in Bentham (1771), Pl. 1.

⁶⁵⁶ As discussed, pp. 45-7.

⁶⁵⁷ EDC1/F/10/VI, p. 68.

⁶⁵⁸ Chapman (1907), v.1, App. C, v.1, p. 161.

⁶⁵⁹ See Fig. 8.16 and Table 5.

of London and a further 12d per day for felling timber for Westminster.⁶⁶⁰ In 1326 he worked at St Stephen's Chapel and also repaired Hugh Despenser's castle in Caerphilly.⁶⁶¹ From c.1332 to 1337 he took charge of timber work in the Guildhall chapel, and in 1336 he was appointed Surveyor for Carpentry of all the King's Works south of the Trent and Humber, a significant position which commanded annual fees of £18 5s 0d and the customary robe.⁶⁶² He built a house near the Tower the following year. A call to the siege of Dunbar to organise a large siege engine for 11 weeks in 1338 showed, as Harvey remarked, that 'the old combination of the offices of "engineer" and "carpenter" was not yet quite obsolete'. Hurley was employed on the Octagon from 1334 at the high fee of £8 p.a. reflecting the strength of his reputation.⁶⁶³ After the lantern was completed in 1441-42, he was paid £1 annually as a retainer.⁶⁶⁴ Hurley's fee at Ely was so far beyond monastic expectations that Walsingham arranged an annual subsidy of £2 14s 0d, provided by John of Huntingdon from rents in the town.⁶⁶⁵ Accommodation was also provided and a payment of 6s 8d for this was recorded in 1339-40.⁶⁶⁶ The Ely payments were in addition to his fees as a Master of the King's Works, making him one of the highest paid professionals in the country.

Hurley's octagonal design is complex, and the roll entries which refer to it can only be understood in the context of its overall structure. It is of two parts: (i) the internal platform, referred to above, which supports the inside sill of the lantern, the surrounding floor, and the curved timber vaulting ribs of the dome below; and (ii) the lantern and bell-chamber framework positioned on the platform sill. Cecil Hewett examined the likely method of construction based on a detailed examination of the timber jointing.⁶⁶⁷

⁶⁶⁰ The biographical details other than those at Ely rely on Harvey (1984), pp. 154, 155.

⁶⁶¹ See EDC1/F/13/7, EDC14/21/4.

⁶⁶² Harvey (1984), p. 154; Ayers (2020), see Index, p. 1472.

⁶⁶³ EDC1/F/10/VI, VII/Chapman. v.2, pp. 73, 84.

⁶⁶⁴ EDC1/F/10/X, XI, XIII/Chapman. v.2, pp. 137, 146, 168.

⁶⁶⁵ EDC1/F/10/VI, VII/Chapman, v.2, pp. 75, 86.

⁶⁶⁶ EDC1/F/10/VIII/Chapman, p. 98.

⁶⁶⁷ Hewett (1985), pp. 114-22.

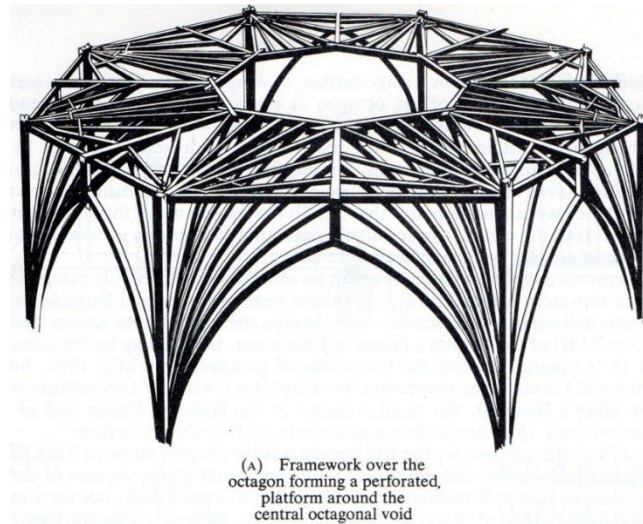


Figure 8.18 Ely Octagon, internal platform and vault (© Hewett, 1985)

At the first stage (Fig. 8.18), eight large corner posts (9 inches or 22.8 cm by 11 inches or 27.9 cm, and 48 feet or 14.56 metres high) were bound into slots at the corners of the stonework octagon, and fixed firmly into position by horizontal timbers. Timber imposts, resting on the top of the stone piers below, were then attached to the base of each corner post to act as springing points for eleven curved ribs. The side arches were then put in position resting on the stone courses above the octagon arches. The eight interlocking brackets to form the inside sill of the lantern were then put in position, attached at right angles to the horizontal joists which linked them to the corner posts. The brackets had mortises cut on alternate upper and lower edges to allow them to be locked into each other, and would have needed support from scaffolding below until they were fixed. The horizontal joists were jointed into the curved vaulting ribs immediately below as well as to the tops of the corner posts. Stability of the frame was increased by the timber tierceron ribs and their supporting joists, of which there were 88 of each.

At the second stage (Fig. 8.19), the eight great posts, 3 feet (91.4 cm) square and almost 60 feet (18.2 metres) high, at each corner of the lantern were the key to the whole structure. They provided the framework for the window openings which light the central space of the cathedral and support the

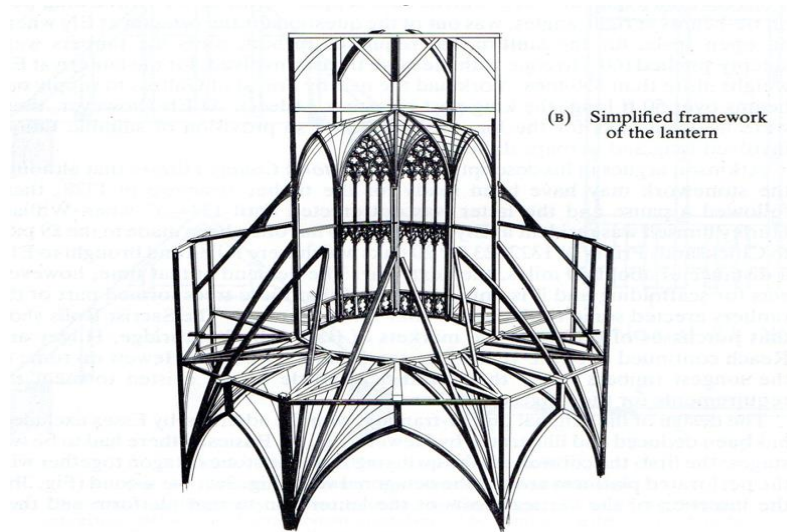


Figure 8.19 Ely Octagon and lantern frame (© Hewett, 1985)

timber bell chamber, originally with a peel of six bells, 142 feet (43.1 metres) above the ground.⁶⁶⁸ Each of the posts weighed up to 10 tons, even after seasoning, cutting, and shaping for their final positions, and rested on the platform, which had to be capable of supporting the 450 tons of the whole structure.⁶⁶⁹ The earliest purchase of large timber was of 20 trunks of oak at Chicksands, carefully selected by Master Thomas the Carpenter and inspected by the Sacrist at the beginning of the project in 1322-23.⁶⁷⁰ The cost was £10 18 5d, including transport.

The eight carpenters in 1334-35 would have needed the great crane, 'le Ferne'. The roll records that a tie beam was made to handle a great bucket and that a long bar (jib?) was made to raise the great posts.⁶⁷¹ The vertical post of the crane was perhaps anchored to one of the eight stairwell turrets in the angles of the octagon at the level of the upper string course, which would have given it a secure footing. The long jib would have had a reach of at least 35 feet to the centre of the octagon and must have been slew-able.⁶⁷²

⁶⁶⁸ Chapman (1907) v.1, p. 75.

⁶⁶⁹ Fletcher (1979), p. 63.

⁶⁷⁰ EDC1/F/10/III/Chapman, p. 33.

⁶⁷¹ EDC1/F/10/VI/Chapman, p. 65.

⁶⁷² Ibid.

Although James Essex reported in 1757 that the structure ‘was at first supported by 16 pieces of timber only, of which ... 7 or 8 are now rotten and unfit for supports, so that the whole weight is now unequally supported by those that remain sound’, the critical weight-bearing function of the stays has been somewhat ignored subsequently (Figs. 8.19 and 8.21). Essex’s response to the problem was to replace the footings, to add two extra stays above the original stays supporting the upper lantern sill with an extra horizontal joist to secure them, and to strengthen the original stays by backing them at their weakest points where they joined the curved ribs. He also removed the flying buttresses, as these were prone to becoming sodden with water inside the lead outside cladding. Scott’s structural report of 1858 was as much concerned with the visual appearance of the lantern as its structure, and in 1862-63 Essex’s lantern turrets were removed and the flying buttresses replaced, to return to the

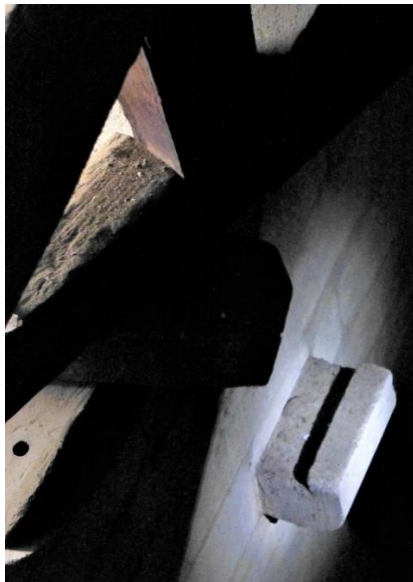


Fig 8.20 Ely Octagon, interior stonework, c.1330, 1 of 16 unused corbels at the corners below the level of the *oculae*

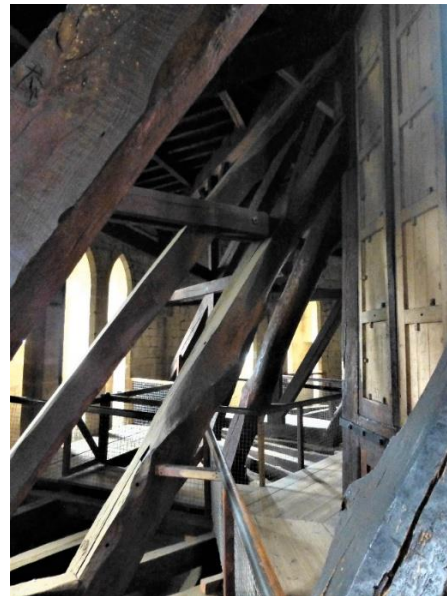


Fig 8.21 Ely lantern structure, great post (right of centre) and raking stays. Lower stays are original, William Hurley, c.1334; higher stay and cross timbers, James Essex restoration, c.1780

visual profile of Hurley’s design.⁶⁷³ Fortunately Scott did not tamper with the wooden supports which Essex had inserted. A 1985 structural engineering report by E. Wade and Professor J. Heyman showed that the diagonal stays, the great posts, and the curved ribs had been subject to uncomfortably high stresses as they supported the weight of the lantern. It suggested that an equilibrium is ‘perhaps

⁶⁷³ EDC 4/5/79.

[...] generated precariously by reason of the many extra supporting members in the [...] framework...'⁶⁷⁴ Hurley's structure had succeeded because it had two support systems: the curved ribs supporting the platform sill and the 16 stays holding up the lantern posts directly, and while each was close to its limits, the two reinforced each other. Remarkably, Essex had understood the structure, and was even confident enough to remove the octagon corner posts during his restoration.

Hurley's annual payments indicate that he was fully involved in design and supervision for at least five years, and his work reduced from 1341 onwards.⁶⁷⁵ His arrangements showed considerable versatility in the deployment of craftsmen, and as the number of carpenters reduced, masons were re-employed to complete the parapet, and the plumber to complete the roof. Payments to carpenters and sawyers accounted for the highest share of the £41 19s 0d paid in 1334-35, reducing gradually to £33 5s 5½d in 1339-40. The number of carpenters employed in each year, assuming the average pay in the wage-lists of 1341-42 as 2s 1½d per week, was 8 in 1334-5, 6 in 1336-37, and 5 in 1339-40.

Walsingham would have been well satisfied that Hurley's appointment had more than achieved his objectives. The total cost of the Octagon was £2,408 19s 3½d, of which 60% was spent on the timber dome and lantern, and the structure has survived natural calamities for almost seven centuries.⁶⁷⁶ The role of the 'Keeper' at the King's Works proved sufficiently flexible for Hurley to take on a major engineering challenge which had not been achieved before.

The Masters of York Minster 1360-1407

William Hoton 1351-68 and Robert Patrington 1369-c.1385

The building of the Lady Chapel of York Minster began in 1361 and was completed by the end of 1373. William Hoton the younger (1351-68) is credited with the design, and Robert Patrington (1369-c.1385) completed the work.⁶⁷⁷ Only two account rolls have survived from the building period: the much-damaged roll of c.1360 outlines preparatory expenses of £142 16s 8d, and the fading but full roll of c.1371, much of which can only be read in Raine's transcripts, lists 29 masons, 8 carpenters,

⁶⁷⁴ Wade and Heyman (1985), pp. 1421-36, esp. pp. 1433, 1435.

⁶⁷⁵ EDC1/F/10/VIII/Chapman, p.98.

⁶⁷⁶ *Anglia Sacra*, p. 644.

⁶⁷⁷ Harvey (1984), p. 229.

and 17 labourers working at full capacity, at the highest recorded cost in the series of £631 9s 4d. Hoton, like his father William Hoton the elder, master (1348-51), spent his early career at the Minster. He left his mark in the form of his design drawings for the choir aisle traceries, which survive in the tracing-house floor. The chapel was planned to continue the full-height profile of the nave (1291-1360) to the east end of the cathedral in ‘uniform beauty’, but there was no intention to follow the earlier styles.⁶⁷⁸ The striking Perpendicular motifs used by Hoton, including the panelled treatment of wall surfaces, the ogee trefoils of the canopy heads, and the pedestals and canopies bonded into the piers, are thought to have been influenced by St Stephen’s, Westminster. Patrington, who probably trained at the Minster lodge and was made a freeman of York in 1352, was probably responsible for the clerestory and upper east window traceries, including the external rectilinear screens.⁶⁷⁹ There has been debate about individual attributions and relative merits of their work. Wilson criticised Hoton for his indiscriminate use of Perpendicular motifs, and Harvey rated Patrington ‘a designer of notably higher rank’. Sarah Brown has pointed out that there were local Perpendicular antecedents for the work in the western towers, and that attribution of individual parts of the works is questionable in the absence of more secure knowledge of the sequence of the work.⁶⁸⁰



Fig 8.22 York, Lady Chapel, north elevation, 1361-1373, William Hoton jnr, 1351-68, Robert Patrington, 1368-c.1385



Fig 8.23 York, western choir, central tower, north elevation, Hugh Hedon, 1390-1407, and William Colchester, 1407-20, later masters

⁶⁷⁸ See also Harvey (1979), pp. 164, 165.

⁶⁷⁹ Harvey (1979), pp. 163, 165; Brown (2003), pp. 156-62.

⁶⁸⁰ Wilson (1980 b), pp. 332-4, Harvey (1957), pp. 163, 165, Brown (2003), pp. 156, 161, 162.

Hugh Hedon c.1394-1407

Hugh Hedon (c.1394 -1407) became a freeman of York in 1394 and had taken charge of the masons after the long building break under Archbishop Neville (1374-1388) before Thomas Arundel revived the campaign in the mid-1390s. His were high spending years, which are poorly represented in the account rolls – three out of four are incomplete and only that of 1404 survives in good order.⁶⁸¹ He is thought to have designed the western choir, including the eastern transept lantern windows which brighten the high altar area to the east of the choir. The difference in the architecture of the two parts of the eastern arm was limited to maintain uniformity, and Hedon's updates of design details harmonise well with previous work. The exterior tracery screens, which Brown describes as 'somewhat idiosyncratic', appear to have been quickly outdated and were discontinued in the western choir.⁶⁸² The size of buttresses and pinnacles of the western choir was reduced, but the battlements and decorative panels of the buttresses were retained in their original form.

The junction of the fourteenth-century western choir to the twelfth-century crossing and thirteenth-century transepts proved complex. The crossing arch to the east was recast to provide a sufficient opening for the shallow arched timber vaulting of the choir, and the object of 'uniform beauty' required that the other arches should be redesigned in the same manner.⁶⁸³ The modifications involved demolition of parts of the eastern walls of the transepts, walls of the adjoining chapels, and the lowest stage of the twelfth-century newell staircases adjoining the crossing piers, and the subsequent insertion of suspended buttresses jointed into the western columns of the choir aisles to support the upper stages. These interventions were substantial and appear to have placed strain on the crossing piers, which, as a 1970s report noted, 'merely encase the work of the 11th and 13th centuries' and contributed to the collapse of the tower in the winter of 1407.⁶⁸⁴ Recriminations followed, and although the pope was informed that the tower was 'stricken by a horrible tempest', the report to the

⁶⁸¹ YMA E/3/3 (1399), 4 (c.1400), 5 (c.1401-2) are incomplete; E/3/6 (1404) is in good order.

⁶⁸² Brown (2003), p. 182.

⁶⁸³ Harvey (1997), p. 167. Hedon's plan to encase the remaining three arches was not completed. Brown (2003), pp. 197-9. Hedon worked on encasing the two eastern piers and the eastern arch. The emergency work was concentrated on the north-west pier.

⁶⁸⁴ *Ibid.*, pp. 191-6.

king stated that the cause of the collapse was ‘the carelessness of masons’.⁶⁸⁵ The King’s Works moved quickly to offer the services of William Colchester, then master at Westminster Abbey, who replaced Hedon in December 1407 and brought in William Waddeswyk, who had previously worked for 13 weeks at the minster and was his under-mason at Westminster. This was an unpopular move for the York masons, who famously conspired to maim him and severely injured William Waddeswyk, leading to the enquiry mentioned earlier.⁶⁸⁶ After Hedon died in 1408, peace was restored to the yard.⁶⁸⁷

Castle builder and entrepreneur

John Lewyn (1353-1398)

John Lewyn, Durham master mason and castle builder (1353-1398), was reckoned by Harvey to be ‘the most important provincial architect of mediaeval England of whose career we have adequate details’. He appears as master in the Durham Bursars Account of 1366-1368, which covers the first 68 weeks of the building of the Prior’s Kitchen (1366-1374).⁶⁸⁸ This was the culminating work of the



Fig. 8.24 Durham, Prior’s Kitchen, 1366-1374,
John Lewyn,
castellated octagon on square base



Fig 8.25 Durham, Prior’s Kitchen, 1366-74,
John Lewyn,
parallel ribs of the octagon vault

⁶⁸⁵ Ibid., p. 167; Browne (1847), p. 200, citing *CPatR*, 1405-8, p. 383.

⁶⁸⁶ Salzman (1952), pp. 55-6, citing *Cal Pat* 482. See pp. 42-6, 160, 186.

⁶⁸⁷ For William Colchester, see pp. 207-212.

⁶⁸⁸ Harvey (1984), p. 184; *DCD Misc. Ch* 7264 (1366-1368); Snape (1980), pp. 34, 35 n.45.

first phase of Lewyn's career during which as 'John Lewyn of Durham' he was described as 'the Bishop's Mason', perhaps a reference to the 'Bishop's Borough' of Durham.⁶⁸⁹ Lewyn appears as *magister cementar*' of the work, for which he was paid the high annual rate of £13 6s 8d and issued with a robe for 13s 4d. The building was substantial, with a massive square buttressed base surmounted by a vaulted octagonal dome and a louvred opening at its centre. The exterior walls are bleak and battlemented in the castle-makers' manner, with squinches providing supports to the diagonally set upper buttresses of the octagon rising from the lower squared buttresses. The internal architecture of the kitchen is that of a regular octagon with four pairs of chamfered vaulting ribs providing sills for the octagonal upper opening resting on eight corbels at the corners of the octagon. There are eight side walls at ground level perforated with openings to the fireplaces, kilns, scullery, and store-rooms within the square ends of the structure, and with doorways to the prior's house and the outside entrance. Commentators have suggested that the complex vaulting pattern may be derived from Moorish or Spanish precedents, but later examples, such as the Ely Octagon (1322-1342) or the similar-sized square kitchen at Raby Castle attributed to Lewyn, were closer to hand.⁶⁹⁰ Although the eight-pointed star rib pattern in support of the Octagon lantern has similarities, the methodology of the Raby vault with its two pairs of intersecting ribs defining the opening is a more persuasive model, though there are doubts about the date of its construction. During the sixteen months of the building accounts, £120 was spent on stipends and wages, excluding Lewyn's fees, and a further £44 was spent on stone, with total expenses of £181. It is suggested that the whole project may have cost in the region of £700. In the first full year of the project, an average of 14 masons and labourers were employed with up to 12 workers in the quarries.

⁶⁸⁹ Hislop (2007), p. 11 n.111, citing *PRO*, Durham Chancery Enrolments, 3/11, m.2.

⁶⁹⁰ Harvey (1947), p. 55 and Pl. 72, 73; Hislop (2007), pp. 8, 9 and Figs. R4, R15; Fawcett (2015), pp. 288, 289. The dimensions of the Raby kitchen are 46 feet (14.02 m) both ways; of the Prior's Kitchen, 45 feet 6 inches (13.87 m) x 47 feet (14.32 m).

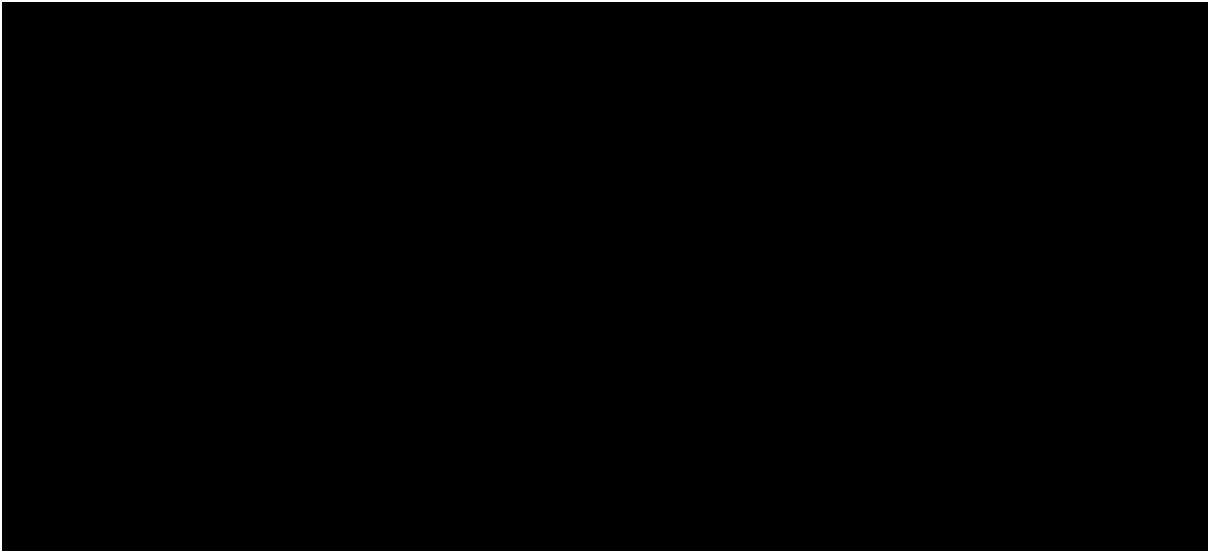


Fig. 8.26 Durham, Prior's Kitchen (1366-1374), Bursar's account 1366-1368, John Lewyn's quarterly payment and totals to May 1367 (DCD *Misc. Ch.* 7264)

While Lewyn's recorded activities in the sub-houses and cells of Durham were extensive (1353-1366), his work at the cathedral is undocumented and uncertain. Eric Cambridge has pointed out that the fourteenth-century programme of inserting Decorated traceries in the cathedral and the chapter house between 1355 and 1363 took place during the period of Lewyn's association with the Priory and that he must be the prime candidate for their design.⁶⁹¹ The pairs of convergent mouchettes prominent in three-light Decorated windows of the cathedral (e.g. the south choir aisle) also appear in Jarrow chancel and possibly at Fane, in a two-light version at Holy Island, and in a single-light version in Finchdale refectory.⁶⁹²

At the time of the Prior's Kitchen's construction, Lewyn was spreading his wings; he had been commissioned to work on Bamburgh castle for the crown by 1368. His reputation for castle-building was reinforced by his part in the reconstruction of the great tower of Durham Castle, for which Bishop Hatfield's grant of 4 acres of land in Framwelgate and other holdings in 1368-69 are assumed to have been as compensation.⁶⁹³ However, his relationship with Hatfield soured, and by 1372 he was

⁶⁹¹ Cambridge (1992), pp. 254-60.

⁶⁹² *Ibid.*, pp.139 nn.13, 14, and 257.

⁶⁹³ Hislop (2007), pp. 11, 12.

petitioning the king in a ‘matter concerning the Bishop of Durham’.⁶⁹⁴ Lewyn claimed in forthright terms that he had been accused before the sheriff of Durham ‘by the evil procurement of the bishop’ of providing refuge to Richard Goldesburgh, a mason who had worked for him on the kitchen and was imprisoned by the bishop, probably as a result of a disturbance at Durham Castle – a charge of which Lewyn was acquitted.⁶⁹⁵ Hatfield owed money to Lewyn, whose complaint to the king was that the bishop continued to distrain him in law, despite his acquittal. Although the result of the petition is unknown, Lewyn did not re-establish his relationship with the diocese in Hatfield’s time.

After the accession of Richard II and the threats of invasion which followed, Lewyn was able to establish his extraordinary castle-building business. He took on contracts for work at Bolton Castle for Sir Richard Scrope for 50 marks plus 100s per perch (20 feet) of construction (1378), Carlyle Castle for the king for 500 marks (1378), Roxburgh Castle for the king, which brought in 1,350 marks (1378), with additional work for a further 600 marks (1388), and 11 rods of the wall of Dunstanburgh Castle for 10 marks per rod for the Duke of Lancaster (1380). These contracts, the texts of which are recorded in Salzman, put Lewyn at the centre of a massive castle-building programme for the northern border. He is also believed on stylistic grounds to have undertaken work for Lord John Neville at Raby, Brancepath, and Witton, as well as Sheriff Hutton in Yorkshire.⁶⁹⁶ In the 1390s he built ‘three significant noble houses at Lumley, Warkworth, and Wressle’, which Malcolm Hislop states ‘represent the zenith of the fourteenth-century northern style of residential architecture and the culmination of John Lewyn’s career’.⁶⁹⁷

The scale of Lewyn’s later activities was very different to that of the late-fourteenth-century cathedral building campaigns, and his business operations were shaped accordingly. Whereas the multi-site practices were based on the sharing of scarce design or engineering capabilities, John Lewyn’s career was more entrepreneurial. While the ‘large scale of his spatial planning’ and his ‘signature rectangular towers in clusters’ were a unifying factor of his later work, it is difficult to

⁶⁹⁴ Ibid., p. 11, citing PRO SC 8/58/2854.

⁶⁹⁵ DCD *Misc. Ch* 7264: Goldesburgh worked at a junior mason’s rate of 2s 4d per week for a year from November 1366 and was promoted to a senior rate of 2s 8d per week a year later.

⁶⁹⁶ Salzman (1952), App. B, pp. 413, 454-9, 460.

⁶⁹⁷ Hislop (2007), p. 51; the patrons were Ralph Lumley for Lumley, and Henry Percy Earl of Northumberland for Warkworth and Wressle.

make out a common style in his designs. Eric Cambridge concluded that Lewyn was a ‘conservative designer of tracery, perpetuating curvilinear forms for a generation after they had gone out of fashion’ and that his work as a consultant at the Durham monastery brought about the ‘simultaneous occurrence of similar tracery motifs at the cathedral and its cells through the supply of his designs’.⁶⁹⁸ However, he also drew attention to associated church and castle projects of Lewyn’s later career, where Decorated and Perpendicular designs co-existed.⁶⁹⁹ Hislop noted that his later works incorporated details from other collaborators, but added that they may ‘simply represent eclecticism on Lewyn’s part, a willingness to borrow the works of others, and ... to keep himself abreast of fashion’.⁷⁰⁰ Lewyn’s overall contribution may be more simply recognised in his outstanding organisational and financial capacity to raise massive fortifications and residences over a large hinterland on schedule and on budget in an uncertain time of regime changes and external threats.

Master mason and contractor

Henry Yevele, 1356-1400

Henry Yevele’s widely documented work covered 44 years: from his election as one of six masons to advise the Mayor and Aldermen of London on the regulations for masons in 1356, to his work on the vault of the north porch of Westminster Hall made by his *advisement et discrecionem* in 1399-1400.⁷⁰¹ His first recorded assignment, a contract of 1358 to build walls, chimneys, and stairs at Kennington for the Black Prince for £221 4s 7d, shows that he had already acquired sufficient resources to take on substantial projects. However, the roots of his architectural career were in the Royal Works, where he became ‘disposer’ of masonry for the Palace of Westminster and the Tower of London in 1360. From 1378 he was, like Lewyn, involved in castles for the defence of the realm: at Southampton (1378-1379), Carisbrooke (1380-1385), Porchester (1384-1385), and Winchester (1390-1400), but his design input into these projects is uncertain. His work for cathedrals included the making of the Neville

⁶⁹⁸ Cambridge (1992), pp. 258, 260.

⁶⁹⁹ Ibid., pp. 261, 262.

⁷⁰⁰ Hislop (2007), p. 52.

⁷⁰¹ Harvey (1984), pp. 364, 365.

screen for Durham (1372-1380), the lost east and south walks of St Alban's cloisters (c.1380), and the lost façade of the south transept of St Paul's (1381-1388).

Henry Yevele was master of Westminster Abbey from before 1387 to 1400. His appointment came at a significant moment. After a gap of 22 years, the fabric roll for 1387-88 made reference to the demolition of the old church, suggesting that the nave site had been cleared. The new building campaign was largely due to royal help, after Richard II's accession brought a new commitment to royal funding; boosted by proceeds of £684 12s related to Queen Anne's funeral in 1394, total revenues increased to £2,192 10s 4¾d in the next eight accounts rolls.⁷⁰² The first priority for Yevele was to order, specify, and transport the 12 great marble pillars for the nave arcades. This took place between 1388 and 1403 at a total cost of £520: £40 for each nave pillar and £60 each for the two internal pillars of the western towers. The part payment of £10 to a 'mason of Corfe' in 1387-88 indicates that the templates had been provided and carving begun. Delivery and payment of the balance took place the following year. Eleven further deliveries were recorded from 1390 to 1404.⁷⁰³ The number of masons employed to erect the pillars and build the aisle walls and windows in these years ranged from 13 to 17, but rose to 22 to 24 masons in the two years after Queen Anne's funeral. The work wound down after 29 May 1399, when Richard II departed for Ireland accompanied by Abbot William Colchester; Henry Yevele died in 1400.

Yevele's new work was to complete the aisle walls and arcades of bays 5-11, that is the lower stage of the nave (see Fig. 8.32). He followed the designs of the first five bays of Henry III's master in all essential respects, but there were several changes to the detail (Figs. 8.27 and 8.28 below) The spandrels above the nave arches, diapered in the first five bays, were plain. All eight shafts of the pillars were attached to the main column rather than the cardinal shafts only, and stone bands surrounded the piers as well as the shafts. Head or beast stops were added to the labels of the main arches and contemporary mouldings were provided for the pier capitals and bases.⁷⁰⁴ Perhaps the most

⁷⁰² WAM 23460-23467/Rackham.

⁷⁰³ WAM 23473/Rackham. The pillar purchased for £60 in 1398-99 for the western towers shows that work had reached the west end. The other western pillar is not recorded in a surviving roll.

⁷⁰⁴ See Fig. 8.25, pillars with attached shafts in bays 1-4.

noticeable change to the earlier designs was in the window traceries, which had external as well as internal impact. Yevele's changes were muted. The two-light plain lancet aisle windows headed with open roundels of a cinquefoil design of the first five bays were replaced by simpler two-light trefoil-headed windows headed with open quatrefoils. The exterior elevations were modified by removing the beaded string course and the narrow pointed blind arches to each side of the aisle windows, which were typical of thirteenth-century work.⁷⁰⁵ Christopher Wilson was somewhat dismissive of Yevele's work, suggesting that the form of the bays may have been fixed by 'the previous architect', John Palterton (1344-c.1379). This is unlikely, as Abbot Lytlington's concern was with the state of the monastic buildings during his time; and the templates provided in 1387, eight years after his predecessor's death, were without doubt the responsibility of Yevele.⁷⁰⁶ It was William Lethaby who first drew enthusiastic attention to Yevele's design for the western porch and its close resemblance to that of Westminster Hall, also by him.⁷⁰⁷



Fig 8.27 Westminster Abbey, Christopher Wren's model (1710), restored 2017, choir pillars, bays 1-4, showing stone banding of attached shafts

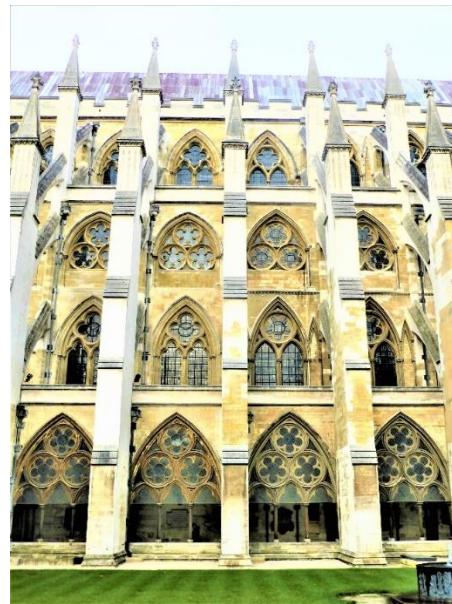


Fig 8.28 Westminster Abbey, south nave elevations, bays 4-5 from right, Henry Reyns, c.1245-1253; bays 6-7: aisle, Henry Yevele, 1387-1400; triforium/clerestory, William Colchester, 1413-1420

⁷⁰⁵ *RCHM: London v.1 Westminster Abbey* (1924), p. 52.

⁷⁰⁶ Wilson (2004)/odnb/30220.

⁷⁰⁷ Lethaby (1906), p. 205.

The extent of Yevele's participation in the Canterbury nave (1377-1401) is contentious.⁷⁰⁸ Frank Woodman pointed out that his first documented involvement was as commissioner for the city walls in 1385, ten years after the nave work began, and he concluded that Thomas Hoo (1380-1398) was the architect and that Stephen Lote (c.1381-1417) most likely completed the vaults.⁷⁰⁹ It is probable that Henry Yevele designed the western porch, the mouldings of which bear a close resemblance to those of Westminster Hall porch, which Yevele is said to have designed with more certainty.⁷¹⁰ Yevele's extensive entry in Harvey's *Dictionary* lists no less than 80 projects in which he was involved, of which half are building contracts related to the Royal Works or private commissions, while the rest cover building supply contracts, the impressment of masons for royal works, property transactions on his own and his wife's account, and consultancy. Despite his description in the royal accounts of 1360 as *devisour de la maceonerie de nos oeveaignes*, Yevele's activities were predominantly constructional, and works of his own design were few.⁷¹¹ In his introduction to the *Dictionary*, Harvey points out that the problem of identifying medieval architects is not the scarcity of references, but the difficulty of identifying the capacity in which masters operated.⁷¹² David Mclees noted, in a prize-winning essay of the early 1970s, that this difficulty was particularly acute in the case of Henry Yevele, to whom Harvey had attributed the design of more than a dozen buildings of note.⁷¹³ He argued that the attributions were 'inconclusively documented' and should be confined to the detail of Westminster Hall, specifically the vaulting of the north porch, built by William Chaddere in 1399-1400, 'by the advice and direction of Master Henry Yevele'. Mclees' conclusion was that 'far from fulfilling the function of a modern architect, whereby his designs were erected by building contractors, his role was largely administrative, and that he was acting as an agent arranging contracts

⁷⁰⁸ See Harvey (1984), p. 365; Wilson (2004), odnb/30220; Cannon (2007), pp. 280, 281.

⁷⁰⁹ See Woodman (1981), pp. 160-63; McLees (1973), pp. 69-71.

⁷¹⁰ Woodman (1981), pp. 161, 163.

⁷¹¹ Woodman (1981), p. 163; Harvey (1984), p. 365; Wilson (2004): odnb/30220.

⁷¹² Harvey (1954), p. 11.

⁷¹³ Mclees (1973-74), pp. 52-71. The structures attributed to Yevele include Queensborough Castle (1361-1367), the Black Prince's tomb, Canterbury (1376), Edward II's tomb, Westminster Abbey (1377), Canterbury nave (1377-1400), the West Gate, Canterbury (1378), St Dunstan-in-the-East (1381), New College, Oxford (1381), Cobham College, Kent (1381), St Alban's screen and gatehouse (c.1384), St Michael, Crooked Lane (1385), St Paul's south transept façade (1387-88), Westminster Abbey nave (1387-1400), Westminster Hall (1394-95).

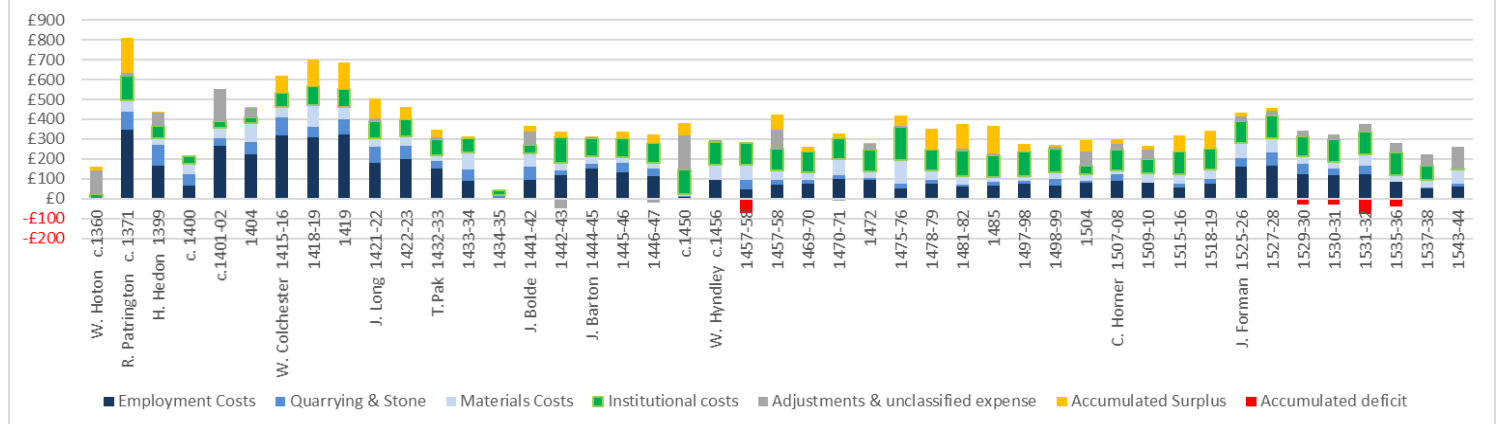
for associates to perform in their capacity as master masons, that is both architect and builder'.⁷¹⁴

Clearly Yevele fulfilled a highly useful role as a multi-purpose contractor, but he was also recognised as a significant master mason. His later contributions of the west porches of Westminster Abbey and Canterbury, and the north porch of Westminster Hall are acknowledged universally.

William Colchester at York and Westminster (1395-1420)

William Colchester had been joint master at Southampton Castle from 1385, where he earned the high wage of 8d per day, and was appointed to Westminster Abbey after Henry Yevele in 1400, earning an annual stipend of £5.⁷¹⁵ Henry IV ran down Richard II's campaign rapidly and work ceased in 1403, so it may well have suited him to arrange Colchester's transfer to York, which was also to be seen as an opportunity to repair his relationship with the minster after Scrope's rebellion. Colchester's career at York was in two phases. In the first phase he worked there solely to secure and re-engineer the crossing tower, starting with the 'fourth column', encasing the

Fig 8.29 York Minster Fabric Rolls Expenses by category and accumulated Surpluses 1360-1543, with terms of Master Masons



western sides of the eastern crossing piers with seven instead of five shafts, renewing the pier capitals, constructing a new eastern crossing arch, and reconstructing the supporting transept arcades to act as buttresses which had been unsuccessfully modified by Hugh Hedon.⁷¹⁶ There was a break in

Colchester's service in 1310, as the patent for his work at York was revoked in 1410. However, he worked both at York and Westminster from July 1413, and he may have continued his supervisory

⁷¹⁴ Quotation from Hislop (2007), p. 2.

⁷¹⁵ Harvey (1984), pp. 66-7.

⁷¹⁶ Brown (2003), p. 197; Raine (1859), App. XLIV, pp. 198-200: work on the north-west crossing column to be supervised by Canon Thomas Huxley was specified in unusual detail by the chapter in 1409.

role for the duration.⁷¹⁷ He was paid £13 16s 8d p.a. as master in the next account rolls of 1415-16 and was made a freeman of York in 1417. The surviving fabric rolls of the second phase cover three of the highest spending years of the series, with an average workforce of 32 masons, 4 carpenters, and 10 labourers, and average expenses of £581 p.a.⁷¹⁸ (see Fig. 8.29). The rolls give little clue as to the detail of the work. The purchase of three great garths for the great wheel in the tower in 1418-19, and additional payments made to three setters for working at height, suggest that the reordering of the tower as a lantern after the removal of the bells was a major priority, along with the securing and completion of the western choir by a second team of masons.⁷¹⁹

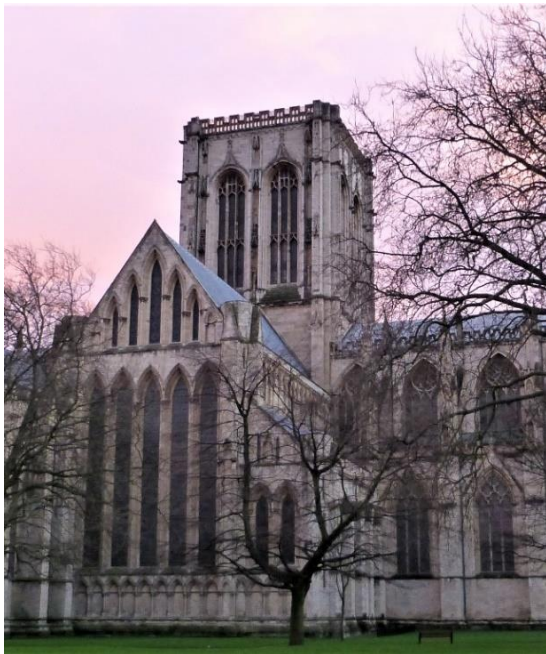


Fig 8.30 York Minster, central tower, rebuilt 1408-1471 using designs of William Colchester



Fig 8.31 York Minster, north transept, east side, 1407-1410, re-engineered by W. Colchester as a buttress to the central tower

⁷¹⁷ Harvey (1984), pp. 66, 67; YMA E3/7-9/YAT.

⁷¹⁸ See Fig. 8.27 and Table 18.

⁷¹⁹ YMA E/3/9/YAT, and see Brown (2003), n.123.

Continuity was assured after Colchester's death in 1420, as William Waddeswyk became keeper or *gardiano* under his successor, John Long, earning £7 4s for 48 weeks at the same wage rate. He became master from 1426, earning £10 annually until he died in c.1430.⁷²⁰

At the abbey, Colchester was recalled to initiate Henry V's new building work in July 1413 in a communication sent from the king's French campaign quarters at Bernay, Normandy.⁷²¹ With reliable royal funding and the effective oversight of Henry V's commissioners, Richard Whittington and Abbot Harweden, Colchester's term was the most productive period of the rebuilding of the nave⁷²² (Fig. 8.34). The triforium and clerestory elevations of seven bays remained to be built after

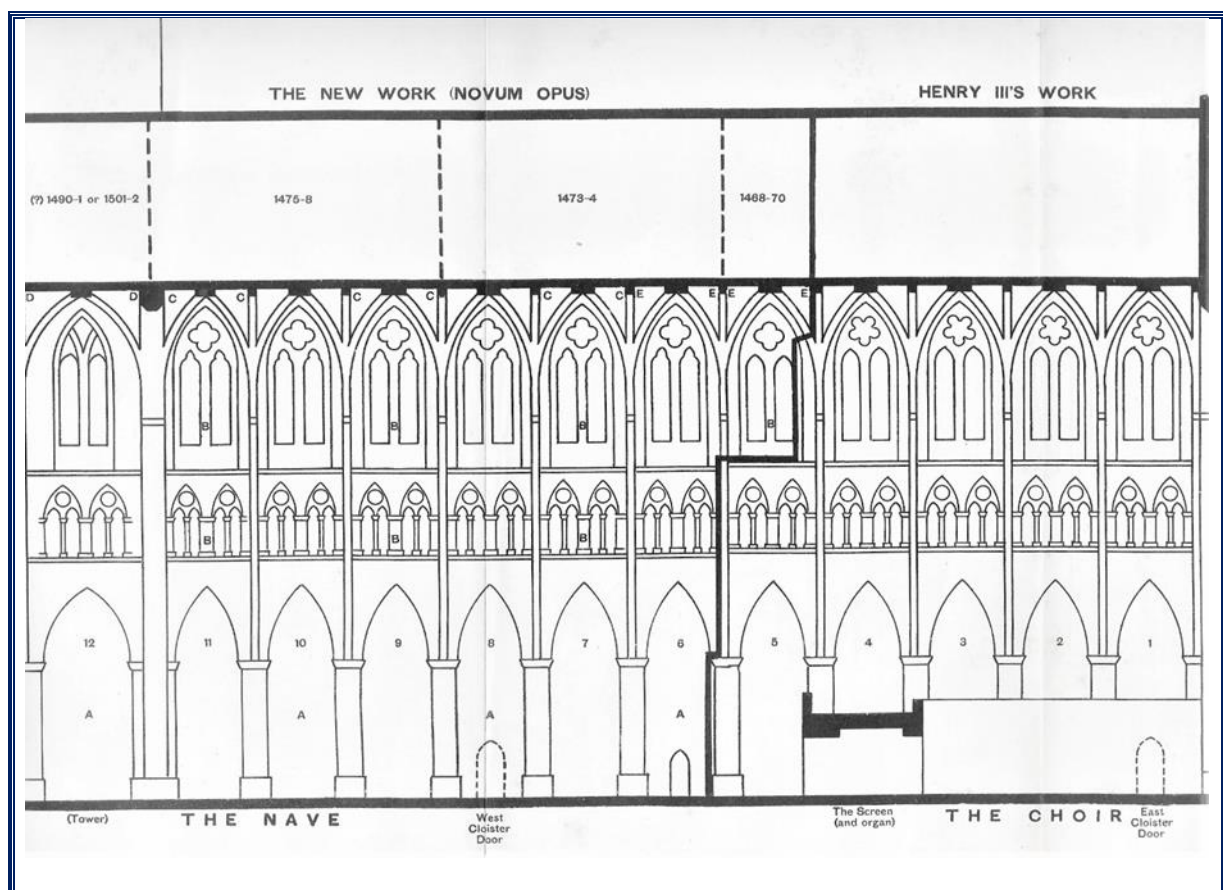


Fig 8.32 Westminster Abbey, nave elevation from south, sequence of construction, R.B. Rackham (1909): A: Yevele, 1387-1400; B: Colchester, 1413-1422; Vaulting: C: 1482-90, D: 1501-02, E: 1504-1508; high roof as shown

⁷²⁰ YMA E/3/7-9 and 11/YAT, Raine (1859), pp. 46, 199; Knoop and Jones (1933), p. 97.

⁷²¹ Harvey (1984), pp. 66, 67.

⁷²² Rackham (1907), pp. 13-17.

Yevele had completed his work (Fig. 8.32). Although he retained the essence of the original style, Colchester was careful to follow Yevele's idiom; the diapered spandrels of the thirteenth century triforium bays were dropped in favour of plain walls, as with the lower arcade. The interior triforium arches were increased in size, with their pointed labels mitred into the string course above; the open cusps of the cinquefoil traceries in each of the three roundels of the triforium windows were accentuated; and the clerestory windows were redesigned with two trefoiled lights and a quatrefoil reticulation above⁷²³ (Figs. 8.28 and 8.33). In addition, the Purbeck marble springer shafts and the outside columns of the triforium openings were replaced with stone in the nave. The work was efficiently executed with a workforce averaging 20 masons for 36 weeks p.a. and 4 more masons during the summer, 4 carpenters, and 6 labourers, with total building costs averaging £471 p.a.⁷²⁴ Colchester's contribution was recognised by Henry V in June 1418, when he advised his Chancellor

‘to make oure maistre mason as maistre Steven was – oon that hyghte

Colchester that is maistre mason bothe of the at church of York and of Westm’.⁷²⁵

In July a patent granted him the office of King's Master Mason at Westminster Palace and the Tower of London, succeeding Stephen Lote, at 12d per day. Colchester was succeeded at the abbey by John Thirsk, his under-mason, as *capital cementar. loco Willo Colchester pro dispositione et ordinatione totius operis*.⁷²⁶ Unfortunately the names of individual masons were not listed in the Commissioners' fabric rolls, unlike the rest of the abbey series, and it is not possible to identify John Thirsk's previous career there in Colchester's time. William Colchester's career has been somewhat underrated in the literature, probably because scholars were not fully aware until the 1970s of the importance of his

⁷²³ Most but not all of the changes are listed in *RCHM: London V.I Westminster Abbey* (1924), p. 52.

⁷²⁴ WAM 23492-23494/Rackham.

⁷²⁵ Harvey (1984), p. 87.

⁷²⁶ WAM 23489, 23494, Rackham.

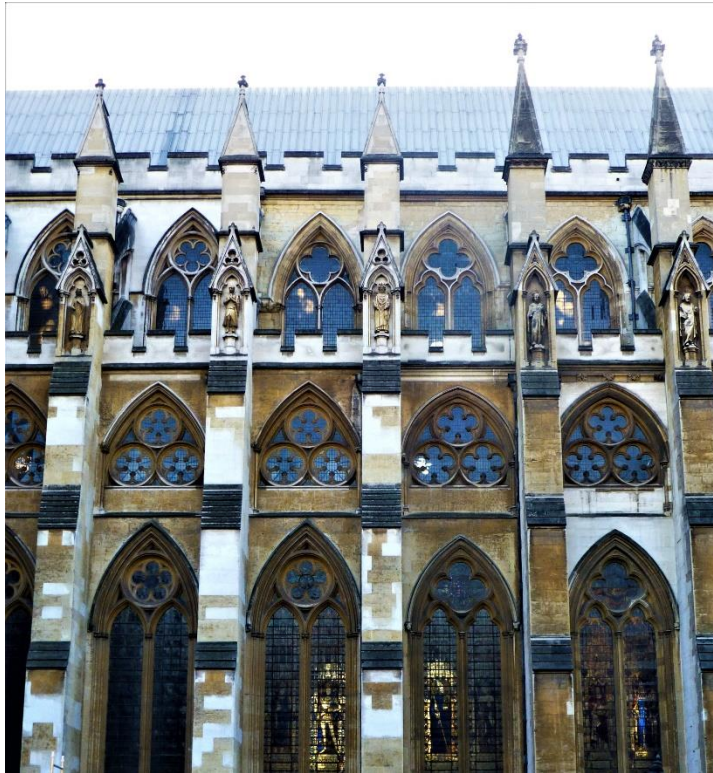
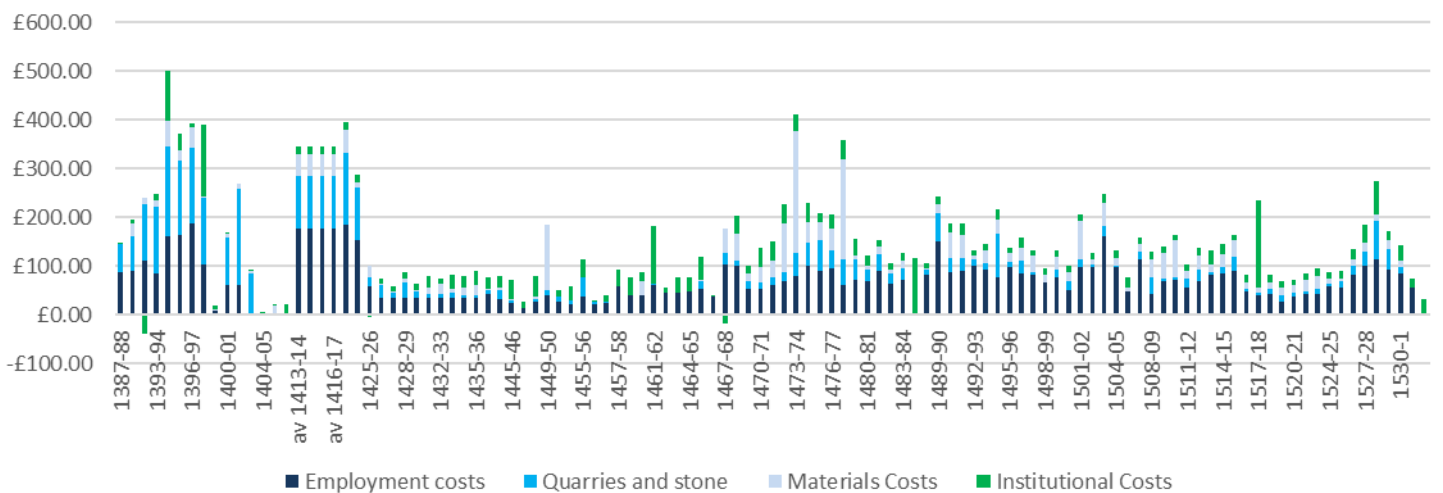


Fig. 8.33 Westminster Abbey nave, north elevation, window traceries, Bays 4 & 5 on left, John of Gloucester (1254-1263); Bays 6 & 7 on right, aisle, Henry Yevle (1387-1400), triforium and clerestory, William Colchester (1413-1420)

Fig. 8.34 Westminster Abbey Nave, 1387-1530 Expenses by category



work at York after the tower collapse.⁷²⁷ His contribution to the re-engineering and reconstruction of the tower and to Henry V's successful campaign at the abbey were significant achievements in their own right. The simultaneous direction of several projects had been part and parcel of the management of the King's Works since the time of Henry de Reyns. What was different here was the scale and complexity of two operations, and that the minster acted on site outside the ambit of the Royal Works, both in context and in place.

Fifteenth-century building contracts at Durham and Hereford

An alternative to the use of a consultant master or contractor was to contract out building works to local masons. This solution may have been an attractive one for small- to medium-sized cathedral fabrics, but there were few masters of calibre prepared to take on the work. Cathedral building contracts are rare, and in Saltzman's *Building in England* only 3 of 123 building contracts recorded relate to cathedrals: two in Durham and one in Hereford.⁷²⁸ The performance of these contracts was not wholly successful.

At Durham, the thirteenth-century monks' dormitory had become unserviceable. Its rebuilding from 1398 to 1404 is possibly the best documented of all Durham's medieval works, with two building contracts and a carefully scripted series of building accounts.⁷²⁹ The original vaulted undercroft was to be retained intact and three-quarters of the costs of £500 were funded by Bishop Walter Skirlaw.⁷³⁰ In a detailed contract of September 1398, John Middleton, the mason, agreed with the prior to rebuild the 60 ft (18.2 m) high walls, 2 ells (7 feet 6 inches, 2.3 metres) thick at the base, with ashlar surfaces and rubble filling, within three years (Fig. 8.35). The contract called for stone and timber to be provided by the monastery within 3 miles of Durham. He was to be paid at the rate of 10 marks per rod of masonry of 6½ ells square (8.75 square metres), paid in instalments for each 6 rods

⁷²⁷ Browne (2003), p. 195.

⁷²⁸ Saltzman (1952), pp. 46, 47, 473-7 and no. 52, p. 486. See also Knoop and Jones (1933), p. 101.

⁷²⁹ DCD Loc. II 13/ 3-13 (1398-1404); Snape (1980), pp. 28, 29.

⁷³⁰ See pp. 138, 152.



Fig. 8.35 Durham, dormitory, north part, 1398-1404, contracted/ built by John Middleton, Peter Drying



Fig. 8.36 Hereford, cloisters, east range, 1412-possibly built by Thomas Denyar as master

completed. Middleton failed to complete the contract and is not mentioned in the accounts again after 18 months. Peter Drying, who had worked on the Prior's Kitchen for 60 weeks in 1366-67 at the higher mason's summer rate of 3s per week, replaced him and was paid by annual fee initially, but later took on a contract similar to Middleton's. Drying inherited the completed southern half and was able to ensure completion of the northern half on schedule by October 1404, although he died the summer before.

An unsigned Hereford contract of c.1412 between Thomas Denyar, mason, and the Dean and Chapter of Hereford was to provide new cloisters to link the church to the now lost decagonal Chapter House of 1370.⁷³¹ The east range was to have an upper storey for chapter muniments and to join with the south and west ranges.⁷³² The contract, which Salzman describes as 'badly drawn-up', stated that Denyar should procure the stone at 42d (per ton?) and receive a total of 42½ marks (£28 9s 6d) for labour costs.⁷³³ He was to be paid 4 marks per bay and was expected to complete the eastern range within two years and the project within six years. Neither party would have a claim on the other for losses of less than 20 shillings. The surviving fabric roll suggests that the contract was not carried out;

⁷³¹ HCA2375, Capes (1908), p. 232; Knoop and Jones (1933), p. 101.

⁷³² Morris (1980), p. 229.

⁷³³ Salzman (1952), App. B. 52, p. 486.

it covers six quarters of the work in 1412 and 1413 at a cost of £86 12s 11½ d.⁷³⁴ The patron was Bishop Mascall (1404-1416), who provided 40 marks (£26 13s 4d) and raised a further £17 6s 8d through letters (probably indulgences), while £24 7s 8d was received from the Shinfield estate. The existing fabric suggests that nine bays of the east range and four bays of the south range were built in an extended first phase, and a further four bays were completed by 1489⁷³⁵ (Fig. 8.36). The remaining four bays are of Tudor times and the late nineteenth century. It is not possible to tell how many bays were completed in the months covered by the fabric roll, but the expenses were considerably greater than those of Thomas Denyar's contract.

The modernising master mason

John Wastell, 1485-c.1515



Fig. 8.37 Canterbury, Bell Harry Tower, first and second stages, 1487-1498
Second stage, by John Wastell, 1494-1498, commissioned by Cardinal Morton

⁷³⁴ HCA 2369/ Capes (1908), pp. 267-70.

⁷³⁵ Marshall (1951), pp. 130-34.

John Wastell was ‘perhaps the most significant figure in the last age of Gothic architecture in England’.⁷³⁶ His career as a great church architect was linear, building on previous experience and style. During his early career he worked at Bury St Edmunds with the master, Simon Clerk, with whom he had been partner in a building contract for his local Essex church in 1485. Wastell’s work at Bury followed a fire in 1466, which necessitated re-vaulting the abbey and replacing the spire, in addition to building the new north-west tower. He designed and built St James’s church, now the cathedral, by 1503. John Morton was Bishop of Ely (1478-1486) and must have been aware of Wastell’s talents before his appointment to Canterbury in 1494. Wastell was received into the fraternity of Christ Church in 1496 as *magister latomorum*, and though this was his prime position, he continued with his consultancy commitments at Trinity College, Cambridge, and perhaps at Great St Mary’s, Cambridge, and the ‘New Building’ of Peterborough Abbey (1496-1509).⁷³⁷

Wastell’s work at Canterbury Bell Harry Tower is best understood through a summary fabric account from Easter 1494 to Michaelmas 1497.⁷³⁸ A previous account roll records the work of the first stage (the lantern tower) in 1487 and 1493-94. Some 148 tons of Caen stone were delivered at 6s 4d per ton to complete the first, originally intended as the only, stage of the tower in 1395. It was at this point that Master John Wastell may have presented alternative designs to his patron for the finials on a parchment, which J.B. Sheppard inserted in a volume of Christ Church Letters, next to Prior Sellenge’s draft letter to Morton, on the supposition that it could be one of Wastell’s ‘patterns’ (Fig. 8.38).⁷³⁹ This may or may not have been the case, but it is unique in the holdings of cathedral fabric archives and confirms that such drawings existed.⁷⁴⁰

⁷³⁶ Harvey (1984), p. 316. See pp. 162-4.

⁷³⁷ Harvey (1984), p. 320.

⁷³⁸ *Carta Antiqua* C.45, in *Litterae Cantuarienses III* (1889), p. 330, is a transcript summary account for the last years, 1494-1497, of the 12-year project. DCC F/20/1 is a paper copy of the account, listing expenses by quarter for 1494-1497. Hussey (1881) is a transcript of the account rolls for years 7-9 of the project, 1492-1494. See Urry (1965), pp. 19-21; Woodman (1981), pp.204-9.

⁷³⁹ Hussey (1881), p. 18.

⁷⁴⁰ Fig. 8.37; see p. 213.



Fig 8.38 Canterbury Cathedral, possible design drawing for pinnacles of Central Tower for presentation to John Morton, attributed to *John Wastell*, c.1494 (CDC Chch Let 1_62)

Cardinal Morton's subsequent decision to change the plan and to build a second-stage belfry above the first-stage lantern was not made lightly, and Wastell took measures to strengthen the tower structure by inserting two decoratively carved strainer arches beneath the south and west crossing arches and a further two on each side of the easternmost bay of the nave.⁷⁴¹ These can be dated to after January 1495 as they carry the initials and rebus of Thomas Goldstone II, who succeeded Prior Sellinge that month. Wastell's concern to reduce the weight of the new stage of the tower is shown by his use of stone-clad red brick for the belfry – unique among the English cathedrals at that time. The account roll of 1496-97 records that 440,000 bricks were purchased at a cost of £46 14s 4d and that the bricklayers were paid £188. This round figure indicates that 23½ feet (7.16 metres) were completed at a rate of £8 per foot (30 cm) – an innovation in charging methods for English cathedrals, as stonework was usually charged through masons' daily wages, though it had long been used in castle-building contracts.⁷⁴² The charge per foot was not introduced until 1396-97, as indicated by the exact charges for bricklayers' wages in earlier years; and its description as *ex conventione* suggests that there was a specific contract with the bricklayers. A supplementary charge of £2 6s 8d was made

⁷⁴¹ *Anglia Sacra*, p. 147. The open fretwork of the strainers, referred to as 'curiously carved', consisted of quatrefoils in circles on the crossing strainers and a string of diamonds on the eastern nave strainers.

⁷⁴² Urry (1965), p. 22.

per idem tempus ultra conventionem. The belfry was completed by Michaelmas 1498, for £1,035 17s 3½ d, after Ambrose, the smith, had been paid for ‘trussing’ three bells in the new tower; however, as Urry pointed out, it is not clear whether the *Campana Henricus* had yet been raised into the new Bell Harry Tower.⁷⁴³ Wastell returned to Cambridge, where his best-known work, foreshadowed by his earliest large fan vault in the Canterbury lantern of c.1503, was the vault of King’s College Chapel. The Bell Harry Tower was greatly admired by contemporaries; and Erasmus, who visited Canterbury in 1513, remarked that ‘*tanta majestate sese erigit in coelum, ut procul etiam intuentibus religionem incutiat*’.⁷⁴⁴

The selection and recruitment of master masons

The discussion thus far has shown that, as Knoop and Jones suggested, ‘the importance of the master mason varied with that of the fabric to which he was attached and the number of men employed on it’.⁷⁴⁵ While little is known of the process of recruitment, it is clear that it depended on the size, importance, and location of the institution, the scope of the new building works, and the extent to which they were funded by an interested patron. In the largest fabrics, there was a natural inclination to give preference to those trained in their masons’ lodges. For cathedrals within reach of the capital, where Westminster was a magnet for new design skills, the possibility of attracting London talent was persuasive. For cathedrals in the further regions, the competition for scarce design talent and the tendency towards smaller-scale projects encouraged the market for consultant masters.

The longer sequences of fabric rolls, which include the names of working masons, give helpful information on local career progression. The York fabric rolls tell of a well-documented preference for promoting masters from the masons’ lodge. At an early stage, Philip of Lincoln had been appointed as master carpenter for the technical task of erecting the timber vaulting of the nave in 1346. After that there was a long succession of local appointments, including those of William Hoton senior (c.1348), William Hoton junior (1351), Robert Patrington (1368), Hugh Hedon (1400), and

⁷⁴⁴ Recorded in *Peregrinatio religionis ergo*. See Smith (1943), Frontispiece, p. 204 n.5.

⁷⁴⁵ Knoop and Jones (1933), p. 34.

later Thomas Pak (c.1432), John Bowde (1436), and John Barton (1444), all of whom spent their early careers at the minster.⁷⁴⁶ The sequence was broken only by the intervening appointments of William Colchester (1407), John Long (1420), and William Waddeswyk (1426), all of whom were schooled at Westminster Abbey and were concerned with the re-engineering of the central tower. The local tradition makes it unsurprising that the York masons should have resented the strictures on Hugh Hedon's workmanship so strongly. York's long isolation from the wider profession may well have contributed to the causes of the disaster. From the 1450s, after the terms of John Bowde and John Barton, who were senior rather than master masons in a period of lower activity, the fabric became more open to outsiders after John Porter from Lincoln, who had twice visited York as a consultant, became permanent master (1450-1465). He was followed by Robert Spillesby (1466-1473), master at Eton College, and William Hyndley (1473-1505), a mason and freeman of Norwich.⁷⁴⁷

Westminster Abbey gave preference to insiders, and all but two of ten appointees during the nave rebuilding period had a pre-existing relationship with the abbey. Henry Yevele (1378) had multiple connections through the King's Works.⁷⁴⁸ William Colchester (1400) had worked with the Sacrist on a commission to impress craftsmen 'for the speedy completion of the nave...which the King ... desires'. John Thirsk (1420), Robert Stowell (1471), Thomas Redman (1505), and Henry Redman (1516) had been employed as masons.⁷⁴⁹ Only John Smyth (1452) and John Redyng (1459) were outsiders. St Stephen's Chapel was the most significant act of royal building patronage since Henry III's earlier work at Westminster Abbey. Although the work was also dependent on the vagaries of royal finances, it was an attractive project for the most promising designers. Among the masters who have featured in this chapter, Thomas of Witney, William Hurley, William Ramsey, and Robert Farleigh were all engaged there, and Robert Wodehurst and John Lewyn worked at Westminster Palace. The recruitment network that resulted would have been a powerful one.

⁷⁴⁶ YMA E 3/2, 7, 8/YAT.

⁷⁴⁷ YMA E/3/15, 17, 20, 24-27, YAT. Raine (1859), pp. 56, 59, 62, 65, 66, 72, 73, 77, 79, 80. The average numbers employed under Bowde and Barton were 11 masons and 6 carpenters.

⁷⁴⁸ See pp. 201-5

⁷⁴⁹ See Fig. 8.39.

Despite Exeter's early succession of local bishops, it tended to choose its masters from outside the diocese. After the firm foundations of Master Roger and the unsettled period of William Luve, Walter Stapeldon determined to find a master who could fulfil his brief for the altar furnishings, no doubt after advice from fellow bishops. After Witney's death, his all-round abilities must have encouraged John Grandisson to seek out the West Country's best designers, then riding high after their achievements at St Augustine's, Bristol, Wells, and Salisbury, to act on a consultancy basis.⁷⁵⁰ William Joy (c.1346-c.1352), also Master of Wells, and Richard Farleigh (c.1352-53), also Master of Salisbury, fulfilled the profile, as did Robert Lesingham (1376-1397), most likely the master at Gloucester Abbey and selected by Bishop Richard Brantingham (1370-1394) after the long break in the works.⁷⁵¹ He designed the upper range of the west front image screen, the late-fourteenth-century Perpendicular east window, and the later ranges of the cloisters. Similar regional cooperation took place in East Anglia where there were strong connections between Ely and Norwich, especially after Bishop John Salmon (1298-1325), a former Ely monk, offered continuing support for Ely after the collapse of the tower. The cooperation was sealed by the involvement of the Ramsey family, then based in Norwich and Westminster, with the Octagon and with Bishop Hotham's Choir, where John Ramsey senior, most likely master of the stonework Octagon, also designed the south arcade of the choir, while William Ramsey is thought to have designed the north arcade.⁷⁵² In the later years of the century, Robert Wodehurst (c.1351-1401), who had worked on the south walk of the Westminster Abbey cloisters and became master at Norwich cloisters (1385-86), oversaw the construction of the now lost Ely high altar screen (1387-1393).⁷⁵³ In the relative isolation of the northern province, the stylistic advances in the York Lady Chapel influenced Bishop Hatfield's throne and tomb designs, and the similarities between the architecture of the first stage of Durham's central tower and York Minster are unmistakable. It is thought to have been mastered from 1460 by the same Thomas Barton, who set stones in the York 'belfry' in 1445-46 and 1446-47, while John Barton, presumably a relative, was the

⁷⁵⁰ Grandisson is thought to have employed Witney for his collegiate church at Ottery (c.1335).

⁷⁵¹ 1354-1372. For Lesingham, see Harvey (1984), p. 66.

⁷⁵² Wilson (1980 b), pp. 188-95.

⁷⁵³ WAM 23455/Rackham; DCN F/10/22 (1058), EDC 1/F/10/III, 1/F/10/XXII/Chapman; Maddison (200), pp. 65, 73, 74, and Wilson (1980 b), pp. 188-95.

senior mason (1444-1450).⁷⁵⁴ Although Durham Priory had access to a sizable workforce undertaking tasks in its sub-houses and cells spread through the northern border counties, it was evidently open to outsiders.

Remuneration of master masons

The master mason's basic income (see Fig. 8.39 below) fell into two categories: annual fees, normally paid in termly instalments, and weekly or daily payments for work done, which were entered in the regular wages lists. In the early fourteenth century, it was usual for masters to be paid the annual fee for their work, as was the case at Exeter with the masters Roger, Luve, and Witney between 1298 and 1342, and elsewhere with John Ramsey at Norwich Cloisters, 1338-39, and Walter le Bole at Westminster, 1341-1344. The emerging consultant masters, including Thomas of Witney at Exeter, 1316-1342, William Hurley at Ely, 1334-1342, Richard Lesingham at Exeter, 1376-1394, and John Lewyn at Durham, 1366-1374, were paid similarly, though as consultant staff they tended to be paid in advance at the beginning of each term, while the resident masters were paid in arrears.⁷⁵⁵ From the 1340s, perhaps because large projects were becoming rarer, more flexible fee systems emerged and lower retainers were offered of the order of £1 to £2 p.a. in the expectation that the masters would charge the full commercial weekly rate of pay per week on work undertaken. After the Black Death, the levels of masons' pay rose significantly and were reflected in a corresponding rise in masters' fees and wages. The pace was set at York Minster, where the scale of operations justified the high annual fees of £10 p.a. set for five masters between 1360 and 1433. This ended after the term of Thomas Pak in 1435, when a lower retainer fee of £1 6s 8d (2 marks) was introduced. The £1 6s 8d retainer fee was well contrived, as it made up the difference between a master mason's highest weekly pay for 52 weeks at 3s 4d amounting to £8 13s 4d and the previous annual fee. It led to a surprising propensity for masters to work on Christmas Day – which was claimed in nine of fifteen rolls to the end of the century – thus establishing the routine by custom and practice!

⁷⁵⁴ Harvey (1984), p. 10; YMA E 3/17-23.

⁷⁵⁵ See D&CE 2602/Erskine, p. 11 and 2631/Erskine, p. 261.

Fig. 8.39 Master Masons' Remuneration Table: Data from the Fabric Rolls *							Year	Fee	Wages	House	Robe	Notes
Exeter, 1280-1514	Year	Fee	Wages	House	Robe	Notes	Westminster Abbey, cont-1532	p.a.	p.w.	p.a.	p.a.	
Master R.	1280-81		2s 1.5d				John Thirsk	1428-50	£5 0s 0d			
Master Roger	1296-10	£6 0s 0d		16s 0d			John Smith	1452-56	£6 0s 0d			
William Luve	1310-13	£6 13s 4d		£1 12s 0d			John Redyng	1459-70	£5 0s 0d		£2 0s 0d	
Thomas of Witney [C]	1317-42	£6 13s 4d		£1 12s 0d			Robert Stowell	1471-04	£5 0s 0d		£2 0s 0d	
William Joy [C]	1346-48	£2 0s 0d					Thomas Redman	1505-28	£5 0s 0d			13s 4d
Richard Farleigh [C]	1352-53	£1 0s 0d	3s 0d				W. Taylor/ J. Molton	1529-32	£5 0s 0d			13s 4d
Robert Lesingham	1376-77	£4 0s 0d	7s 0d				Ripon Minster, 1354-1541					
Robert Lesingham	1377-97	£5 0s 0d	7s 0d	£1 2s 8d			William Brownflit Carp	1520-21	6s 8d	3s 0d		Choir Stills
Walter Gyst	1377-06	13s 4d	3s 4d				Christopher Scoigne	1514/1520	10s 0d			Nave
Robert Glazier	1380-90	£1 0s 0d	3s 4d				Randolf Newton	1541-42	6s 8d			
"	1391-07	£1 6s 8d	3s 4d				York Minster 1360-1544					
John Harry	1423-53	£1 6s 8d	3s 0d				Will Hoton	1360-68	£10 0s 0d	2s/3s	House	L Chapel
William Fundy	1454-65	£1 6s 8d	3s 0d				Robert Patrington	1369-85	£10 0s 0d		House	L Chapel
William Foundyng	1479-87	£1 6s 8d	3s 0d				Hugh Hedon	1390-04	£10 0s 0d		£1 6s 8d	W Choir
John Galampton	1505-08	£1 6s 8d					William Colchester [C]	1407-20	£13 16s 8d		House	Cen Tower
John Carter	1513-14	£1 6s 8d					John Ashkam, Carp.	1415-33	£ 3 6s 8d			1432-33
Hereford, 1291							John Long	1421-22	£10 0s 0d			ex Westmn
Hugh	1290-91	£5 0s 0d					William Waddeswyk **	1426-30	£10 0s 0d			** EMA 84
Ely, 1323-1389							Thomas Pak	1432-33	£10 0s 0d			
Master John	1323-25	£1 0s 0d		11s 9d	13s 4d		John Porter	1456-58	£1 6s 8d	3s 4d		
William Hurley [C]	1334-42	£8 0s 0d		6s 8d		£1 fr 1342	Robert Spillesby	1469-72	£1 6s 8d	3s 4d	£1 10s	
John Attegrene	1334-48	£1 6s 8d		House	13s 4d		William Hindley	1475-76	£6 6s 8d	3s 4d		
"	1357-58	13s 4d		House			"	1478-81	£1 6s 8d	3s 4d		
Master Thomas	1359-60	13s 4d					"	1497-04	£1 16s 8d	3s 4d		
Robert Wodehurst	1387-93	£4 0s 0d		House	Robe	Screen	John Cooper, Carp.	1497-04	£1 0s 0d	3s 4d		
Norwich Cloisters, 1338-1428							Christopher Horner	1507-18		3s 4d		
John Ramsey	1338-39	£1 1s 0d			16s 8d		John Forman	1525-38	£3 6s 8d	3s 4d		
John de Plumstead	1341-42	6s 8d	3s 4d				"	1538-44		£10 p.a.		
John de Attegrene	1355-56	16s 0d					Durham, 1366-1418					
Robert Wodehurst	1385-86	£1 6s 8d	3s 4d				John Lewyn [X]	1366-67	£13 6s 8d			13s 4d Pr Kitchen
Hervey Ling	1387-		2s 2d		13s 0d	&son[B]1s	John Middleton	1398-00				Dormitory
"	1415-16		6s 8d			inc son	Peter Dyinge	1400-06	£2 13s 4d			Dorm 3 yr
James Woderofe	1420-21	£2 0s 0d			12s 9d		Thomas Mapilton	1408-11	£5 6s 8d			Cloisters
J. & J. Woderofe (each)	1421-22	£4 0s 0d				[B] 6s 4d	Thomas Hindley	1412-18	£3 6s 8d	3s 4d		13s 4d Cloisters
"	1423-24	£14 0s 11d			13s 4d	[T]	John Bell	1483-90	£6 13s 4d		House	Robe [B] 10s
"	1427-28		4s 0d				Wells, 1390-1506					
Westminster Abbey, 1341-1421 (see next column)							John Stowell	1457-58	£2 0s 0d			
Walt le Bole	1341-44	£6 13s 4d		£1 12s 0d		TE20(3yrs)	William Smith	1480-81	£1 6s 8d			
John Palterton	1349-51	£1 6s 8d				Cloisters	William Attewoode	1498-06	£1 6s 8d		"	
"	1352- 65	£2 0s 0d	2s pw	1s pw	13s 4d		Salisbury, 1464-1481					
Henry Yevele [X]	1387- 98	£5 0s 0d			15s 0d	Nave	John Seaman, Carp	1464-77	10s 0d			
William Colchester	1400-07	£5 0s 0d		House	15s 0d		John Wylmote	1477-78	£1 13s 4d			
"	[C] 1413-20	£10 0s 0d		House		Nave	John Spyryng	1478-81	T £7 5s 8d			Crossing Vault
* ** not sourced from rolls [C] Consultant Architect [X] Contractor [T] ad tascam payment [B] gratuity EMA 84: Harvey (1984)												
Notes on Fig. 8.39 The master masons' entries are listed in order of their institutions, in the date order of the first entry of that institution, Consultant architects and builders are marked thus: [C] The forms of remuneration listed are annual fees, weekly, or daily wages, housing and robes provided, and there is a column for supplementary information, including additional payments, such as gratuities or bonuses marked thus: [B] and taskwork payments marked thus: [T]. This table aims to cover all masons' remuneration figures reported in the fabric rolls and is similar to comparable tables for Consultant and Resident Masters provided in Harvey, English Medieval Architects (1984), Appendix II, Tables III and IV, pp. 380, 381, which have fewer entries, but a wider range of sources.												

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At Westminster Abbey the market was more competitive, and changes were more favourable to the masters. The annual fees were raised to £5 after Yevele's appointment in 1387, and the five masters from 1421 to 1528 worked regularly for 3s 4d per week, earning up to £13 13s 4d in the years when the building site was active. While the masters' salaries had no doubt kept up with inflation from the early fourteenth century, the advent of multi-site and multi-client practices greatly enriched a small group of consultant architects, builders, and contractors. The addition of William Hurley's large

fee at Ely to his stipend as ‘Chief Carpenter and Surveyor of the King’s Works south of the Trent and Humber’ produced an annual income of at least £26 5s 0d, and William Colchester earned £23 16s 8d yearly for his work at Westminster and York after 1415-16. However, increasingly high earnings were by no means always the case. While John Lewyn earned £13 6s 8d at the Durham Prior’s Kitchen in the years 1366 to 1374, John Wastell earned the same annual salary almost 150 years later as master mason of King’s College, Cambridge (1508-1515).⁷⁵⁶ The accumulation of additional positions was highly profitable as it was not customary to adjust the annual fees in relation to time spent. However, the master’s contract of Richard Beek at Canterbury in 1435 allowed him to work for third parties, subject to the Canterbury Prior and Chapter being exonerated from all payments to him during any period in which he had their agreement to work for a third party. It is not known whether such agreements came into use more widely. Cathedral fabrics do not appear to have reduced their master’s fees after the major building campaigns were over and their masters’ workloads reduced, and most fee-based contracts were for life.⁷⁵⁷ However, the gradual change to retainer and wage-based contracts provided the fabrics with a new flexibility which was greatly needed by the mid-fifteenth century

Conclusions

By the outset of the fourteenth century, the role of the master mason was well established in the tradition of the early masters at Canterbury and with the independence of working which had more recently been established in the Royal Works. The masters fulfilled the roles of architect, project manager, and works foreman on the site. Most cathedral building operations had permanent workforces of some size, with a master who managed his masons’ recruitment, employment, and training individually. Through the next two centuries, the nature of the work changed, due to the increasing tendency to organise the workflow through small teams and also to the growing number of smaller-scale projects after the great building campaigns were over. These factors encouraged the use of consultant masons, who brought their design skills to multiple sites from early in the century. Their numbers proliferated after the Black Death, due to the serious shortage of masters. Nevertheless, the

⁷⁵⁶ Harvey (1984), p. 321.

⁷⁵⁷ YMA E/3/44, 45 (1537-38, 1543-44).

traditional model of the resident master still persisted and the work of Christopher Scoigne, building the nave at Ripon from 1514 to 1520, would not have been dissimilar to that of Master Roger, almost two hundred years before.

The rise of the consultant master begins with Thomas of Witney at Winchester, Exeter, and Wells, from 1310. His business model was to spread not only his design skills but also his management capability over several sites and by working through existing local teams, to ensure that his frequent absences made no difference to process or progress. It has been suggested that the consultant designer was the forerunner of the modern architect's practice, but the essential difference was that the cutting of templates for design transmission purposes was performed on the site. The fluidity of the model worked in different ways. The most substantial of consultancies – those of Hurley at Ely and the King's Works, and of Colchester at York and Westminster Abbey, involved a significant transfer of specialist engineering skills, in timber and stonework respectively, from the centre to the individual workplace. In less exceptional examples, such as John Wastell's work at Canterbury tower, the rationale may have been the use of modern materials and designs, and of managing teamwork. The number of consultant masters was not great: John Harvey identifies 24 consultant masters and 19 individual consultancies in his *Dictionary*. The proportion of consultant masters working was higher in the cathedrals, including some of the greatest masters of their day, and this made it possible for the cathedrals to access the highest design skills in the land at a time when the magnitude of projects was declining.

Henry Yevele and John Lewyn operated on a far larger canvas. Lewyn became renowned for multiple castles delivered on schedule and on budget in the unsettled north-east. While Yevele's porches at Westminster and at Canterbury and his long mastership at the abbey were much admired, his business as an agent for master masons and contractor in building services took first place. Their careers are evidence that the economy for services was full of opportunity.

The close relationships of the bishop-patrons and the pre-eminence of Westminster-trained designers were influential in the recruitment of masters. The largest fabrics in our sample, York and Westminster Abbey, tended to recruit from their own lodges. Those within reach of London tended to

recruit from the network of masons experienced at St Stephen's and Westminster. In the regions – the south-west, East Anglia, and the north-east – the preference was often for the best within the region.

The remuneration of masters was contingent on that of the masons. Their rates of pay had been relatively stable before the Black Death, when there was a fat movement upwards which settled in due course at a new level 50% above the previous level, lasting for 150 years. In general the master's rates rose in similar proportion; most cathedrals reduced their annual fee to a small retainer plus a weekly wage for the weeks actually worked at the highest rate. This suited the cathedrals well as it limited their payments outside the main campaign periods. However, the annual fees which remained were not reduced when consultants took on new clients, and master masons who were in high demand became extraordinarily wealthy.

Chapter 9

The Role of the Master Mason as Manager

Introduction

This chapter will examine the master mason's role in the internal management of the cathedral building process, and in particular the transmission of the master's designs and the organisation and payment of the masons and other workers. Discussions on the transmission process have frequently centred on the importance of architectural drawings and the absence of surviving examples.⁷⁵⁸ The distinction will be made between the transmission of ideas to the patron, discussed in earlier chapters, and the more detailed exemplars for the masons, which will be considered in more detail here.⁷⁵⁹ The master mason's core role as manager was to make decisions on the appropriate size, experience, and organisation of the workforce, which determined the length of the building period, the quality of execution of the design, and the quantum and timing of funds required from the patron. The recruitment, employment, and motivation of masons and other craftsmen was central to the process, and their costs accounted for over 50% of building expenditure in the surviving accounts.

Most of this chapter is concerned with management, recruitment, and performance of individual masons. In account rolls which do not disclose the names of the individual craftsmen or their length of service or rates of pay, these issues are difficult to decipher. Those which were drawn up on a weekly basis give a richer stream of information on the working lives of masons than annual summaries. The weekly accounts give a reasonably full record of the careers of named masons, including details of starting and leaving dates, absences, graded wage rates, promotions, and more frequent indicators of

⁷⁵⁸ E.g. Draper (2006), p. 173; Pacey (2007), pp. 33-58; Gerbino and Johnston (2009), pp. 17-30; Byng (2016), pp. 123-31.

⁷⁵⁹ See pp. 213-5, 225-29.

the tasks and parts of the buildings on which they were working. Such accounts are available for the main building campaign of Exeter cathedral in the first half of the fourteenth century and, less relevantly, for the long series of less active years until the end of the fifteenth century. In the second half of the fourteenth and fifteenth centuries, the major fabric series in which names and wages are listed are those of York Minster and Westminster Abbey. The difference between the style of the earlier series of rolls at Exeter and the later series at York and Westminster is accentuated and explained by the Black Death (1348-49), which led to the simplification of masons' wage rates and the convergence on two standard pay rates, inside and outside London. These defined later wages and costs for almost two centuries.⁷⁶⁰ The standardisation of rates will be seen to have limited the master masons' flexibility of management and to have brought significant changes to the ways in which masons worked.

These issues cannot be analysed simply, despite the copious information available, because even the best regulated worksites with stable funding and long-standing workforces had periods of down-time, as one phase of specialist work led to another, and later moved on to the next phase of the work. Salzman expressed his frustration with the limitations of wages information in the account rolls as follows:

'Wages, as we shall see, were comparatively high, but without forming some estimate of the average period of employment we cannot get much idea of the economic position of the builders. The first complication is the astonishing fluidity of labour... An elaborate analysis of existing rolls does not seem likely to yield any very enlightening statistics.'⁷⁶¹

Erskine, characterising the work of the early fourteenth-century masons at Exeter, wrote that:

⁷⁶⁰ WAM 23452 (1341-1344) and 23453 (1344) pre-date the Black Death, but the new work began in 1387-88.

⁷⁶¹ Salzman (1952), pp. 59, 60.

‘the great fluidity of the movement of much of the work force is shown by the evidence by many individuals only in some weeks of some quarters, and some quarters of some years, fluctuating around a nucleus of a small semi- permanent group.’⁷⁶²

The changes in organisation and pay rates which mark these years are not easy to summarise, and the approach in this chapter will be to illustrate the numbers and experience of craftsmen employed each year through colour-coded charts developed from Excel spreadsheet entries of the wage lists. These give a qualitative impression of the size, levels of seniority, and experience of the team in any year, but are open to the criticism that they do not differentiate between the large number of weeks worked by the semi-permanent core team and the smaller number of weeks worked by masons engaged for shorter terms. Separate charts identify the number of weeks worked by the core team and short-term employees. Others indicate the average number of masons employed at each rate of pay in each ten-year period, and help to identify the longer-term changes in the scale and make-up of the masons’ teams. The documentary account of the masons’ regulations and the lodge in 1350s York provide a traditional framework for discussion of the organisation of the traditional workforce, but it is the development of small-team working, both within larger semi-permanent workforces and without, that defines the working practices of the period.

The transmission of the master’s designs

The importance of transmission of design in the late medieval building process was marked by the early construction of internal and external tracing houses or tracing floors at most cathedral building sites. In thirteenth-century Ely, John Maddison suggested that the south wall of the Galilee Porch at the west end of the cathedral, incised with gable and tracery designs, was formerly covered with plaster as part of a temporary tracing house in c.1250.⁷⁶³ More than a century later, six men were employed there for 12 weeks in 1360, rebuilding an external *Trasor* at the cost of £6. The York Minster masons’ loft and its gypsum tracing floor of c.1290 were a later addition to the vestibule below, linking the north transept to the Chapter House. Its use during the early stages of the

⁷⁶² Erskine (1983), v.2, p. xix.

⁷⁶³ Maddison (2000), pp. 56, 57.

construction of the Lady Chapel in the 1360s is witnessed by the aisle window tracery designs in the plaster floor.⁷⁶⁴ Salzman noted that the 1359 building contract for the Vale Royal Chapel in Cheshire allowed for a tracing house in the north transept at a cost of 10 marks.⁷⁶⁵ At Exeter, one roofer with his servant roofing over *le tracour* is noted in 1325, and the 1374-75 roll records the *custus nove domus in Kalendarhay vocate 'Trasyng hous'* for £9 19s 7½d – a substantial tile-roofed structure in the masons' area on the southern edge of the close.⁷⁶⁶

The importance of the masons' templates in the transmission of design was first emphasised by Gervase, who recorded that William of Sens designed and produced templates for the carvers, *formas quoque ad lapides fomandos his qui conversant sculptoribus tradidit*.⁷⁶⁷ That the process of making templates was time-consuming was shown by Master Michael of Canterbury at St Stephen's, Westminster, who returned to the site three weeks before the masons in 1331 so that he could work *in trasura moldas operandi*.⁷⁶⁸ In the following year, the tracing floor was enlarged.⁷⁶⁹ The purchase of various materials to be used in making templates was a regular item in the fabric rolls. They were commonly made from thin high-quality oak boards imported from the Baltics.⁷⁷⁰ At Westminster, 200 boards of Reygold, Estrich, and Wainscott boards were bought for William Colchester for £4 4s 10d from 1413 to 1416, along with 2 dozen parchments for templates at 6s 8d.⁷⁷¹ A further 3 dozen parchments were bought in 1420-21.⁷⁷² Reygold and Estrich boards costing from 11d to 17s were paid for in a further 49 accounts in the fifteenth century, and English Wainscott was purchased in 9 accounts of the sixteenth century.⁷⁷³ Righold was also used for templates at York, where 12 boards were sawn for the purpose in 1371, and further supplies were delivered in 1399, 1404, 1418-19, and

⁷⁶⁴ Brown (2003), pp. 49-51, Figs. 2.7, 2.8; Pacey (2007), pp. 53-7, Figs. 2.7-2.10.

⁷⁶⁵ Salzman (1952), p. 43. See also St Stephen's; Ayers (2020), p. 36 n.339.

⁷⁶⁶ D&CE 2624/Erskine, v.1, p. 166; and 2638/Findlay; also Oliver (1861), p. 385.

⁷⁶⁷ Gervase, ed. Stubbs (1879), v.1. p. 7.

⁷⁶⁸ Shelby (1971), p. 141, citing London PRO, E,101/469/11; Ayers (2020), p. 63, St Stephen's, Rot.23, m.1, pp. 788, 789.

⁷⁶⁹ Ibid., m.8, n.789.

⁷⁷⁰ Salzman (1952), pp. 245, 246 n.6.

⁷⁷¹ WAM 23492/Rackham.

⁷⁷² WAM 23494/Rackham.

⁷⁷³ WAM 23498-23595 and 23579-12625/Rackham.

1422-23.⁷⁷⁴ At Exeter, Welsh boards were preferred for more specialist work, and used by the altar team in 1316 and again for the west front in 1342. At Ely, templates of parchment and canvas were recorded in the Sacrist accounts for 1322-23 and again in 1336-37.⁷⁷⁵ Parchment was also used for the templates at Norwich cloisters from 1323-1326 to 1326-27.⁷⁷⁶ The York stocktake of January 1399 included 2 ‘tracyngbordes’ and, intriguingly, 4 ‘chargeours of lead for mouldes’ at *le loge*.⁷⁷⁷ There was evidently some development in the design of templates at Westminster in the later fifteenth century, as nails were bought for templates in 1480-81 and 1490-91, and repeated purchases of ‘tracinglyne,’ resin, and glue were made after that date.⁷⁷⁸ The account rolls tell us little about process, but the use of nails, glue, and resin suggests that larger templates were being made.

As Gerbino and Johnston have noted, ‘the role of plans on paper and parchment is obscure’, and the few surviving mid- to late-fifteenth-century examples are schematic, without scale relationships, and are referenced in a way that assumes local knowledge on the part of the reader.⁷⁷⁹ Two later paper drawings from the early sixteenth century, of a proposed sepulchral monument for Henry VI at Westminster Abbey (c.1509) and of Bishop Fox’s chantry chapel at Winchester (c.1518) attributed to William Vertue (*fl.* 1501-1524), are closer to present-day ideas of architectural drawing, showing Gothic elevations similar to the drawings at Strasbourg and Cologne.⁷⁸⁰ The exquisite detailing, and the fact that neither represents the structure as built, suggest that they were produced for presentation to the patrons. However, Gerbino and Johnston have pointed out that they were measured to a consistent scale with a compass and ruler, and the principal lines and circles were scratched in the mason’s fashion with minor lines and fine detail drawn freehand before an ink overlay was added.⁷⁸¹ They could ‘conceivably have been used as a guide to the building process’, though Pacey noted that

⁷⁷⁴ YMA E/3/2, 3/YAT and Raine (1859), pp. 16-17.

⁷⁷⁵ EDC F/1/10/III/ Chapman, v.2, pp. 33, 37, 83; Chapman, v.1 Glossary, p. 225, ‘mold’.

⁷⁷⁶ DCN 1/12/14-16 [1040-1042]/ Fernie and Whittingstall (1972), pp. 76-106.

⁷⁷⁷ D&CE 2642/Findlay, YMA E/3/3/YAT. A *chargeour*, a utensil for loading or a flat plate or a mould (*OED* Compact (1979), p. 382), raises the possibility of templates made of lead. Chapman suggested sheet metal, see n.17 above. Ayers noted that canvas was used as ‘false moulds’ in the quarries at St Stephen’s. Ayers (2020), p. 36 n.340, p. 46 n.502.

⁷⁷⁸ WAM 23565-23571/Rackham.

⁷⁷⁹ Gerbino and Johnston (2009), pp. 22-9, Figs. 13, 14, 15.

⁷⁸⁰ *Ibid.*, pp. 28-30, Fig. 16, proposed tomb, Henry VI (1504-1509), BL; 17, and elevation of chantry chapel, Bishop Fox. Winchester (1513-1518) attributed to William Vertue. Coldstream (2002), pp. 73-6.

⁷⁸¹ Gerbino and Johnston (2009), p. 29.

the niches on the sides of and below the traceries of Fox's chantry were drawn freehand so that the observer can see the floors of the lower niches and look up into their canopy vaults simultaneously.⁷⁸²

It was noted in earlier chapters that in 1495 John Wastell presented alternative designs for the pinnacles of the Bell Harry Tower to his patron, John Morton, and that a rare survival of such a drawing was filed with Prior Sellinge's contemporary correspondence on the matter at a much later date.⁷⁸³ Although far simpler, this was drawn with compass and ruler with the fine detail drawn freehand. It is very unlikely that drawings of this kind would have been produced as part of the building process with any frequency, as parchment purchases were a recurring item in the annual account rolls and the purpose for which they were purchased was invariably specified. In almost all cases they were for the scribing of annual accounts, litigation, indulgences, or fund-raising letters, and, on a few occasions at Ely, Norwich, and Westminster Abbey, for templates. In the later series of Exeter rolls, two entries occur referring to parchment bought for Master Robert Lesingham (1376-1397) for the purposes of architectural drawing.⁷⁸⁴ The first, of 1377-78, is now illegible but is for a plan (*forma*) of Lesingham's new cloisters built between 1377 and 1412-13.⁷⁸⁵ The later inventory of 1380-81 includes a *tabula depicta* which may have been used for drawing it.⁷⁸⁶ The second entry, of 1390, is for *j. pell pargameni empt. ad pingend magn. fenestram*, Lesingham's great east window of 1390 (Fig. 9.1 below). There are no other references to the purchase of parchment for architectural drawing in more than 450 fabric rolls examined for this thesis.

The masters appear to have drawn their template designs directly onto a flat board, canvas, parchment, or metal, using a drawing board or table provided for the purpose. In the case of wooden boards, these were then cut precisely by a skilled carpenter, as at Exeter in February 1317, who was

⁷⁸² Pacey (2007), pp. 168, 169 and Fig. 7.3.

⁷⁸³ CDC ChCh Let 1_61, 62; see p.159-60, Fig. 7.20 and pp. 212-13, Fig. 8.38.

⁷⁸⁴ D&CE 2641, 2649.

⁷⁸⁵ The wording of the 1377 roll does not appear in Findlay (1939) or Oliver (1861). It is referred to in Erskine, Hope, and Lloyd (1988), p. 45, cited in Pacey (2007), p. 42. This may be from a William Hope transcript which is not in the Exeter archive. References in 'Ordinary/ Extraordinary Expenses, 1385-1405', D&CE 3773, f.7v-15.

⁷⁸⁶ D&CE 2642, v.i, p. 31.

employed for two weeks *fac' moldas et formas* for 2s 6d.⁷⁸⁷ As Lon Shelby has pointed out, the whole process of transmitting the design to the mason who executed the work depended on the master



Fig. 9.1 Exeter Cathedral, great east window, lights A2-3, cusped stonework by Robert Lesingham, 1390, before recent restoration. Courtesy J. Allan

mason, who linked the various functions of architectural designer and builder and was able to envisage ‘all of these steps through his own mind’s eye’.⁷⁸⁸ Once that link was broken and the designer was no longer based on the building site, the modern process of producing a series of workshop drawings for the mason before the templates can be made became essential. The process was equally dependent on an individual mason’s acquired skills to produce three-dimensional carvings in stone from two-dimensional templates.

The organisation and management of masons

Exeter 1298-1352

The new work at Exeter must have presented a significant challenge for Master Roger, when he took up his appointment in c.1298. The recent financial settlement between the bishop and the chapter produced a step change in funding levels, and, after lackadaisical progress in the previous twenty years, expectations would have been high. Roger’s work was in two phases. The first was the four-bay presbytery built between 1298-99 and 1303-04.⁷⁸⁹ Master Roger assembled his team of craftsmen with

⁷⁸⁷ D&CE 2612/Erskine, v.1, p. 78.

⁷⁸⁸ Shelby (1971), pp. 140-44. Shelby (Southern Illinois University, 1964-1988) was experienced in his family’s stonework construction company.

⁷⁸⁹ See pp. 158-60, 173-7.

great care, and his ‘core team’ was already established before the first extant roll of 1299-1300. The masons were paid on a scale of summer (and winter) weekly pay rates, as follows: senior masons and carpenters, 2s 3d (1s 10½d); higher rates, 2s 2d (1s 9¾d), and 2s 1d (1s 9d); the standard rate, 2s (1s 8d); lower rates, 1s 10d (1s 6½d), and 1s 9d (1s 5½d); and the entry level rate of 1s 8d (1s 5d). Assistants and labourers earned 1s 6d (1s 3d) and below according to age and experience.⁷⁹⁰ The winter 6-day weekly rate paid at Exeter was equal to 5 days of the summer rate and normally applied between All Saints’ Day (1 November) and the Annunciation (25 March), a period of 20 weeks, though the duration varied at Exeter and elsewhere.⁷⁹¹ Christmas and Easter weeks were normally taken as holiday, in addition to six to eight major feast days per year.⁷⁹² At Exeter, as at Westminster, the masons were paid for every second feast day when no work took place, as was ‘the custom here and elsewhere, and in accordance with the agreement established between the Chapter and the same workmen that feasts (cost of wages) ought to be equally divided between them’.⁷⁹³

Accommodation was provided as necessary in Kalendarhay, but this will have been little used.⁷⁹⁴ According to Kowaleski’s analysis of the 1377 poll tax, 10% of Exeter’s 525 resident householders were employed in the building trades on work provided by the cathedral, the castle, parish churches, the Benedictine priory, two mendicant houses, and two hospitals.⁷⁹⁵ More than half of the named householders in the building trades, that is 5% of the total, are recorded as having worked at the cathedral in the fabric rolls (including 7 masons, 2 glaziers, 1 roofer, and 14 carpenters and sawyers). As will be discussed, the masons on the payroll had highly variable periods of employment, even during the period of the main building campaign. Time off would have been made up through

⁷⁹⁰ D&CE 2602-08/Erskine (1983), v.2, pp. xxiii-xxiv; Salzman (1952), p. 70, has fewer rates (see Erskine, n.1). The master mason used eleven rates (lowest, 1s (12d); highest, 2s 3d (27d)) with discretion to pay whatever was appropriate.

⁷⁹¹ Salzman (1950), pp. 56-9 quotes winter rates in York ordinances: Michaelmas to Easter, 1352; Michaelmas to first Sunday in Lent, 1370; but suggests All Saints’ Day (1 November) to the Purification (2 February) was usual.

⁷⁹² D&CE 2602/Erskine. Seven saints’ days are recorded in the 1299-1300 roll.

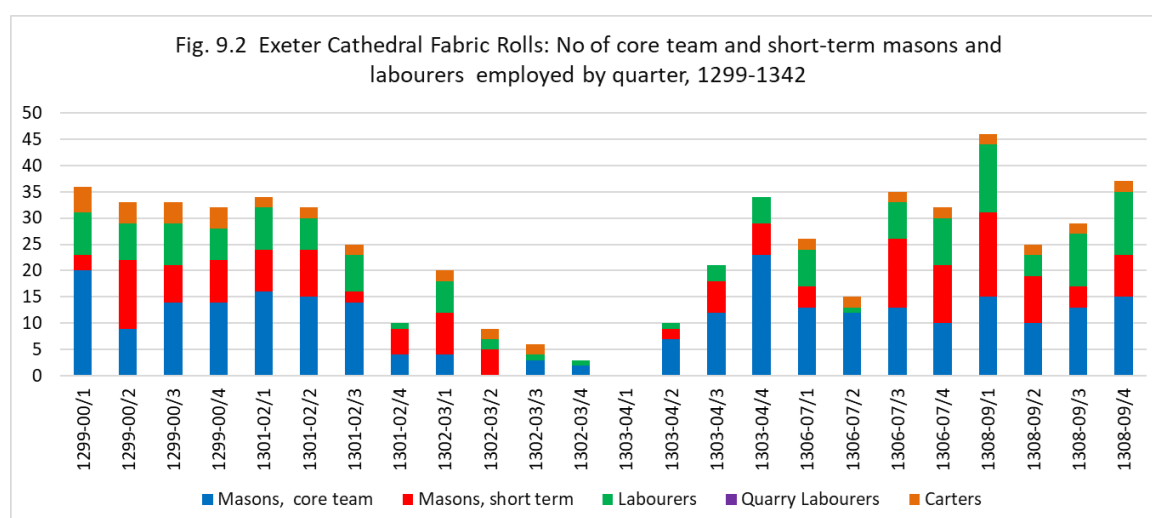
⁷⁹³ D&CE 2642/Findlay (1380-81), see Oliver (1861), p. 385, Easter payments; translated in Salzman (1952), pp. 66-7. See Ayers (2020), pp. 33, 34, for St Stephen’s, Rot.22 m.1, m.2., p. 727. The principle of dividing payments was introduced at the Royal Works, 1251; Westminster Abbey, 1253.

⁷⁹⁴ Accommodation may have been provided at Westminster in ‘the new house for the masons ... in Tothilstrete’; WAM 23464 /Rackham and Rackham (1909), p. 10. At Ripon, the *Astelaria* accommodated masons from beyond the town; Werronen (2013), pp. 186-7.

⁷⁹⁵ Kowaleski (1995), pp. 128, 131, 164, citing D&CE 2636-2657.

building jobs in and outside the city, and masons would also have had access to other sources of income in the subsistence economy. Christopher Dyer has noted that Exeter pulled in half of its population from within 20 miles, and a further 27% from between 20 and 40 miles, and rural ties would have been strong.⁷⁹⁶ It has frequently been noted that Master Roger's new workforce was regionally recruited.⁷⁹⁷ The wage lists show that more than half of the craftsmen's names related to places, and that 35% of 159 masons on the payroll can be identified as coming from the West Country, with 28 from Devon, 20 from Somerset, and 8 from Dorset.⁷⁹⁸ A noticeable proportion of those from Somerset and Dorset came from towns and villages which supplied building materials to the cathedral – including Bridport (rope), Corfe (Purbeck marble), Petherton (Lopen iron fair), and Taunton (iron and cartwheels).

Detailed examination of the fabric rolls shows that the closely calibrated pay scales and an orderly system of working hours and holidays disguised a highly variable requirement for craftsmen's labour, as Salzman and Erskine noted, and that the size of the 'nucleus of a small semi-permanent



⁷⁹⁶ Dyer (2002), p. 194.

⁷⁹⁷ Hamilton Thompson (1925), p. 143, Knoop and Jones (1933), p. 74, Erskine (1981-3), v.2, p. xxiii.

⁷⁹⁸ See list of place names by county in Fig. 9.4 below. For a note of caution about the use of toponyms, see Ayers (2020), p. 37.

Notes on Fig. 9.2 This bar-chart shows the number of masons including the ‘core team’, defined as a group of masons including the senior masons who received wages for more than 50% of the weeks worked during the quarter, and the number of masons who worked ‘short term’, for less than 50% of the weeks worked during the quarter. Casuals, who worked for two weeks or less are excluded. Also shown is the number of labourers and carters employed at the cathedral and at the quarry. The quarters refer to the four ‘terms’ of the cathedral year, which varied in length between 10 and 14 weeks. The chart shows that there was considerable fluidity in the ‘core team’ despite the long service of its members which will be shown in the next charts.

group’, the core team around which ‘many individuals fluctuated’, was itself highly variable and dependent on the master’s priorities for the workforce at any specific point in the building cycle. This can be seen in the bar graph (Fig. 9.2 above), which illustrates the changes to the size of the core team and the number of short-term employees in each quarter. During Master Roger’s term, from 1299 to 1310, the numbers in the core team varied from 9 to 22, and more than 6 additional masons were employed on a short-term basis in each quarter, except during the break between phases from 1304 to 1306.

The bar chart tells us little about the quality and experience of the masons working on the project, and some indication of these can be given in the wage list table, which follows (Fig. 9.3 below). This provides the name and wage rate paid in each year for each mason who appeared on the payroll. The colour-coded format of the tables draws attention to the range and balance of seniority and experience of the workforce, as well as identifying promotions and length of service. The table does not include individual craftsmen paid *ad tascam* for specific tasks, such as carving bosses and corbels, ironwork, roofing, and glazing, or workers employed for two weeks or less. It will be seen that Master Roger’s initial team had a high preponderance of experienced masons tasked to deliver his designs with quality and to schedule; 6 of the 11 higher paid craftsmen employed in the first roll were still serving at the end of Roger’s term. The longevity of the team doubtless made it easier to cope with the influx of large numbers of less experienced masons in the closing periods of each stage, when activity rates increased significantly. It is likely that Master Roger’s team was fully operational in the first year of 1298-99 – for which the roll is missing. In the second year, 1299-1300, the account lists 48 workmen who received wages, consisting of a core team which ranged in number from 10 to 20, and 3 to 13 masons employed for shorter terms, in a year when high work levels continued through all

Key to colour codes for wage rates				18	20	22	24	26	27										
No.	SURNAME	First name	Place	1299-001	1301-021	1302-031	1303-041	1306-071	1308-09	No.	SURNAME	First name	Place	1299-001	1301-021	1302-031	1303-041	1306-071	1308-09
		name	name	2602	2603	2604	2605	2606	2608			name	name	2602	2603	2604	2605	2606	2608
4	Streme, de	Ric.	mas	27	27	27	27	27	27	83	Taunton, c	Hugh	Somrst	-	-	-	24	-	-
5	More, de	John	mas	26	26	-	-	-	-	84	Cope, Will.			-	-	-	24	-	-
6	Hegham, c	Ric.	mas	26	26	-	-	-	-	85	Totton, de	Hugh	Hants	-	-	-	24	-	-
7	Hampton, W.	Walt.	mas	26	22	-	-	-	-	86	Taunton, c	Adam	Somrst	-	-	-	22	-	-
8	Corfe, de	John	mas Dorset	26	-	-	-	-	-	87	Stoke, de	Nic.	Devon	-	-	-	24	-	-
9	Mandeville	Will.	mas	26	-	-	-	-	-	88	Telesford, John		Somrst	-	-	-	22	-	-
10	Bridport, c	Peter	Dorset	24	-	-	-	-	-	89	Mochelni, Rob			-	-	-	20	-	-
11	Reymund	Adam		24	24	24	24	26	26	90	Keynsham	Will	Somrst	-	-	-	24	-	-
12	Filton, de	Thom	Glouc	22	-	-	-	-	-	91	Taunton, c	G.	Somrst	-	-	-	24	-	-
13	Lulleworth	John	mas Dorst	22	22	-	22	23	24	92	Mey, le	Galf.		-	-	-	24	-	-
14	Lovepitte, W.	Walt.	mas	22	-	-	24	24	24	93	Taunton, c	J.	Somrst	-	-	-	24	-	-
15	Mantel	Nich.	mas	22	-	-	24	-	24	94	Corf, de	Rad.	Dorset	-	-	-	22	-	-
16	Christechu	John	mas Dorset	18	22	-	-	-	-	95	Coscombe	John	Dorset	-	-	-	26	-	26
17	Giles	Thom.	mas	22	-	-	-	-	-	96	Hoddingh	J.		-	-	-	24	-	-
18	Tengham,	Ric.	mas	21	-	-	-	-	-	97	Merwe, de	Rob.		-	-	-	-	26	-
19	Aston	Will.	mas	21	-	-	-	-	-	98	Schute, de	Rob.	Devon	-	-	-	-	26	26
20	Cornubia,	Phil.	mas Corn	21	-	18	-	-	-	99	Schorham,	John	Sussx	-	-	-	-	25	-
21	Golfofre		quar	84	84	84	120	84	84	100	Jay, de/ le	Ad./Adam		-	-	-	-	24	-
22	Pontingdo	Will.		24	-	-	24	-	24	101	Merton, d	Hugh	Devon	-	-	-	-	20	22
23	Wyroc	Rob.		22	22	-	22	22	22	102	Taunton, c	Will.	Somrst	-	-	-	-	12	15
24	Ford, de (e	John	mas Devon	22	22	22	-	-	22	103	Bradens	John	Wilts	-	-	-	-	12	15
25	Merton, d	Will.	Devon	26	-	-	-	-	-	104	Stafford, d	Walt	Staffd	-	-	-	-	12	15
26	Abbedesbi	R./Rad.	Dorset	26	26	26	26	26	26	105	Chuddeleg	Will.	Devon	-	-	-	-	27	-
27	Merton, d	Thom.	Devon	26	-	-	-	26	26	106	Cherche, d	J.		-	-	-	-	18	-
28	Prato, de	Hugh		18	-	-	-	-	-	107	Tengemue	Will.	Devon	-	-	-	-	18	-
29	John*	John	Mgst	24	-	-	-	-	-	108	Cropping,	Will.		-	-	-	-	21	-
30	Cherde, de	John		21	-	-	-	18	-	109	Schute, de	Tom.	Devon	-	-	-	-	26	-
31	Cruce, de	John		22	22	22	-	-	-	110	Hembiri, d	Will. carp		-	-	-	-	20	20
32	Meriet, de	Will.	carp	27	-	29	27	-	27	111									

233

four quarters of the year.⁷⁹⁹ The team included the senior mason, Ric. Streme, who continued as senior mason until 1317, and 2 master carpenters earning the senior rate of 2s 3d per week, 8 masons earning the higher rate of 2s 2d, 9 masons earning the standard rate of 2s, 15 masons earning lower rates, between 1s 8d and 1s 10d, and 1 assistant who earned 1s 6d. The ‘core team’ worked for the full year of 46 weeks, and Master Roger adjusted the total numbers employed each week to suit the task in hand. The weekly payment to Golofre, the ‘quarryman’, usually of 7s, was the wage packet for the quarriers. By the next roll – for the fourth year of the project, 1301-02 – 24 workers had left the payroll to be replaced by a further 23 with similar levels of experience. The replacements included an additional senior mason, Rob Ford, who served for twenty years. The pattern of weekly working continued as previously, slowing in the term after Easter until the structure was completed in the third week of the summer term. The floors were paved and the fenestration provided in the fifth year, 1302-03, and the glazing of the great eastern window by Master Walter confirmed that the presbytery was ready in the sixth year, 1303-04.⁸⁰⁰

The highest annual spending on stone and quarries of Roger’s term of £63.19, and the highest quarterly payments to Golofre of £6.45 that summer, show that stone was already being prepared for the next phase of the campaign. After a two-year break, during which the old Norman presbytery must have been demolished, the addition of 20 middle-level masons to the payroll shows that Roger’s second phase, the rebuilding of the choir, was progressing in 1306-07. The roll of 1308-09 shows that the operation was working at full capacity, with a total of 53 masons appearing on the payroll and an average of 27 masons employed each quarter. The installation of the new choir stalls by John of Glastonbury ten days before Christmas 1309 confirmed that the work had been accomplished in twelve years, a substantial achievement which justified the new funding settlement and was a credit to Master Roger’s careful management.⁸⁰¹

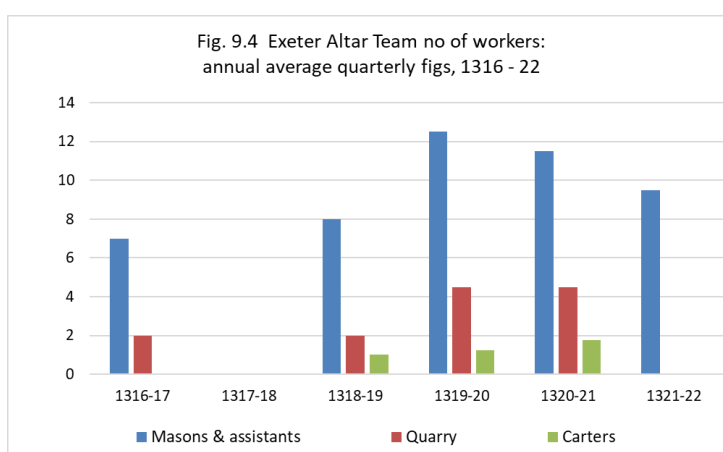
⁷⁹⁹ Erskine (1981-3), v.2, p. xxiv.

⁸⁰⁰ D&CE 2605/Erskine, v.1, p.35.

⁸⁰¹ D&CE 2609/Erskine, p. 49. Note that the wage lists for 1309-10 are missing.

After the brief term of William Luve, 1310-c.1314, Thomas of Witney took charge some time before 1316-17.⁸⁰² His term of office of more than twenty-five years can best be seen in two phases: the first from 1316 to 1328, the creation of the altar and choir furnishings and the simultaneous completion of the crossing and transepts; and the second from 1329 to 1342, the building of the nave and the north range of the cloisters. As a consultant architect, Witney lived in Exeter until 1324 and based himself in Wells thereafter, despite the fact that he largely focused on the Wells Lady Chapel during the later years of the first stage of his work at Exeter, and on the Exeter nave and cloisters during the second stage.⁸⁰³ Witney was one of the most innovative architectural designers of his generation, and his work at Exeter demonstrates that he was no less an impressive manager.

When Witney arrived, his shared priority with Walter Stapeldon was the high altar furnishings – the *reredos*, *sedilia*, and *pulpitum*, and the Bishop’s throne (Figs. 8.7-8.10). For this he employed a specialist ‘altar team’ of higher-skilled and higher-paid craftsmen recruited from the broader ‘home’ counties.⁸⁰⁴ The team had its own account rolls for six years from 1316-17 to 1321-22, though the wage lists for 1317-18 are missing. The accounts show that up to 14 masons were employed in any one term at a total recorded cost of £365.64, which, scaled up for the missing roll, would give a total for all six years of £438.68, suggesting total costs of about £600.⁸⁰⁵ The average quarterly numbers of masons and the altar team wage list table provided in Fig. 9.4 and 9.5 below show that 40 masons and



⁸⁰² See pp. 178-80.

⁸⁰³ See pp. 180-5; Morris (1991), pp. 73, 74.

⁸⁰⁴ Figs. 8.7-8.10, p. 179.

⁸⁰⁵ D&CE 2612A, 2615, 2617, 2619, 2621/Erskine. Table 7.

Fig. 9.5 Exeter Cathedral Altar Team Masons, wage rates 1316 -1322								
Key to colour coding for wage rates				18	21	24	27	30
No	Family	First	Category	2612A	2615	2617	2619	2621
	Name	Name		1316-17	1318-19	1319-20	1320-21	1321-22
296	Baunebiri, de	John	AT	33	30			
297	Payne	Rob.	AT	33		30	30	30
298	Baunebiri, de	Adam, son	AT	9	16		24	24
299	Atteboxe	Rob.	AT	30	30	30		
300	Dorsete	Hugh	AT	27	27	27	27	
301	Dene	Peter	AT	27	27	27	27	27
302	Chaumbre, de	John	AT	20	24	24		24
303	Atteboxe	Th.	AT	22	27			
304	Wirale, de	Ph (Walt?)	AT	21	24	24		
305	Nywetton, de	Elias	AT	27	27	27	27	27
306	Eston	J.	AT	27	27	27	27	27
243	Galmerton	R.	carp	26	26	26	26	26
308	Copa	Rob.	AT mas	24				24
309	Daunteshere	Walt.	AT	20				
310	Snele (Snelle)	Symon	AT	13	18	22	22	
312	Hornton, de	J.	AT	20				
313	Gardino	J.	AT	24				
166	Parco	J.	AT	26				
313	Baret	J.			27	27	27	27
314	Priour	R.	AT		24	24	24	24
316	Waleys	R	AT		22			
318	J.		AT plast		22			
319	Leva	J	AT		6	12	15	18
323	Frensch	N.			26	26	26	
324	Batalye/Bello	W.				24		
325	Sar, de	J.	AT		30	30	30	30
326	Sar, de	T.	AT		24	24	24	24
26	Abbodesbiri	R.			26	26	26	26
155	Croc	Ric				26	26	26
337	Nepperyde (Ne J..		AT			26	26	
342	N.		painter				20	20
349	Alexander*	Alexander.	AT				26	27
350	'R.		painter				15	24
368	W.		painter				12	12
272	Benedict		painter					16
342	N.		painter					24
365	Simon		painter					24
367	Thomas		painter					24
363	Jore	W.						30
364	More	W.						27
421	Ford	J.						27

Notes on Fig. 9.5 This table lists the wage rates and years employed of the masons in the specialist 'altar team' in the years 1316-1321. The masons specifically employed to work on the team are shown as category **[AT]**. The others were selected from the regular team of masons. The colour-coding and columns are arranged as for Fig. 9.3, but actual wages paid are higher.

assistants appeared on the payroll during the six years of the work, and that the core team working in any one quarter ranged between 4 and 12. Masons were not employed on a short-term basis for the work; when assistance was required, senior masons were ‘borrowed’ from the regular team. Of those who appeared on the payroll, 20 were paid more than the standard rate of 2s per week; 9 were on the standard rate, of whom 4 were painters; and 6, of whom 3 were painters, were paid at a lesser rate. Their low pay suggests that painters were not highly valued, as can also be seen from the low rates paid in Ely and in York.⁸⁰⁶ The remaining 3 – Adam of Baunebiri, the son of John, the senior mason, Symon Snell, and J. Leva – were entry-level recruits who were encouraged by progressive wage increases. All but 2 members of the team on higher rates of pay remained with the team for the duration. The 2 who left early were John de Baunebiri, the first team leader, who carved the three central vaults of the high altar ‘ad tascam’ for £5 in 1318-19, and became master of Porchester Castle, 1324-1326;⁸⁰⁷ and Thomas Atteboxe, a senior mason from 1316 to 1319.⁸⁰⁸ The employment of 7 painters during the last two years of the work, and the expenditure of at least £8 9s 11¾d on gold and silver foil and paints, are indications of the brilliant colouring of the whole scheme, which is difficult



Fig.9.6 Exeter Cathedral, bishop’s throne, conjectural colouring, Eddie Sinclair (2015)



Fig. 9.7 Exeter Cathedral, north tower/transept timber vault, nine bosses, Witney (1317-18)

⁸⁰⁶ EDC 1/F/10/VI, p. 73, 1/F/10/VII, p. 83, 1/F/10/VIII, pp. 98, 99, 1/F/10/X, p. 136, 1/F/10/XV, p. 194/Chapman; YMA E/3/2, p. 11, E/3/11, p. 48, E/3/20, p. 64/YAT.

⁸⁰⁷ I am grateful to John Allan for pointing out this connection. See Harvey (1984), p. 13.

⁸⁰⁸ D&CE 2615/Erskine, v.1, p. 111.

to visualise today (Fig. 9.6 above).⁸⁰⁹ Space does not allow for an analysis of the activities of the regular workforce during the years when the ‘altar team’ was active, but numbers were lower than those of the ‘altar team’. Witney’s practical expertise in timber as well as stone design was not confined to the altar furnishings, and was put to good use in the transepts within the north and south towers, where timber tierceron vaults, matching the stone ones of the crossing, were installed in 1317-18 with central openings for the moving of bells (Fig. 9.7 above). The eighteen wooden bosses were painted the following year.⁸¹⁰

The second stage of Witney’s work, from 1328-29 to 1341-42, is more difficult to decipher. As Erskine has noted, ‘the run of accounts between 1328 and 1334 is plentiful, but not particularly informative’, and then there is a six-year gap in the rolls from 1333-34 to 1339-40.⁸¹¹ The first tranche of Stapeldon’s exceptional gift, of £285 13s 4d (429 marks), was received in 1325-26. A generous proportion was spent on building up stocks for the nave: £78 10s 1d was spent at the quarry and £90 19s 1½d on lead.⁸¹² Unlike the east end, which had been built in two vertical sections with a clearly defined building break between them, the nave was rebuilt in layers. Work had begun across the ground level, and an early reference to the work at the west end of the church in the first year of the new campaign in 1329 tells of stones bought for coping the gutters over the entrance porch.⁸¹³ It is likely that the rebuilding of the aisle walls had commenced by this time. Witney resumed almost full-time work on Exeter that year, when William Joy became master at Wells, and this enabled him to follow through the complex integration of the new north cloister range with the buttresses of the south elevation of the nave.⁸¹⁴ The impulse to allow maximum light into the nave led him to design the unique inward sloping roofs of the cloister range and the south aisle to provide uninterrupted space in front of the aisle and the clerestory windows (Figs. 9.8 and 9.9). The arrangement was accompanied by a sophisticated system of drainage in lead-lined wooden troughs, which has stood the test of time

⁸⁰⁹ D&CE 2619, 2621/Erskine, pp. 134, 135, 145.

⁸¹⁰ D&CE 2613, p.97; 2614, pp.108, 2616, p. 117/ all Erskine.`

⁸¹¹ Erskine, (1983) v.2, p. xxxi.

⁸¹² D&CE 2624/Erskine, v.1, pp. 133, 137.

⁸¹³ D&CE 2626/Erskine, v.2, p. 222.

⁸¹⁴ See pp. 182-84.

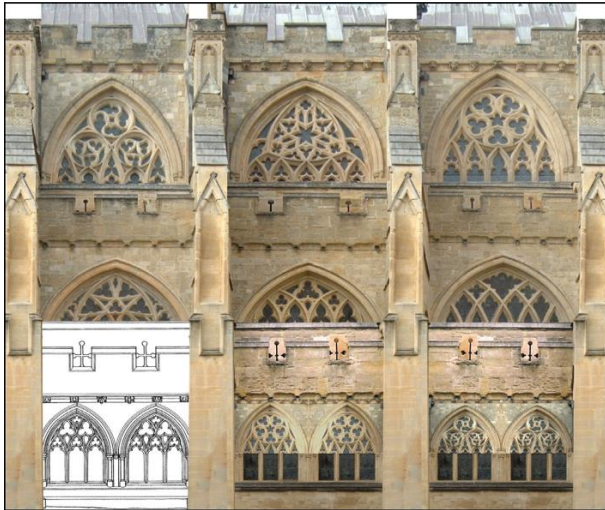


Fig. 9.8 Exeter Cathedral, south elevation of nave, 1329-1333, reconstruction of cloister, S. Parker (1997)



Fig. 9.9 Exeter Cathedral, south aisle inward sloping roof, Thomas of Witney, 1331-32.

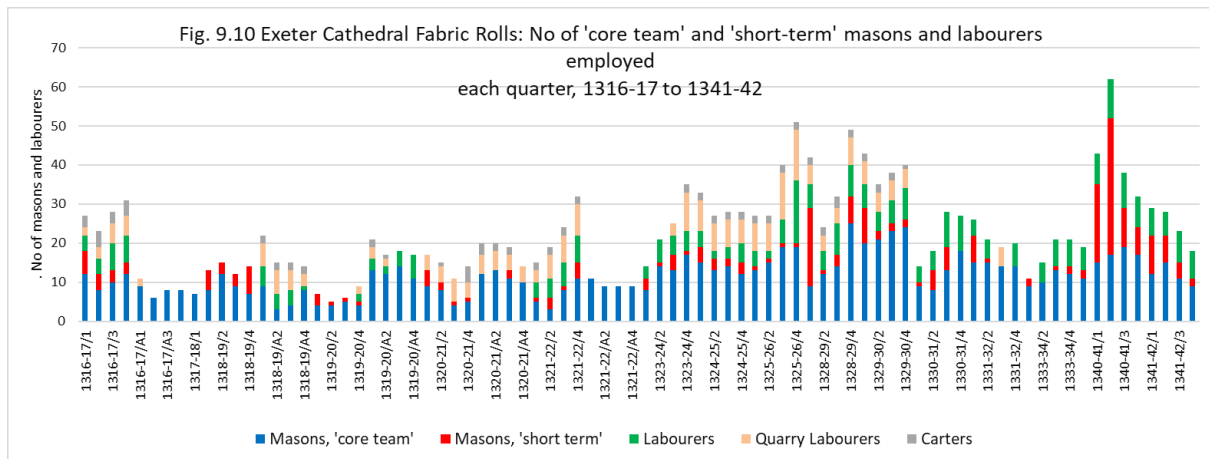
and is partially workable today. That the cloister building was almost finished was indicated by expenses of roofers and nails in 1330-31 and 1331-32.⁸¹⁵ The work of the nave itself had begun with the erection of the columns, which, unlike those of the presbytery and choir, were purchased by Witney in one transaction from William Canon, Junior. Payment for the 11½ great columns at £10 16s per column and for 60 pairs of small columns for the triforium was settled during a later visit to Exeter by Canon in January 1332, which suggests that the columns were in place by then.⁸¹⁶ The improvement in accounting under *custos* Peter de Castro was notable after the reversed entries and cancellations in the Canon accounts of 1323-24 and 1324-25, under his predecessor, John de Schyreford, who seemed to have difficulties with the deposit and credit arrangements set up by his predecessors.⁸¹⁷

The analysis of the quarterly numbers of workers employed by Witney on the nave from 1329-30 (Fig. 9.10 below) shows a large core team ranging from 9 to 25; but fewer masons were

⁸¹⁵ D&CE 2628, 2629/Erskine, pp. 240, 245. No information is given about the provision of templates for the pre-cutting of the pillars. Pacey has drawn attention to the possible similarity of the marble clusters of pillars of the Beverley reredos supplied by Canon to those of the Exeter *pulpitum*. See Barnwell and Pacey (2008), p. 89.

⁸¹⁶ Ibid.

⁸¹⁷ D&CE 2611/Erskine, p. 72; 2622, p. 154, 2623, p. 163.



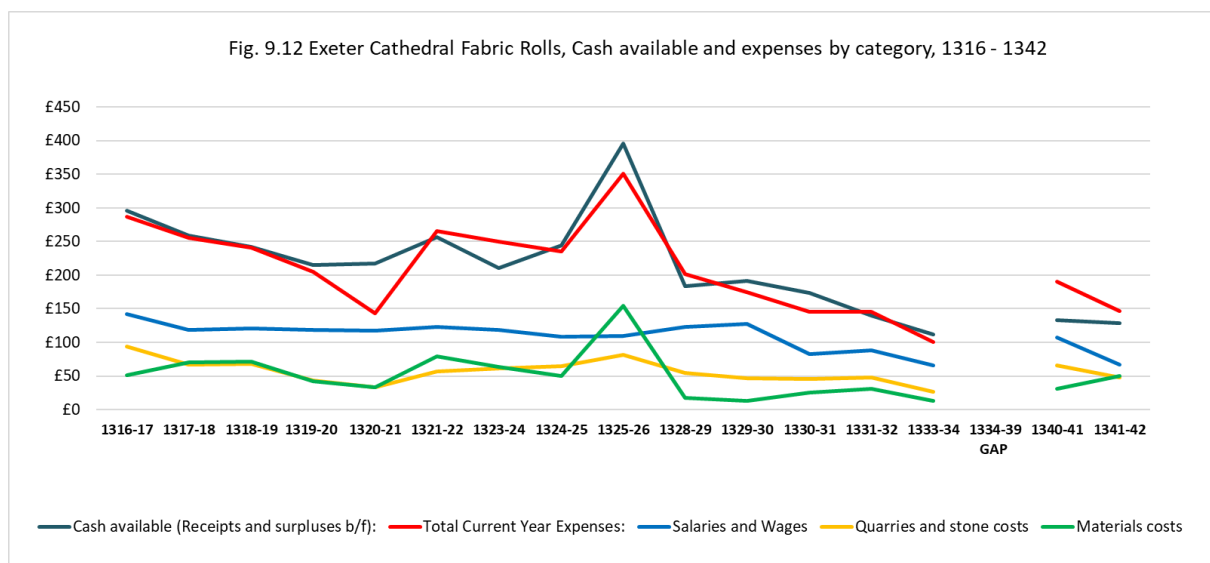
Employed for short periods than in Master Roger's time, averaging less than 3 each quarter. Activity reduced in the winter of 1330-31 before rising again to an average of 15 masons in the core team, with only 2 short-term masons, which presumably dropped back in the following year of 1332-33, for which there is no roll. In addition to managing the numbers of workmen more tightly, Witney employed his 'core team' for 48 to 51 weeks each year, whereas Master Roger's team had worked for 45 or 46 weeks each year. The masons' wage lists table for the four extant rolls, 1329-30 to 1333-34 (Fig. 9.11 below) displays the range of masons on the payroll, including up to 5 senior masons on weekly wage rates of 2s 3d, up to 9 higher paid masons on 2s 2d, up to 14 paid at the standard wage of 2s, and 6 to 8 additional workers at lower rates from 1s 6d to 1s 10d. The composition of the core team was somewhat similar to that for Master Roger's work on the eastern arm 25 years before – more experienced and taking a longer time on each bay, which no doubt reflected the complexities of the integrated cloisters.⁸¹⁸ The gift by the Bishop of 25 wagonloads of timber from Chudleigh, transported in 11 separate weeks in the summer of 1332, and the hiring of 72 horses in 5 weeks to carry boards, suggests that some of the clerestory walls had reached full height and were ready for roofing, while a further gift of 12 oaks in July 1338 indicates that the remaining portion was not finished until later.⁸¹⁹

⁸¹⁸ See pp. 229-34.

⁸¹⁹ D&CE 2629/ Erskine, pp. 248, 249; and Erskine (1983), v.2, App. II, p. 320; *Reg. Grandisson*, p. 881.

Fig. 9.11 Exeter Cathedral Fabric Rolls: Master Thomas's work-force for the Nave, N range cloisters, wage rates & length of service 1329 - 1353																			
Key to colour coding for wage rates				18	20	22	24	26	28	30									
Work No	Family Name	First Name	Cat.	Place origin	1329-30	1330-31	1331-32	1333-34	1340-41	1341-42	Work No	Family Name	First Name	Cat.	Place origin	1340-41	1341-42	1346-47	1352-53
43	Odin, Hen	Hen.					14	22	14		501	Terri (Terry)	Terry			16		21	
50	Ford, de €	Rob.					17	-	17	-	502	Meywi*	Meywi.			15	13		
54	King, le	Will.			24						503	Slyddeny	G.			17			
60	Payn,	Rob.			33	28					504	Midelton*	Midelagh			17			
124	Pruston, de	Adam		Devon			14		14	14	505	Tayllor*	Tayllor			10			
152	Croc	Ric.			26	26	26	26	16	15	506	Cokeston*	Cokeston			10	4		
178	Axminstre, de	Galf.		Devon						20	507	Wyst*	Wyst			13			
195	Ataslade	Will.					14		14	14	508	Colynge*	Colynge			13			
215	Beredon, de	Rad.			24		24		14		509	Londe*	Londe		London	13			
225	Welles, de	Ric.		Smrst						14	510	London*	London		London	13			
246	Bailliff, le	John			24	24	24	24		15	511	Monion*	Monion			15	15		
251	Kech, Rob	Rob.			24						512	More*	More			16			
305	Nyweton, de	Elias	AT	Devon	27	27					513	Westlegh*	Westlegh		Devon	10			
312	Baret	J..			26	26	26	27	-	-	515	Bonere	R.			15	17		
313	Priour	R.	AT		27	27	-	-	-	-	516	Longe,	Th.			8			
314	Priour	R.				27	27	27	17	17	517	Leyghe*	Leyghe		Devon	16			
319	Dauber, le	J.				16		18			518	Bonere	Th.			15			
336	Nepperyde (Neperton)	J..	AT				17		17	17	519	Genenost*	Genenost			11			
344	Finamour,	H.		painter					20		520	Boni (Bony)	Bony			13			
355	Bensted	J.			24	24	24				521	Gay*	Gay			17			
359	Drayton	H.		Somrst	25	25	25		16	12	522	Cobyn*	Cobyn			10			
367	Streme, de la	Ric.		mason				26			523	Lucas*	Lucas			14			
171	Botlier (Boteler)	T.			24		26	27	20		524	Donsturr*	Donsturr		Somrst	14			
398	London, de	R.		London	25	24	24	27			525	Yrish*	Yrish		Ireland	16			
400	Wycrofte	W.						26	16	12	526	Laurence	W.			13	10		
403	Kynge	Edw.					13		13		527	Pole*	Pole			14			
406	Rand.*	Randulph					17		8		528	Chinock (Chn	Chnock			16			
407	Beridone, R.	R..				24					529	Clopthorne*	Clopthorne			15			
408	Bayliff	J.						24	20		530	Midelton*	Midelton		Devon	13			
412	Martyn (Martin)	R.			24		24				531	Ockeleghe*	Ockeleghe		Devon	20	20		
418	Pulburgh	W.		Sussex	27	27	27	27			532	Ward*	Ward			16			
419	Lyngwode*	Lyngwode.		Nofk				26			534	Bartholomew	Bartholomew			15			
420	Frances	N.			26	26	26	26			535	Caubyn*	Caubyn			20	12		
422	Forda (Forde)	J.		Devon	24			24			536	Foggom*	Foggom			16			
426	Barden	J.			24	20					539	Birman*	Birman					14	
427	Parco	W.						24			541	Ockeleghe*	Ockeleghe		Devon	20			
428	Streta	T.			24	24	24	24	17		543	Benet	J.			16			
429	Eusthas	J.						20			544	Golda*	Golda			18			
430	Gregori	N.			20	20	20	20			545	Kilmington, d	Kilmington		Devon	18			
431	Thoriabere (Thoriabor)	T.		Devon		20	16				546	Chilmelegh*	Chilmelegh.					8	
434	Byrc	Peter			24						547	Teyllard*	Teyllard.					18	
437	Wedton	J.			8	10	10	13			548	Cadebiri*	Cadebiri.		Devon			18	
438	R.*	R.		plumber.	8	22	28	22	22	20	549	Beare	Nic.	Mst	Devon			42	
444	Berwe	W.						26			550	Frynsch*	Frynsch.		France			-	
445	Wycroc (Wycrot)	W..			26	26	26				551	Crosse*	Crosse.					12	
449	Streme, de la	J.			24	24	24		13		552	Cockeston*	Cockeston					-	
450	Byrc,	W.			24		24				553	Bouz	Th.					17	
451	Beare	T.		Devon	18						554	Sandr'	Sandr'					-	
452	Brecha	J.			14						555	Ockampton (R.			Devon			-	
453	Huberd	J.					12		14		556	Gregori	Alfred					14	
456	Wales	R.		Wales	26			26			557	Fotor*	Fotor					-	
457	Weyfrane	W.			26						558	Pulburgh*	Pulburgh, jnr		Sussex			18	
461	Vagburgh	S.		Devon	26						559	Anstey	J./Glazier. glazi		Dorset		24		
463	R*	le Tour. tourner			4						560	Werdale*	Werdale.					18	
465	Clifford	W.			20				20		561	Freynsch*	Freynsch		France			17	
468	John*	John at Roofer and f			15						562	Woda*	Woda.					-	
469	Chalewe*	Chalewe			4						563	Coscombe			Dorset				26
470	Dudeny*	Dudeny.			4						564	Tanton J	J.		Somrst			25	
471	Wodten/Wedten, J.	J..			8	8	17		17	17	565	Corfe, de			Dorset			22	
472	Loges	R.			24						566	Gryndham						24	
473	Fareway	W.			18						567	Cerne			Dorset			22	
474	Cantor	Oliver			12						568	Montagu			Somrst			22	
475	Haynleman	W.			26						569	Watelegh						24	
476	UgaburghS.			Devon	26	26	26				570	Philip						19	
477	Stanweye	R.		Gloucs		5					571	Warde						18	
478	Coffyn	J.		Devon		26	26				572	Corscomb			Dorset			10	
479	Verour, le	J.				20					573	Tanton	G.		Somrst			14	
482	Cornubia, J.	J..		Cornw		20	20				574	Manston			Dorset			20	
483	Holman, H.	H..		Devon		20	20	13			575	Middelay						20	
484	Womeworthi, W	W.					12	14	20	17	576	Birman						22	
485	Fynamour	Fynamour					9				577	Yrish			Ireland			20	
486	Roche	R.						16	20		578	Alfred						18	
487	Thurverton	L.		Devon				20			579	Sutor			Devon			24	
488	Colliford	W.						20			580	Kilmynton			Cond Devon			18	
489	Thurveton	N.		Devon				20			581	Luck			Conduit			18	
490	Mell	Mell		Dorset			17		17	17	582	Alfred			Conduit			18	
491	Axeminster*	Axeminster		Somerset			17		17	17	583	Mewy/Meywi			Conduit			18	
492	Weldon*	Weldon		Leics			-		17		584	H.*	H & assoc	Conduit				21	
493	Godale*	Godale					14		16		585	Wemeworthi & assoc		Cond Devon				20	
494	Alfred*	Alfred					14		16	14	586	R. *	R & son	Conduit				15	
495	Fayrlond*	Fayrlond					14	14	16	16	587	Farleye	John	masc Wilts					30
496	Posseb'i*	Posseb'i					13		13		588	Farleye	Henry	masc Wilts					30
497	Guylane (Tuylane)	Tuylane					14		16	14	589	Briggewater	Henry	masc Somrst					26
498	Philip*	Phillip					10		12	12	590	Will.*	Will.	mason					26
499	Cobyn*	Cobyn							12		591	Grastone*	Graston	masc Somrst					26
500	Carbonel*	Carbonel							15	12	592	Dravrote	Henry	Somrst					26

The state of affairs during Witney's last two years is puzzling (Fig. 9.12 below). After a six-year gap, of which all we know is the transport of the oaks given by the bishop, two fabric rolls have survived for 1340-41 and 1341-42. The first roll shows that the average number of workers employed in each quarter was high at 25 masons and 9 labourers, but the wages paid to the long-service masons who had served through the gap years were significantly reduced. For masons on the payroll between 1328-29 and 1333-34, the senior rate dropped from 2s 3d per week to 1s 8d per week, the higher rate from 2s 2d to 1s 4d, and the standard rate from 2s to 1s 1d/1s 5d, giving an average drop of more than 30%.



The accounts show that fabric incomes and cash available had reduced steadily after Stapeldon's donation of 1325-26 and Grandisson's decision not to fund the new work in 1328. However, the depth of the financial crisis during the gap must have been worse than has hitherto been suggested. As there was no particular local reason for the decline, it is most likely that it related to the national economic downturn associated with the Hundred Years' War from 1336, including heavy taxes (1332-1341), the currency and bullion shortage, and the unprecedented demands for tax in kind of 1340.⁸²⁰ The Earl of Devon was prevailed upon for his gift of 100 marks (£66 13s 4d) in 1340; diocesan calls for indulgences were resumed in 1340-41, and John Grandisson made a rare donation

⁸²⁰ Dyer (1989), p. 139; (2002), p. 254.

of £20 for lead.⁸²¹ The fabric expenses, which had been carefully matched with income since the deficit of 1309-10, indicate that there was much still to do in two years, finishing off the work with purchases of 657 tontight (tons) of Beer and Salcombe, 450 feet of Silverton ashlar, the sawing of 1196 feet of timber, the founding of 20 fothers of lead, and the acquisition of 20 loads of plaster of Paris for the vault. The purchase of three large cog wheels, a 'hauser' of 40 fathoms and another of 14 fathoms 'for the grab' suggest that heavy work at height was still taking place. There is no doubt that Witney was pushing to finish the work before the funding ran out. At Christmas 1340 a bonus was paid of 8s 8d *in stipend' unius magistri pro cursu eiusdem properando* and a payment of 5s made to G. the mason (? Godale) 'for working beyond his daily wage in recompense for his daily labour'.⁸²² The urgency of his call was emphasised by what was perhaps a 'mini-strike' at the end of the first week of the summer 'when work ceased on account of the lack of money'.⁸²³ The completion of the nave was finally announced by the erection of the painted sculpture of St Peter on the western gable in the summer of 1342, and a finely judged surplus at the end of the term of £7 6s ½d. Thomas of Witney retired after the summer term and is said to have died shortly afterwards.

The last rolls of the series were a harbinger of what was to come.⁸²⁴ The lack of money continued, and an unskilled labour force assisted with building a new water conduit. William Joy was appointed consultant master in 1346-47, and paid 20s for the year from a special fund earmarked for the 'portici' of the church.⁸²⁵ This is thought to have referred to the lower image screen on which £35 5s 2¼d was spent during the year. The fabric expenses of the following year were £19 9s 4½d for the conduit and £8 8s 2¾d for the church.⁸²⁶ Nothing more is heard of Joy, who is thought to have died in the plague the following year. The upper image screen, which was an integral part of the scheme, was to wait a further 30 years until the work started again.⁸²⁷ The 1352-53 account lists five skilled

⁸²¹ D&CE 2631, 2632/Erskine, v.2, pp. 259, 261.

⁸²² D&CE 2631/Erskine, v.2, p. 261. Godale, cathedral mason 1340-41, sold Silverton ashlar on his own account.

⁸²³ Ibid., p. 264.

⁸²⁴ D&CE 2633, 2634, and 2635/1-5/Erskine, v.2, five fragments sewn together, 1348-1353.

⁸²⁵ D&CE 2633/Erskine, v.2, pp. 273, 274.

⁸²⁶ D&CE 2634/Erskine, v.2, pp. 276, 277.

⁸²⁷ D&CE 2638/Findlay.

masons, the first in the cathedral for five years, under Richard Farleigh, former master of Salisbury.⁸²⁸ The higher wage rate was 2s 6d per week and the standard 2s 2d, showing that rates had already moved towards a new level.⁸²⁹

York, 1350-1472

The masons' lodge was a shed or temporary structure which was the central work and meeting place of the masons' yard. Lodges were moved from time to time, and in York an additional masons' lodge was established in the north transept to cater for the 20 masons working on the tower in Colchester's time.⁸³⁰ At Exeter the lodge was near the tracing house at Kalendarhay, and in Ely it was probably in the walled masons' yard adjoining the Sacristy.⁸³¹ At Westminster Abbey the *custos* built a new house for the masons called the masons' *logge* in 1394-95.⁸³² Almost a century later, in 1489-90, expenditure of £4 6s 0d was recorded *faciend' Neue logge et le Tymberhause*.⁸³³

The York ordinances of 1352 and 1370 supply statements of the masons' daily timetable and the rules of their employment. The first, of 1352, resulted from an inquiry into mismanagement, pilfering, and quarrelling in the York lodge in 1344-45.⁸³⁴ In the summer months, masons were expected to begin work at sunrise and to continue until the 'Langebell' of the adjoining St Mary's Abbey announced the end of the working day. They were to take a half-hour break for breakfast at the lodge, ended by a knocking on the door by the master, a dinner break at noon for one hour, and a short sleep of 30 minutes at the lodge in May to July. A drinks break of 30 minutes in the summer and 15 minutes in winter was to be taken between the first and third bells for Vespers. According to Knoop and Jones, the working day averaged 12¼ hours for the seven summer months, and 8¾ hours in the winter.⁸³⁵

⁸²⁸ D&CE 2635/5/Erskine, v.2, pp. 290, 310; Salzman (1952), p. 45.

⁸²⁹ See Fig. 9.11.

⁸³⁰ Brown (2003), pp. 103 and 197; Raine (1858), p. 200: *Ordinacio* 1409.

⁸³¹ For reconstruction of the masons' yard, Chapman (1909), v.1, p. 24.

⁸³² WAM 23464/Rackham, and Rackham (1909), p. 10.

⁸³³ WAM 23563, 4/Rackham.

⁸³⁴ Browne (1847), pp. 134, 135, 165, 166; Raine (1858), pp. 171-3, 181, 182; Knoop and Jones (1933), pp. 148, 149; Salzman (1952), pp. 54-9. This summary relies on Salzman's translation.

⁸³⁵ Knoop and Jones (1933), p. 117.

The first and second masters and the master carpenter were responsible for supervising the timetable on pain of dismissal, and reported lateness and absence were duly recorded and deductions made from pay by the *custos*. By the time of the 1370 ordnance, the resumption of economic activity had resulted in a shortage of craftsmen, and conditions were liberalised in some respects.⁸³⁶ The period for payments at the summer rate was extended by six weeks, breakfast times were made flexible, and the closing time adjusted to allow workers to reach home before sunset in the summer. However, supervision was tightened with a bell to be rung on the master's authority to mark the start and end of each activity. A probationary period of a week or more was introduced for new recruits, who 'after yt he is foundyn souffissant of his werke' would be confirmed by the common consent of the masters and the keeper; they were then required to swear an oath to keep the terms of the ordnance. Absence to undertake other work without leave was punishable by dismissal. The text of the 1352 ordnance relied for its legitimacy on the assertion that ancient customs 'shall henceforth be observed in the accustomed manner', but the 1370 ordnance depended on the public swearing of an oath by each mason to uphold 'all the points of this foresaid ordinance'. This was first sworn by Robert Patrington and 12 masons, and was required of all future masons.⁸³⁷ The ordinances were evidently affected by the language and provisions of the Statute of Labourers and the more aggressive employers' narrative which had developed since the Black Death.⁸³⁸ In a further intervention in 1408, the chapter appointed a supervisor, a minor canon, intended to overlook both the lodge and the master.⁸³⁹ The general working provisions of the ordinances may have been fairly standard, but the rules of enforcement are unlikely to have been quite as strident where the history of disruption was less compelling. There is no record of masons' involvement in York's craft guilds, perhaps because, as Heather Swanson suggests, 'where such organisation is recorded ... the suspicion must be that the masons involved were employed on routine jobs', and that was hardly true at the minster.⁸⁴⁰ She also noted that 48 masons were enrolled in the *Register of Freemen*, of whom 14 had signed up after

⁸³⁶ See Shelby (1970), pp. 1-11 for masters' literacy and education.

⁸³⁷ See Browne (1847), pp. 134-5.

⁸³⁸ Bailey (2021, forthcoming), Cap. 2.

⁸³⁹ See Knoop and Jones (1933), pp. 61, 62; Raine (1859), p. 198.

⁸⁴⁰ Swanson, *Medieval Artisans* (1989), pp. 91, 92.

Key to colour codes for wage rates: 18 20 22 24 28 30 36 40 All rates in English pence (d.)

246

Notes on Fig. 9.13 This table shows the masons' wage list rates of the main building period of the surviving rolls of York Minster, c.1360-1472. The masons are numbered according to the date of their first entry in the rolls. The colour-coding scale has been adjusted upwards from that used in the Exeter charts to reflect the increase in wage rates from 1349-50.

employment at the minster. The freedom gave the right to trade free of toll in the city, and the interest on the part of the masons may have been in trading on their own account, rather than a statement of local roots.

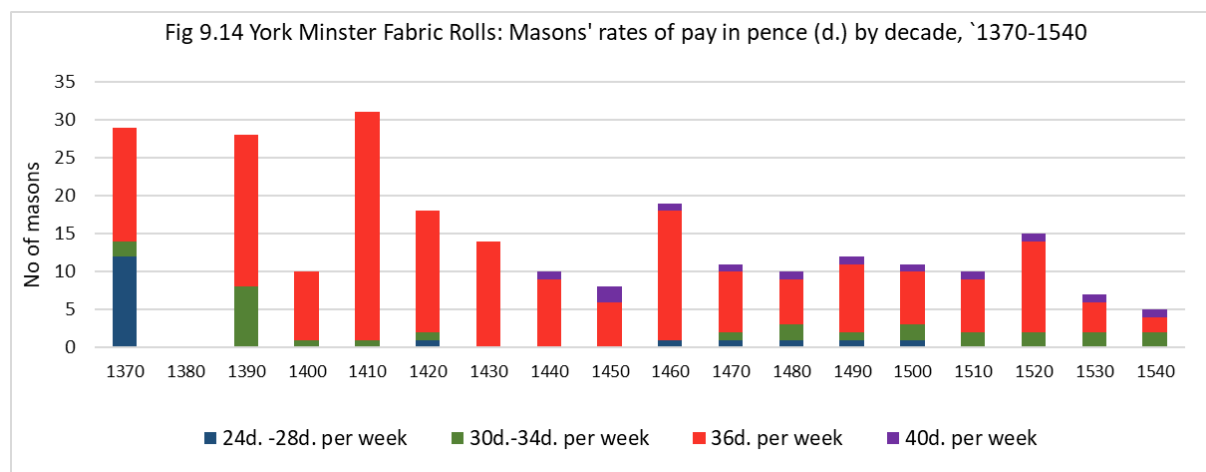
The wage list tables are formatted as before, but the colour-coding has been adjusted to post-Black Death wage levels (Fig. 9.13 above). The other difference is that, due to the low roll survival rates, the yearly columns show a series of snapshots rather than the trend of progressive changes. Raine was somewhat dismissive of the first six York rolls before the account of 1415-16, which he described as 'the first perfect fabric roll that has occurred', although he admitted that the 1371 roll was of some importance in determining the likely completion date of the Lady Chapel.⁸⁴¹ The first fragmented roll, c.1360, gives enough information to deduce that there were at least 20 craftsmen employed, that they were paid every 15 days, and that there were at least 8 different rates of pay, ranging from 2s 0d to 4s 10d per 15 days.⁸⁴² William Hoton (1360-1368) evidently paid individually graded rates similar to those paid by Master Roger and Thomas of Witney at Exeter. In the following roll of 1371, 29 individual craftsmen were recorded, though without their names, earning five different weekly rates of pay: 15 at 3s 0d, 2 at 2s 6d, 3 at 2s 4d, 5 at 2s 0d, and 4 at 1s 10d per week.⁸⁴³ By the third roll of 1399, the consolidation of rates was almost complete, and 13 named and 5 unnamed masons earned what had become the accepted standard rate of 3s 0d per week, while 2 others earned 2s 8d. In the next 73 years from 1399 to 1472, only 10 of the 192 masons on the wages lists were paid anything other than 3s per week, and remarkably this persisted until well into the sixteenth century. The rates of pay paid to masons in each ten-year period are summarised in the bar chart (Fig. 9.14 below) from 1370 to 1540, when 94% of the wages of the masons were paid at the standard rate. Payments above the rate, usually of 3s 4d per week, were for master masons between

⁸⁴¹ For 1415-16, E3/7, see Raine p. 28, and for 1371, E3/2, see Raine p. 3. See pp. 56-59.

⁸⁴² YMA E/3/1/YAT.

⁸⁴³ YMA E/3/2/YAT.

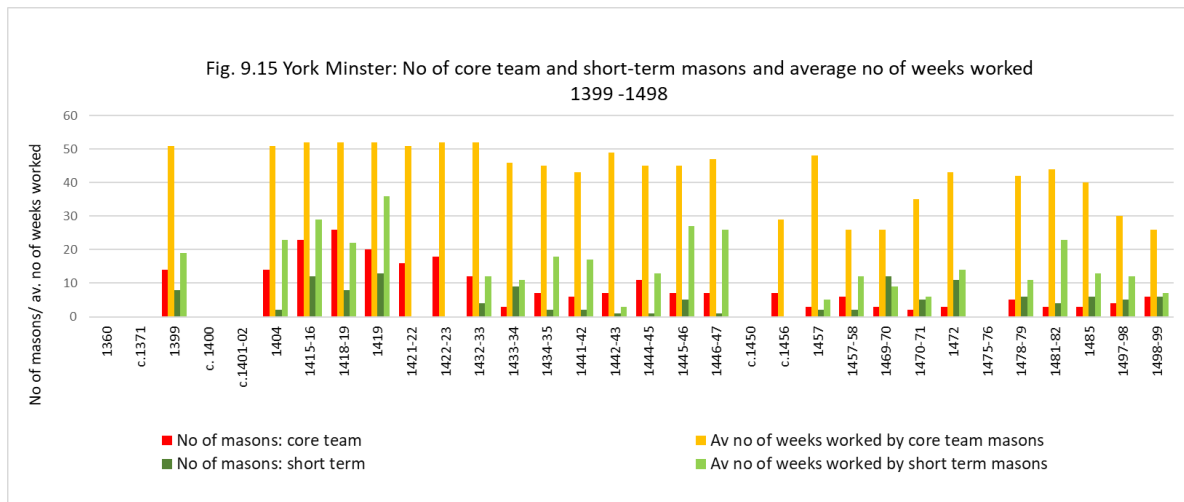
1456 and 1538, after the basis of their contracts were changed to that of low retainers with wages paid at the highest rate for actual weeks worked.⁸⁴⁴ At the other end of the scale, lower rates were paid for apprentices, and to the rare probationer recruits under the 1370 ordinance.



The wage lists (Fig. 9.13) do not show the evolution of the workforce clearly, due to lengthy intervals between surviving rolls. There was a sizable team working on the western choir in 1399, followed by smaller newly recruited teams in c.1401-02 and in 1404, which suggests that there was a high turnover of masons under Master Hedon in the years before the collapse of the tower. The years between 1415-16 and 1421-22, the high years of William Colchester's term and after, are better recorded, as four rolls out of seven have survived. Some 33-36 masons were on the payroll from 1415-16 to 1419, and high levels of activity continued to 1421-22, with 59 masons appearing on the payroll during that whole campaign. During this period the core team, defined as the nucleus of the semi-permanent workforce who worked more than half of the year, worked 50-52 weeks per year; there was strong continuity of service, with 50% of the 1415-16 team still working in 1418-19, and 20% in 1421-22 (see Fig. 9.15 below). Although the chapter ordinance of 1409 assumes that two teams of masons were working at this time, one on the tower and one on the western choir, this is not referred to in the rolls.⁸⁴⁵ The larger core team was working at full capacity from 1415-16 to 1422-23,

⁸⁴⁴ See p. 220-2 and Fig. 8.39.

⁸⁴⁵ Raine (1858), p. 200 for *Ordinacio* 15 November 1409.



probably for the last time at the minster fabric, albeit on two connected sites.⁸⁴⁶ After 1422-23, the western choir team must have completed its work, and numbers reduced to those required for the central tower. From then on the work became more specialised, resulting not only in reducing numbers of masons but also in the number of weeks worked. By the early 1430s, a reduced core team of 12 masons was working on the south-western tower for an average of 50 weeks in 1432-33, though this dropped to 3 masons working for 46 weeks in 1433-34. After a gap of six years, there is a sequence of five rolls with one gap showing a core team of 6 to 11 masons working from 43 to 49 weeks each year until 1446-47.⁸⁴⁷ The work being performed is not indicated, but continuing purchases of old and new lead and the 94 weeks worked by Christopher and later William Plumber in the next five years for £36 3s 11d suggest that the south-western tower was completed at this time (as well as continuing roof renovation). This was the working environment in which Thomas Barton, later master of the upper stage of the Durham Cathedral tower, cut his teeth.⁸⁴⁸ In 1469-70, 11 short-term masons returned and a different group of 12 masons in 1472, working for 9 weeks and 11 weeks respectively. They were most likely engaged in finishing off work, as materials purchases were low, and carpenters were completing the wooden vault and roof of the central tower. Robert Spillesby died in office at Easter having completed the work, and the minster was consecrated in July.⁸⁴⁹

⁸⁴⁶ YMA E/3/12-13 and E/3/15-19/YAT.

⁸⁴⁷ YMA E/3/15-19/YAT.

⁸⁴⁸ See no. 156 in Fig. 9.13.

⁸⁴⁹ See Brown (2003), p. 215.

Although Knoop and Jones made much of the ranking and classification of masons, the system did not have much impact on the cathedral fabrics.⁸⁵⁰ Erskine noted of Exeter that

‘although the wages lists do not very frequently mention an individual’s particular trade or craft, nonetheless the accounts in general show that the work was very varied, including of masons of different grades at different rates of pay’.⁸⁵¹

Besides the higher rate for masters and the lower standard rate for apprentices, the new wage rates at York allowed for only one variation. A new provision for setters of 4d per week was introduced by 1404 and allowed additional payments to between 2 and 4 setters each year, perhaps for the new tower work. These payments were not consolidated in the account roll, but entered at the end of the lists, a provision which continued, when applicable, until 1447.⁸⁵² The setters were also provided with additional pairs of gloves for their work. The grant of extra pay to setters rather than to cutters appears counter-intuitive, as the skill of the carver was more highly regarded, and the *intailleur* was traditionally the highest paid mason of all. However, the York rolls noted that the provision was specifically for ‘laying stones on the belfry’ in four of the lists, and it was no doubt for working at height.

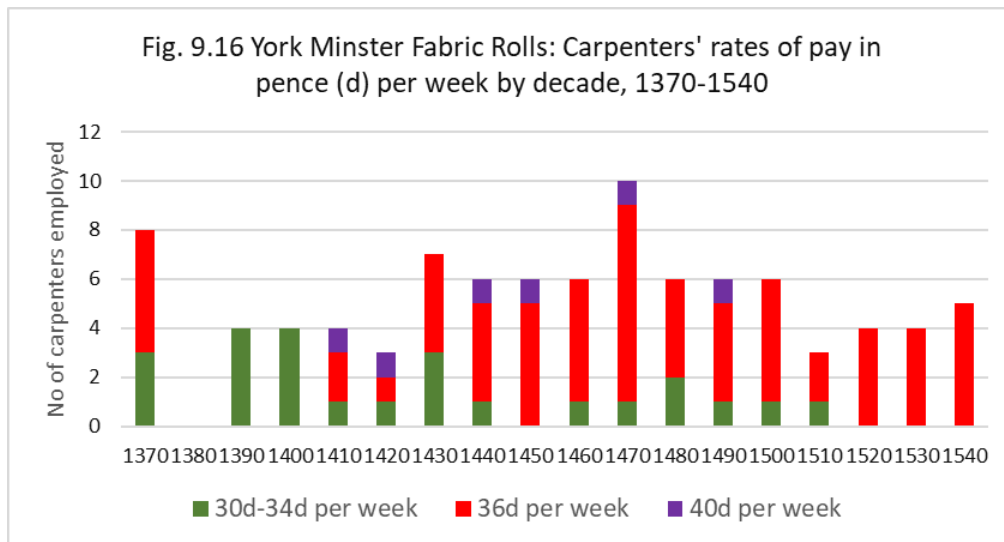
Carpenters were an important part of the regular payroll at York, making up to 30% of the payroll, though in most years carpenters worked significantly fewer weeks than the masons.⁸⁵³ Timber vaults were used throughout the minster, following Philip of Lincoln (*fl.* 1346-1375), who built the vaulting in the nave, originally planned in stone despite its thin walls. John Askham (1415-1437) is credited with the choir vaults after the collapse of 1408. The pay of carpenters (Fig. 9.16 below) was similar to that of the masons, and 80% was paid at the standard 3s 0d rate, though 17% were recruited the lower rate of 2s 6d.

⁸⁵⁰ See Knoop and Jones (1933), pp. 80-88.

⁸⁵¹ Erskine (1981-3), v.2, p. xxii.

⁸⁵² YMA E3/6- E3/12 and E3/16-E3/19/YAT.

⁸⁵³ YMA E/3/12/YAT.



The minster only introduced apprentices late in the day. They had been recognised in the city of London by 1356.⁸⁵⁴ Robert Lesingham at Exeter employed an apprentice in 1382-83 at the rate of 2s 0d per week.⁸⁵⁵ Apprenticeships were recruited more widely from the 1470s. Westminster Abbey recruited 6 between 1474 and 1527, all but one paid at the usual rate of 2s per week, Two apprentices were noted in Durham, where Master John Bell's contract of 1488 required two apprentices be taken on for ten years, one for the prior and one for the master.⁸⁵⁶ Some 22 apprentices were recorded at York between 1470 and 1543. Their starting rate was 2s per week, progressing to an interim rate of 2s 6d, and the qualified rate of 3s per week. Two of the later apprentices were connected with their masters. Christopher Horner was apprenticed to William Hyndley at a higher than normal rate of 2s 6d in 1478-79, and succeeded him as master in 1505-1523; Roger Forman, apprenticed in 1529-30 at the same rate, was most likely the son of John Forman, Horner's successor and the last medieval master of the minster (1523-1558).

The establishment of an overall ceiling to masons' pay while there was an acute shortage of craftsmen had obvious consequences for management, the most obvious of which was the collapse of the graded pay systems, as masons graduated early to the standard rate, which the employer was not in a position to deny. However, the rate of pay was only one aspect of remuneration; while Hedon may

⁸⁵⁴ Salzman (1952), p. 43.

⁸⁵⁵ D&CE 2644, 2650/Findlay, and see Bishop and Prideaux (1922), p. 11.

⁸⁵⁶ Fowler (1898), p. 415.

not have retained his masons for long, the prospect of full weekly employment during the eleven years of Colchester's term would have been an attractive one.

Westminster Abbey nave, 1387-1500

More than two-thirds of the Abbey fabric rolls from 1387 until 1506 have survived, so patronage and building details are more accessible than elsewhere during this period. The complexities of royal patronage and monastery priorities determined that the building work took place in only 57 years, in three phases (see back to Fig. 8.32):

- (i) Aisle walls built and the nave pillars positioned, Henry Yevele, 1393-1403
- (ii) Triforium and clerestory stages built, William Colchester, 1413-1422
- (iii) High roofs, buttresses, and vaulting completed, Robert Stowell, 1468-1504

The evolution of the building organisation is shown in the masons' wage tables for the years 1349-1420 and 1423-1499 (Figs. 9.17 and 9.18 below). The new work on the nave began in 1387, when the new master, Henry Yevele, inherited a site where the old work had been cleared. His first priority was to install the twelve pillars of the nave. He would have supplied the templates with the initial down-payment of £10 to a 'mason of Corfe' in 1387-88. While his masons built the aisle walls and windows from 1393-94 to 1398-99, the last pillars were only settled after his time in 1403. In the first year (1393-94), old wage rates were still in use and 5 masons were appointed at 2s 4d per week under a senior mason, Thomas of Exeter, who was paid 3s 0d per week. In the second year (1394-95), the team was increased to 14 masons of whom 9 were paid at what was to become the new standard rate at the abbey of 3s 4d per week. There was good continuity in the team, which increased to 22 masons for the year 1396-97: 5 out of 6 of the 1393-94 masons remained for four years, and 3 of them for seven years. The group was disbanded after 1398-99, and all work ceased at the abbey in 1403 after Henry IV took over from Richard II.

In 1413 Henry V, then in France, appointed Richard (Dick) Whittington as Surveyor of the Customs, and Richard Harweden, a monk of the abbey, as his Commissioner with direct authority over the expenditure of 1,000 marks per year, which he had pledged: 500 marks from the Hanaper and

500 marks from wool duties.⁸⁵⁷ A total of £2,264 was received from these sources in 1413-1416, 1417-18, and 1420-21. William Colchester was reappointed master at the abbey and split his time with duties at York Minster for the rest of his term. A total of 24 new masons, who are not named in the commissioners' accounts, were recruited or impressed at the standard rate of 3s 4d in a workforce of similar size to that of York. In 1415-16 there were 24 masons working at the highest rate of 3s 4d, and 2 at a lower rate of 3s 0d for 50 weeks per year at Westminster, whereas 32 masons worked at York at the single rate of 3s 0d per week, of whom 18 worked for 52 weeks, 2 for 50, and 12 for lesser numbers of weeks – on a more complex assignment. The project was successfully managed, completing most of seven bays of the triforium level and eight of the clerestory level by Colchester's death in July 1420, the last time that a large semi-permanent workforce of masons was engaged at the abbey, as was the case at York.⁸⁵⁸ When Henry V died in 1422, work continued at a low level under Richard Harweden as warden, employing an average of 3 masons until 1440, but after that lack of enthusiasm, the burning of the monks' dormitory in 1447 and urgent repair work at the south transept brought the work to a standstill.

After the appointment of Thomas Mylling first as prior, 1466, and then abbot, 1469, funding was restored by regular contributions from the 'monks brethren', who raised £2,079 from 1468 to 1522, and became the largest group of contributors in those years.⁸⁵⁹ The new income stream made it possible for John Esteney, prior from 1470 then abbot 1474-1498, to make the completion of the abbey his main priority. He chose to continue as warden of the fabric and worked in harness with Robert Stowell, his master mason (1471-1504). Rackham noted that at this point 'the rolls become very lengthy and full of detail' and the scaffolding, roofing, flying buttress, and vaulting processes

⁸⁵⁷ See pp. 157-8, 207-10.

⁸⁵⁸ Note that Canterbury employed a large force of 20 masons and 7 others on the nave for the last time in 1396-97, see Blore (1945), pp. 31, 32, Prior's Account, xvii.4.

⁸⁵⁹ See pp. 105-6.

Fig. 9.17 WESTMINSTER ABBEY FABRIC ROLLS: MASONS' WAGE RATE LISTS I: 1349-1420

Key to colour cose for wage rates: 18 20 22 24 26 28 30 32 32 36 38 40 42 44 48

All wage rates at summer rates in English d.

Work No			1349-50	1350-51	1351-52	1352-53	1353-54	1354-55	1355-56	1356-57	1357-58	1358-59	1360-61	1361-62	1362-63	1364-65	1367-68	1368-69	1390-91	1393-94	1394-95	1395-96	1396-97	1398-99	1399-00	1400-01	1401-02	1403-04	1404-05	1408-09	1410-11	1411	1412-13	1413-14	1414-15	1415-16	1416-17	1417-18	1418-19	1421	ST 1413-22	1413-16	1417-18	1420-21		
1	Bole, le	Walt	25																																											
2	Witteneye, de	Adam (serv)	18			24	24	24	24	24	24	24	24	24	24																															
3	Palterton	John				24	24	24	24	24	24																																			
4	Duffield	Thomas				24	24																																							
5	Shiryngnam	Thom.				36																																								
6	Carlton	Geoffrey						24	24	24	24	24	24	24	24	24																														
7	Crendon	William						36	36	36										40	40	40	40	40	40		40	40																		
8	Bury	Nicholas							24	24																																				
9	Est[h]yng	John						18	18											40																										
10	Hened	John bedr						12	12																																					
11	Boyleston	Thom. serv							40	#	#																																			
12	Launceelyn	Thom. tallr																																												
13	Stafford	Will											40																																	
14	Wodehurst,	Robert tallr																																												
15	Hales	Henry																																												
16	Pumfereyt	C.									24	24																																		
17	Duffield	John																																												

All wage rates at summer rates in English d.

Key to colour code for wage rates			Wage rates at common rate in English																																										
Work No			1349-50	1350-51	1351-52	1352-53	1353-54	1354-55	1355-56	1356-57	1357-58	1358-59	1360-61	1361-62	1362-63	1364-65	1387-88	1388-89	1390-91	1393-94	1394-95	1395-96	1396-97	1398-99	1399-00	1400-01	1401-02	1403-04	1404-05	1408-09	1410-11	1411	1412-13	1413-14	1414-15	1415-16	1416-17	1417-18	1418-19	1421	ST 1413-22	1413-16	1417-18	1420-21	
1	Bole, le	Walt	25																																										
2	Witteneye, de	Adam (serv)	18			24	24	24	24	24	24	24	24	24	24	24																													
3	Palterton	John				24	24	24	24	24	24																																		
4	Duffield	Thomas				24	24																																						
5	Shiryngham	Thom.			36																																								
6	Carlton	Geoffrey					24	24	24	24	24	24	24	24	24	24																													
7	Crendon	William				36	36	36												40	40	40	40	40	40			40	40																
8	Bury	Nicholas					24	24																																					
9	Est[h yng]	John				18	18												40																										
10	Hened	John	bedr			12	12																																						
11	Boyleston	Thom. serv								40	#	#																																	
12	Launceelyn	Thom. tallr																																											
13	Stafford	Will											40																																
14	Wodehurst,	Robert	tallr																																										
15	Hales	Henry																																											
16	Pumfereyt	C.									24	24																																	
17	Duffield	John								36	36										40																								
18	Loncester, de	Simon								36	36																																		
19	Plomerden	J.									36																																		
20	Wylebeker	J.										20	20			30																													
21	Brylestan, de	Thom. bedr										40	40																																
22	Servitor												24																																
23	Attemoor	Nich	bedr												24																														
24	Bereford	John														24																													
25	Jacobs	John	bedr														30																												
26	Washebourne	Ric.																44																											
27	mason	William	bedr															32																											
28	Exeter, of	Thomas																36		36	30	30	30						40																
29	Hardegrey	R.																		28	40	40	40	40	40																				
30	Partrinton	W.																		28	40	40	40					40																	
31	Brown	J.																		28	40	40	40	40					40																
32	Sender	R.																		28	40	40	40	40					40																
33	Sypinam	M.																		28																									
34	Balterton	J.																			30	30	30																						
35	Bocland	T.																			40	40	40																						
36	Hoo	T.																			24	24	24																						
37	Norton	Will																			40	40	40		40																				
38	Glover	J.																			40	40	40																						
39	Parson	J.	layer																																										
40	Nicholl	Richard																			30	30	30																						
41	Long	J.																			26	26	26			40																			
42	Sippinham	T.																			40	40	40	40			40	40																	
43	Sippinham	J.																			40	40	40						40																
44	Botiller	J.																				40	40																						
45	Wilkyn	W.																				40																							
46	JFlower	J.																				40																							
47	Bristisham	J.																				40																							
48	Gardner	J.																				36	36																						
49	Redyng	W.																				30	30	36			36																		
50	Legge	Roger	later																			40	36				36																		
51	Legge	Simon																				36																							
52	Boteller	W.																					40																						
53	Proffeyt	J.																					40																						
54	Wadeswyk	W.																					40																						
55	Excestre	J.																					40																						
56	Sippinham	P.																					24		30			40																	
57	Tidy	R.																						24		30		40																	
58	Hardgrey	W.																							40																				
59	Commissioners mason 1																																												

Key to colour codes for wage rate: 18 20 22 24 26 28 30 34 38 40 44 48 at summer rates in English d. per week

[illegible]

were described.⁸⁶⁰ The 1472-73 roll has preparations for the high roofs, with scaffolds at three levels, *inferiori, superiori, et supremo*, the great wheel and ginnies with pulleys of brass and iron, and 235 oaks for the roof delivered to Dean's Yard for £78 10s 11½d.⁸⁶¹ The following year bays 6, 7, and 8 were roofed for £242 1s 9¾d, including 31 fotheres of lead at £187 15s 5d. The scaffolding was moved along the nave by bay as the work progressed at a cost of £16 to £37 per year. By 1476-77, the work reached the west end. The roofing of bays 9, 10, and 11 was finished in 1377-78 at a cost of £189 11s 11d, a reduction over four years achieved by contracting the leadwork to William Egerton at the competitive price of £136 4s 10d. The cost of his lead is not known. Attention then moved to the flying buttresses (*pro archebuttandis*), which were needed to contain the weight of the new vaults. The two carpenters worked 7 weeks at 8d per day, and 3 labourers for 141 days at 4d per day on the scaffolds and centring, while a team of 6 masons finished the clerestory walls and windows.⁸⁶² The account of 1479-80 notes that *Regard' dat' ... iii magnis cementariis lathamorum ad superintend' et pro eor' consilio propter reparacionem anni sequent' 5s.*, a rare example of a formal inspection by other master masons, known as an *Expertise* in fourteenth-century Europe, but not noted in any English cathedral fabric roll.⁸⁶³ The work must have been adjudged satisfactory as the *archbuttants* were completed in 1482-83, in preparation for the vaults.

The contribution of the vaulting to the architecture of the nave was not lost on John Esteney, who offered to fund it at his own cost with an initial contribution of £119. A separate fund was set up by Robert Essex, the new prior (1482-1490), who acted as *supervisoris operum voltorum* with his own account rolls – although only one has survived.⁸⁶⁴ The moving of the scaffold and centring from bay to bay was once again the prelude to the building of each vault. The section of the scaffolding where the masons worked was floored and partitioned from the winds and pigeons with canvas, and the great wheel was positioned and attached to the tie-beams so as to provide a landing place to keep the heavy

⁸⁶⁰ Rackham (1909), p. 35: WAM23527/8 onwards. Millyng was elected Bishop of Hereford in 1474.

⁸⁶¹ WAM 23540/Rackham and Rackham (1909), pp. 35, 36.

⁸⁶² Note the use of 'archbuttresses' here and at Salisbury (see pp. 138-9, 261-63, Figs. 7.6 and 9.20). Wren used the term in 1713. See Rackham (1909), p. 39.

⁸⁶³ WAM 23552/3/Rackham, and Rackham (1909), pp. 38, 39. *Expertise* is described in Victor Mortet, 'L'Expertise de la cathedrale de Chartres en 1316' in *Mélanges d'archéologie*, ser.2 (Paris, 1915), pp. 131-52, translated in Frisch (1987). I am grateful to James Hillson for this reference.

⁸⁶⁴ WAM 23557/Rackham.

key stones well clear of the centring. The move was achieved repeatedly in the eight years 1482-1490. John Fitchen, whose 1961 study of medieval falsework practices was based on these rolls, was interested in the differences between English and French scaffolding, and drew attention to the difficulties of English masons setting stones in the dark partitioned spaces above the scaffolding floors while the vault work was in progress above them.⁸⁶⁵ In Exeter, a purchase was recorded in December 1320 of 7d for candles to light the crossing vaults; the Salisbury crossing vault of 1480 tells us more: 10 lb of candles were ‘bought for men working at night and at dawn, for the same work’; and in 1481 a William Huntyngdon was paid 3s 4d for ‘making 7 torches for the fabric store weighing 80 lbs’.⁸⁶⁶ Richard Russell, one of four carpenters of that surname, was the leading carpenter, earning 8d per day in a dozen different projects at the abbey between 1489 and 1516.⁸⁶⁷ He was well known in Westminster and leased the Bell Inn in King Street in 1512. As a parishioner of St Margaret’s, he was instrumental in rebuilding the nave and aisles (1488-1504).⁸⁶⁸ In 1489-90, Russell made *lez grete scaffolds in summitate navis ecclesiae*, moved the centring, and worked on *le newe scaffolds pro les syde yles*. The following year he was working at the west end of the nave. He earned £8 6s 8d for his work over those two years. Robert Stowell had 23 masons on the payroll in 1482-83, and an average of 6-7 masons employed for 58 weeks. Unfortunately, the rolls for the next two years are missing. Those for 1486-87 and 1487-88 show that three great keystones were bought, but it is likely that Essex only completed two vaults (bays 7 and 8) as a brief entry in the roll for 1489-90 recounts that Stowell had himself contracted to construct the vaults of the last three bays (9 to 11) and the last arch of the nave for £120, in addition to his annual fees.⁸⁶⁹ It is thought that the vault between the western towers (bay 12) was completed in 1501-02 and the one between the new work and the choir (bays 5 and 6) in 1504-1506 in John Islip’s time.⁸⁷⁰ Esteney and Stowell’s simultaneous term from 1471 to 1498 marked the high point of Westminster fabric fund operation, in which £4,464 17s was spent; £1,271 16s 2½d of this sum was contributed by the monks brethren and £519.49 by the royal

⁸⁶⁵ Fitchen (1961), App. K, pp. 280-88.

⁸⁶⁶ D&CE 2618/Erskine, p. 127; SCA F1/1/4 f.19, f.24.

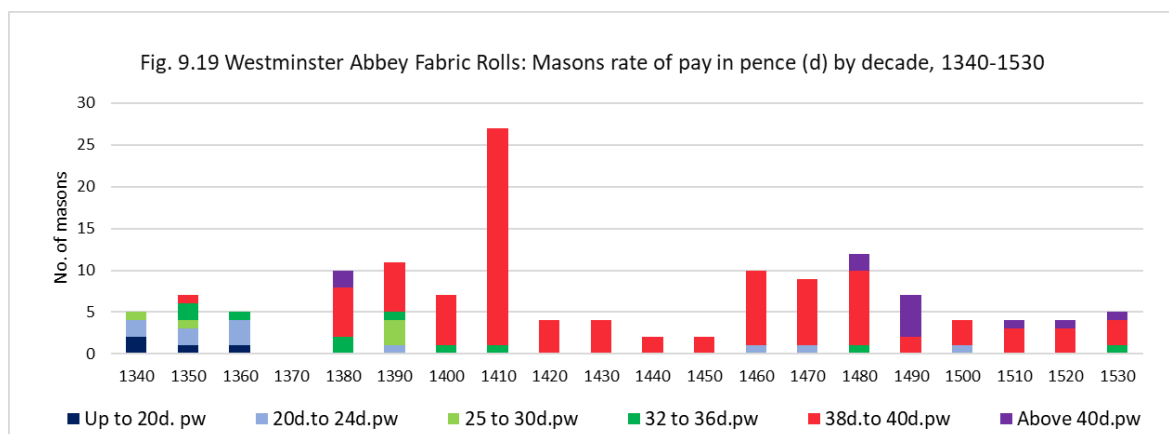
⁸⁶⁷ WAM 23540, 1, 2/Rackham for J. Russell (1372-1374); 23572-4 Tho. Russell, Robert Russell; 23563-23577, 78 and 23597-600, Richard Russell 1489-1500 and 1513-1516.

⁸⁶⁸ Rosser (1989), pp. 126, 266-7, 316; Harvey (1984), pp. 262, 263.

⁸⁶⁹ WAM 23563/64/Rackham, and Rackham (1909), pp. 41, 42.

⁸⁷⁰ The bosses, bay 5, 6, have Tudor motifs of Henry VII; Rackham, App. III, p. 55.

family.⁸⁷¹ The exterior of the abbey, the high roof, the flying buttresses of the nave, the great west window, and the larger part of the vaulting in the interior were all completed by specialist teams working together with great efficiency.



The Westminster fabric rolls provide a more nuanced picture of wage rate progression than is found elsewhere and is worth rehearsing in some detail (see Fig. 9.19 above). While rates were higher than those outside London, the abbey was undoubtedly aware of its statutory responsibilities for wage restraint in the face of upward pressures in the capital. In the early years of the fabric fund, when a small number of masons worked on the cloisters and the infirmary, rates of pay were graded as was usual at the time. After the Black Death, rates of pay for new recruits moved sharply upwards, although the rates for existing staff remained the same. In 1351-52, 2 masons were employed for the year at the old rate of 2s per week, while 2 were paid the new rate of 3s 2d per week. In 1352-53, John Palterton, the master, was paid his earlier rate of 2s 0d for 47 weeks, as was Thomas Schiryngnam; while a newcomer, Geoffrey Carlton, was paid 3s per week for 21 weeks. When work on the nave began in 1387-88, 6 masons were paid 3s 8d per week, 4 bedders 3s 4d, 2 bedders 3s 0d, and 3 bedders 2s 2d.⁸⁷² However, the higher rates must have been a matter of some sensitivity, because after 4 masons were again paid 3s 8d per week for 12 weeks in 1388-89, their rates were reduced ‘by a new agreement’ to 3s 4d for the remaining 40 weeks – and that remained the top rate for the rest of the period. It was paid to 85.6% of masons employed at the abbey from 1387-88 to 1533-34. Payments at lower rates were made to apprentices after 1474.

⁸⁷¹ See Table 15.

⁸⁷² WAM 23460/Rackham.

There was increasing pressure to increase the wage rates towards the end of the fifteenth century. In 1482-83, Robert Essex offered a higher rate of 3s 6d per week to the 19 newly recruited masons for work on the vaults.⁸⁷³ After a re-enactment of the Statute of Labourers by Henry VII in 1495, the senior masons' pay was reduced to 3s 0d (6d per day), which was stated in the roll of 1495-96 to be *sedm' nova statute* from 12 March 1496, the date of its introduction, and was repeated in the roll of the following year.⁸⁷⁴ The matter is surprising, as the effect of the statute was to raise previous rates, increasing the 'frankmason' summer rate of 5½d per day of the 1444-45 act to 6d per day, while the actual rate paid at the abbey since the beginning of the century had been 3s 4d per week (6.67d per day). The rate had been paid with the consent of the royal commissioners between 1413 and 1421.⁸⁷⁵ Perhaps it was a late effort on the monastery's part to put its house in order, but if that was so it did not last long. By 1499-1500, Thomas Rodeman, Th. Newell, J. Whelpley, and J. Rodeman were earning 3s 4d again and payments continued at this standard rate until the end of the series in 1533-34.

Salisbury crossing vault, 1479-80

A much scaled down model of the effective small team working at Westminster was the construction of the new crossing vault at Salisbury under the patronage of Richard Beauchamp in 1479-80, a little earlier than Robert Stowell's first vaults at Westminster of 1482-83. The accounts roll gives details of a tightly organised work plan using 4 masons, including the master, 4 carpenters, 4 labourers in the church, and 5 in the quarry (see Fig. 9.20 below). They formed different teams for the purposes of breaking down the existing timber vault, erecting the scaffolding, making the centring, cutting and setting the stonework, and removing the scaffolding. The teams were of 2 or more masons or carpenters, and 2 to 4 labourers as needed. The master mason was involved in the work and he

⁸⁷³ WAM 23557/Rackham.

⁸⁷⁴ WAM 23572, 23573/Rackham: Statute of Labourers, Henry VII, cap. 22, 1495.

⁸⁷⁵ Knoop and Jones, p. 124 for statutory wage rates.

Fig. 9.20 Salisbury Cathedral Fabric Rolls: Crossing Vault, Archbuttress, and <i>Speciosa</i> Accounts, 1479-81 [SCA F/1/1/4]						
Q4 1479, 14 Oct-Nov	<u>Breaking existing timber vault</u>					
	Labourers breaking vaults, 3 for 7 weeks	92 days	3d pd	1.24		1.24
Q1 1480, 22 Jan -30 Mar	<u>New Centring</u>					
	Carpenters making new centring, 3 for 10 weeks	121 days	6d pd	2.83		
	Labourers as above, 2 in 3 weeks	24 days	3d pd	0.33		
	Sawyers, 2 in 5 weeks			0.59		
	Nails			0.18		
	Stone, carriage freestone from Hazelbury			0.90		
	Master, John Spyrynge			2.35		7.18
Q2 1480, 8 April -24 June	<u>New centring; Assembly of freestone and lime</u>					
	Carpenters, new centring, 3 and 1 asst for 3 weeks	36 days	6d/4d pd	0.77		
	Materials			0.81		
	<u>New vaults</u>					
	Carriage freestone, Hazelbury	5 cts	6s pct	2.10		
	Purchase freestone, Hazelbury	12 cts	12-14d pct	0.62		
	Quicklime	24.5 qtrs	14 d pg	1.43		
	Sand / carriage	6q/10cts	6d/3d p	0.56		
	Master, John Spyrynge			4.94		11.23
Q3 1480, 2 July - 30 Sept	<u>Masonry and Quarrying</u>					
	Richard Cooke, mason			0.31		
	Quarry labourers, Harnham, 5 for 1 wk			0.43		
	Carriage freestone, Hazelbury			5.10		
	Carriage, Harnham			0.50		
	Quicklime			2.85		
	Chalk. & scalping, Harnham			0.60		
	Master, John Spyrynge			1.18		10.97
Q4 1480, 14 Oct-23 Dec	<u>Pargeting, Breaking scaffold</u>					
	Carpenters making new covers for O, etc	10 d	5d pd	0.26		
	Masons pargeting, 2 for 7 weeks	55d	6d pd	1.28		
	Labourers, pargeting, 2/4 for 6 weeks	40d	3d pd	0.70		
	Labourers, Harnham Quarry, 1/2for 7 weeks	45d	3d pd	0.72		
	Carpenters breaking scaffold	35d	5d/3d pd	0.64		
	Carriage freestone, Hazelbury	3 ctld	6s p ctld	0.90		
	Quicklime	18q/6 sacks	14d pq/8d	0.93		
	Robert Lokeer, making binding for Iron Ring for 14d			0.02		
	Master, John Spyrynge			5.90		11.35
	TOTAL EXPENSES CROSSING VAULT					41.97
Q1/2 1481, 24 Feb- 2 Jun	<u>Speciosa</u>					
	Carpenters, 1/2 for 9 weeks	62d	6d pd	1.55		
	Servant, 1 for 7 weeks	34d	5d pd	0.71		
	Glazier and associate	10d	11d pd	0.92		
	Solder	6 lb		0.80		
	Timber /handling			0.18		4.16
Q3 1481 25 Aug-6 Oct	<u>Work on New Archbuttress</u>					
	John Branche, stone- mason with Henry Stevens	31d	6d pd	0.78		
	John Lovell, carpenter, preparing the scaffold	11d	6d pd	0.28		
	Labourers, 4 in 4 weeks	41d	4d pd	0.70		
	Carriage freestone, Hazelbury	2 ctld	6s pctlld	0.60		
	Quicklime	2,5 q/2 sacks	14d pq/8d	0.41		2.77

worked with John Lovell, the carpenter, ‘on various works on the new vaults’ for two days.⁸⁷⁶ The sense of one team following another is similar to that at Westminster, though Salisbury had no need to move scaffolding between bays as they had the benefit of the ‘great wheel’, still in place after the building of the spire. The masons and carpenters were paid 6d per day (3s per week), as at York. The new structure was more robust than the timber vault it replaced, and it would be odd if it was not intended to assist in stabilising the tower and spire structure, which had been subject to successive interventions, mostly iron strengthening bars, since the beginning.⁸⁷⁷ That concerns over the tower’s stability were never far away is shown by the ‘repairs of arch next to the new volte on the south side of the church’ by Henry Stevyns in December 1480, which must have encouraged the building of a new arch buttress (Fig. 7.11) the following year. The total cost of the crossing vault was £41.97, which was close to Robert Stowell’s contract price of £40 per bay for vaults 9-11 of Westminster Abbey in 1489-90.

Regional wage rates after the Black Death

While the records of standard wage rates at York and Westminster are clear-cut, the evidence for individual wage rates elsewhere is slender. The 3s per week standard at Salisbury was widely used as a reference rate for experienced masons.⁸⁷⁸ It was the senior rate for 5 out of 30 masons at Durham Prior’s Kitchen in 1366-1368 and for 6 out of 9 at the Galilee (1429-35), but higher rates were offered where skills were in short supply:⁸⁷⁹ 2 masons at Hereford Cloisters (1412-13) earned 3s 3d per week,⁸⁸⁰ while 13 out of 17 craftsmen working on the Durham cloisters (1409-419)⁸⁸¹ and 3 at Norwich Cloisters (1411-16)⁸⁸² were offered 3s 4d per week. However, where demand was slacker, 3 masons at Ely (1359-60)⁸⁸³ and 6 at Ripon (1393-1425)⁸⁸⁴ were paid 2s 6d. Exeter’s later roll series of 1374-1514, which records 686 masons, shows that exceptionally skilled craftsmen working on the

⁸⁷⁶ SDC F/1/1/4, f.20, f.20v.

⁸⁷⁷ Cocke and Kidson (1993), pp. 10, 11 for list and Fig. 2, diagram of metal insertions.

⁸⁷⁸ SCA F/1/1/4, ff.17, 29.

⁸⁷⁹ DCD MC7264, Loc. II 19/1- Loc. II 19.9.9i.

⁸⁸⁰ HCA 2369/Capes (1908), pp. 267-70.

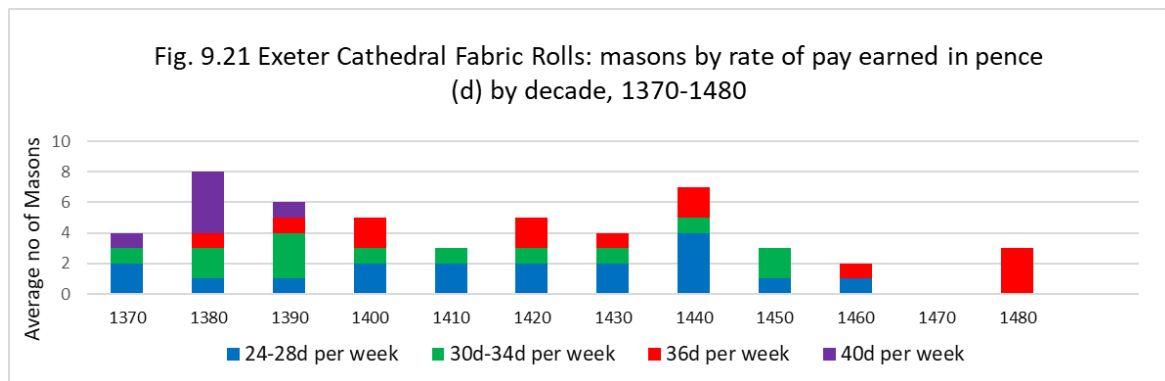
⁸⁸¹ DCD MC5713-MC5721.

⁸⁸² DCN 1/12/32 (1058)-1/12/52 (1077).

⁸⁸³ EDC 1/F/XV/Chapman, v.2., p. 194.

⁸⁸⁴ Ripon Ms 1980-81, 1/V, V-XII, *Memorials III*, pp. 117-53.

new image screen and cloisters (1377-1394) were paid at a higher rate of 3s 4d, but that senior rates were set at the standard rate of 3s per week thereafter (Fig. 9.21 below). However, once the great building campaigns were over, Exeter employed ordinary masons at well below these rates, as the demand for skilled masons slackened.

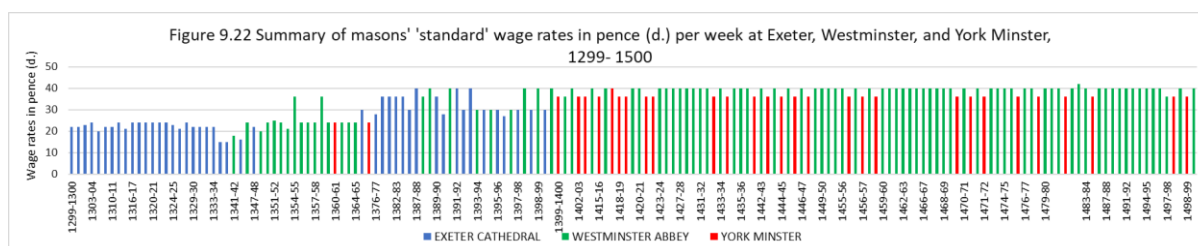


Summary

The evidence of the rolls is not notably helpful on process. There are details of founding lead at Exeter, of timber construction at Ely, of quarry management at York, and of scaffolding and centring at Westminster Abbey, but nothing that would allow a reconstruction of the whole process. This chapter attempts to lift the veil on the process of managing the masons: investigating the transmission of designs, and the organisation and pay of the masons. The first is more easily dealt with through the widespread evidence of tracing houses, the use of templates, the materials of which they were made, and the timing of the process. Issues relating to the day-to-day management of the masons are more difficult to define, and frustration at the difficulties of understanding the size, operations, and longevity of the core teams of masons has been noted by commentators such as Saltzman and Erskine. This chapter has attempted to take the analysis further through the use of colour-coded Excel wage list spreadsheets which identify rates of pay, length of service, and promotion by individual mason for each year of the long series of rolls at Exeter, York, and Westminster Abbey. These are supplemented by bar graphs which show pay rates in use at each site by decade, and the size of the core teams of masons and the number of short-term masons employed by quarter or by year. The core team for this purpose is defined as those who work together for more than half the year, and the short-term masons

as those who work for less. The evidence of individual masons' rates of pay for other sites is surprisingly slight, with no more than 110⁸⁸⁵ out of a total of 1,850 named masons listed.

It was the master's central role to match the masons' working capacity and mix of experience with the funding and schedules agreed with the patron. The ways in which this could be achieved were continuously changing, but the arrival of the Black Death in 1348-49 was an incident of catastrophic proportions which brought about a complete reset of the masons' parameters. The years 1290-1340 had been a strong period for English cathedral building. The masons were led and trained by traditional resident masters with graduated seniority and pay rates. The core team of masons at Exeter adapted continuously depending on the task in hand, and large numbers of temporary masons were appointed when needed. Thomas of Witney, the first well-recorded consultant master with an established reputation as an architect, also brought innovations in management. He employed his core team masons for significantly longer each year and cut the use of short-term masons. The scale of the Black Death caused immediate shortages in men and materials and triggered excessive price rises, which took up to thirty years to settle. The shortage of masters and masons led to the standardisation of wage rates both inside and outside London, which were 50% above those before the plague. These became universal in the major building campaigns for the rest of the period and applied to 95% of masons working at York and 86% of those at Westminster Abbey (see Fig. 9.22 below). The standard rates were used for experienced masons elsewhere, but were not maintained when the major building campaigns had ceased. The early-fifteenth-century recovery, 1390-1420, saw the re-emergence of



large workforces of 30 to 50 masons and labourers operating at full capacity in Canterbury, York, and Westminster Abbey, probably for the last time. From then on consultant masters, smaller projects, and smaller teams of masons were the order of the day. The mid-century slump in the economy was

⁸⁸⁵ 90 of these at Durham.

reflected in cathedral building programmes, but by the end of the century the central towers at York, Durham, and Canterbury showed that the major building works had returned.

Chapter 10

Managing Materials, Logistics, and Costs

This chapter will offer a brief investigation of the management of quarries and the purchasing and transport of building materials. Its prime concern is to discover what role the master mason played in the procurement of resources and the key management decisions which were taken over time. The three long series of accounts in which measurable operational statistics are available are the key to the analysis, as before. The greater part of the chapter will be concerned with stone extraction and logistics, which constitute over one quarter of the expenditure in this survey. Consideration will then be given to three essential building materials, lime, lead, and iron, which are all measurable by weight and constitute a further 10% of building expenses. The comparative use of these statistics will assist the understanding of the overall economic position of cathedral building in the period, which will be discussed in the final chapter.

The cost of stone and quarrying was the largest part of the building budget after employment costs. A great variety of stone was acquired for specialist purposes, including local filler stone for foundations and walls, light stones for vaulting, heavy duty stone for paving, and marble for columns; while the stone chosen for the interior and exterior facework determined the ultimate character of the cathedral. Most English cities were located at strategic points on navigable waterways, which made it possible to deliver high quality stone cost-effectively by water-borne transport to landing points close to the cathedral. While low coastal freight rates made it possible to transport stone for long distances and from as far afield as Caen, local cartage costs to the shipping point and from the landing could push up delivery costs to exceed those of production. Leasing of quarries was a long-term business,

which individual master masons could seldom influence, but the specification and delivery of stone and the *modus operandi* of the quarriers were within their prerogative.

Much of this chapter is based on a detailed analysis of the quarry transactions in the account rolls at Exeter, York, and Westminster Abbey. The entries in the rolls are expressed in the weights and measures of the time, which varied between locations and periods. An early task for the thesis was to establish a common unit of measurement which works for each individual series. The common measures used were cartload and tun-tight at Exeter; *damlade* (equivalent to 10 tons), fother, tun-tight, wagonload, and cask at York; and cartload (alternatively, cart or load), *doleum*, and tun-tight at Westminster. Caution is needed as Salzman suggested that ‘the vague cartloads and boatloads by which the purchase of freight was often recorded are too indeterminate to justify examination’.⁸⁸⁶ However, though cartloads have differing equivalences for different materials and there is no official record of the equivalent weight of a cartload of stone, it appears to have been accepted as the equivalent of a tun-tight, fother, or a *doleum* of stone in the fifteenth century. The equivalence of these measures is likely since the South Yorkshire limestone quarries, the Beer quarries in East Devon, and the Reigate quarries all used these measures for transactions with Westminster Abbey. Water borne transport on the Devon coast and on the Yorkshire Ouse in 8, 16, or 24 ton boat loads, were not always quoted, but, when they were, served to back up the equivalence of the cartload and tun-tight. These measures have been used in this study for comparative purposes.

Exeter 1299-1342

More than thirty types of stone were used in the rebuilding of the cathedral. The most prominent were the Salcombe and Beer, which were extracted from quarries in East Devon, about 20 miles (32 km) from the cathedral. Some 3,480 carts of these stones were recorded as delivered during the period, at a total cost of £370 for the stone and £295 for delivery, amounting to 92% of the expenses of stone and quarrying.⁸⁸⁷ The exterior facework of the cathedral consisted of hard-wearing calcareous Salcombe

⁸⁸⁶ *OED Compact Edition* (1979), Zupko (1968), pp. 32, 49, 101, 175; Gee (1998), p. 248; Chapman (1999), pp. 51, 57; Latham (1965), p. 154; see Salzman (1952), p. 122.

⁸⁸⁷ Note that 15,303 carts of Barley stone were used for the eastern arm of the cathedral at a cost of £28.28. Most was used constructing a platform on which to extend the building seven bays beyond the footprint of the

sandstone from three quarries at Salcombe Regis and Dunscombe Manor, situated in high-cliff positions half-a-mile from the coast (see Fig. 10.1 below). The stone was used successfully in the

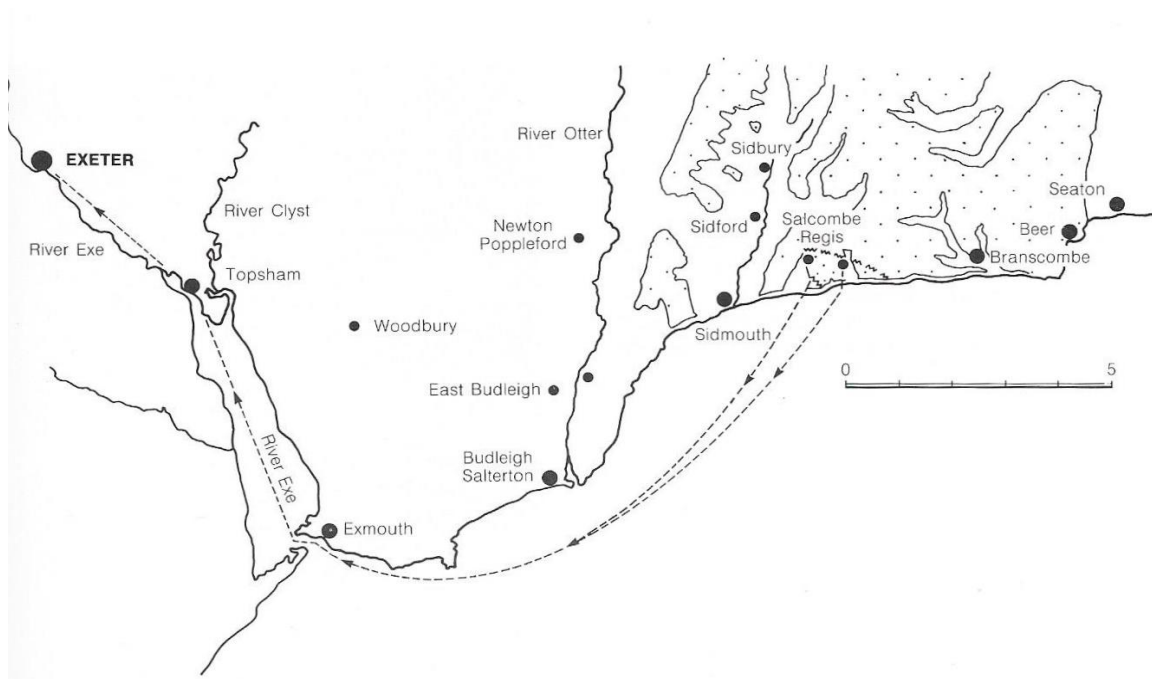


Fig. 10.1 Exeter Cathedral quarries at Salcombe Regis and Beer and the sea route to Exeter (from Laming (1991), courtesy D&CE)

Norman cathedral, and at several churches in the vicinity. The Dunscombe quarry was reopened by the cathedral in the 1980s and is still in use today⁸⁸⁸ (Fig. 10.2 above). The better-known Beer stone, which is associated with the Decorated work at Exeter, was mostly mined in an underground shaft, shared with other users, a mile from the beach at Beer. It was not used in significant quantities in the rebuilding until Thomas of Witney's arrival at Exeter in 1316, after which it became the stone of choice for stone furnishings, the architectural features of the nave, and the western image screen. The data for the two stones is combined in this analysis because the accounts do not always specify their origin – but it is likely that about 1,900 tons came from Salcombe and 1,600 tons from Beer. The Salcombe quarries are located on steep slopes,

three-bay Norman presbytery, on ground which had originally fallen sharply at the edge of the Roman settlement. Pre-used stone from the Norman cathedral was used for the foundations and filling of the nave. See Allan (1981), p. 11.

⁸⁸⁸ Allan (1991), pp. 10-17, Laming (1991), pp. 64-73. I would like to thank Chris Sampson, Clerk of Works, for showing me round the quarry.



Fig. 10.2 Quarry, Dunscombe Manor, E. Devon, medieval face with pick marks to left, green and honey hues of Salcombe stone.

rising to 150 feet above sea level, from which loads were sledded or carted half a mile to the shoreline. The stone was transported from the beach in 8-ton sea barges for 20 miles (32 km) to the depot at *La Sege*, near Topsham, and transferred to carts for the final 4 miles (6.4 km) to the yard at Kalendarhay. The costs of stone from the quarry depended largely on whether the quarry workers were employed by the cathedral, directly or indirectly, and whether the stone was purchased from the quarriers; while the delivery costs related to mode of transport and the route selected. Master Roger evidently preferred simple solutions, and delegated managing the quarries to Golofre, 'the quarryman', who acted as a gangmaster, employing and paying the quarry workers from a weekly pay packet provided by the *custos*. While this was an economical proposition, there was no control over productivity and expenditure varied from year to year. Golofre left when Roger's term ended in 1310, and from then on quarry workers were directly employed by the cathedral. Witney's focus on the altar furnishings in 1316-17 involved him closely in the quality of output. His first move was to organise the provision of high-quality white Beer limestone from quarries 4 miles (6.4 km) to the east of Dunscombe, which had been used in local churches since the twelfth century and was used in quantity at Westminster Abbey in the fifteenth. Around 1-8 labourers were employed at Beer, where a *dayn* of land was leased for 12d, including clearing, and a roadway from the quarry to the sea was re-made for

3s 0d.⁸⁸⁹ The price advantages of Beer stone were clear as it could be delivered to the cathedral yard for 3s per cartload, whereas the Caen stone cost 4s 5½d per cartload delivered.⁸⁹⁰ Witney was concerned at the slowness of sea-barge deliveries, and in the summer of 1317 he organised a new depot at Blackdown, halfway between Dunscombe and Exeter, so that the carts could be used to deliver stone directly to Exeter, 19 miles over land. Horses were swapped and rested at the depot. In a further experiment in 1319, the horses drew carts to Exeter directly, despite the repeated concerns of the *custos* that extra bushels of oats were required for the horses to complete the lengthy journey.⁸⁹¹ Witney must have valued these ‘just in time’ deliveries, as they continued for three years at extra costs of up to 2s 6d per load. The ‘great carts’ direct from Beer were charged at as much as 9s 3d per cartload, and on occasion stones were specially delivered, such as three great stones carried to Exeter after Christmas 1319 for 15s.⁸⁹² The last recorded use of Blackdown was in the busy summer of 1325-26.⁸⁹³ There were significant changes in the coastal transport from 1318-19, when larger barges were used for the first time. A 24-ton boat (*navis*) was used in 1321-22; two 16-tonners and one 15-tonner in 1322-23; and one 24-ton and two 20-ton coasters (*farcostes*), together with one 12-ton and eighteen 8-ton barges (*bargea*), delivered stone to *La Sege* in 1324-25. No doubt the new boats offered speedier delivery and more flexibility, for example by collecting freight both at Beer and Salcombe, but carriage costs doubled from 9d per ton to 1s 6d per ton on the large boats by 1323-24, and the owners took the opportunity to raise charges for the smaller barges by 1s 1½d to 1s 5d per ton (50% to 90%). The stockpiling of stone for the nave after Stapelton’s gift was complete by 1329-30, and at that point Witney decided to outsource future quarry work. The process included setting up one of the masons, Simon Snel (and probably others whose names we do not know), as an independent quarrier. He first joined Witney’s altar team in the intake of 1317 for 1s 1d per week, working rather intermittently, but he must have shown promise as his pay increased to 1s 4d per week in 1318, and again to 1s 10d in 1319. From 1324 he worked at the standard rate of 2s, until November 1328. His

⁸⁸⁹ D&CE 2612A/Erskine, v.1, pp. 88, 89; 2615, p. 112; no information has been found as to the area of a *dayn*, only found in this roll.

⁸⁹⁰ D&CE 2610/Erskine, v.1, p. 54.

⁸⁹¹ D&CE 2614/Erskine, v.1, p. 105 *et seq.* 6 quarters of oats more per term ‘on account of the length of the journey’, 7s 6d.

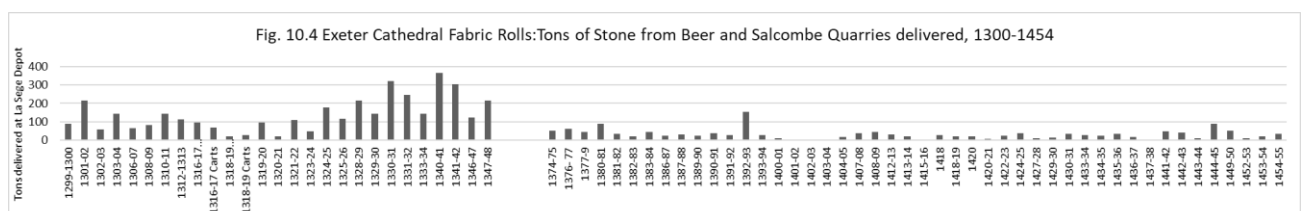
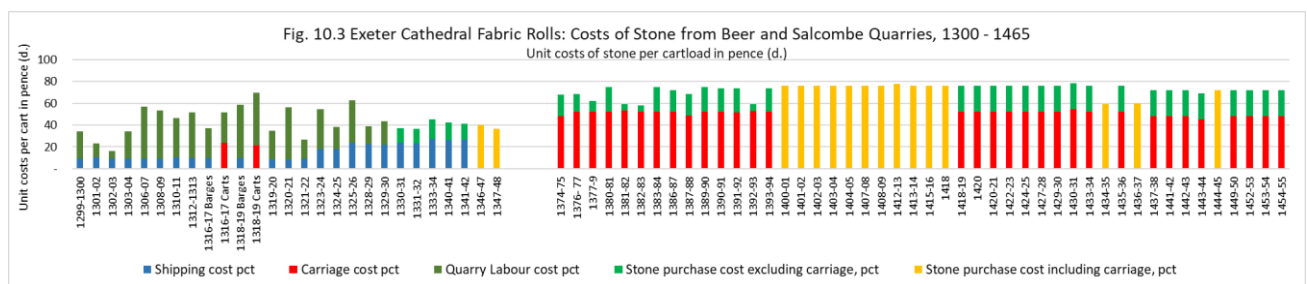
⁸⁹² *Ibid.*, p. 111.

⁸⁹³ D&CE 2612-2624/Erskine, v.1, Table 38; Paterson (2009), p. 34.

was a relatively quick start-up, supplying 45 tun-tights for £3, at 1s 4d per tun-tight, in the first week of May 1229. The next year, Snel won seven tenders amounting to 100 tun-tights at the same unit price of 1s 4d, but then raised his price for 15 tons of Salcombe to 1s 5.5d per tun-tight, before reducing it to 1s 4d in the next tender. His competitor, William Galmeton, who previously won three orders at 1s 4d per tun-tight, priced his next tender for 16 tun-tights lower at 1s per tun-tight. Snel supplied two further orders of 69.5 tun-tights (out of the 186.5 supplied) at his usual tender prices in 1331-32, but he did not appear again. His three competitors, Galmeton, Knoll, and Stone, traded on at their lower prices until 1342, and Galmeton and Stone for further five years. Witney's move to outsource the quarrying was successful, as the tender price savings were significant, and the cathedral did not employ quarry labour again when the new works restarted in 1374.

Exeter costs of stone, 1300-1450

The two bar charts (Figs.10.3 and 10.4 below) illustrate the unit costs of Beer and Salcombe stone and the number of tons delivered each year from 1300 to 1450. The first chart shows all the costs of stone acquisition at the quarries divided by the number of tons delivered to the depot each year, while the second shows number of tons delivered each year so that the materiality of the unit costs can be understood. As previously noted, the analysis does not distinguish between Beer and Salcombe costs.



From 1299 to 1330, total costs of stone varied according to labour and rental costs in the quarry, and unit costs per ton depended on how much of the quarried stone was delivered. That changed in 1330-31, when the cathedral purchased stone from the independent quarriers. This stabilised prices at 1s 4d per cartload, and then reduced to 1s per cartload from 1340-41 as a result of competition. Delivery charges were in three parts:

- a) Carriage from the quarry to the beach was provided without charge in the early years, but large stones attracted a variable rate after 1310. After quarry work was outsourced in 1329-30, carriage to the beach was charged at 4d per tun-tight.
- b) Shipping from the beach to the *La Sege* depot was charged at 6s per barge (9d per ton) from 1299. After 1318-19, larger boats charged 1s 6d per ton and ordinary barges between 1s 1d and 1s 5½d per ton.⁸⁹⁴
- c) Carriage from the *La Sege* depot to the masons' yard was charged at rates between 6d and 10d per cartload from 1299 to 1346, but a large proportion was collected without charge. In addition, small amounts (c.250 tons in all) were fast-tracked direct to the yard at one-day service charges of 4s per ton, made up of 2s 6d from the quarries to Blackdown and 1s 6d to the yard.

There were reductions in charges before the Black Death in 1346-47 and 1347-48, when the cost of stone freight-inclusive to the yard was 3s to 3s 4d per ton.

When the new works resumed in 1374, the total charges increased to 5s 10d per cartload and settled at 6s 4d by the 1390s, remaining at that level until the late 1400s. The tariff was 2s per ton for stone from 1400 to 1464-65 and of 4s 4d for delivery from 1374-75 to 1464-65. The principal reason for the extraordinary increase was that the much-reduced purchases of stone no longer justified the use of sea barges on a regular basis.

York Minster, 1360-1530

The south Yorkshire quarries had a longer history and worked on an industrial scale. In the fourteenth century there were eight or more quarries on the magnesian limestone belt running from Tadcaster in the north to Doncaster in the south, making use of the Ouse and its tributaries to supply the minster and other northern destinations, and customers in south and central England through the Humber

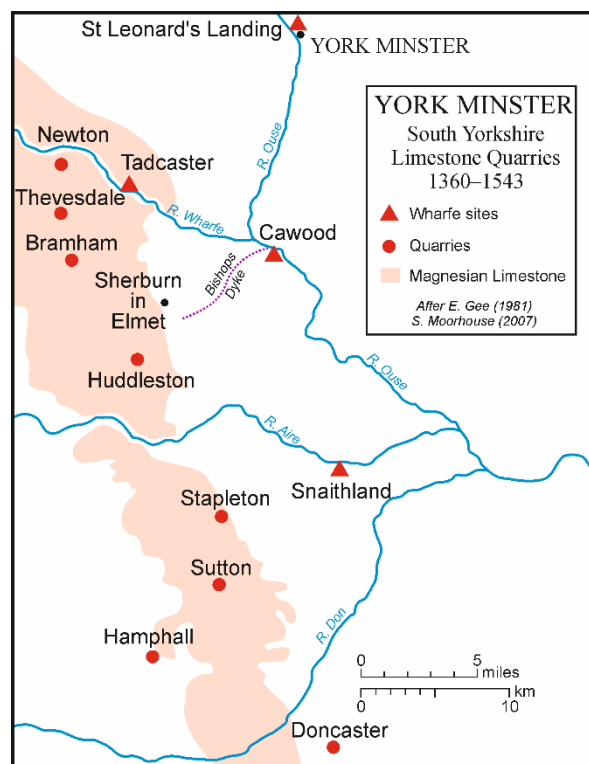


Fig. 10.5 South Yorkshire limestone quarries

estuary (Fig. 10.5). Recycled Roman limestone had been used to build Bayeux's Norman cathedral (1075-1100), and it was quarried for Roger Pont l'Eveque's new work after the fire of 1137. The Yorkshire quarries posed similar questions of how to manage at a distance, whether to employ the quarriers or to outsource the quarry work, when to use water-borne or land transport, and how and where to arrange storage. While granting the use of the quarries, the owners still had an active commercial interest in them.⁸⁹⁵ The influence of the master masons was correspondingly less: they

⁸⁹⁵ Gee (1981), pp. 248-52.

had supervision of the quarry workers and transport, but the leasehold agreements were long-term and difficult to manage.⁸⁹⁶

Thevesdale

Thevesdale was exclusively used by the minster from 1225, when Robert Vavasour granted use of the quarry and safe passage over his land, until the Langton family granted a new lease in 1385.⁸⁹⁷ It was the best sited of the south Yorkshire quarries, at the northern end of the limestone belt, close to Tadcaster and the river. The ten account rolls from 1371 to 1423 record deliveries of 2,737 tons to the minster at a total of £294.89, or 2s 2d per ton.⁸⁹⁸ However, in the five years when stone was produced in both quarries, the Huddleston quarry was clearly more productive, yielding 2,617 tons for £212.76, at the lower cost of 1s 7½d per ton.

Huddleston

The Huddleston operations were more complex than those at Thevesdale. The Langton family of Farnley, near Leeds, first granted an 80-year lease to the chapter in 1385.⁸⁹⁹ Sir John Langton was recorded in the fabric rolls as a penitentiary, paying 16s 8d in 1415-16, £12 13s 4d in 1421-22, £12 10s 6d in 1422-23, and £3 or more in the rolls of the 1430s. The periodic renewal and sale of new leases followed, costing £10 3s 4d in 1415, £10 in 1432-33, and in 1441-42 £10 each for grants of 5 roods (1¼ acres). After the grant of c.1450, John Payntour of York was paid 13s 4d ‘for depicting the royal arms and those of John Langton, knight, above the south door of the cathedral ... and the event was marked by a gift of 1 pipe (126 gallons) of red wine to Sir John Langton ... and *les grenegynger* to the wife of the same’.⁹⁰⁰ In the 12 years when the quarriers were employed directly, 2 experienced men worked for 51 or 52 weeks at the quarry for 1s 8d per week, plus a robe worth 6s 8d. Bonuses of 3s 4d were paid in some years, and in the last five rolls an additional worker was paid 1s 6d per week. There are no details of the renewal or operations in 1450, and by 1458 the quarriers were sub-

⁸⁹⁶ Masters’ quarry visits were recorded in 1404 (Hugh Hedon) and 1446-47 (John Barton).

⁸⁹⁷ Gee (1981), p. 248.

⁸⁹⁸ YMA E3/2-11/YAT. Table 44.

⁸⁹⁹ Raine (1859), p. 4n.

⁹⁰⁰ YMA E3/7/YAT, pp. 10, 15, 20.

contracted as a team ‘acquiring, breaking and scappling the aforesaid 248 wagonloads of stones, taking between them for each wagonload 5d’.⁹⁰¹ After Sir John died in 1469, his younger son, Thomas, succeeded. In a further change in 1469-70, the rent of £1 13s 4d was made payable annually, instead of at the periodic lease reviews. In a more radical change in 1472, Langton took a proprietor’s share of 5d per wagonload, matching the payments agreed with the quarriers and raising his margin on his local sales to that from his more profitable clients in the south of England. The new scheme continued until at least 1517-18.⁹⁰² Finally, in 1525-26, Thomas Langton appropriated the whole of the extraction proceeds of 1s per cart gross and paid the quarriers directly, the same arrangement as he had with Eton College, though it was subsequently reduced to 10d in 1527-28 – no doubt after some protest.⁹⁰³ Thereafter he made no further appearance in the rolls.

The Huddleston site was 1½ miles west of, and 100 feet higher than Sherburn-in-Embley, the closest village and site of an archiepiscopal manor, itself 5 miles south-west of the wharf at Cawood (see Figs. 10.6-10.9 below). The 6½ mile transit between the quarry and the river involved carting and sledding the stone down the slope to Sherburn, which could be treacherous in winter weather, and using the low-lying common causeway to Carwood wharf. This sector was expensive, with a tariff of 10d per load. Between the wharf and the river was the residence, its surviving gateway and hall range built from 1426 to 1452, close to the road then fronting the river. The *stagnum* or basin to the rear of the residence is the site of the medieval wharf and warehouses, which were thus some way from the river bank.⁹⁰⁴ The wharfman’s charge for use of the wharf and sledding stone to the riverbank was 12d per day. The route was evidently troublesome. In 1415-16, 26 days’ additional sledding was required from the quarry at 12d per day.⁹⁰⁵ In 1421-22, 20 fotheres of stone were despatched to York by cart ‘because of the lack of water’ in the Ouse.⁹⁰⁶ In 1432-33, ‘the causeway between Schirburn and Cawood’ needed ‘mending various breaks for having better carriage through there with the aforesaid stones on occasions’. Some 64 wagonloads were diverted via Kentilbarnbrigg, near Tadcaster, and

⁹⁰¹ YMA E3/23/YAT.

⁹⁰² YMA E3/26-37/YAT

⁹⁰³ YMA E3/38, 39/YAT.

⁹⁰⁴ Moorhouse (2007), pp. 12-14; Gee (1981), pp. 251-3.

⁹⁰⁵ YMA E 3/7/YAT.

⁹⁰⁶ YMAE3/10/YAT.



Fig. 10.6 Huddleston, S. Yorks, present-day quarry, slope north-east to Sherburn and Cawood



Fig. 10.7 Sherburn, S. Yorks, Bishop's Dyke, late-fifteenth-century channel, Cawood to Sherburn



Fig. 10.8 Cawood, S. Yorks, gateway, archiepiscopal residence, 1426-1452



Fig. 10.9 Cawood, S. Yorks, River Ouse to York and to River Wharf to Tadcaster

only 220 loads were sent direct from the quarry. The remaining 450 tons received that year were from stockpiles at the Cawood warehouse.⁹⁰⁷ Then, in 1445, there was a communal effort to ensure reliable transfers of stone from the quarry to the river, by whatever route, and ‘the accountant paid to various men of the villis of Barkeston, Shireburn, Milford. Cawod, and Wystowe, carrying stones to the bank or shore of the water’, earning the same rate of 10d per load as the carters were paid previously, and

⁹⁰⁷ YMA E3/12, 13/YAT.

this was repeated in the following year.⁹⁰⁸ The immediate crisis having passed, the quarry reverted to using carters. Further mending took place in 1457, when 250 loads of stone were left in the quarry.⁹⁰⁹ The Bishop's Dyke, a water channel 16 feet wide and 3 feet deep, was excavated later to carry quarried stone, though there is no record of its use in the rolls.⁹¹⁰ The sizable investment in staithe and dyke facilities is evidence of the Langtons' ambition to expand their business. The costs of production would have increased with the introduction of recognised standard sizes for rough dressed and finished stone, which Knoop and Jones thought had become widespread after the Black Death.⁹¹¹ Thevesdale had introduced them by 1361. The cutting of stone to regular sizes brought with it three types of waste: irregularly shaped stones (*lapidum*), cut edgings and scalplings (*ramell*), and powdered stone or dust (*pulverum*), all of which needed regular removal.⁹¹² Significant quantities of *ramell* were moved: 840 loads in 1433-34 costing £32 15s 5d, in a year when 440 loads of stone were produced; 400 loads in 1441-42, when 540 loads of stone were produced; and 200 loads in 1458, when 248 loads of stone produced. Considerable quantities of *pulverum* were also carried away in 5 out of 20 years, and significant costs were incurred in collection from the quarry as well as in their removal.

York costs of stone, 1371-1528

The 31 account rolls from 1415 to 1527-28 record that 8,512 tons of limestone were supplied from Huddleston at a delivered cost of £1056.40, an overall cost per ton of 2s 5¾d, which was highly competitive, despite the rents, clearance costs, and other expenses amounting to 9.6% of costs. These are shown in the bar charts (Figs. 10.10 and 10.11 below), which show the unit costs paid per cartload delivered and the number of cartloads supplied in each accounting year, as in the previous bar charts for Exeter. York Minster made 85% of its recorded stone purchases from Thevesdale and Huddleston.

⁹⁰⁸ YMA E3/17/YAT

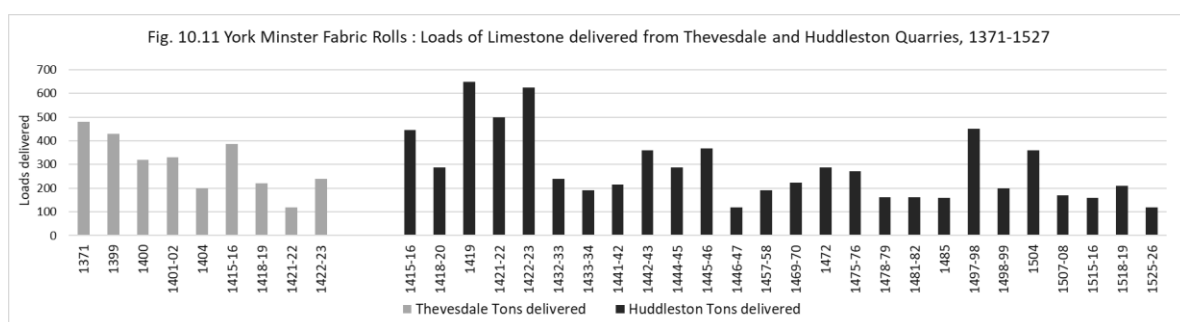
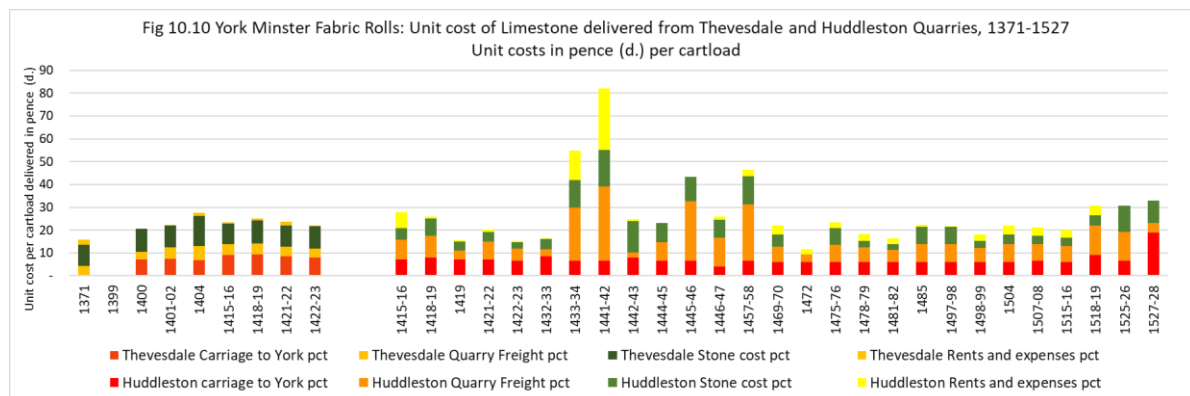
⁹⁰⁹ YMA E3/22/YAT.

⁹¹⁰ Gee (1981), p. 253. Gee appears incorrect in his assertion that 'stone was again brought by barge on the Bishop's Dyke to the wharf at Cawood at this time'. YMA E3/31 (1497-98) records that 'Richard Barton and his fellows carrying the aforesaid wagonloads of stones from the quarry to Cawood at 10d a wagonload ... 100s,' as was the case in the three earlier rolls.

⁹¹¹ Knoop and Jones (1933), p. 78.

⁹¹² Moorhead (2007), p. 6.

The costs of Thevesdale stone were based on the standard rate of pay at 1s 8d per week for experienced workers and on tariff rates for the three stages of distribution: cartage from the quarry to the river (4d per ton), river barges from Tadcaster to the landing (6d per ton), and sledding to the masons' yard (2d per ton), totalling 1s per ton. There was a discrepancy between the amount of stone



produced and the amount delivered to the masons' yard in 1400, but it was not sufficient to distort the results.

The costs of Huddleston were more variable, largely due to changes in the extraction models described above. The distribution charges were in three stages: cartage from the quarry to Carwood (10d per ton), barges from Carwood to the landing (4-4½d per ton), and sledding from the landing to the masons' yard (2d per ton), totalling 1s 4d-4½d per ton, with an additional charge for sledding from Cawood staithe to the river bank of 12d per day. The stockpiling of stone, mostly at Carwood staithe but also at the quarry and at St Leonard's landing, was a significant distorting factor to unit costs, based on the total annual costs incurred allocated to tons delivered to the yard in the year. The unit costs are significantly distorted in four years: in 1433-34, 216 loads delivered out of 440 loads

produced; in 1441-42, 192 out of 519; in 1445-46, 288 out of 658; and in 1457-58, 120 out of 248.

The balances were stored in transit, usually at Cawood staithe. Interestingly, no years are shown where deliveries exceeded production! The tariffs remained extraordinarily stable until well into the sixteenth century, and both labour charges within the quarry and delivery charges to York were low and reliable, but the cartage route from the quarry site to the river was vulnerable to the state of the weather and to traffic on the common highway. The proprietor's efforts to raise margins on local sales were ultimately successful, and by the end of the period Thomas Langton was able to earn the same gross margin of 10-12d per ton on local sales as he did on sales to the royal works at Eton and Cambridge. Despite all these complications, Huddleston remained a remarkably low-cost producer of high-quality limestone for the minster for the fifteenth century and beyond.

Westminster Abbey, 1349-1532

Westminster Abbey's quarry operations at Reigate, unlike those of Exeter and York, were among a well-established group of commercial quarries connected by fast and reliable routes to a Thames-side distribution centre. Reigate is a fine-grained sandstone of a greenish colour bedded in a strip of Upper Greensand at the base of the south-facing upper scarp of the Surrey North Downs.⁹¹³ The stone, which was used in the Abbey in the 1050s, was quarried and mined in a narrow east-west belt some 8 miles long from the early 1200s. It was used at Westminster Abbey and Palace, Windsor Castle, and numerous sites east and west of London accessible from the Thames. The quarried stone was carted for 16 miles (25.6 km) north through the nearby Merstham gap to storage sites at Battersea for onward distribution. The abbey leased Briggekourt garden for 3s 4d per annum, and bought 10,000 tiles for a *domus petrarum*, which was built on the site for £4 18s 0d in 1393-94.⁹¹⁴ Wandsworth, west of Battersea, was used for additional storage during the building campaign of 1413-1421 and was used as the main depot long after volumes had declined, in the 1460s. The facility moved to Vauxhall in 1473-74, closer to the abbey and where a new wharf was built.⁹¹⁵ Between 1387 and 1500, the Reigate

⁹¹³ The details of the quarries in this section rely on Tim Tatton-Brown (2001), pp. 189-201.

⁹¹⁴ WAM 23463/Rackham.

⁹¹⁵ WAM 23526, 23541/Rackham.

quarries produced 9,119 loads for £2,208.67 for the abbey at an average of 4s 0d per load, and 58% of its total stone purchases.

For the first four years of the new works (1387-88 to 1390-91), the abbey rented space in the Chalfton quarry, which adjoined Reigate, for £3 6s 8d p.a. This was set up with the advice of Henry Yevele, who visited the quarries ‘for supervising the works, going and coming divers times’ in 1387-88 and 1388-89, and hired 3 to 5 quarry workers for 52 weeks per year, mainly at 2s per week.⁹¹⁶ In the first three rolls they produced 1,098 loads of stone for £78 18s 0d, at just under 2s per cartload. At this point it was decided to stop renting and to buy stone from the quarries instead. This may not have been an economic decision as the quarry prices were not necessarily cheaper, though costs were certainly more reliable. One consequence of the decision was that as the abbey loosened its ties with the Reigate quarries, it could buy stone more widely. This was important in the fifteenth century, when it was realised how quickly the external facework was eroding. The poor durability of Reigate was acknowledged in the specifications for Eton College Chapel in 1447-48, which stated that ‘neyther in the seid growndes ne walles shall in anywise be occupied by Chalke, Bryke, ne Reygate... stone’.⁹¹⁷ This would have become obvious at the abbey at an early stage in the restoration of the south transept, built in the 1260s and repaired in 1362.⁹¹⁸ It was found necessary to re-case parts of the lower Reigate facework with Northern stone, and, as Tim Tatton-Brown has remarked, Reigate was only used ‘for internal work and carving’ from the 1450s.⁹¹⁹ The main sources of replacement stones were Stapilton and Huddleston, purchased as early as 1393-4, when 64.5 tun-tights were ordered. During Henry V’s Commissioners’ rolls (1413-1421), 562 *doliat*’ were delivered at an average price of 6s 8d freight-inclusive per *dol.*, as well as 421½ *doliat*’ of Beer stone at the same price, and 399 *doliat*’ (in 17 boatloads of differing volumes) of Kentish ragstone at 1s per *doliat*’ (Fig. 10.12, below).

⁹¹⁶ WAM 23460, 23461/Rackham.

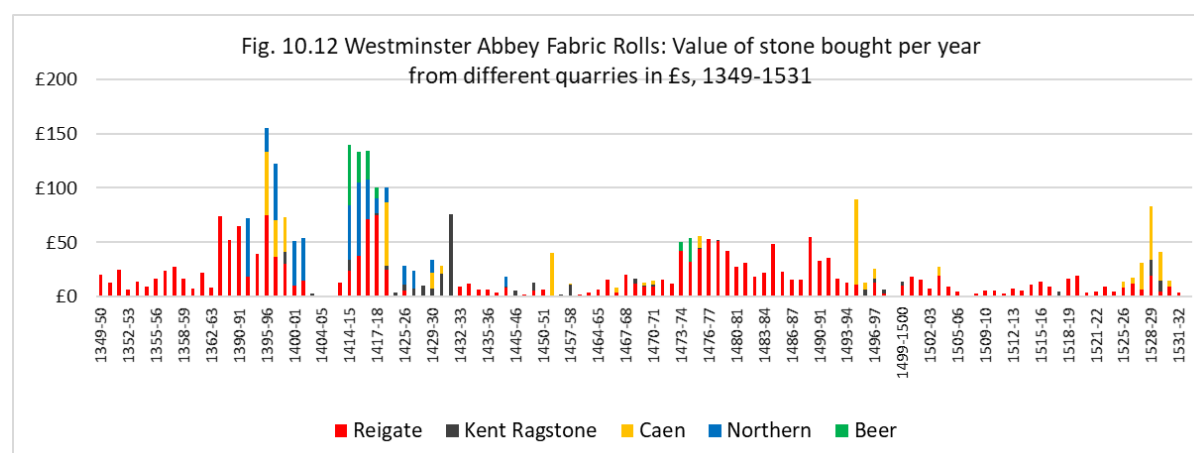
⁹¹⁷ See Tatton-Brown (2001), p. 198, transcription taken from Salzman (1952), App. B 77(B) p. 527, citing Willis and Clark (1886) v.i, p. 366.

⁹¹⁸ WAM 23522, 23525, 23526, 23528, 23529/30. 23531/Rackham. and Rackham (1909), pp. 27, 28.

⁹¹⁹ See Tatton-Brown (2001), p. 198.

The total recorded stone purchases from 26 merchants amounted to 3,699½ cartloads, including 1,775 cartloads from Reigate and 444 from Caen at a total cost of £803 2s 8d.⁹²⁰

Caen stone was the mainstay of more sophisticated work throughout the abbey. It was bought in numerous small purchases when required, and purchases of £10 or more were made in eight years between 1395 and 1528, when purchases averaging £37 12s were made at between 5s and 8s 4d per



cartload. Supplies were not hindered by hostilities with France, but in 1457 the master mason, John Smith, had to ride to the Lord Chancellor *pro I saufconditead providend' pro lapidibus a partibus transmarinis* for Caen stone, and in 1472-73 a *salvus conductus pro le Canestone* cost more than 30s.⁹²¹

The costs of Reigate stone at Westminster, 1349-1532

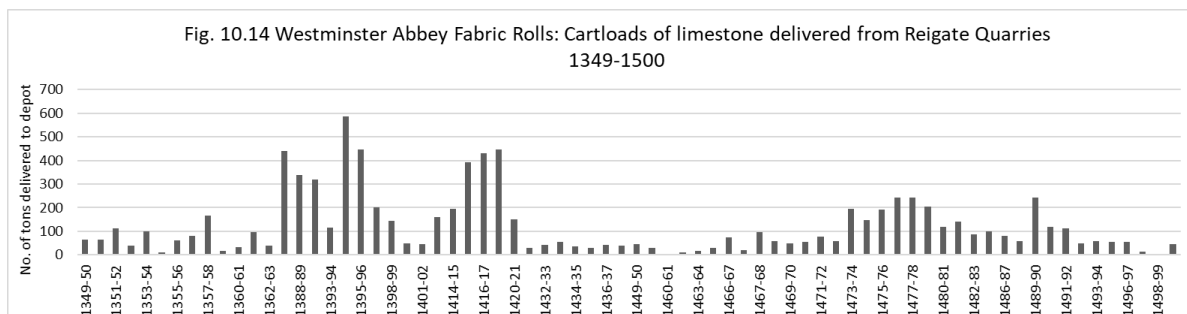
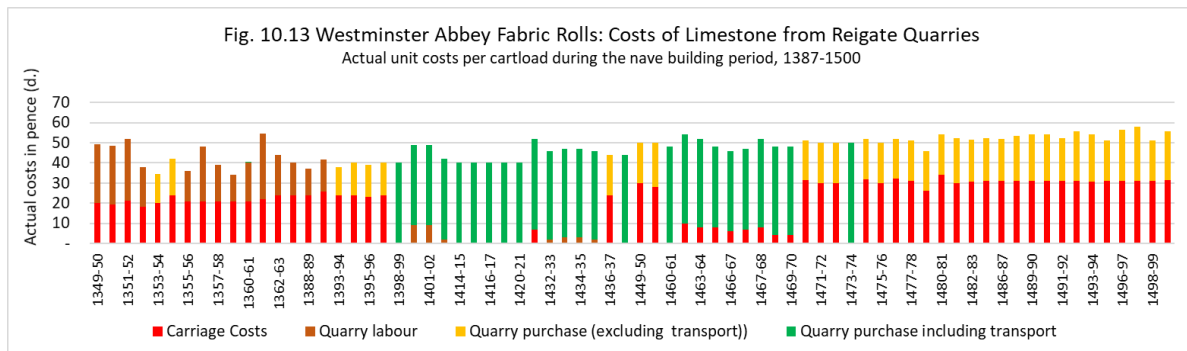
The costs and volumes of Reigate stone produced between 1349 and 1500 are presented in Figs. 10.13 and 10.14 below, in the same format as those for Exeter and York. Westminster ceased to manage its quarries in 1390-91 and purchased its supplies in the commercial market from then on. The first account information from 1349-50 records costs which had already risen after the Black Death. In the three account rolls of the nave campaign in which quarry labourers were employed, unit costs were variable and the change to purchasing from the quarries brought stability.

There were three elements to the costs:

⁹²⁰ WAM 28492, 23493, 28494 for 1413-16, 17-18, and 20-21/Rackham. These figures differ from Rackham (1907), p. 15.

⁹²¹ Rackham (1909), p. 18.

- a) The tariff rate for stone purchases was initially 1s 4d per cart exclusive of freight. This was replaced by a freight inclusive rate from 1398-99 of 3s 4d per cart, which represented no increase, until raised to 3s 8d (10%) in 1412-13, after which it remained at that rate until inclusive rates were phased out after 1469-70. The exclusive rate of 1s 8d per week which replaced it represented no increase until as late as 1511-12, when it increased to 1s 10d



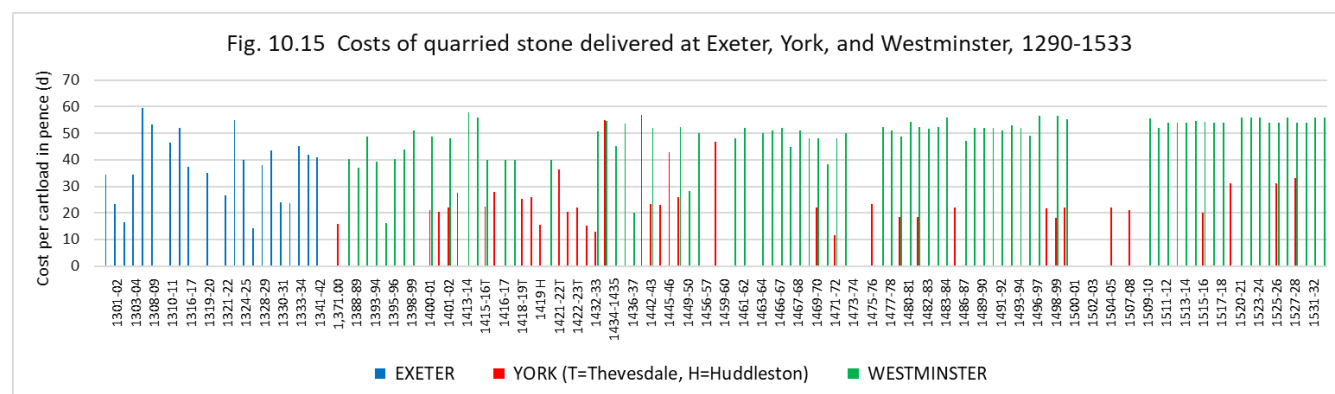
(10%), and the 4s inclusive rate which replaced it in 1519-20 included a matching increase on the freight.

- b) Carriage from Reigate quarries to Battersea from 1387, at Wandsworth from 1461-62, and to Vauxhall from 1474-75 cost 1s 6d per cartload from 1349-50, 2s per cartload from 1387-88, and 2s 2d from 1472-73 to 1529-30.
- c) Charges for the boat across the river to Mill Bank (1½d per cartload in 1349-50) and by cart to the masons' yard were not recorded consistently. The combined charges from 1387-88 to 1399 were less than 1d per cart, but large shipments of Reigate from Wandsworth in 1413-16 to Mill Bank cost 4d per cartload, and carts were then hired at 12d per day from the bank of

the Thames to the masons' lodge. The charges settled at 5½d from 1445-46 (4d across the river to Mill Bank and 1½d to the masons' lodge), 5d from 1480-81 (3d across the Thames from Vauxhall and 2d to the lodge), and 6d from 1512-13 to 1529-30 (4d across the river from Vauxhall to Millbank and 2d to the lodge). These charges were usually included when stone was purchased freight inclusive.

The Abbey's decision to discontinue quarry management in 1391 was the right one in view of the stop-go progress of the programme in the years ahead, and the evident problems with the use of Reigate. The decision allowed William Colchester to choose a variety of stone for the busiest years of the campaign. Reigate was used for the interior spaces at reasonable prices, and Northern and Beer stone in large quantities for the external facework from 1413, at prices which were double those of Reigate, because of additional freight costs. The basic tariff prices for Reigate increased from 3s 4d to 4s per ton from 1349-50 to 1519-20, i.e. 20% in 170 years. This was more than the nil inflationary figures at Exeter and York and showed a slow uplift somewhat greater than that of the masons' wage rates, indicating inflationary pressures in the London market which were absent in regional centres.

Summary: stone and quarrying .



The procurement of quarried stone posed a series of choices for those responsible for managing it.

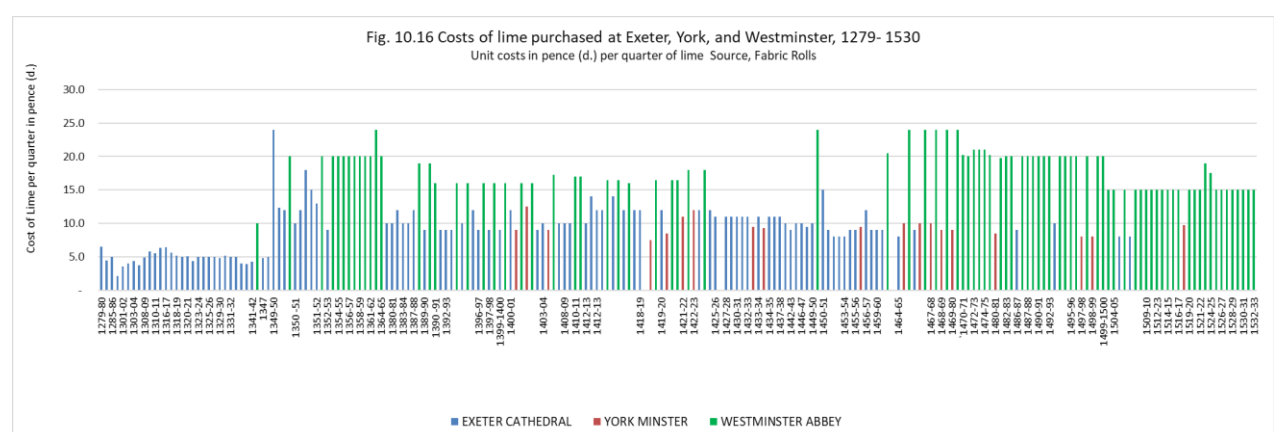
The main issues were the choice of site, whether to employ the quarriers or to purchase from them as independent contractors, and the route and mode of transport for delivery. Apart from the problems of managing at a distance, employing quarry labour led to unstable costs, as can be seen in the bar graphs (Fig. 10.15). In this survey, York was able to take advantage of well-established quarries and

delivery routes, and achieved regular supplies at the lowest possible cost, despite highly problematic delivery routes and avaricious owners. Exeter produced two varieties of stone which were highly regarded. It established good prices for extraction through the move to independent quarriers, but if volumes were insufficient for sea barges, as was the case when the main campaign was over, the costs of cartage to Exeter were unusually expensive. Westminster used commercial quarries at Reigate with well-established distribution to Thames-side London. However, the stone proved liable to corrosion of external surfaces, and the abbey diversified its sources at some cost. What was common was that after substantial rises in costs, prices plateaued by the 1400s and were traded at the same level till the 1500s.

Other building materials

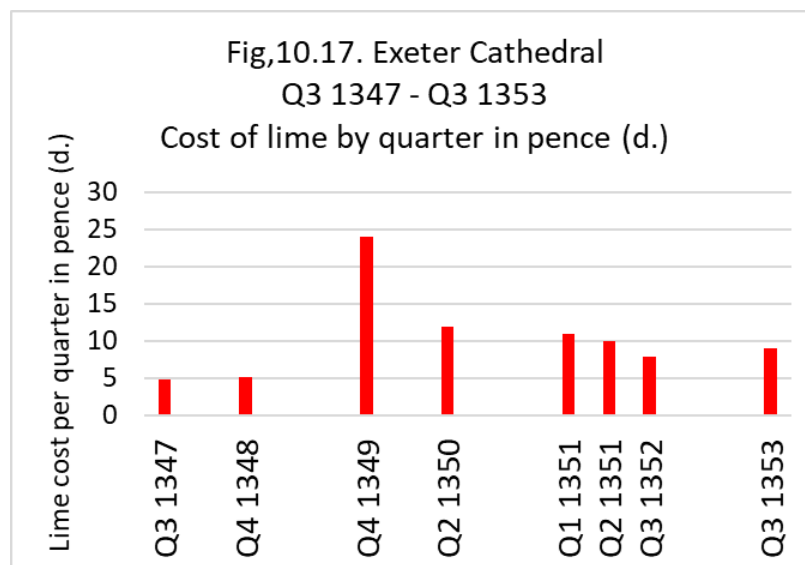
Lime

Lime and sand were the most frequently purchased materials, providing the essential binding for stonework. It was normally quarried and supplied ready-burned in the local market. Several weights were used: quarters at Exeter; hundredweight, sacks, and cartloads at Westminster; and miel, cartloads, and pounds (lbs) at York. Quarters have been used in this analysis (Fig. 10.16).



During the Exeter building campaign, costs started at 6.5d per quarter in 1279, dropped to a low point of 2.1d in 1299, returned to almost 5d per quarter in 1308-09, and stabilised there from 1318-19 for 20 years, before dropping to around 4d pq in the depressed conditions of 1340-1342. The price of lime was highly sensitive to changes in supply and demand during the plague, as shown in the quarterly figures recorded from 1348 to 1533 (Fig. 10.17 below) when the start price of 5d pq in Q4 1348 rose

to 2s (24d pq) in Q4 1349 (almost 500% above the start), falling in steps to 8d pq (60% above the start) in Q3 1352, before reaching 9d pq (80% above the start) in Q3 1353.

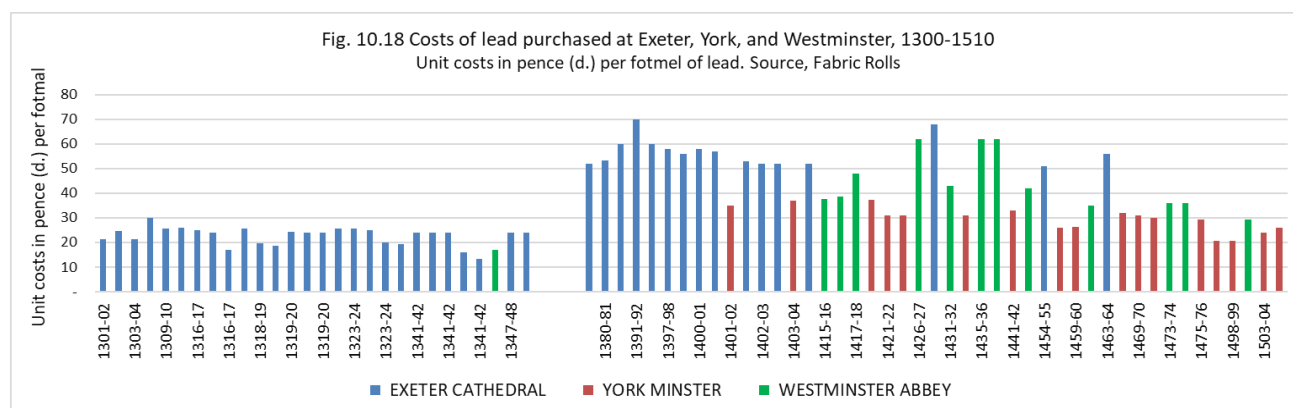


The Exeter lime price settled at 10d, double its former level from 1374-1380, lower from 1390 to 1409, then rising to a new plateau of 12d from 1413 to 1426, before drifting downwards towards 8d pq in the 1500s. The small number of recorded prices at York were similar, and a little lower. Costs at Westminster were always higher. One pre-Black Death purchase was recorded at 3s 4d p cwt (10d pq) in 1344. Thereafter, costs were 20d pq between 1352-1365 and 1470-1500, 16d pq or a little more 1387-1420, and lower at 15d from 1504. Four lengthy sequences in which prices remained the same suggest that longer-term tariffs may have been agreed from time to time, and while the abbey managed its own quarrying (1387-93), lime may have been obtained from the Reigate quarry. The purchase of 2,000 sacks of ‘calc & dust’ in 1388-89 suggests that lime may have been sourced from the underground quarries at Chalfton.⁹²² After quarry working was discontinued, lime was purchased at a regular tariff of 1,000 sacks for 53s 4d (16d pq) until the new work ceased in 1404. When work resumed under Henry V’s Commissioners from 1413 to 1421, lime was purchased from London suppliers, mostly from John Hall, at 57s 6d per 1,000 sacks (17d pq).⁹²³ In the last stage of the building campaigns from 1470 to 1500, the price of lime reverted to the higher level of 6s 8d p cwt (20d pq), where it had been in the years 1351-1364, before the new work began.

⁹²² WAM 23461/Rackham, Tatton-Brown (2001), p. 195.

⁹²³ WAM 23492-23494/Rackham.

Lead



Lead was the most expensive building material in regular use and had been the preferred roofing material for English cathedrals since before the Conquest.⁹²⁴ Its markets were national, and the larger mines in the Peak District shipped quantities down the Trent and Humber to Boston, Lincs, for sale throughout the country through St Botolph's fair or directly. Other mines, notably those in north Yorkshire and south Devon, played their part in supplying York and Exeter. Lead trading was uneven, with substantial quantities required for high roofs and lesser quantities required intermittently for drainage and rain goods. It was commonly traded in fothers (usually 2,100 lb or 30 fotmals of 70 lb or 31.751 kg), though stones, hundredweights, pounds (lbs), and fotmals were also used. Fotmals have been used here because they had a recognised exchange rate with the fother and the lb and were a small enough unit to cater for smaller and larger trades.⁹²⁵ Though Master Roger had visited 'le mine' in Devon in 1300, with his *custos*, most of his purchases were from Boston, where in four of his six rolls 11½ fothers were purchased for 23d per fotmal.⁹²⁶ Thomas of Witney preferred to buy from the mine, thought to have been in south Devon where lead mines had been valued for their silver content since the previous century.⁹²⁷ In three rolls between 1321-22 and 1341-42, 10 fothers and 14 fotmal

⁹²⁴ Salzman (1952), p. 262.

⁹²⁵ There were 30 fotmals to the fother. In one entry it was converted at 24 to the fother. Small quantities of lead were traded in quintains in Exeter, but no conversion rate has been found. These transactions have been omitted from the analysis.

⁹²⁶ D&CE 2603, 2605, 2609, 2610/Erskine, v.1, pp. 19, 35, 50, 61.

⁹²⁷ Homer (1991), pp. 57, 62-6.

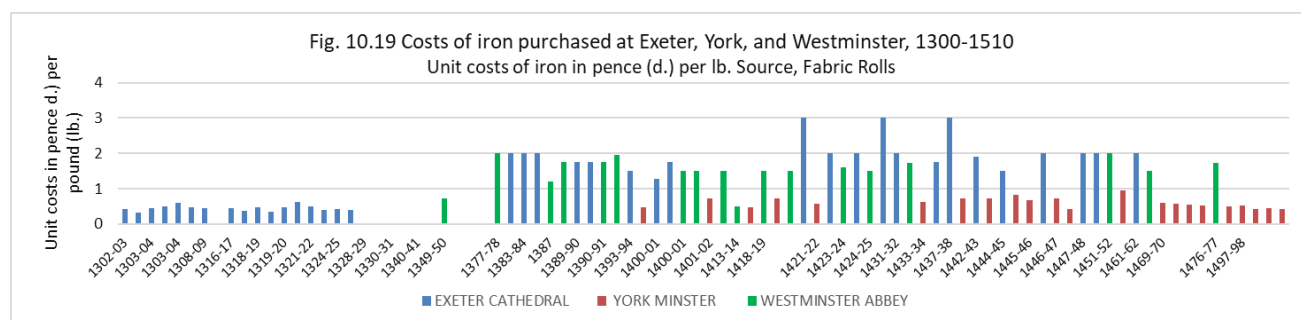
were bought for 13d per fotmal.⁹²⁸ Evidently, the heavy weight of lead made less difference than might have been supposed, and Boston freight charges were 8.5% of costs, while those of the Devon mine were 9.5%. However, most of Exeter's purchases were supplied at the coastal ports of Teignmouth, Dartmouth, and Sutton (Plymouth), at an average of 18½ d per fotmal. This included a stockpile purchase for the nave in 1325-26 of 36 fothers and 4 fotmal (37.9% of all shipments), which landed at an average cost of 19½ d. After 1374 most of the purchases were small-scale from local vendors, and the average price increased to more than 50d per fotmal for the rest of the period. York's supplies usually came from north Yorkshire via Boroughbridge or from local merchants.⁹²⁹ Some 54.3 fothers were supplied between 1371 and 1507 at an average price of 35d per fotmal. The largest purchase of 12 fothers at 37d per fother was in 1404, no doubt for the Western Choir. Three other shipments of more than 5 fothers declined in cost from 37d per fotmal in 1418-19 to 26d in 1457. Prices reduced further to 23d per fotmal by the end of the century. At Westminster Abbey there were two substantial purchases in the period. The Commissioners received a shipment of 19 carrats, *una costa navis*, in 1415-16 for 38d per fotmal, and a further 5.5 carrats in 1417-18 for 47.5d per fotmal, illustrating the difference between buying a bargeload at source and buying stocks from a London warehouse. The number of smaller transactions at Westminster was not great; and between 1420 and 1475 costs declined from around 62d per fotmal to 36d per fotmal, including 31 fothers supplied for the high roofs in 1473-74 at that price.

The market for lead consisted of a relatively small number of large transactions for roofs, mostly shipped from source, and numerous smaller transactions from traders and merchants. Following the sharp post-Black Death price rises, the costs of large transactions peaked at above 36d per fotmal in the 1410s, and small transactions reached more than 48d at the same time. From this point, lead prices tended to fall for the rest of the century, trading at around one third below previous levels. Trading prices could be somewhat artificial as the demand for silver for monetary purposes influenced production levels.

⁹²⁸ D&CE 2624, 2632/Erskine, v.1, pp. 142, 167, 168.

⁹²⁹ YMA E3/6, 15, 25, 27.

Iron



Iron was an important constituent in the building of cathedrals: iron and ironwork accounted for 4.5% of the building costs at Exeter, and 3.5% at York. It was used for many purposes, including construction strengthening, windows, nails, tools, and fastenings. The smiths who worked the iron were regular participants in the building process, though most worked ‘ad tascam’ and rarely appeared on accounts rolls wages lists. In many cases they supplied their own iron for the task in hand, but they also had access to ‘our own iron’, which was bought in bulk for the stores. Some 400 *fourmers* of iron were held in the masons’ lodge in the York inventory of 1399, and 1,015 stones of iron were held in 1433.⁹³⁰ The units of measurement varied: Exeter used pounds (lbs) and quintains; York, pounds (lbs), stones, quarters, hundredweight, and casks; and Westminster, hundredweight, pounds (lbs), cartloads, and loads.⁹³¹ For convenience, pounds (lbs) have been used for this analysis. In the main building period (1299-1342), Exeter’s purchases ranged between 200 lb and 3,300 lb at prices (which were not scale-related) between 0.4d and 0.6d per lb. After the Black Death, the price ranged from 1.25d to 3d per lb, with the standard price for most larger transactions from 250 lb to 850 lb set at 1.75d per lb, and most below that level at 2d. In the Westminster records between 1370 and 1480, 16 transactions were more substantial, averaging 1330 lb at an average cost of 1.78d per lb, a figure remarkably close to that of the larger transactions at Exeter. At York, 28 transactions between 1399 and 1500 averaged 538 lb at 0.69d per lb, and less than 40% of Westminster prices at the time. The overview suggests that iron prices which had doubled from the years after the Black Death did not rise further in the fifteenth century; and at York Minster, where they were lower, they fell further from 1470, probably

⁹³⁰ YMA E3/3, 13. The meaning of *fourmers* has not been found in reference sources.

⁹³¹ No equivalent rates have been established for the quintain, and purchases in quintains, which involved small payments, have not been included here.

reflecting the decline in the local economy. Iron was also traded in local markets, but York mostly bought in bulk to achieve progressively lower prices. Westminster and Exeter paid more.

Summary: Costs of other measurable building materials

The three most regularly purchased building materials other than stone and sand were iron, lime, and lead. An exercise to compare their unit costs at Exeter, York, and Westminster has shown that although levels were different in each centre, York being consistently cheaper and Westminster more expensive, steep price rises after the Black Death were common to all materials. Lime, bought in local markets, settled at double the previous levels in Exeter and at similar prices in York, softening after 1450, while Westminster's higher prices appear to have been set for periods by supplier agreements. Iron was also purchased locally in smaller volumes. All prices softened during the fifteenth century, but York regularly bought bulk and achieved lower costs. Lead on the other hand was traded nationally and at local seaports. Unit costs of bulk purchases for roofing were about half of those of small supplies for fixtures and drainage. Lead prices were more volatile and moved downwards after the 1430s. The three measurable commodities amounted to approximately 10% of total cathedral building costs and demonstrate that the trend in costs in external markets may well have been declining while the 'flat' pattern of cathedral wage and quarry costs persisted in the late fifteenth century.

Chapter 11

Cathedral Building Costs in the Late Medieval Economy

The last two chapters drew attention to the unexpected stability of wages, stone, and costs of most cathedral building materials during the 160 years after they finally settled down in the 1380s following the Black Death.⁹³² The plateauing of wages and materials costs for such a long period after thirty years of price movements is all the more remarkable in view of the generally accepted assumption of economic historians that high inflation persisted for a further fifty years after 1380, although the subsequent pattern of economic progress has been contested.⁹³³ This chapter will explore the evidence of the cathedral and Westminster Abbey fabric rolls in relation to that of contemporary records which support the inflationary narrative, and examine how and why cathedral wages remained flat, at a level which was above statutory requirements and subject to upward (and later downward) pressures. It will touch on the economic arguments related to the nature of building wage rates and the extent to which they should be used as proxies for national well-being. The trends in wages and costs will be compared with changing cathedral fabric revenues discussed in previous chapters to deduce the implications for the affordability and sustainability of large-scale cathedral building campaigns.⁹³⁴ The chapter will end with some consideration of the aggregated income and expenditure figures of the cathedral fabric rolls in the light of earlier attempts to quantify medieval building patterns.

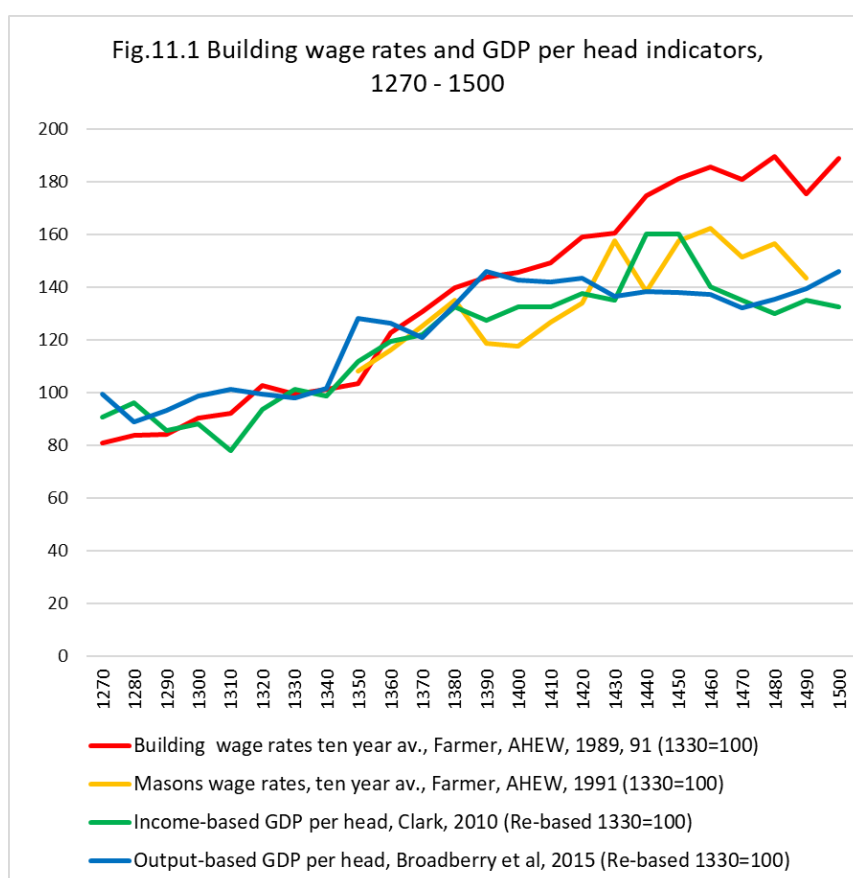
⁹³² Fig. 9.22 Summary of masons' standard wage rates at Exeter, York, and Westminster, 1290-1540, p. 262; Fig. 10.15, Costs of quarry stone purchased at Exeter, York, and Westminster, 1299-1499, p. 281, also Fig. 10.16 Costs of lime, p. 282; Fig. 10.18 Costs of lead, p. 284; Fig. 10.19 Costs of iron, p. 286.

⁹³³ See e.g. Dyer (2002), Fig. 3, p. 240; Bolton (2012), Fig. 9.2, p. 267.

⁹³⁴ Chapters 5-7.

Wage rates, inflation, and growth after the Black Death

Building workers' real wages became an influential measure of medieval living standards after the publication of Phelps Brown and Hopkins' path-breaking article on 'Seven Centuries of Building Wages' in 1955 and the associated index related to a basket of consumables in 1956.⁹³⁵ The index drew attention to the inflationary pattern of building wages in the period from the Black Death up to the later years of the fifteenth century, and the analysis was developed further by David Farmer (1989, 1991), see Fig.11.1 below.⁹³⁶ The work was further debated for many years, culminating in Gregory Clark's work of 2010, which constructed a new income-based Gross Domestic Product per head



index.⁹³⁷ This recognised land rents and capital as sources of income in a time-series which remained largely based on real wage rates. The accepted outcome for the period was that the purchasing power of builders' daily wages had doubled between the first half of the fourteenth century and the second

⁹³⁵ Phelps Brown and Hopkins (1955), pp. 195-206 and (1956), pp. 296-314.

⁹³⁶ Farmer, *AHEW* (1989), v.2, pp. 716-817, and (1991), v.3, pp. 431-53.

⁹³⁷ Clark (2010), pp. 51-140.

half of the fifteenth century. However, Phelps Brown had originally made it clear that the authors had made no attempt ‘to construct any measure of real wages in the modern sense’, as ‘all we have is the rate of pay for a day, we do not know how many days’ work the builder was getting in the year from time to time, nor what other resources he had’ – remarks which are resonant with those of Salzman, quoted earlier, concerning the use of wage rates for analysis and the varying terms of masons’ employment.⁹³⁸ In a seminal essay in 2011, *Unreal Wages*, John Hatcher drew the line on this direction of travel, by challenging the ‘towering peak in real wages that dominates the late Middle Ages’ in the mid-fifteenth century from 1440 to 1479.⁹³⁹ He reiterated that daily wage rates could not provide the basis for national statistics in an economy of small farms in which much of the work was provided by members of the household and much of paid employment was for varying short-term periods, whether it was for the harvest or at the building site. The importance of informal employment increased in the fifteenth century as the proportion of the population with agricultural holdings of subsistence size increased significantly. A more recent index of GDP per head, compiled by Stephen Broadberry and others (2015), is based on weighted agricultural, industrial, and service sector outputs.⁹⁴⁰ The series indicates similar short-term volatilities in the first half of the fourteenth century, including the inflation associated with the famines of 1315-22; the war-related deflation of 1336-41; and the acute inflation of 1348-49. By 1390, GDP had risen to 50% above its pre-Black Death level as a result of the cumulative effects of loss of population, increased ownership and sizes of subsistence landholdings, and improving household incomes.⁹⁴¹ However, after 1420 further growth of GDP per head faltered as population, silver currency, local markets, and European trading all shrank in the mid-century slump, and it was not until the 1470s that increasing living standards and wage pressures returned. This more nuanced view of economic performance provides for a more credible understanding of how the non-inflationary cost regime of the cathedral masons’ lodges was able to persist.

⁹³⁸ Phelps Brown and Hopkins (1956), pp. 296-314; Salzman (1952), pp. 59, 60.

⁹³⁹ Hatcher (2011), pp. 1-24; see also Hatcher (1996).

⁹⁴⁰ Broadberry et al. (2015), pp. 187-246.

⁹⁴¹ Bailey et al. (2015), pp. 209, 229-34.

Thorold Rogers' 'very large and rich collection of miscellanea'

The question remains as to how and why cathedral building costs should have differed so much from similar costs elsewhere and to what extent. In his monumental seven-volume *History of Agriculture and Prices in England* from 1259 to 1793, the political economist and politician, James Thorold Rogers, 'first set the terms of subsequent compilation and discussion' as the sourcebook for Phelps Brown's medieval statistics.⁹⁴² The relevant entries of the fourteenth century (vol. 2) were collected between 1860 and 1865 from over 5,000 documents in the Public Record Office and 3,000 account rolls and paper books in Oxford colleges containing records of 435 estates.⁹⁴³ The records of the fifteenth and sixteenth centuries (vol. 3), collected between 1865 and 1881, are of a different character, partly due to the reduction in demesne estate farming and to the presentation of source data in annual summaries as opposed to individual entries. Rogers was disappointed with these and described them as 'scantly fruitful', drawing attention to the increasing proportion of entries on expenditure (including wages) at the expense of the agricultural production statistics, which were his forte.⁹⁴⁴ The sheer volume of Thorold Rogers' data ensured that it would become an indispensable resource for medieval historians, but his own description of the unstructured work was 'a very large and rich collection of miscellanea ... the greater part being farm accounts which have contributed a great mass of evidence'.

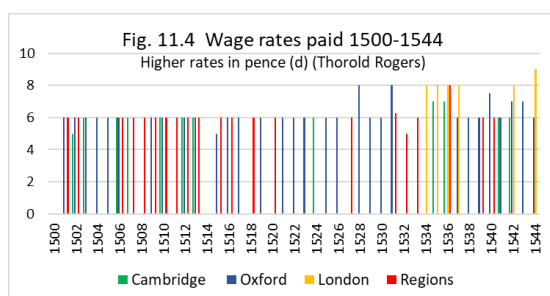
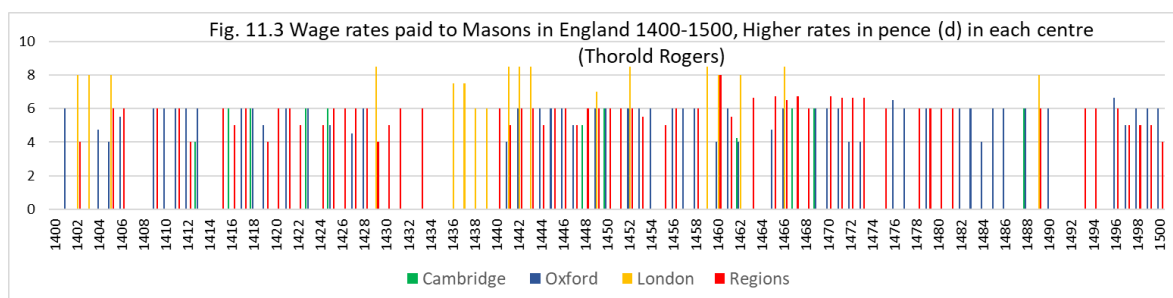
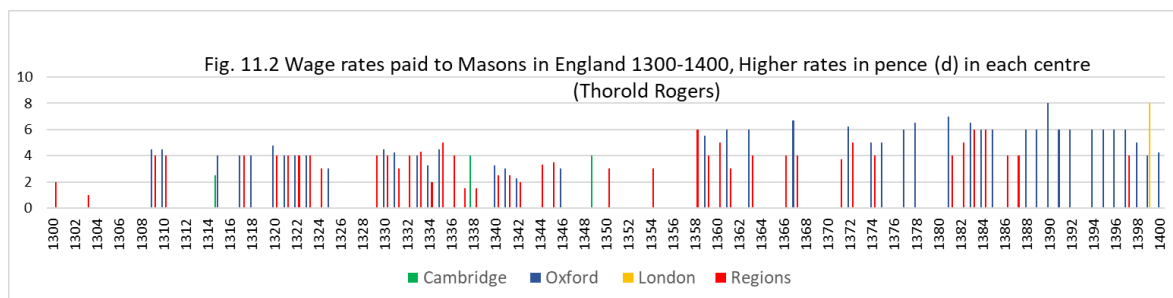
The insignificant proportion of masons' wage entries in the early volumes is in inverse ratio to the importance they assumed for historians, due to the scarcity of such evidence elsewhere. The fifteenth- and sixteenth-century coverage is more comprehensive than that of the fourteenth, benefiting from additional sources at Cambridge colleges and the addition of buildings in London. The wage rate entries are mainly from south-east England: 43% from Oxford, 8% from Cambridge, a further 8% from London, and the remaining 40% from the regions, mostly south-eastern agricultural estates. For the purpose of comparison with the cathedral fabric roll wage rates, the entries have been divided into these four geographic categories and the wage rates of masons working at distinctly

⁹⁴² Phelps Brown and Hopkins (1955), p. 296. Quotation from Paul Binski (2014), p. 88.

⁹⁴³ *T.R.* (1866) v.2, pp. x-xv, pp. 285-334 and (1882) v.3, pp. 583-630.

⁹⁴⁴ *T.R.* (1866) v.2, p. viii.

lower rates of pay have been omitted (some 24% of the entries). The higher wage rates recorded here recognise the difference between the pay of skilled cathedral masons and that of less-skilled masons working on other sites. A similar distinction was recorded in the Exeter roll of 1348-49, when 4 to 11 unnamed masons were recorded for up to 23 weeks laying the conduit for 12d to 15d per week, much lower rates than those of the skilled masons.⁹⁴⁵ The segmented records provided here are the widest ranging contemporary comparison available for cathedral masons' rates of pay and are summarised in the bar graphs below (Figs. 11.2-11.4).



Notes on Figs. 11.2-11.4: Masons' wage rates paid in pence (d) to masons, 1300-1544, from Thorold Rogers, *History of Agricultural Prices* (1866) vol.2, pp. 285-334 and (1882) vol.3, pp. 583-630. Local areas: Cambridge (8%), Oxford (43%), London (8%), and the regions (40%). Wages of lower-skilled estate masons (24% of original entries), mostly in the regions have not been included as their functions were not comparable with high-skilled cathedral fabric masons. Entries from York Minster fabric rolls in Thorold Rogers have been excluded, as they are included in the York fabric rolls.

⁹⁴⁵ D&CE 2635/1/Erskine, v.2, pp. 279-82.

The masons' wage rates paid in the years 1320-1336 in the Thorold Rogers sample show that the standard cathedrals' rate of 4d per day (2s per week) was the widely accepted benchmark. In the early 1340s, the market appears to have softened and lower rates of 2½d to 3½d per day (1s 3d to 1s 9d per week) were paid, as was the case at Exeter.⁹⁴⁶ There are few records from the period of the Black Death, mostly of the same average rate at 3d per day (1s 6d per week). After 1360, most rates moved up to 4d per day – although an increasing number moved to 6d per day (50% increase) from 1380. The fifteenth and sixteenth century masons' wage patterns were also closely aligned with those of the cathedrals and continued at the standard rate of 6d per day (3s per week). In London rates were generally higher, and although 3s 4d per week (6.67d per day) was agreed with the workforce at Westminster Abbey in 1388-89, the skilled rate in general use in London was 8d per day by 1400. These rates persisted throughout the fifteenth century and the first quarter of the sixteenth century, with remarkably few exceptions. There was upward pressure on wage rates in Oxford and Cambridge in the second quarter of the sixteenth century, when higher payments were occasionally made. The remarkably close alignment of the wage rates of the Thorold Rogers sample with those of the cathedrals indicates that market conditions outside the cathedrals were similar and that there was no widespread inflationary pressure before the end of the period.

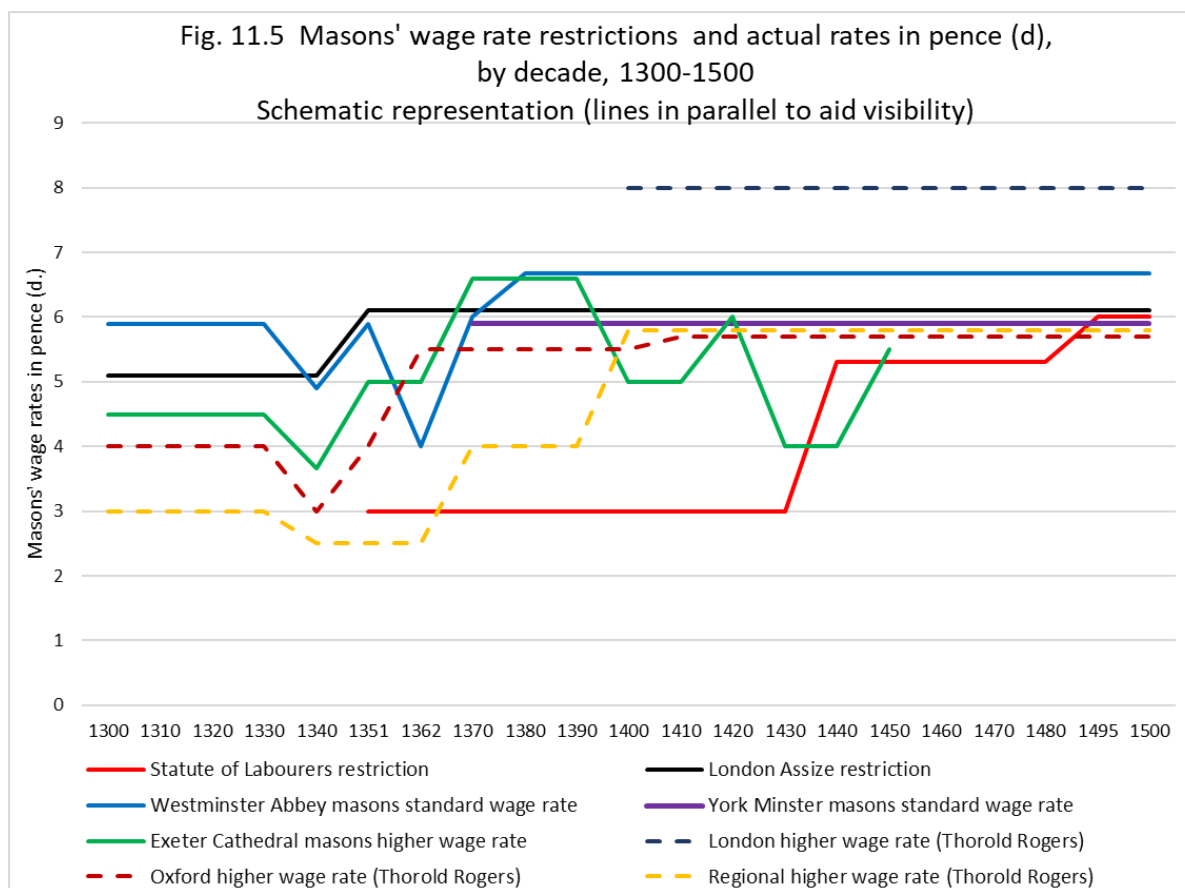
English wage rates and the Statutes of Labourers

The question arises as to what extent the statutory regulation of wages could have been responsible for the non-inflationary wage settlements. Commentators have typically dismissed it as ineffective, though Mark Bailey has noted that the Ordinance of Labourers was an 'immediate, energetic, ambitious, wide-ranging, and unprecedented' response to the Black Death.⁹⁴⁷ The Ordinance was introduced by the King's Council in June 1349, 'with the plague still raging across most of England', and confirmed in law at the next meeting of parliament in February 1351.⁹⁴⁸ The purpose of the

⁹⁴⁶ Figs. 9.11 and 9.12, p. 243.

⁹⁴⁷ Knoop and Jones (1933), pp. 126-9; Salzman (1952), p. 75; Erskine (1983), p. xxiv; Dyer (1989), pp. 218-19, 232; (2002), pp. 282-5, 319. For contrary views see Bolton (1980), pp. 209, 213; Ormrod (2005), pp. 35, 37, 90, 91.

⁹⁴⁸ M. Bailey, *After the Black Death. Economy, Society, and the Law in Fourteenth-century England*, p. 77.



legislation was to control the cost and supply of labour and to restrain high prices in the aftermath of the crisis. The statute specifically provided that a master stone mason should earn 4d per day and other masons 3d per day, which Salzman noted matched the entries in Thorold Rogers for (the depressed years of) 1342 to 1346.⁹⁴⁹ However, they were below Exeter Cathedral's summer rates for experienced masons between 1341 and 1347, which, as noted earlier, were lower than before. A new act of 1360 confirmed the rates, with the proviso that less skilled masons should be paid a lower rate of 2d per day. The statute was not revised again until 1444-45, when the masons' rate was increased to 5½d per day with 4½d for 'roughmasons'. Finally, in 1495, the statute caught up with the cathedrals' actual standard rate of 6d per day, which had been in place for 120 years.⁹⁵⁰ The wage controls introduced from 1349 were not in fact new for London masons, who had been subject to an Assize from 1212 onwards, in which masons' wages, without food, had been pegged at 4½d per

⁹⁴⁹ There were two exceptions in Cuxham 1344, 1345, at 3s 4d pw; D&CE 2632, 2633, pp. 309, 310.

⁹⁵⁰ Knoop and Jones (1933), p. 124.

day for masons and at 4d per day for ‘hewers of freestone’. The London summer rate for masons was increased to 5d by 1296, and to 6d per day in 1350, with a matching increase in the winter rate to 5d. These rates were reconfirmed on at least four occasions – the latest in 1382.⁹⁵¹

In addition, the Statute of Labourers made several provisions which affected the masons’ labour market. The ‘contract clause’ gave preference to annual contracts rather than day contracts and was intended to bring security of supply, resulting in lower wage rates for the employers. However, the tendency towards shorter-term, small team working, even on larger projects, which was already widespread, would have worked against this. The appointment of locally employed justices of labourers (later justices of the peace) to enforce the regulations ensured that cases brought under the act tended to favour the employers’ interest rather than that of the individual employee.⁹⁵² Although there were widespread prosecutions, cases against masons were rare, and Salzman noted the rare case in Oxford in 1391 of John Sampson, a freestone mason ‘skilled in that art and in carving’, who was discharged on the grounds that ‘the takings of such masons cannot be put on a level with the takings of other masons of another grade and rank...’⁹⁵³

The effects of the statute are an enigma because the prescribed upper wage rate for masons was, at all times, below those actually paid in the cathedrals until the re-enactment of 1495 brought the authorised rate up to the actual rate of 6d per day. The London Assize rate at 6d per day (3s per week) in 1350 was no more effective, as the general rate in London of Thorold Rogers’ sample was 8d per day by 1400. The only two references to the statutes in the fabric rolls are from Westminster Abbey as late as 1495-96 and 1496-97, when masons’ rates of pay were reduced *sedm’ nova statute* from 3s 6d to 3s per week from 12 March 1496, as discussed earlier.⁹⁵⁴ The obedientiaries at Westminster must have been particularly aware of the royal statutes, but cathedral chapters too may have been sufficiently savvy to establish clear lines by custom and practice, within reach of the regulations and beyond which they would not go. This would have assisted in holding the line by the slowing of

⁹⁵¹ Ibid.

⁹⁵² Dyer (2004), pp. 282-5.

⁹⁵³ Salzman (1952), p. 75.

⁹⁵⁴ WAM 23572, 23573/Rackham. See discussion on pp. 260-61.

inflationary pressure up until 1420, which was not renewed until the end of the century. The increasing use of teams, often working for short terms, encouraged the payment of a common rate to their members, which was usually the standard rate. This was notably the case during the later years of the nave campaign at Westminster Abbey, when the masons' and carpenters' teams were paid at common rates. This must have been the case when the masons' team under John Wastell at Canterbury shared their payments made by the foot for building the walls of the Bell Harry Tower.⁹⁵⁵

The quantification of English cathedral building programmes

Efforts to quantify comparative English cathedral building activities have not met with great success. The first recorded in modern times was perhaps that of Robert Willis, who invented a system of predicting the number of years it would take to construct a length of 'superficial structure' based on the known building times achieved for similar structures. He used the building records of the Canterbury choir, Salisbury, Exeter, Ely presbytery and Octagon, and the Westminster Abbey liturgical choir as reference points.⁹⁵⁶ By measuring the length of walling, including buttresses and arcades as equivalent to plain walling, and by making allowances for height and vaulting, he estimated that the medieval masons could build 5,034 'superficial feet' per year. During the York Minster screen controversy of 1829-1859, he argued that the nave would have taken 16 years to construct, which made Browne's chronologies for the eastern arm seem 'improbably extended'.⁹⁵⁷ It is notable that Willis never used this method again in his cathedral studies and, as Buchanan has suggested, it is likely that the method was devised specifically to discredit Browne. Subsequent twentieth-century attempts at quantification, usefully listed in Gabriel Byng's *Church Building and Society*, have in general failed to gain traction.⁹⁵⁸ One exception is Richard Morris's 1979 chronology, which charted a large number of building campaigns commenced at 85 cathedral and abbey sites between 1100 and 1500 by decade alongside the number of building campaigns in progress at forty of

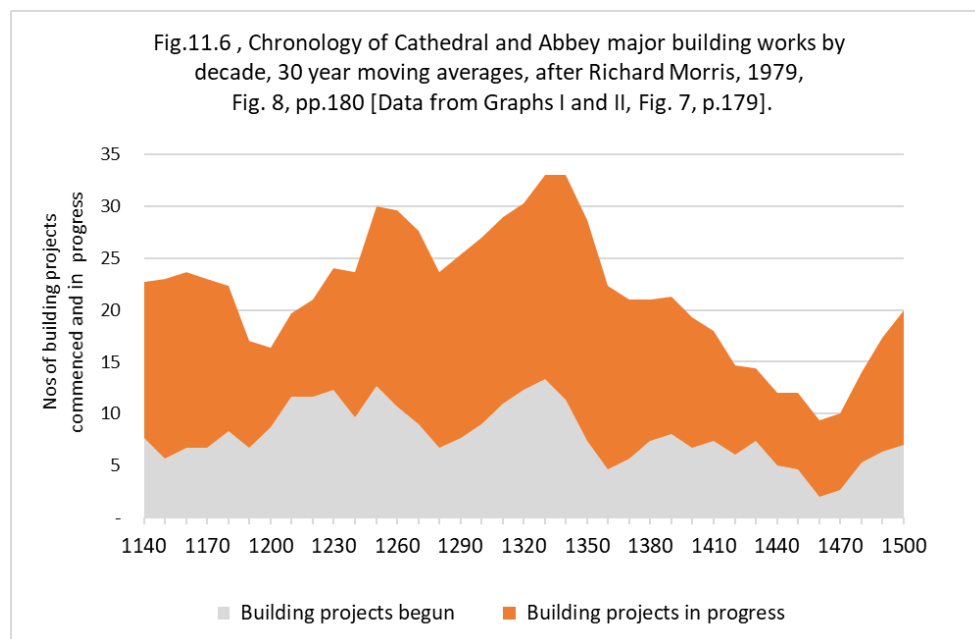
⁹⁵⁵ At Westminster, WAM 23560-23573/Rackham: There were 11 separate carpenters' teams who worked in differing combinations on the roofs, centring, and scaffolding at Westminster Abbey between 1386-7 and 1396-97, earning common rates of 6d, 7d, and 8d depending on the task. WAM 23563-23577: The nave work was completed by a team of 3 to 5 masons working 51-52 weeks per year in 10 out of 12 years, 1489-90-1999-1500, earning 3s 4d pw. For Canterbury, see p. 216.

⁹⁵⁶ See pp. 56-9. Buchanan (2013), p. 196.

⁹⁵⁷ Willis (1848), pp. 26-9.

⁹⁵⁸ Byng (2017), pp. 34, 35.

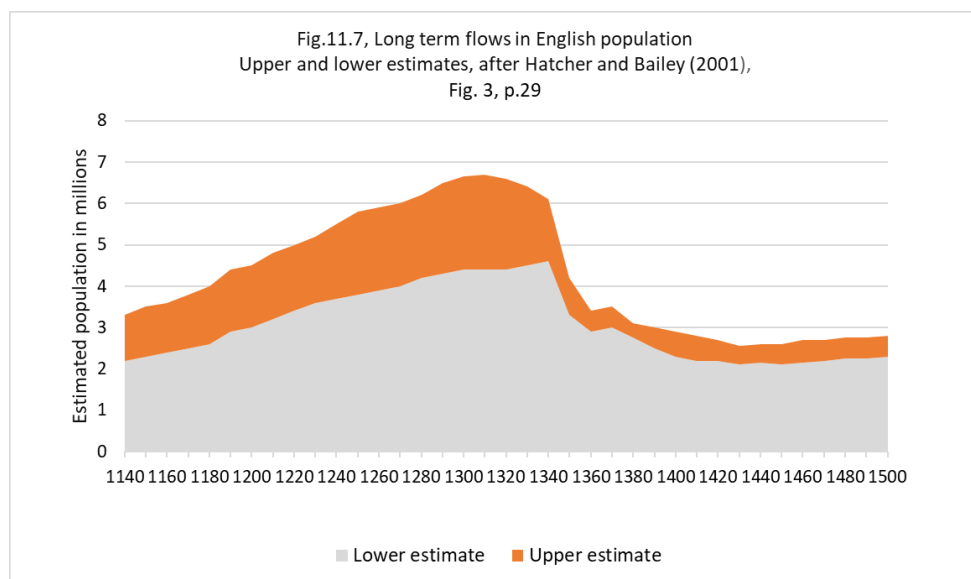
the more important of these churches for which records are available (Fig. 11.6 below). For this purpose, a campaign or building activity qualified if it was for a substantial part of a church such as an eastern arm, transept, nave, tower, or chapter house. Chantry chapels, shrines, and claustral buildings were excluded. There were 360 such projects in the sample – an average of 4.2 campaigns commenced per church. The chronological analysis showed that after a period of rising activity from 1270, new projects peaked in the 1320s at their highest level since 1200, and that building projects in progress were simultaneously at their highest level in the 400 years of his chronology. The rapid



decline in new projects, which followed from 1340, related to the recession of 1336-1342 and the standstill which followed the Black Death. New building began to recover a little by 1370, but from then onwards the number of new projects, as well as those in progress, declined for a century through the mid-fifteenth-century slump, recovering somewhat from 1470. Morris pointed out that his analysis made ‘no attempt to quantify the expenditure in each scheme’, that ‘the length of project construction times was subject to sudden change since 1200’ and ‘project expenses varied according to the extent to which they incorporated earlier foundations or walls’.⁹⁵⁹ He noted that the modernisation and rebuilding of eastern ends for liturgical purposes in the Early English style coincided with the prolonged expansion of the thirteenth century and that the reinvigoration of building projects after the

⁹⁵⁹ Morris (1979), pp. 180-81.

invention of bar tracery led to the flowering of Decorated work in the early fourteenth century, but that this growth slowed in the 1330s, not to return for a century. Hatcher and Bailey (2001) drew attention to the remarkable match between this chronology of building activities and the pattern of contemporary fourteenth- and fifteenth-century population changes by setting out the chronology next to a similarly time-scaled analysis of upper and lower estimates of English population⁹⁶⁰ (Fig. 11.7 below). The portrayal appeared gloomy for the future of cathedral building, which, according to Hatcher and Bailey, ‘came to a virtual halt’. Byng commented that ‘such brute totals are not entirely satisfactory; totalling building projects is a crude measure of “quantity”’.⁹⁶¹



English cathedral building programmes, 1290-1540

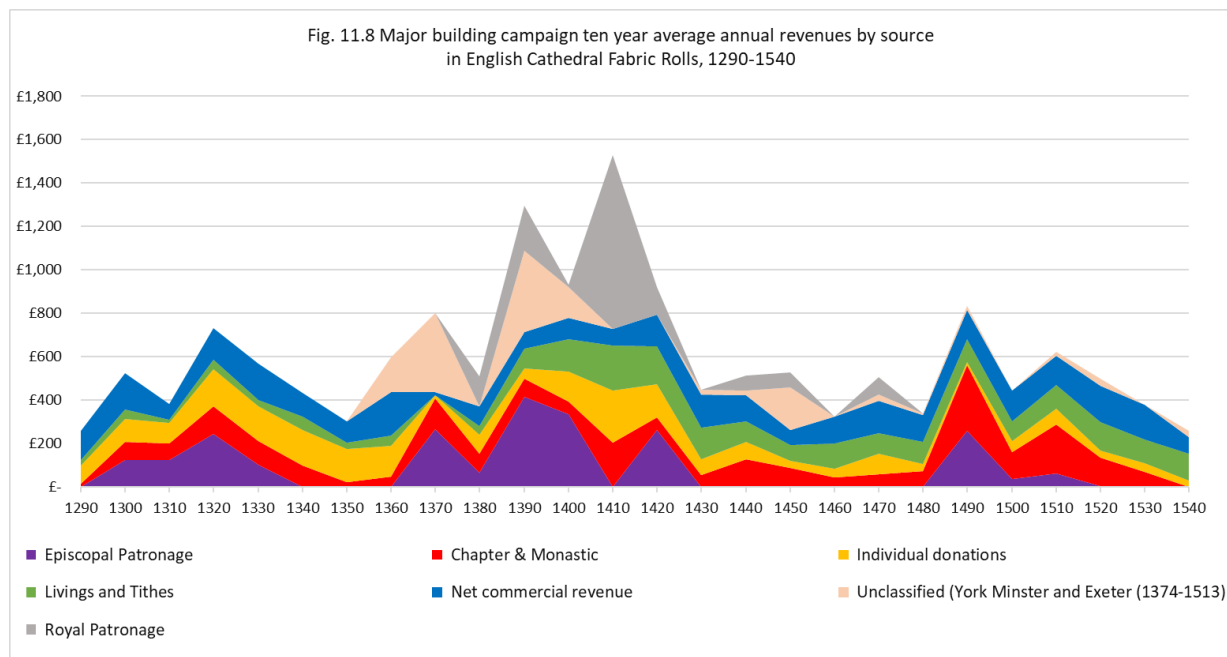
The evidence of the account rolls in this thesis, despite the obvious flaw that it is subject to survival rates, allows us the opportunity to quantify trends in income and expenditure of one third of the English cathedrals and Westminster Abbey, through aggregating the nine accounts series which have survived. Some care is needed in the interpretation of these statistics. The fabric roll series include seven – Exeter, Ely Octagon, Norwich Cloisters, Ripon, York Minster, Westminster Abbey, and the Canterbury Bell Harry Tower – which have been recorded meticulously from the receipts and expense transactions and collated into weekly or annual summaries; and two – the choir of Ely and the nave of

⁹⁶⁰ Morris (1979), pp. 178-227, Figs. 7, 8; Hatcher and Bailey (2001), pp. 28-30, Figs. 2, 3; Binski (2014), p. 89.

⁹⁶¹ Byng (2017), p. 34.

Canterbury – for which only the accounts income totals and sources of finance have survived. These provide sufficient information to create ten-year average account figures for the major building campaigns of the period. The account rolls of Durham, Hereford, Lincoln, Salisbury, St Paul’s, Wells, and Winchester are omitted as their account sequences are too short to calculate meaningful ten-year averages with confidence.

The income streams by source are shown in the ‘stacked area chart’ of Fig. 11.8:



Notes on Fig. 11.8 : The sources are the long series fabric rolls of Canterbury, Ely, Exeter, Ripon Minster, Westminster Abbey, York Minster; the Canterbury Treasurer’s accounts summary of building accounts of the nave*; and the Norwich Cloisters Communar and Pitancer Rolls. For York, Thoresby’s annual contributions of £200 of 1361-1371 are included as Patronage and deducted from Unclassified Income. Net commercial income figures are after deduction of agricultural and property rental costs, including unpaid rent, repairs, and associated service costs. Royal patronage at Westminster Abbey is shown in grey so as not to interrupt other sequences. *Treasurer’s Accounts and MS. C.14 *Arch. Cant.* XXIX

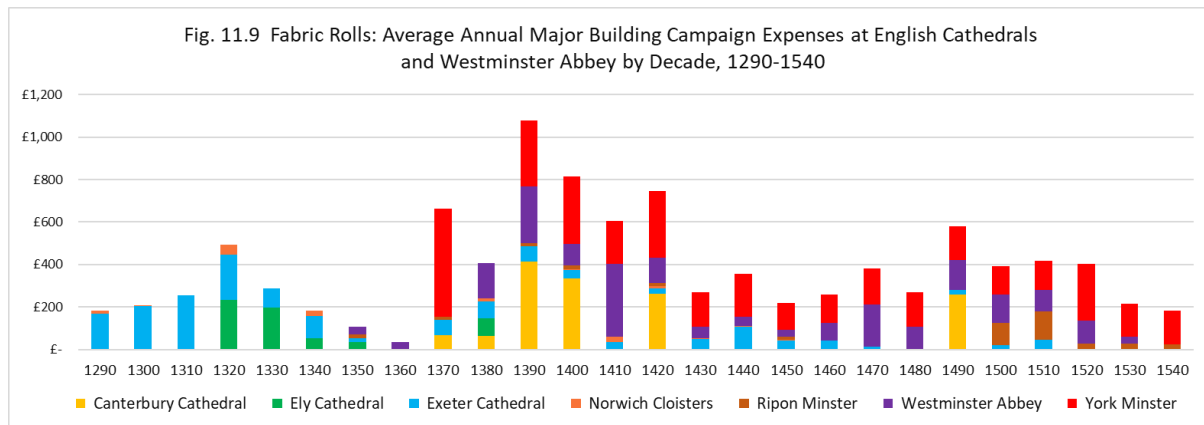
The income streams should be viewed with caution, as the absence of information usually implies that the records are not available rather than that activities did not exist. Accounts rolls which have not survived from this group of cathedrals include those of York Minster nave (1291-1360), Ely Lady Chapel (1321-52), and mid-fifteenth century accounts in Canterbury, and while total income figures are audited, significant amounts from York and the later Exeter accounts are uncategorised. The whole sample excludes large-scale fourteenth-century work at Lichfield, Hereford, Wells, and

Winchester, and the fifteenth-century work at Norwich. This overview of the building campaign income over two and a half centuries shows three periods of high receipts: 1300 to 1335, 1390 to 1420, and 1480 to 1520, with two intervening depressions in 1340 to 1380, the Black Death and after, and from 1430 to 1480, the mid-fifteenth-century slump. These trends may be viewed as representing cyclical trends in the economy, though shorter-term cultural changes in patronage, individual giving, and devotion played their part in the shorter-term perspective. The first quarter of the fourteenth century represented the peak of a long period of expansion beginning in the thirteenth century; its closing years were marked by the famine and storms of 1316-1322 and the war- and tax-induced recession of 1336-1342. These were years of high patronage for the Decorated works at Exeter, Ely, and Wells, supported by the munificence of a powerful group of local bishops, including Walter Stapeldon and John Hotham. The Black Death took its toll rapidly in 1348-49, and half of all masters and masons are said to have died in its aftermath. The economy did not regain its equilibrium until the 1370s and 1380s.⁹⁶² John Thoresby of York was an early mover in reinvigorating his archdiocese and funding the magnificent Lady Chapel from 1360 to 1371. Other projects gained traction more slowly, and the rebuilding of the nave at Westminster did not begin until 1387-88. The costs of wages and quarried stone had risen by 50% in the interim. The next thirty years were the high point of the period, with large building projects at Canterbury, York, and Westminster Abbey, three of the largest projects of the whole period, which together cost at least £15,000.⁹⁶³ The interest of those years is not confined to the largest churches and the variety of smaller projects is notable, including the lost high altar reredos at Ely, the glazing of the York great east window, and the Galilee Chapel at Durham. These marked the high-water mark of big patronage by the most wealthy bishops, including Arundel, Skirlawe, and Langley, who contributed to multiple projects. Activities plummeted from the 1430s, giving way to the mid-century slump and the lowest volumes of the period in the 1450s. In the third quarter of the century little was achieved, but the central tower lantern at York was finally topped and the minster consecrated in 1472. Durham's two-stage central tower, not included in this survey, followed in c.1483-1488. An important initiative was Prior Millynge's call to the individual monks

⁹⁶² See e.g. Fig. 6.1, Farm income at Ely, and Fig. 9.19, Westminster Abbey masons' wage rates.

⁹⁶³ Canterbury, £4,397 (1391-1401), Woodruff (1935), pp. 79, 80; Westminster, £4,452 (1413-1422), Rackham (1909), p. 58; York Minster, est. £9,520 (1390-1420), YMA E /3/3-10/YAT.

brethren at Westminster Abbey in 1468 for regular contributions, which became the main source of patronage and ensured the completion of the nave in 1506.⁹⁶⁴ Meanwhile the second stage of Cardinal Morton's Bell Harry Tower at Canterbury completed in 1495-96 provided a fitting full stop to the period. It was the last example of large patronage, in this case of over £1,200, and the tower was widely acclaimed.



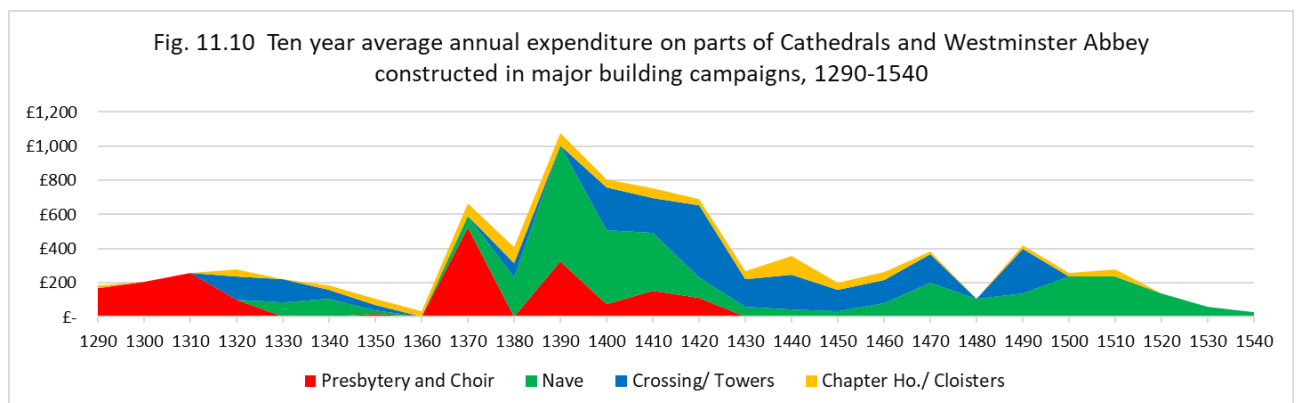
The bar graph above (Fig. 11.9) presents the campaign expenses of individual cathedrals and Westminster Abbey, aggregated in the same way. While Exeter and Ely led the activities of the early fourteenth century, the building totals in the middle and later years are dominated by the large-scale programmes of three of the four largest churches in England: the York Minster east end and central tower (1360-1430); the Canterbury nave (c.1377-c.1401); and the Westminster nave (1378-1506). The boost in expenditure of the last few years (1490-1520) is accounted for by Cardinal Morton's Tower at Canterbury, the new parish churches of St Michael-le-Belfry at York Minster and St Margaret's at Westminster, and the new Perpendicular nave at Ripon, which, as Leland remarked, was largely funded 'by the church's own treasure and the assistance of country gentlemen'.⁹⁶⁵

After the Black Death, the number of projects in Morris's chronology reduced relentlessly, but this was by no means reflected in the work in the cathedrals. His chronology captured the decline in activities of the medium and smaller abbeys, but missed the sheer scale of the building endeavour at Canterbury, Westminster, and York, where the scale of activities from 1290 to 1420 exceeded those

⁹⁶⁴ Totalling £2,079: Rackham (2009), p. 59.

⁹⁶⁵ Leland (1906), v.i, p. 82.

of the pre-Black Death campaigns, even adjusting for inflation. A good number of the medium-sized regional cathedrals had moved early to complete their rebuilding programmes in the thirteenth and early fourteenth centuries, but the large metropolitan cathedrals and Westminster Abbey were still catching up. This is illustrated in an overview of the parts of cathedrals built during the period in the stacked area chart below (Fig.11.10).



The interpretation shows that the rebuilding of the eastern ends of cathedrals was largely completed in the fourteenth century, though the choir of York Minster took a little longer after the collapse of the central tower. While the nave of Exeter was completed in 1342, nave building elsewhere was delayed until after the Black Death. Those of Canterbury and Westminster Abbey followed from the 1380s, and Ripon Minster after 1500. Although York Minster's third rebuilding was a notable exception, most cathedral reconstruction started with the east end, and the completion of the nave meant that the liturgical cathedral was ready for use. The great crossing and western towers at York (1408-1472), Durham (1459-1488), and Canterbury (1433-1498) were outward statements of the standing of religion and the cathedral in the community rather than liturgical necessities, and may indicate that there was no shortage of patronal funding to finish off their building. The analysis suggests that the era of intensive cathedral building campaigns came to an end, not because it had somehow run out of steam, but because the task of rebuilding the cathedrals was complete.

Summary and Conclusion

The discussions in this chapter attempt to unpick a number of questions relating to the scaling up of individual transactions from the extensive series of late medieval accounts which are the evidence for

this thesis. Wage rates and employment and materials costs have been used by economic historians to build national economic statistics for the period and comparative information on fabric income and expenses of different buildings has also been used to illustrate the cathedral building cycles.

The first question was how to reconcile the conclusion of preceding chapters that cathedral wage rates and materials unit costs remained static between about 1370 and 1500 with the generally accepted assumption that inflation rates were high from the Black Death through to the fifteenth century, originally based on Phelps Brown seminal paper of 1955 and developed from there. It was determined at an early stage that building wages alone could not be relied on as a significant indicator of national wealth and the model was successively adjusted over the following sixty years, in each case downgrading the inflationary income effects. In the new output-based model constructed by Broadberry and others (2015), the inflation factor is greatly reduced, to a level which would not conflict with the evidence of the cathedral wage rates. A subsidiary question relates to the evidence of masons' wage rates in Thorold Rogers, *History of Agriculture and Prices*, which has been the main source of evidence for late medieval costs and prices. It has been shown in this analysis that by segmenting the masons' wage rates by location and excluding the rates of low paid (unskilled) masons the pattern of Oxford based masons wages, who constitute 43% of the entries, follows the non-inflationary pattern of the cathedrals. The third matter to resolve was to whether the wage rates offered were restrained by statutory wage limits at all in view of the fact that standard rates paid by the cathedrals and Westminster Abbey were above the statutory limit at all times between 1349 and 1495. There is little evidence as to how this could have been so, and the most that can be said is that the legislation may have persuaded the church authorities to exercise some restraint by keeping their payments to skilled craftsmen within a range of the statutory limit. Efforts to quantify English cathedral-building cycles over the years have not proved greatly successful. However Richard Morris's graphical presentation of the chronology of large works commenced at 85 abbey sites and completed at 40 sites for which records are available between 1100 and 1500 has been influential in describing the decline in monastic building after the 1330s. The existence of tabulated series of accounts of for more than one third of English cathedrals during the period enables us to put together

a graphical account of income and expenditure for these cathedrals together with Westminster Abbey. While no claim is made that this represents a full picture of the cathedral building cycles of the period, the trends displayed provide sufficient evidence to suggest a more robust pattern of overall activity in the fifteenth century than is normally considered to be the case.

It appears from this work that the cycles of church building were closely related to the changing economic context of the period. It has long been accepted that there was a long period of economic expansion which progressed from the mid-thirteenth century to the first half of the fourteenth century which began to turn, after early downturns caused by the famines of 1315-1322, and before the pandemic began in 1348-49. The recession of the 1336-41 deflation was highly visible in the Exeter accounts as can be seen in Chapter 8.⁹⁶⁶ This chapter deals mainly with the post Black Death economy, and demonstrates that for the institutions in our sample the volume of building work largely followed trends in the economy. The high point of building activity between 1320 and 1340 during which the major campaigns at Exeter and Ely had been completed, was followed by the depression between 1349 and 1370. John Thoresby's assertive start of the grand Lady Chapel at York from 1360 onwards marked an early signal of a new building boom in the metropolitan cathedrals of Canterbury and York and at Westminster Abbey as well as smaller-scale projects from the 1390s to the 1420s.⁹⁶⁷ This came to an end with the mid-century slump from the 1430s, when only York continued its building programme - at a low level and finally completing the central lantern tower in 1472. The economy lifted from the 1480s when the Durham and Canterbury built the upper stages of their central towers to be followed by the nave of Ripon and the rebuilding of Bath Abbey in the new century.

The changes in the levels of economic activity led to many changes in the working lives and economic well-being of masters and masons. The sharp and serious disruption of the Black Death brought a critical shortage of both masters and masons and ended the long-term paternalistic systems

⁹⁶⁶ See p.242-3. and Fig.9.12.

⁹⁶⁷ Smaller-scale projects include Ely Reredos (1384-88), Exeter W Front Upper Image Screen and new Cloister works (1377-1398), rebuilding of Chapter House (1412-21), Durham Dormitory, Cloisters, and Galilee Chapel (1309-1435), Hereford Cloisters (from 1412).

of recruitment, training, and graduated pay scales of sizeable semi-permanent workforces under the tutelage of traditional masters. In their place came more focused smaller-scale teams, paid standard rates which were higher, and generally working for more weeks each year, usually for specific tasks which were of shorter duration. After the major works in Canterbury, Westminster, and York in the late fourteenth and early fifteenth century were finished, the large workforce had had its day. The smaller teams that replaced them tended to work up to 52 weeks per year and were high earners, frequently working for a consultant mason of national or regional repute. who shared his duties between two or three cathedrals who were thus able to access the most -talented masters. Where there was no major building campaign, the standard rates would not have applied, and earnings would have been lower. There would have been little new high-status work in the mid-fifteenth century as in the fourteenth, but the continuing shortage of quality masons would have provided opportunities in new larger parish churches. For a high proportion of masons who worked on short-term or part-time arrangements, other sources of income were always available and families who owned agricultural holdings may well have increased them after the Black Death. New works resumed in the last quarter of the fifteenth century.

Conclusions

Lines of enquiry

To sum up, this thesis concerns a systematic analysis of the surviving fabric rolls of the English cathedrals from 1290 to 1540. It follows four principal lines of enquiry. The first concerns the origin and establishment of separate fabric funds after the Conquest and of the fabric rolls which emerged as the accepted accounting method in the thirteenth century. The second explores the sources of revenue which generated regular fabric funds for cathedral building, and the work of powerful patrons who gave impetus to the rebuilding campaigns of the thirteenth to the sixteenth centuries. What motivated a select group of English bishops to fund new works in their cathedrals and to promote the designs of individual masters? The third area of investigation is that of the activities of the master masons, whose roles as architect and manager had developed in parallel. How did the masters communicate their designs to their patrons and to masons on the building site? How did the masters engage the right number of masons and manage them in the face of the fluid requirements of the building site? What influence did they have on finance, materials, and logistics? The fourth and final line of enquiry seeks to place the building campaigns in a wider context, to relate the wage rates and building costs of this thesis to models of the late medieval economy, and to identify the effects of long-term economic trends on the cathedral building programmes.

Method

The 500 fabric rolls which have come down to us are a unique resource, seldom having been investigated as a separate entity. They differ from other documents of the period in that they were written as functional accounts recorded for audit examination at the time, rather than as documentary records of past events, with the inevitable elements of interpretation if they were written for a patron, as was usual. The approach of this work has been to transcribe each transaction in the account rolls on to an Excel spreadsheet for incorporation into a modern management account format. Summary tables of the collated management accounts, together with accounts lists of wages paid, and quarry, stone,

and materials costs, together with lists of individual masters, keepers, and masons have been included in the *Summary Information Tables*, and constitute the evidence base for the thesis.⁹⁶⁸

The fabric rolls

The fabric rolls as evidence⁹⁶⁹

The first line of enquiry concerns the nature and limitations of the sample, the accounting methods used, and whether the sample is representative, fit for purpose, and trustworthy. The accounts bring problems of interpretation, because the rationale of the fourteenth-century *compotus* account was driven by the cash balance personally owed by the *custos* to the chapter treasurer, or vice versa, at the end of the year; whereas modern management accounts focus on the trading results and financial balances for the year. It should be asked whether the translation of the data into a modern accounts format is a useful exercise. The main difference between the two systems is the inclusion of accumulated surpluses in receipts and accumulated deficits in expenses and the treatment of contractual income (mainly rents) as received in the *compotus* accounts, whether or not that was actually the case, and without provisions for non-payment. The earlier accounts do not provide accounting cost categories or unit cost information, making them of little use for management controls, which were not required. However, these deficiencies were largely made good by the end of the period, suggesting that the accountants were aware of them.⁹⁷⁰ It is clear that long-serving masters, such as Thomas of Witney at Exeter, were aware of the accounting implications of what they did, since, after his first year of office, the cumulative balance of his accounts remained in surplus, albeit at a finely judged £20 or less for thirteen of his remaining fifteen accounts. The modern format figures used in the survey allow comparisons to be made on a consistent basis, and the conditionally formatted spreadsheets make it possible to use colour-coded wage list tables to compare wage rates paid, length of service, and promotions.⁹⁷¹ The correlation of the information with the number of

⁹⁶⁸ Tables 1-55.

⁹⁶⁹ See pp. 8-65.

⁹⁷⁰ See pp. 43-57.

⁹⁷¹ Figs. 9.3, 9.5, 9.11, 9.13, 9.17, 9.18.

weeks worked each year throws light on the development of masons' core teams and short-term working in the longer roll series of Exeter, Westminster, and York.

Accuracy⁹⁷²

The accuracy of account rolls and the mathematical abilities of the *custos* have been the subject of attacks from a wide range of authors, including Marc Bloch, G.G. Coulton, and Canon Fowler. However, observable mistakes in the addition of rolls are rare. A source of the reported errors is the misunderstanding of medieval conventions, and recent research on Durham manuscripts concluded that once the long hundred (= 120) was used, a recalculation of the arithmetic did not reveal any errors. Errors do exist in the late Westminster rolls under Islip, and there is a case in Norwich where a scribe transcribed the wrong year in a second copy. In working through the account rolls, cases where the author's added total of transcribed items differ from the *compotus* total almost always result from an illegible or missing entry in a damaged roll. Where differences persist the total of the manuscript has been used, because that is what the *custos* and the master believed to be true. In any case the formal audit procedures for which written accounts had been mandatory since the second quarter of the thirteenth century were not limited to the fabric rolls, and the choice of auditors to inspect was an understood procedure throughout the cathedral and monastic domains. What did occur with some frequency was that there were multiple additions and changes in the lines after the audited total, usually indicating that additional payments were agreed to reduce the liability of the *custos* when the surplus was high, and successive crossings out indicate that the matter had been the subject of some debate.

The sample⁹⁷³

The limits to the sample are set by the accident of survival of individual fabric rolls, which are from the first major building campaign roll at Hereford in 1290-91 to the last complete roll of York Minster in 1543-44. It is likely that written fabric rolls existed in the early thirteenth century and Communar rolls of Norwich Cloisters survive from 1283; the account books continued after 1540 in most

⁹⁷² See pp. 48, 49.

⁹⁷³ See pp. 20-22.

cathedrals, but often in truncated form as funds reduced and cathedral building finally came to a halt. Within this period some 500 rolls survived, perhaps equivalent to 10% of the fabric rolls which once existed, a remarkable result for late medieval documents scattered through fourteen archives.⁹⁷⁴ However, the sample is short of the long building series covering major building campaigns from which so much can be learned, with only those of early-fourteenth-century Exeter with 38 accounts, 61% surviving, and of York from 1360 to 1543, with 45 accounts, only 25% surviving. The systematic analysis of management and costs requires extensive data for comparison, and it was decided at an early stage to include the Westminster Abbey nave accounts from 1387 to 1506, with 133 accounts, 97% surviving, which operated outside the Royal Works and were funded through a fabric fund similar to those of the cathedrals. Over 80% of over 150,000 transactions in the sample are from these three long series and more than half from Exeter, where the weekly frequency of the earlier 1299-1353 and the later 1374-1513 series push up the number of transactions accordingly. The shorter series are valuable in other ways and include rare examples of building processes such as in the construction of the Ely Octagon, the Salisbury crossing vault, and the Canterbury Bell Harry Tower. No sample can be fully representative, and while this sample has strengths in illustrating the organisational development over the period, it is light on fourteenth-century detail, other than Ely and Exeter, and overweight in its fifteenth-century examples of the largest cathedrals and Westminster Abbey.

Sources of funds

The second line of investigation addresses the sources of finance. These fall into two parts: the fabric funds and patronage. The regular receipts of the fabric fund come in three components – individual giving, livings and tithes, and commercial income – amounting to well over 60% of the funds, and an additional 16% is unclassified. These *sustainable* funds continued whether there was a building campaign or not, though individual donations tended to increase during campaigns and were to that extent variable. Patronage funds usually provided well over half of the cost of new work, and consisted of funds orchestrated by the patron, normally the bishop, and from chapter covenants made

⁹⁷⁴ See note p.20 n.71.

at his behest. It was the patron's role to provide sufficient funds over and above the regular fabric fund to make the new work *affordable*. These were also routed through the fabric fund.

Fabric funds⁹⁷⁵

To ascertain whether the fabric accounts were *sustainable* as a financial resource, consideration has been given to individual donations and corporate income, the trends and risks of each source of funds, and interventions by the chapters to grow their revenue streams. Individual giving was always the focus of fund-raising, and the church considered this a key element in the pastoral relationship.

However, it was not the case that cathedrals 'can never be constructed without the generosity and alms of the Christian faithful'.⁹⁷⁶ The two main sources of private giving were cathedral collection boxes and the shrines of saints in many cathedrals, and together these contributed only some 16% of the total revenues. The chapters intervened to increase receipts through the frequent repositioning of collection boxes and the timing of feast day fairs and other opportunities for fund-raising. However, the most effective intervention was the use of indulgences. These were first recorded in the Exeter fabric rolls in 1329, and in their simplest form they were a simple exchange of good works for a remission of penances for a limited number of days, usually 40. They could only be issued by a bishop or the pope. They were soon pervasive in building campaigns as longer periods of remission of up to 100 days were allowed but became scarcer during the fifteenth century as new building projects waned. Indulgences were used to reward pilgrimages to cathedral shrines, which were the greatest source of individual donations. This resulted in large investments in building cathedral shrines, after the astonishing success of St Thomas Becket's shrine in Canterbury. However, lives of local saints tended to be forgotten after a generation or two, and even the famous St Thomas Cantilupe donations at Hereford drained away before the years of his canonisation were complete. In later years, other than at Canterbury, only the massive investment at Ely in honour of St Etheldreda, the pre-Conquest national monarch and saint, was sufficient to attract significant donations into the sixteenth century.

⁹⁷⁵ See pp. 66-121.

⁹⁷⁶ The King of France concerning the Fabric of Senlis Cathedral (c.1155), sub-title of Vroom, *Financing Cathedral Building* (2010), p. 155 and n.512 citing Mortet and Deschamps, *Recueil de textes relatifs à l'histoire de l'architecture et à la condition des architectes en France, au moyen âge XIIe-XIIIe siècles* (Paris, 1929), pp. 95-6.

At the end of the great famine in 1321-22, a Lincoln chronicler had written of ‘the chilling of men’s devotion towards the church, the saints, and the works of God’ after St Hugh’s collection was opened with disappointing results. The signs were misleading and lay contributions generally remained at the high level of the early 1300s and grew in the 1360s. However, after the first thirty years of the 1400s, individual donations slipped away relentlessly.

Endowment and commercial incomes were more robust. Livings and tithes were the founding assets of most fabric funds: the Ely Sacristy was endowed with livings from four churches, while York was the beneficiary of the Percy family bequest of Topcliffe church, producing one of the highest annual incomes in the country. Westminster Abbey provided for its new fabric fund with the living of Langdon church in 1341 and boosted it with new lands and tenements in Westminster in 1377-78, before the nave began. The combined earnings of the sample outperformed post-Black Death inflation, producing reliable income to the end of the period. Commercial incomes, negligible in the fourteenth century, were substantial in Westminster from the start of the nave in 1387, and from the first full fabric roll of York of 1415-16. While the abbey rentals increased steadily through the period, the net income from almost 100 properties in York sank to less than half of its value by 1500, due to the recession in the cloth trade in the city. Despite the falling trend in private donations and the ups and downs of local property markets, there is little doubt that the fabric funds were fit for purpose and provided a sustainable springboard from which the patrons could start their campaigns.

Patronage⁹⁷⁷

There are few entries on patronage in the surviving fabric rolls, perhaps 70 in all, in contrast to some thousands of the more regular funding of the fabric rolls. The entries typically record the part-payment of a large sum made through an intermediary, but tell us little of the motives and purpose of the donor. To address this gap, profiles of the careers of the patrons of the ten most significant projects identified in the survey have largely been drawn from additional sources, on the basis of extensive analysis of late medieval bishops by twentieth-century scholars, based on episcopal registers, chapter acts, and wills. It was Jean Bony who first recognised the role of bishops in

⁹⁷⁷ See pp. 122-65.

transmitting architectural style nationally in the thirteenth century. More recently Paul Binski has suggested a ‘sort of a club’ of bishops who promoted the Decorated style in the reign of Edward II. The powerful role of the bishops had its origins in a declaration by King John, under pressure from the pope, that English bishops should henceforth be elected ‘by canonical selection with confirmation by the king’. As G.W. Bernard has shown, by the mid-fourteenth century the bishops provided by the pope were in practice selected by the king, who ‘had little difficulty in securing the bishops he wanted’. This was quite essential for the English church, whose bishops played a key and increasing role in government through their appointment to high offices of state. Some 31% of bishops served in the royal service from 1342 to 1400, and as many as 63% served in the 1400s. The growing royal reliance on the church for officers of state and diplomacy was a direct result of an increasingly fractious aristocracy.

Episcopal resources were substantial. Commentators have usually looked to the *Taxatio* of 1291 for confirmation of episcopal wealth. It confirms annual incomes ranging from £300 to £3,000 and averaging £1,100. However, these are gross, before the deduction of household and office expenses, which are shown to have been as large as those of other substantial landholders. The only surviving example of the full expenses of an active bishop is from two years before the *Taxatio*, with expenses of £800 for a household of 40 members. This was at the low end of household numbers which Christopher Dyer thought normal for a wealthy abbot. Thus, dioceses with incomes of £800 or less could be considered at risk; indeed, Exeter had previously been placed under ‘special measures’. The rewards available to holders of high public and ecclesiastical offices were key sources of income. Annual fees of 100 marks (£66 13s 4d) plus a *per diem* wage of £1 per day for high office, a *per diem* fee of £3 6s 8d paid for diplomatic missions, and an additional £40 p.a. to members of the King’s Council were not unusual. This income was gross and subject to high expenses, but the likelihood is that margins were high. Multiple benefices and cathedral prebends were also provided to bishops working in the royal service during their careers, subject to papal dispensations for pluralism and absenteeism. The declared wealth at death figures of eight bishops in our profiles averaged close to

£3,000. The patronage of those patrons to their projects amounted to a £9,600 and provided 58% of their individual project costs.

Patronage sums were extraordinarily large and out of scale with the other revenues and expenses in the fabric rolls. There are no records of episcopal net income, but £200 to £300 would not have been unusual and the wealthiest earned at least £2,000. These are to be compared with a dean's prebend of £13 6s 8d or a master's annual fee of £6, before the Black Death, or a mason's standard annual pay of £7.20 afterwards. The question of patrons' motives has seldom been addressed.⁹⁷⁸ Some 50% of bishops served in an area of their family origin or their previous service. For these the standing of the cathedral, the church, and religion, and their own office, might have been sufficient. The use of the language of aesthetics, such as John Grandisson's desire that Exeter should 'exceed in glory all the other churches' or John Thoresby's wish that York Minster 'be adorned with uniform beauty in all its parts' with 'becoming workmanship' would also have struck a significant chord. Luxton took the view that 'spiritual salvation and ease of passage to heaven, for self and kindred, were probably the most pervasive'. While these motives are evident in major structures such as Hotham's choir and Thoresby's Lady Chapel, they are usually associated with the movement to smaller-scale chantry chapels and sepulchral monuments in the fifteenth century, with the increasing shortage of burial space within the cathedrals. While political motives were mostly confined to royal works, the strong interconnection between church and state was at the centre of English patronage. As officers of the royal service, the bishops profited from the revenues of the church through benefices and sinecures, while the recruitment of a well-trained cadre of administrators at low cost allowed the English state to develop a larger and more professional service than it would otherwise have done.

⁹⁷⁸ See pp. 148-58.

The master mason

The master mason as architect⁹⁷⁹

The third part of our exploration is the role of the master mason, both as architect and manager. The relationship between patron and master is difficult to pin down, but correspondence indicates that those between John Grandisson and Thomas of Witney at Exeter and between John Morton and John Wastell at Canterbury were very close. How did that role and the business model evolve, what were the forces for change, and what were the implications for cathedral building programmes?

While the first masters of the rebuilding of Canterbury were early role models, it was not until the 1250s that the professional master, combining the roles of architect, project manager, and site foreman, was recognised at the Royal Works. The masters have been compared with present-day architects, but the key difference was that the master designed on site and transmitted the details directly to the masons on templates which were cut in the masons' yard as the work progressed. By 1300 the traditional master had established a mode of working with large semi-permanent workforces which typified the period, and the craftsmen worked for variable periods to suit the work in hand. Masons were recruited, trained, and promoted in the masons' lodges and were no doubt subject to strict discipline in the larger lodges, which it was the master's formal duty to enforce. In the course of time, works organisations changed to allow more of the work to be done by smaller teams of masons and labourers, recognising the multiplicity of tasks in the building process. Large teams of 25 to 50 workers were last commonly employed in the boom years between 1390 and 1420, when accelerated campaigns more or less coincided at Canterbury, Westminster, and York. Changes in the workplace were reflected by changes in the masters' business model. Thomas of Witney was the earliest consultant master in our survey, an exceptional designer in wood and stone and an innovative manager. He worked at Winchester, Exeter, and Wells. While his predecessor, Roger, is credited with the Decorated designs of Exeter cathedral, Witney was specifically employed by Stapeldon to design and execute the exquisite micro-architecture of the high altar furnishings. In a break with tradition, he

⁹⁷⁹ See pp. 165-222.

brought in a higher-paid specialist team for the purpose. Witney worked mainly at Wells on the Lady Chapel from 1323 to 1328 but concentrated on the nave and cloisters of Exeter from 1329 to 1342. There is no evidence as to any special arrangements for managing the lodge during Witney's significant absences; his fees were unaffected, and the senior masons would have carried out a supervisory role when needed. The severe shortage of master masons after the Black Death, when half of the masters and masons are thought to have died, reinforced the trend towards using consultant masters. Although Harvey lists only 24 consultants who were active in this period, their influence was great, and 9 were designers of significant new works discussed in this thesis. The most substantial works were those of William Hurley at Ely Octagon and William Colchester at York, both in the wake of crossing tower disasters where specialist engineering skills were needed to create new solutions. John Wastell's engagement at Canterbury was not only to make use of his tower-building experience, but also to bring modern materials and working practices to an old project. However, the widespread use of consultant masters should not be seen simply as an attempt to spread essential design skills from the centre, but rather as a flexible arrangement which made it possible for the most talented designers to work on site on a spread of projects, of shorter duration and smaller scale than before, and also for the cathedrals to achieve higher standards of design and innovation than they might otherwise have done.

The master mason as manager⁹⁸⁰

As managers, the traditional masters ran a paternal and individual system of graduated pay rates, involving at least eight rates in early Exeter, and multiple rates at Westminster and York. The system was used as an incentive to reward individual masons. By the 1370s, the unprecedented inflation in masons' wage rates after the Black Death settled at between 40% and 60% above previous levels. For whatever reason, and perhaps in deference to the new statutory restrictions which prescribed rates that were notably lower, York introduced a top weekly rate of 3s which promptly became the standard rate in a seller's market, and Westminster did likewise at 3s 4d. These remained the standard rates for at least 150 years and were paid to almost all of the masons there. The use of standard rates elsewhere

⁹⁸⁰ See pp. 223-64.

was less certain: they probably applied during major campaigns when masons were in short supply and fell away when demand was weaker – though not for highly skilled masons. The application of standard rates removed opportunities for workforce incentives, and the only additional incentive at York and Westminster was an allowance of 4d per week for setting cut stone at heights. A more gradually introduced change in masters' contracts reduced their annual retainers drastically (from c.£6 p.a. to £1 6s 8d) in favour of weekly pay at the highest rate for the actual weeks worked, and may have had a similar effect. Consultant masters were seldom subject to such reductions, and the aggregation of their annual fees enriched high-status consultants dramatically.

The surprising fluidity of arrangements of the semi-permanent masons has been noted with some frustration by commentators, and the use of colour-coded tables and bar charts in the thesis allows a closer view of the patterns. A useful comparison is the pattern of employment under Master Roger for the presbytery and choir of Exeter with that under Thomas of Witney for the nave, of similar section, albeit with the integration of the north range of the cloisters. The range of masons employed by Witney was quite similar, though the work took somewhat longer. Witney worked his core team harder, for 48 to 51 weeks per year rather than Master Roger's 45 or 46, and employed an average of 2 to 3 short-term masons each quarter rather than 6 in Master Roger's time. The rolls of York tell us less, with the long intervals between surviving rolls and missing exact dates of service. They show core teams of 12 to 26 masons working at full capacity for 51 or 52 weeks from 1404 to 1432, with an additional 8 to 13 short-term masons working 22 to 36 weeks from 1415 to 1419. Nothing much happened in the mid-century depression after the 1430s, other than the completion of the York towers in 1472. However, when new works returned at Salisbury, Westminster, and Canterbury, small-team working was the order of the day. The 63 weekly rolls of the Salisbury crossing vault in 1479-80 reveal a workforce of 4 masons including the master, 4 carpenters, 4 labourers, and 5 quarry labourers, who assembled and reassembled in teams of 2 masons or 2 carpenters with 2 labourers to break down the existing timber vault, erect the scaffolding, make the centring, cut and set the stone, and remove the scaffold. The fine lierne vault was completed for £41.97, which compared well with the contract price of £120 for the vaults of three bays of

Westminster Abbey ten years later. Similar nimbleness of management on a greater scale was demonstrated at Westminster under Master Robert Stowell (1471-1504). Between 1471 and 1480 he employed small teams of 4 to 6 masons or carpenters for the remaining six bays of the nave to build up the clerestory walls, erect triple-tiered scaffolding and the timbers of the high roofs, and to cover three bays of roofing with lead, while 3 were contracted out. Once the roofs were in place in 1479-80, a gathering of 3 highly regarded masons was called to supervise and advise on the next phase, a rare example of inspection by peers, known as an *Expertise* in fourteenth-century France but not noted in any English cathedral fabric roll. The plans must have been judged satisfactory as the 'archbuttresses' were completed in 1482-83. The second phase of scaffolding provided level floors at a height from which the masons could assemble the vaults, partitioned from the winds and pigeons with canvas, and with the great wheel positioned and attached to the nearest tie-beam, to provide a place where the heavy key stones could be landed, well clear of the centring. The versatility of the master masons was not only to be seen in their changing business models, but also in their readiness to adapt to new styles of working.

Building costs and models of the late medieval economy⁹⁸¹

The final line of enquiry is into the wider economic context of cathedral building activities. Attention has been drawn to the extraordinarily flat pattern of skilled masons' wages for more than a century and a half after they reached unprecedented levels following the Black Death. A detailed analysis of quarried stone costs has confirmed that the same non-inflationary pattern applied to quarried stone, excluding costs related to changes in the method of transport. Costs of the most frequently used building materials rose after the Black Death by similar amounts, but while lime and iron tended to stabilise thereafter in local markets, lead which traded in national markets, was more volatile and fell in price. These wages and materials costs constituted 85% of building costs, and there was no appreciable inflation in these costs from 1380 to 1500.

⁹⁸¹ See pp. 265-306.

These observations go against the accepted view of inflation which emerged after Phelps Brown and Hopkins' path-breaking article 'Building Wages' in 1955 and later studies by Farmer (1989, 1991) in which building workers' real wage rates are used as an indicator of living standards.⁹⁸² Clark (2010), who developed an input-based Gross Domestic Product per head model, recognised land rentals and capital as sources of income and created an index which was still based on real wage rates.⁹⁸³ All of these suggested steeply rising builders' real wage rates from about 1320 until at least 1420. This was contended by John Hatcher (2011) and subsequently Stephen Broadberry et al. (2015), who provided an output-based model of GDP per head which results in a more credible understanding of how the non-inflationary cost environment of the cathedral masons' lodge persisted and shows short-term and long-term economic movements which are reflected in the fabric rolls.⁹⁸⁴ These studies have relied on Thorold Rogers' monumental but unstructured collection of medieval price and cost statistics, largely from the Public Record Office. An investigation of the masons' payments included in Thorold Rogers, but segmented by higher rates and location, has been undertaken and the Oxford higher rates for skilled masons are shown to be close to those of the cathedrals, but still do not provide an answer as to how and why the standard rates should have persisted above the statutory limit until as late as 1495.

The opportunity offered by the collection of all the surviving fabric accounts to aggregate the accounts of the long series is compelling. The consolidation of the incomes of seven cathedral accounts series gives an overview of building campaign income over two and a half centuries. It shows three periods of high income, 1300 to 1335, 1390 to 1420, and 1480 to 1520, with two intervening depressions in 1340 to 1380, the Black Death and after, and from 1430 to 1480, the mid-fifteenth-century slump. The W-shaped trend line appears to present a good match with the longer-term cyclical trends in the economy. The sample is perhaps light in showing the variety of early-fourteenth-century projects, and overweight in the representation of major building projects at the

⁹⁸² Phelps Brown and Hopkins (1955), pp. 195-206 and (1956), pp. 296-314; Farmer, *AHEW* (1989), v.2, pp. 716-817, and (1991), v.3, pp. 431-53.

⁹⁸³ Clark (2010), pp. 51-140.

⁹⁸⁴ Hatcher (2011), pp. 1-24. Broadberry et al. (2015), pp. 187-246.

largest cathedrals and Westminster Abbey from 1390 to 1430. It invites a fresh look from those for whom the Black Death represents the start of an uninterrupted decline, and suggests that cathedral building was not yet unaffordable. Two and a half centuries of endeavour had essentially completed a cathedral rebuilding programme through accretion of significant new works which allowed the buildings to change and evolve into their final form.

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DCC Sacrist's Rolls for 1415, 1429

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DCD Bursar's Rolls: Prior's Kitchen, 1366-68

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