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Tithe and Agrarian Output Between the Tyne and Tees, 1350 – 1450

Ben Dodds

Abstract

The aim of this thesis is to establish a series of agrarian output indicators, based on tithe receipts, for the period 1350 to 1450 and to interpret this series in the light of current thinking on the medieval economy. Tithe receipts recorded in the accounts of Durham Priory were used for the series. After a broad discussion of the concept of tithe, covering its origins, significance and historiography, the institution of tithe is examined at the parish and monastic levels. There follows a detailed discussion of the method used to convert the tithe receipts into indicators of agrarian output: this represents a development of methods used by French historians in the 1960s and 1970s. The final two chapters examine the significance of these indicators for our understanding of the economy of the late middle ages. Agrarian output in the parishes between the Tyne and Tees proves to have been comparable to developments on demesne land elsewhere in England. Some significant differences are also observed and discussed.



Tithe and Agrarian Output Between the Tyne and Tees,
1350 – 1450

Ben Dodds
Ph.D. Thesis
University of Durham
History Department
2002

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Thesis

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Table of contents

	Page
Acknowledgements	6
Notes on referencing	7
Abbreviations	8
List of tables	11
List of figures	12
List of plates	15
Chapter 1 Tithe: institution and historiography	17
Origins	17
Tithe data and historiography	27
Potential of English records	38
Chapter 2 Tithe administration: the parish level	42
Collection	44
Transportation and storage	58
Chapter 3 Tithe administration: the monastic level	69
The endowment and its division	70
Disposal of tithes	76
Accounts: form and purpose	88
Accounts: the tip of the iceberg?	104

	Page
Chapter 4 Tithe and agrarian output: the monks	113
The monks' reasons for analysis	113
The monks' method	130
Chapter 5 Tithe and agrarian output: calculating output indices	138
Tithe receipts and output	138
Output index equation	141
Further problems	160
Chapter 6: Output indices: description	168
The Black Death	174
1350-92 Recovery and renewed downturn	184
1393-1420 Crisis at the turn of the century	192
1421-1449 ' <i>Non mediocriter est collapsus</i> '	201
Chapter 7: Agrarian production and economic change	213
Introduction: explanatory models	213
Exogenous factors and production	219
Vacancies and sheep: land use and production levels	229
Peasant productivity: a comparison with the manorial sector	237
Landlord-tenant relations	251
Conclusion	255

	Page
Appendix 1 Lord Beveridge's northeastern grain price series	257
Appendix 2 Individual vill estimated output graphs	273
Appendix 3 Post-Black Death plague outbreaks in northern England	297
Bibliography	298

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Occasional use is made of research done as part of my University of Durham M.A. Mention is made in the footnotes where this is the case.

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Notes on referencing

The thesis deals mainly with parishes and vills between the Tyne and Tees (including Wallsend and Willington on the north side of the Tyne). When individual vills in this area are mentioned, their parish is also given. Occasionally evidence is drawn from places beyond these bounds and connected to Durham Priory: their present-day county is given with their first appearance in each chapter.

A note on references to Durham Cathedral Muniments accounting material

The accounts of the bursar and terrar are exceptionally long and therefore footnotes give the section as well as the account year. Complications arise in the case of the tithe receipt sections which were not always labelled but are easy to locate in the receipts half of the accounts. Where a label does survive, this is given in the reference. If not, then the reference gives '[*Decime*]'. Within the tithe sections, vills were always separated by parish but the parish sections were not necessarily labelled with the name of the parish. The footnotes therefore give the modernised name of the parish. References to the accounts of other office holders similarly identify the sections from which information is taken. A few footnotes omit a section name if the account is so illegible that sections are difficult to distinguish. Often more than one version of accounts survive. In the majority of cases, both accounts give the same information and therefore no letter indicating version has been added. Where only one account was referred to, often because of the illegibility of other versions, a letter is given.

Abbreviations

Durham Cathedral Muniments accounting material is only referenced individually when quoted directly in the text. Otherwise, accounts are easily traceable by year. See A. J. Piper, *Muniments of the Dean and Chapter of Durham: Medieval Accounting Material* (Durham University Library Archives and Special Collections Searchroom Handlist, 1995). The contents of this handlist can be found on Durham University Library Archives and Special Collections web pages at

www.flambard.dur.ac.uk:6336/dynaweb/handlist/ddc/

- DCM = Durham Cathedral Muniments
B.Bk = Bursar's book
PRO = Public Record Office

Abbreviations for printed material

- EETSOS31 = *'Instructions for parish priests'* by John Myre, ed. E. Peacock, Early English Text Society Original Series, 31 (London, 1868).
- EETOS115 = *Jacob's Well part I*, ed. A. Brandeis, Early English Text Society Original Series, 115 (London, 1900).
- EETOS119 = *Robert de Brunne's 'Handlyng synne' part I*, ed. F. J. Furnivall, Early English Text Society Original Series, 119 (London, 1901)

- EETES71 = *The Towneley Plays*, ed. G. England and A. W. Pollard, Early English Text Society Extra Series, 71 (London, 1897).
- Pantin 1 = *Chapters of the English Black Monks, documents illustrating the activities of the General and Provincial volume I*, ed. W. A. Pantin, Camden Third Series, 45, (London, 1931).
- Pantin 2 = *Chapters of the English Black Monks, documents illustrating the activities of the General and Provincial volume II*, ed. W. A. Pantin, Camden Third Series, 47 (London, 1933).
- Pantin3 = *Chapters of the English Black Monks, documents illustrating the activities of the General and Provincial volume III*, ed. W. A. Pantin, Camden Third Series, 54 (London, 1937).
- SS6 = *The priory of Finchale. The charters of endowment, inventories and account rolls*, ed. J. Raine, Surtees Society, 6 (Newcastle, 1837).
- SS9 = *Historiae Dunelmensis scriptores tres*, ed. J. Raine, Surtees Society, 9 (London, 1839).
- SS12 = *The priory of Coldingham: the correspondence, inventories, account rolls, and law proceedings, of the priory of Coldingham*, ed. J. Raine, Surtees Society, 12 (London, 1841).
- SS29 = *The inventories and account rolls of Jarrow and Monkwearmouth*, ed. J. Raine, Surtees Society, 29 (Durham, 1854).

- SS32 = *Bishop Hatfield's Survey*, ed. W. Greenwell, Surtees Society, 32 (Durham, 1857).
- SS99 = *Extracts from the account rolls of the abbey of Durham from the original MSS volume I*, ed. J. T. Fowler, Surtees Society, 99 (Durham, 1898).
- SS100 = *Extracts from the account rolls of the abbey of Durham from the original MSS volume II*, ed. J. T. Fowler, Surtees Society, 100 (Durham, 1898).
- SS107 = *Rites of Durham*, ed. J. T. Fowler, Surtees Society, 107 (Durham, 1902).
- SS198 = *Durham Cathedral Priory rentals volume 1 bursar's rentals*, eds. R. A. Lomas and A. J. Piper, Surtees Society, 198 (Newcastle, 1986).

Tables, figures and plates

	Pages
Map Parishes and vills appropriated to Durham Priory and its dependencies between the Tyne and Tees	16
 <u>Tables</u>	
Table 2.1 Tithe collection costs when the value or sale price of the tithe corn is known	57 - 8
Table 3.1 Accounting office responsible for income from Durham Priory's appropriated parishes <i>infra</i> and <i>extra aquas</i>	71
Table 3.2 Purchasers and sums paid for the tithes of Heighington vill 1350-68	81
Table 4.1 'Receipts from churches': calculations made by the Durham monks	119
Table 4.2 The monk's tithe tabulation and parish totals given in bursars' accounts	130
Table 4.3 Valuation of 1348 and 1350 receipts in kind using 1340s averages	132
Table 5.1 Composition of grain harvests	145
Table 5.2 Composition of the 1349 harvest in two vills (based on tithe receipts)	146
Table 5.3 Calculating an adjusted 1340s average for Monkton (Jarrow)	155

	Pages
Table 5.4 Estimating a 1340s average for Billingham	157
Table 6.1 Output indices in the year of the Black Death	180 - 1
Table 7.1 Villis recorded as 'waste' or 'unsown'	232 - 3
Table A1.1 A northeastern price series	258 - 60

Figures

Figure 2.1 Billingham vill tithe collection payments in bursars' accounts	55
Figure 2.2 Wolviston (Billingham) vill tithe collection payments in bursars' accounts	55
Figure 2.3 Cowpen Bewley (Billingham) vill tithe collection payments in bursars' accounts	55
Figure 2.4 Newton Bewley (Billingham) vill tithe collection payments in bursars' accounts	55
Figure 3.1 Percentage of villis in bursars' accounts from which tithes were in hand (for years when over 50 vill entries survive)	78
Figure 5.01 Wallsend and Willington (Jarrow) tithe output estimated using Equation A	139
Figure 5.02 The overall Step One average and a sample from six consistently represented villis 1350-1400	143
Figure 5.03 Decennial average composition of grain harvest from tithes in hand	147

	Page
Figure 5.04 Output indices graph showing the effects of adjusted harvest composition figures in step two of Equation B	149
Figure 5.05 Durham Priory <i>infra aquas</i> parishes estimated output indices with bars indicating likely error in tithe receipt averages	166
Figure 5.06 Durham Priory <i>infra aquas</i> parishes estimated output indices with price crisis years omitted	167
Figure 5.07 Killerby (Heighington) cash tithe receipts deflated by annual prices, 1341-8	153
Figure 5.08 Indexed tithe receipts from 20 vills with 7 or 8 individual receipts surviving showing margins of error at 95% confidence level	154
Figure 5.09 Step One performed using only 100 'pure' 1340s averages	156
Figure 5.10 Step One of Equation B performed using 100 'pure' 1340s averages (line) and all 1340s averages (bars)	158
Figure 6.01 Total grain tithe receipts from Billingham (including combined)	171
Figure 6.02 Total grain tithe receipts from Cowpen Bewley	171
Figure 6.03 Total grain tithe receipts from Newton Bewley	171
Figure 6.04 Total grain tithe receipts from Wolviston (including combined)	171
Figure 6.05 Grain tithe receipts from Billingham (Billingham)	172
Figure 6.06 Grain tithe receipts from Aycliffe (Aycliffe)	172

	Page
Figure 6.07 Grain tithe receipts from Shadforth (Pittington)	172
Figure 6.08 Grain tithe receipts from Ferryhill (Kirk Merrington)	172
Figure 6.09 Grain tithe receipts from Hardwick (Monk Hesleden)	173
Figure 6.10 Grain tithe receipts from Monk Hesleden (Monk Hesleden)	173
Figure 6.11 Grain tithe receipts from Pittington parish	173
Figure 6.12 Grain tithe receipts from Kirk Merrington (Kirk Merrington)	173
Figure 6.13 Grain tithe receipts from South Sherburn (Pittington)	197
Figure 6.14 Grain tithe receipts from Bishop Middleham parish	210
Figure 7.1 Diagrammatic representation of the relationship between population and production in the population and resources model	215
Figure 7.2 Durham output indices (price crisis years omitted) and years of pestilence in the north	220
Figure 7.3 Pittington parish average output indices compared with south Durham parishes	227
Figure 7.4 Proportion of villis 'waste' or 'not sown' and output index decennial averages (price crisis years omitted)	230
Figure 7.5 Heads of sheep at Saltholme and output indices	235
Figure 7.6 Estimated output from two Pittington villis and demesne	239
Figure 7.7 Demesne output in Crawley (Hampshire) and the Durham output indices (price crisis years omitted)	239

	Page
Figure 7.8 Demesne output in Wisbech Barton (Cambridgeshire) and Durham output indices (price crisis years omitted)	239
Figure 7.9 Output indices from Heighington (bishopric: 80% increase c. 1183 - c. 1383) and Monk Hesleden (priory: 71% decrease c. 1235 - 1340-1)	252
Figure A1.1: Mean grain price index (100 = Farmer's average 1330/1 - 1346/7)	270

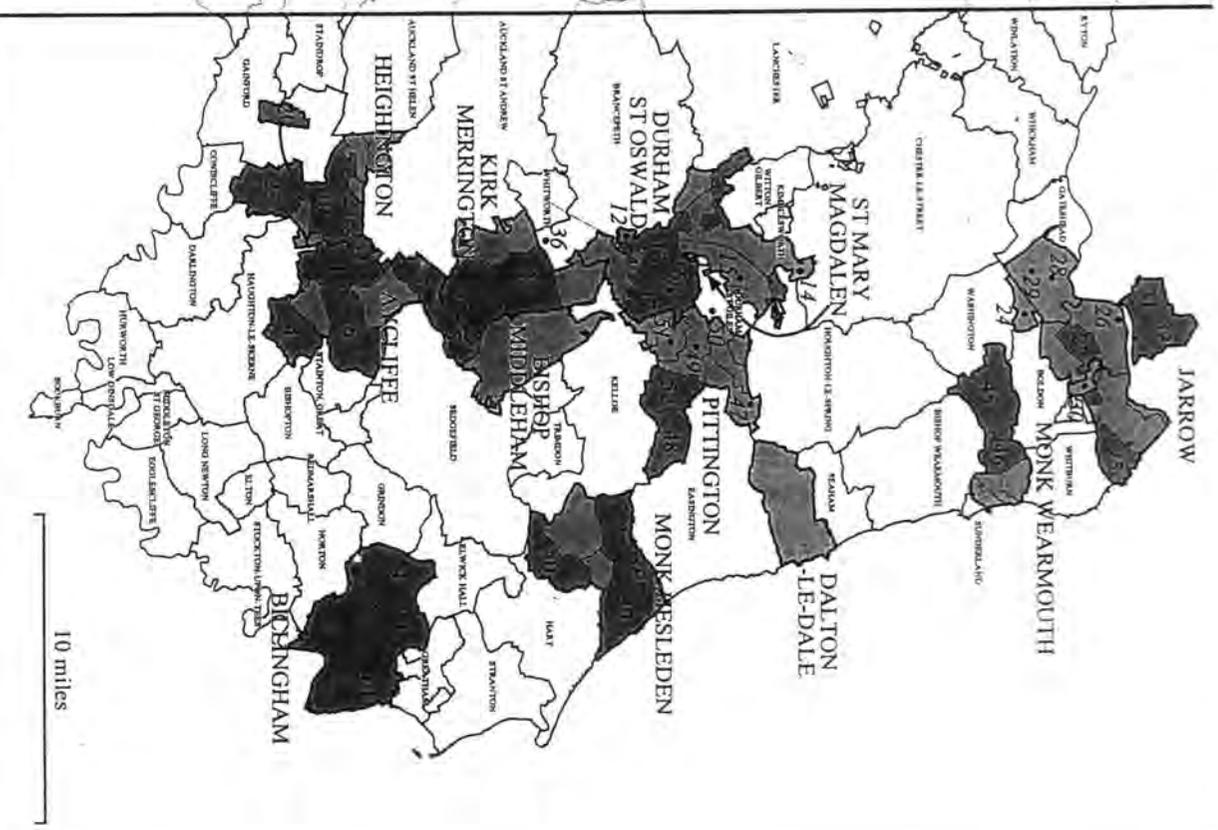
Plates

Plate 1 The Durham monks' tabulation of tithe receipts page 1 (DCM, prior's register II f. 355v)	117
Plate 2 The Durham monks' tabulation of tithe receipts page 2 (DCM, prior's register II f. 356r)	118
Plate 3 Four causes of the decline in tithe income between 1293 and 1420 (DCM, prior's register II f. 356r)	121
Plate 4 Five 1350 receipts, including the Aycliffe transcription error (top) and the monks' total (bottom) (DCM, prior's register II f. 355v)	136

Map : *Parishes and vills appropriated to Durham Priory and its dependencies between the Tyne and Tees*

- AYCLIFFE**
Bursar & Terrar
- 1 Aycliffe
 - 2 Heworth (a)
 - 3 ?Newhouse (a + b)
 - 4 Newton Ketton
 - 5 Nunstanton
 - 6 Preston-le-Skerne
 - 7 Woodham
- BILLINGHAM**
Bursar & Terrar
- 8 Billingham
 - 9 Wolviston
 - 10 Cowpen Bewley
 - 11 Newton Bewley
- BISHOP MIDDLEHAM**
Prior of Finchale
- DALTON-LE-DALE**
Chamberlain
- DURHAM ST OSWALD**
Hostiller
- 12 Burn Hall (a)
 - 13 Elvet
 - 14 Harbourhouse (a)
 - 15 Newton (a)
 - 16 Old Durham (a)
 - 17 Shinccliffe
 - 18 ?Wastes (a + b)
- GILESGATE**
ST MARY MAGDALENE
Almoner
- HEIGHINGTON**
Bursar & Terrar
- 19 Heighington
 - 20 Kilerby
 - 21 Redworth
 - 22 School Aycliffe
 - 23 Waiworth

- JARROW**
Bursar & Terrar/Master of Jarrow
- 24 Fallingsby (a)
 - 25 Hutton
 - 26 Hebburn (a)
 - 27 Monkton
 - 28 Nether Heworth (a)
 - 29 Over Heworth (a)
 - 30 Preston and Simonside (a)
 - 31 Wallisend
 - 32 Willington
- KIRK MERRINGTON**
Bursar & Terrar
- 33 Ferryhill
 - 34 Great Chilton
 - 35 Little Chilton
 - 36 Spenny Moor (a)
- MONK HESLEDEN**
Bursar & Terrar
- 37 Eden
 - 38 Harwick (a)
 - 39 Hulam
 - 40 Sheraton
- MONKWEARMOUTH**
Bursar & Terrar/Master of Wearmouth
- 45 Hylton
 - 46 Southwick
- PITTINGTON**
Bursar & Terrar
- 47 Hetton le Hill (a)
 - 48 Ludworth
 - 49 North Sherburn
 - 50 Ravensflax (a)
 - 51 South Sherburn
 - 52 Shadforth



a Boundaries not recorded in 19th Century sources
b No known fixed location

I am grateful to Dr Helen Dunsford of the Department of Geography, University of Durham, for preparing this map.

Chapter 1

Tithe: institution and historiography

‘Four þynges are ʒyue specyaly
To euery man þat tyðeð ryʒtly;
ðe fyrst ys, long lyfe to haue;
ðe touðer, ðe yn gode hele to saue;
ðe þyrd ys, gracē gode with-ynne;
ðe fourðe, forʒyuenes of þy synne;
ʒyf þou wylt haue any of þyse,
Tyðe weyl, and on gode syse.’

Robert de Brunne ‘Handlyng Synne’¹

Origins

The traditional duty of giving a portion of the produce of the earth to the Lord began soon after the biblical creation of mankind. Cain, who lived by tilling the soil, and Abel, the shepherd, brought gifts from their respective activities for the Lord.² When such gifts next appear in the Bible, the portion was fixed at a tenth and they were given to God through a priest. Abraham returned, having successfully recaptured his nephew Lot, and

¹ EETSOS119, 292.

² Gen. 4:3-5.

was blessed by Melchizedek, a 'priest of God most high', to whom he gave a tenth of his booty.³ By the time Moses received his commands on Mount Sinai, God's share was more closely defined again. Not only did a tenth of all arable produce and every tenth beast belong to the Lord but Moses was told that any wish to redeem the tithe incurred an augmentation of its value by one-fifth; on no account was the Lord to be given the poorer share on pain of forfeiting all.⁴ There is considerably less emphasis on the tithe in the New Testament; indeed, Christ pointed out that payment of tithe was not in itself a sign of righteousness.⁵ It is clear, however, that the Old Testament tradition had a profound influence on medieval thought and practice. In the northern cycle of dramas, known as the *Towneley Plays*, for example, the story of Cain and Abel was reproduced with emphasis on tithe and subtle methods of tithe fraud.⁶

The payment of tithe among Christian communities seems to have been haphazard until the end of the fourth century.⁷ Scattered references among writers suggest uncertainty over the relationship between Jewish tradition and proper Christian practice. Christ upbraided the Pharisees who 'pay tithes of mint and dill and cumin; but you have overlooked the weightier demands of the Law, justice, mercy and good faith';⁸ Origen took this to mean the tenth was a lower alms limit which good Christians would want to exceed. The impression emerges of a strong culture of alms-giving of which the

³ Gen. 14:20.

⁴ Lev. 27:30-33.

⁵ Matt. 23:23; Luke 11:42.

⁶ EETSSES71, 12-17.

⁷ This account of late-Roman and early-medieval tithing practice is based on J. Sharpe, 'Tithes' in W. Smith and S. Cheetham, *Dictionary of Christian antiquities*, vol. 2 (London, John Murray, Albemarle Street, 1880), pp. 1963-5. This, in turn, drew heavily on J. Selden, *The historie of tithes* (London, 1618), pp. 35-67.

⁸ Matt. 23:23.

tradition of the tithe constituted an ambiguous, and certainly not obligatory, part. During the fourth century the debate became more heated. St Ambrose was enthusiastic about the practice but St Epiphanius considered it to be a useless relic of Jewish tradition, like circumcision. Some writers were beginning to exhort the payment of tithe as something more than a voluntary and occasional contribution. St Augustine, for example, blamed contemporary poverty on failure to pay tithes: 'We have been unwilling to share the tithes with God, now the whole is taken away'.⁹

Tithes seem to have become more ubiquitous in the kingdoms which replaced the Roman Empire. In a vision of the Holy Ghost, the sixth-century Nice hermit Hospicius was warned of the impending danger of barbaric Lombards. Not only were they 'without faith, given to perjury, prone to theft, quick to commit murder' but they also did not 'pay their tithes'.¹⁰ The legal obligation to pay tithes developed later. Excluding references to the Council of Mâcon of 585, which were discounted as early as the seventeenth century, the earliest legal obligations were made by the Merovingians and Carolingians.¹¹ Pepin the Short enjoined the payment of tithe in his order to Lull of 767 and it appeared in the famous Charlemagne capitulary of 779.¹²

The earliest English reference to tithe is in the *Penitential* of Theodore of Canterbury of 686. The *Penitential* instructs that the payment of tithes, except to the poor

⁹ Quoted in Sharpe, 'Tithes', 1964.

¹⁰ *Gregory of Tours: the history of the Franks*, trans. and ed. L. Thorpe (Harmondsworth; Penguin, 1974), p. 333 (Book 6 chapter 6).

¹¹ Sharpe, 'Tithes', 1965.

¹² G. Constable, *Monastic tithes from their origins to the twelfth century* (Cambridge; Cambridge University Press, 1964), p. 27.

and pilgrims, was only legal when laymen pay to their churches.¹³ This intriguing reference is frustratingly undetailed but it implies a continued blurring of the distinction between tithe and other types of alms-giving. A ninth-century reference to a tenth in the Anglo-Saxon Chronicle is also confusing but may suggest some intervention from the secular authorities: ‘Æthelwulf conveyed by charter the tenth part of his land over all his kingdom to the praise of God and his own eternal salvation’.¹⁴ It is not clear, in fact, what type of tenth was being referred to here; Gasquet suggested the entry was poorly worded and indicated an order that a tenth of all produce be given to the Church.¹⁵ King Athelstan’s enforcement of the payment of tithe around 930 is less ambiguous.¹⁶ This was closely followed by the instructions made by King Edgar in 959 and 964 in which the practice of tithing was carefully defined:

And all payment of tithe is to be made to the old minster, to which the parish belongs, and it is to be rendered both from the thegn’s demesne land and from the land of his tenants according as it is brought under the plough.¹⁷

The code goes into further detail, even stipulating the punishment for someone who refused to pay their tithes.

¹³ *Councils and ecclesiastical documents relating to Great Britain and Ireland*, ed. A. W. Haddan and W. Stubbs, vol. 3 (Oxford; Clarendon Press, 1869-73), p. 203.

¹⁴ *The Anglo-Saxon Chronicle*, trans. and ed. M. Swanton (London; Dent, 1996), p. 66 (A version, s.a. 855).

¹⁵ F. A. Gasquet, *Parish life in medieval England* (3rd edn.; London; Methuen, 1909), p. 11.

¹⁶ F. L. Cross and E. A. Livingstone, eds., *The Oxford dictionary of the Christian church* (3rd edn.; Oxford; Oxford University Press, 1997), p. 1626.

¹⁷ *English historical documents c. 500-1042*, ed. D. Whitelock (2nd edn.; London; Eyre and Methuen, 1979), p. 431.

Hardly lucid for southern England, the early history of tithing payments in northern England is obscure and confused. In his 1880 article Sharpe alluded to detailed instructions for tithing made in the 'Exceptiones' of Egbert archbishop of York. This would give a detailed mid-eighth century account of tithing practice and might even hint at secular involvement since Egbert's brother Eadberht ascended to the throne of Northumbria in 737.¹⁸ No reference can be found, however, to 'Exceptiones' by Egbert: it appears Sharpe must have been referring to the *Excerptiones*, a list of canons attributed to Egbert.¹⁹ This is confirmed by a comparison of the canons quoted by Sharpe and those of the *Excerptiones*.²⁰ They enjoin priests to ask for tithing payments from everyone's property and to write down the names of those who had given tithes.²¹

Identifiable references to Charlemagne's capitularies in the *Excerptiones* mean, however, that they must have been written after Egbert's death in 766.²² It is possible, of course, that the Frankish material could represent later insertions in a text originally prepared by Egbert.²³ A closer examination of the manuscript history of the *Excerptiones* makes this suggestion rather doubtful without ruling it out altogether. The manuscript in question is Bodleian MS. 718 which comprises four books; the second is Egbert's *Penitential*, and the first a list of *Capitula*, the first twenty-one of which are identical to other versions of the *Excerptiones*, including MS. Cotton Nero A.1. The only link between the *Excerptiones* and Egbert seems to be the Bodleian manuscript in which they

¹⁸ F. M. Stenton, *Anglo-Saxon England* (3rd edn.; Oxford; Oxford University Press, 1971), p. 161 n. 1

¹⁹ Cross and Livingstone, *Dictionary*, 533.

²⁰ Sharpe, 'Tithes', 1965; *Monumenta ecclesiastica Anglicana*, ed. B. Thorpe, appended to *Ancient laws and institutes of England*, ed. B. Thorpe (London; Record Commissioners, 1840), p. 334.

²¹ *Ibid.*, 326.

²² This fact was observed as early as 1664, by Sir James Ware who first published Egbert's dialogues, but has not prevented centuries of unresolved confusion. Haddan and Stubbs, *Documents*, vol. 3 pp. 403, 415.

²³ This seems to have been the opinion of the author of the entry in Cross and Livingstone, *Dictionary*, 533.

appear with Egbert's *Penitential*; this, in the opinion of Haddan and Stubbs, 'beguiled the transcribers of the two MSS. [i.e. Bodleian MS. 718 and MS. Cotton Nero A.1] into calling both these compilations Egbert's also'.²⁴ If detailed examination of the manuscripts in question revealed a northern connection then it is possible that these are still the earliest references to tithes in this part of the country.

A more reliable reference to tithes in northern England appears in the report made by George, bishop of Ostia and legate to Pope Hadrian. The bishop of Ostia arrived in 786 with Theophylact, bishop of Todi, on the first legatine mission to England since that of Augustine nearly two centuries earlier. Following a meeting with Archbishop Jaenberht at Canterbury, the legates went to Offa's hall where they held a meeting with the Mercian king and Cynewulf, his Wessex counterpart. After this meeting, they separated and the bishop of Ostia went to Northumbria where he held a council and promulgated twenty canons, one of which enjoined the payment of tithes. In Stenton's view 'the series as a whole was plainly drafted after a careful review of Northumbrian conditions' but the tithes canon tells us no more than that the concept was recognised in northern England at the end of the eighth century.²⁵

Alcuin's correspondence also contains oblique evidence for the payment of tithes in northern England. In a letter of 796 he advised his friend Arno archbishop of Salzburg, who was about to leave to fight the Avars, to 'be a preacher, not an exactor of tithes'. Tantalizingly, he then went on to ask 'Why should we place on the neck of the ignorant a

²⁴ Haddan and Stubbs, *Documents*, vol. 3 p. 415. The subject requires a thorough re-examination of the manuscript evidence for which there is no space in this thesis.

²⁵ Stenton, *Anglo-Saxon England*, 215-7.

yoke which neither we nor our brethren have been able to bear?'.²⁶ This comment is ambiguous. In the first place, it is not clear whom Alcuin was referring to when he wrote 'we'. He was born in Northumberland and his training at and lifelong connection with York are well known, but in 796 he was made Abbot of St Martin's at Tours. Alcuin may have been referring to western Europe in general, including his native northern England, but equally he may have been referring to Frankish practice. In the second place, even if the letter did refer to northern England, it seems churchmen expected payment of tithe but had difficulty enforcing it.

The first certain reference to the legally enforced payment of tithes in northern England is from the eleventh century. This document, known as the *Law of the Northumbrian priests*, contains the following instruction:

60. If any one withhold his tithe, and he be a king's thane, let him pay x. half-marks; a land-owner, vi. half-marks; a ceorl, xii. ores.²⁷

This document suggests that shortly before the Norman Conquest the practice of paying tithe was well established and regulated in the north.²⁸

The scattered biblical references do not indicate precisely to whom tithes were owed and the examples cited suggest practice varied and developed during the early

²⁶ G. F. Browne, *Alcuin of York* (London; Society for Promoting Christian Knowledge, 1908), p. 287. Similar instructions were made in two other letters of the same year quoted in *ibid.*, 287-8.

²⁷ Thorpe, *Monumenta*, 420.

²⁸ Stenton, *Anglo-Saxon England*, 440 n.1.

middle ages.²⁹ In particular, the question of the relationship between tithes and parishes is uncertain. The seventh-century instructions on tithes made by Theodore suggest that, apart from deserving individuals, the rightful recipients of tithes were churches connected to laymen. By the second half of the tenth century, Edgar made a much more explicit connection between tithes and the parish suggesting tithes had become more recognizable parish offerings.³⁰ Although of uncertain origins, the theory emerged that the receipts from tithe were to be divided into four: the bishop received a quarter, as did the other clergy, a third quarter went to the poor and finally another to the maintenance of churches.³¹ Yet the practice of lay ownership of tithes was widespread and, although it died out in England from the twelfth century, it remained common on the Continent into the late middle ages.³²

Within this legal context, the monastic ownership of tithes has a rather doubtful place and practice changed completely during the middle ages. From the period before the twelfth century there are examples of monks paying tithes to bishops out of the produce of their lands. They were eventually freed from this obligation and it began to become possible for monasteries to receive tithes from lands they did not own.³³ The origin of the payment of tithes to monasteries is to be found in references to the Desert Fathers. The earliest comments were made by Cassian, writing in the 420s, and probably derive from observations made on his trip to Egypt in the last two decades of the fourth

²⁹ Constable, *Monastic tithes*, 10.

³⁰ Stenton, *Anglo-Saxon England*, 154-6.

³¹ Cross and Livingstone, *Dictionary*, 1626; Gasquet, *Parish life*, 5, 18.

³² Constable, *Monastic tithes*, 3-4, 64; R. A. R. Hartridge, *A history of vicarages in the middle ages* (Cambridge; Cambridge University Press, 1930), pp. 4-7.

³³ Constable, *Monastic tithes*, 2-3, 57.

century.³⁴ It seems the young Theonas was taken under the wing of the elderly Abbot John who had been 'chosen to preside over the administration of the alms'. The work then describes those who 'were eager to offer tithes and first fruits of their substance to the old man' in return for which John began 'to sow spiritual things to them whose casual gifts he was reaping'.³⁵ The nature of these tithes was clearly voluntary. The earliest western examples of monasteries receiving tithes are from the seventh century and from the ninth century the practice became more common. The theoretical justification for the monastic ownership of tithes was expounded by Abbo of Fleury at the Council of St Denis in 993 and the practice increased considerably from the eleventh and twelfth centuries.³⁶ Indeed, 'by the end of the twelfth century, in spite of early theory and canon law, almost all monastic communities freely owned and accepted tithes.'³⁷

In the later middle ages, monasteries received tithes through the process of appropriation of rectories. From its formalisation by the Fourth Lateran Council of 1215, this process consisted of a deed sealed by the bishop, the monastery's institution as rector of the parish and the ordination of a vicarage, through which the cure of souls would be performed.³⁸ When a parish was appropriated to a monastery the community became the rightful recipients of the tithes. At first the receipt of the advowson of a church by a monastic community was usually followed by appropriation, but this was stemmed by the

³⁴ Sharpe, 'Tithes', 1964; E. C. S. Gibson, 'John Cassian' in H. Wace and P. Schaff, eds., *A select library of Nicene and post-Nicene fathers of the Christian church vol. XI* (Oxford; John Parker and Co., 1894), pp. 188-90.

³⁵ *Ibid.*, 503.

³⁶ Constable, *Monastic tithes*, 58, 80, 99.

³⁷ *Ibid.*, 197.

³⁸ Hartridge, *Vicarages*, 9.

Statutes of Mortmain of 1279 and 1391. From then on appropriation could only be achieved with permission from the Crown and the process was slowed down.³⁹

Although the legal aspects of tithe, including appropriation, were regulated and altered, the principle was hardly ever attacked during the middle ages. Even the Lollards only insisted that tithe should not fall into the hands of undeserving priests.⁴⁰ Much more controversial was the question of exactly what should be tithed. In broad terms, the answer was simple: everything. Tithes were either predial, that is from the earth, or personal, meaning profits from workmanship. Predial tithes included both arable crops and livestock and were divided into greater and lesser tithes. The tenth of grain, known as the garb tithe, and the tenth of wool constituted the greater tithes, and the lesser came from all types of smaller scale enterprise and could include profits made by craftsmen. This division was also important administratively. The greater tithes from an appropriated rectory usually went to the monastic community whilst the lesser tithes belonged to the vicar.⁴¹ This is understandable given the diversity of products which constituted the latter. In the late fifteenth century for example, the vicar of Hornsey (E. Yorks.), which was appropriated to St Mary's Abbey York received the tithes of lambs, calves, piglets, cocks, chickens, geese, doves, wool (which might elsewhere constitute a greater tithe), eggs, flax, hemp, apples, pears, onions, leeks and hay. In one year he recorded forty-four separate receipts of piglets.⁴²

³⁹ A. H. Thompson, *The English clergy and their organization in the later middle ages* (Oxford; Clarendon Press, 1947), pp. 105, 109-10.

⁴⁰ R. N. Swanson, *Church and society in late medieval England* (Oxford; Basil Blackwell Ltd., 1989), p. 212.

⁴¹ Gasquet, *Parish life*, 12-16.

⁴² *Medieval clerical accounts*, ed. P. Heath, *St Anthony's Hall Publications*, 26 (Borthwick Institute of Historical Research; 1964), pp. 25-7, 30-1, 38, 40, 47-8, 50.

The minute complexity of the definition, collection and apportionment of tithes meant uniform regulation was impossible. Tithes were paid in each parish according to local custom. The manual for parish priests written by John Myrc, a canon of Lilleshall (Shrops.), advised:

‘After þe costome of þat cuntraye

Euery mon hys teythynge schale paye’⁴³

Indeed, when the tithes were commuted in the nineteenth century, the House of Commons had to appoint a Select Committee to discuss the intricacies of local variation in Irish tithing practice.⁴⁴

Tithe data and historiography

Appropriation in the middle ages and the long-running controversy over tithes lasting into the twentieth century tell us much about attitudes to economic change. Tithe is also a useful tool, however, to the agricultural historian. It is exceptional in its institutional longevity and wide geographical spread; indeed, ‘no tax in the history of Europe can compare with tithes in length of duration, extent of application, and weight of economic

⁴³ EETSOS31, 11.

⁴⁴ R. Kain, ‘Les dîmes, les relevés de dîmes et la mesure de la production agricole dans la Grande-Bretagne préindustrielle’, in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l’époque préindustrielle* (Paris; Éditions de l’École des Hautes Études en Sciences Sociales, 1982), p. 717.

burden'.⁴⁵ Tithe was levied, in theory at least, at a fixed proportion of production so the records of tithe receipts should give an indication of overall production levels. English medieval agrarian history has so far relied primarily on manorial accounts which give very detailed information but refer only to seigneurial demesnes and not to stretches of land farmed by peasants. Tithe can be used as an indicator of agrarian production not just on demesne land but on all cultivated land.⁴⁶

Since the 1960s continental historians, who do not have the benefit of tens of thousands of manorial accounts like their English colleagues, have made serious use of tithe as an indicator of agrarian production and agricultural practice.⁴⁷ French historians Ladurie and Goy made the following elaborate claims for the potential of tithe as an historical source:

comparative studies on a wide, international scale are now possible, thanks to the use of a source which has always been known but was previously used only for the history of the Church or administration. By its very nature the tithe is one of the best means of measuring trends in agricultural production.⁴⁸

Over the last four decades, the use of tithe as evidence has entered the mainstream of continental historical writing. For example, in his recent textbook on Spain under the

⁴⁵ Constable, *Monastic tithes*, 2.

⁴⁶ M. M. Postan, *The medieval economy and society: an economic history of Britain in the middle ages* (London; Weidenfeld and Nicolson, 1972), pp. 122-4; B. M. S. Campbell, *English seigniorial agriculture 1250-1450* (Cambridge; Cambridge University Press, 2000), p. 391.

⁴⁷ A. Derville, 'Dîmes, rendements du blé et "révolution agricole" dans le nord de la France au Moyen Âge', *Annales Économies. Sociétés. Civilisations*, 42 no. 6 (1987), p. 1411.

⁴⁸ E. Le Roy Ladurie and J. Goy, *Tithe and agrarian history from the fourteenth to the nineteenth centuries: an essay in comparative history* (Cambridge; Cambridge University Press, 1982), pp. 8-9.

Catholic Kings Ladero Quesada included an estimation of the total agrarian output of Andalusia in the late fifteenth century and an assessment of the overall significance of the vine in agriculture, both based on tithe evidence.⁴⁹

The first historian to make a statistical study of tithe as an indicator of agrarian production was Baehrel who worked on southern France in the two centuries before the Revolution. He used tithe receipts from two estates near Arles to estimate production for 213 individual years.⁵⁰ Ladurie followed this example in his study of Languedoc.⁵¹ Bringing together tithe lease receipts from five cathedral chapters, Ladurie examined production mainly in the sixteenth century, although some figures from the late fifteenth century were also included.⁵² Notably, Ladurie had very few records of quantities of grain received from the tithe at his disposal. Instead he used cash sums received for the sale of tithes which indicated 'theoretical agricultural income expressed in current prices'. Again following Baehrel's example, he was thus able to translate income from cash tithe receipts into estimated total output.⁵³

This method was to be extensively used by subsequent historians. In conjunction with Goy, Ladurie collected in one volume a number of local studies, mainly from France but including articles on other countries, which used tithe from the middle ages and

⁴⁹ M. A. Ladero Quesada, *La España de los Reyes Católicos* (Madrid; Alianza Editorial, 1999), pp. 29, 34.

⁵⁰ R. Baehrel, *Une croissance: la Basse-Provence rurale (fin du XVI^e siècle - 1789): essai d'économie historique statistique* (Paris; S.E.V.P.E.N., 1961), p. 93.

⁵¹ E. Le Roy Ladurie, *The peasants of Languedoc* (Urbana; University of Illinois Press, 1974) – originally published in 1966 as E. Le Roy Ladurie, *Les paysans de Languedoc* (Paris; S.E.V.P.E.N., 1966).

⁵² Ladurie, *Peasants of Languedoc*, 73, 78-80.

⁵³ *Ibid.*, 78; Baehrel, *Croissance*, 5.

ancien régime.⁵⁴ Another major ground-breaking study being conducted at this time was Neveux' work on Cambrai which used the accounts of the Chapter of Saint-Géry to extract tithe lease sums. Neveux' source material was complicated by the annual arrears on tithe lease payments: these he attempted to allow for in his method.⁵⁵ These developments in method were not exclusively confined to France: a little later in the 1970s important work was being carried out on tithe receipts in fifteenth-century Seville by Ladero Quesada and González Jimenez. These Spanish historians used real production figures, rather than deflated cash sums, from several different areas to calculate aggregate output quantities. They expressed their confidence in their newly developed source material as follows:

*Los datos más válidos sobre producción se contienen a menudo en las cuentas de diezmo eclesiástico.*⁵⁶

Having discussed the trends shown by their overall figures on the basis of details from chronicles and other sources, they then analysed the receipts zone by zone.⁵⁷ The result was a pioneering regional study which was broken down even further to examine local patterns of development.

⁵⁴ J. Goy and E. Le Roy Ladurie, eds., *Les fluctuations du produit de la dime. Conjoncture décimale et domaniale de la fin du Moyen-Age au XVIIIe siècle* (Paris; Mouton & Co., 1972).

⁵⁵ H. Neveux, 'La production céréalière dans une région frontalière: le Cambrésis du Xve au XVIIIe siècle: bilan provisoire', in Goy and Ladurie, *Fluctuations*, pp. 58-9.

⁵⁶ M. A. Ladero Quesada and M. González Jimenez, *Diezmo eclesiástico y producción de cereales en el reino de Sevilla, (1408-1503)* (Seville; Universidad de Sevilla Departamento de Historia Medieval, 1979), p.

7.

⁵⁷ *Ibid.*, 79, 36-40, 53-4.

The main aim of continental work on series of tithe figures has been to approximate total agricultural output from villages, towns, regions and even countries. Yet historians have toyed with tithe for related and more speculative calculations. For instance, given the contemporary debate about Marxist explanations for economic change, Ladurie was keen to use tithe as a means of studying the level of extraction by the land-owning classes. Tithe receipts can also be used as an indicator of the amount of money in circulation and population levels.⁵⁸ Alongside the use of tithes as a statistical economic indicator, examination of documents containing tithe figures has afforded other insights. Ladero Quesada and González Jimenez, for example, used their study of fifteenth-century Andalusian tithes to reconstruct '*la antigua geografía administrativa*' of the area.⁵⁹

The remarkable number of studies on agrarian production and tithe conducted in France and elsewhere during the 1960s and 1970s was in part the result of influential and early support in Paris. In October 1963, under the aegis of Ernest Labrousse, the Commission d'Histoire Moderne et Contemporaine de Centre National de la Recherche Scientifique decided to study *ancien régime* agrarian production. Labrousse's work had done much to promote the study of social and economic history and, in particular, agrarian production upon which his model of the *crise de l'ancien type* was based.⁶⁰ In 1966 the responsibility for a survey on production went to the Centre de Recherches Historiques and the survey team included individuals such as Goy, Ladurie, Desaiue and

⁵⁸ E. Le Roy Ladurie, 'Report. Part II', in M. Flinn, ed., *Proceedings of the Seventh International Economic History Congress* (Edinburgh; Edinburgh University Press, 1978), p. 117.

⁵⁹ Ladero Quesada and González Jimenez, *Diezmo*, 7.

⁶⁰ R. D. Price, 'Labrousse', in J. Cannon, R. H. C. Davis, W. Doyle and J. P. Greene, eds., *The Blackwell dictionary of historians* (Oxford; Basil Blackwell, 1988), p. 231.

Head-König who went on to produce tithe studies.⁶¹ In January 1969 the Association Française des Historiens Économistes met to discuss the first results of this survey. The scope of the initiative was extended by Labrousse in 1974 who attempted to collect more material by devoting a section of the *Jornada de metodología aplicada de las ciencias históricas* to the tithe survey. This gave a new international impetus and another survey was launched from Paris, this time entitled '*les prestations paysannes, les dîmes et les mouvements de la production agricole dans les sociétés pré-industrielles*'. A preparatory meeting was held in Paris for more than fifty researchers in 1977.

Tithe evidence did not only survive in the accounts of large ecclesiastical institutions; it was also scattered in notarial documents and even parish records. Parochial accounts from Spain were used to calculate seventeenth- to nineteenth-century tithe income in the Basque Country.⁶² Because of the range of countries and types of evidence from which material relating to tithe could be drawn, Ladurie and Goy were excited by the possibility of international comparisons over several centuries.

Because the tithe is so widespread in time and space ... it appears to be a useful and an excellent indicator of one of the elements which allow us to reconstitute trends in the gross and net product.⁶³

⁶¹ Goy and Ladurie, *Fluctuations*, 9.

⁶² E. Fernández de Pinedo, *Crecimiento económico y transformaciones sociales del País Vasco, 1150-1850* (Madrid; Siglo XXI de España Editores, 1974).

⁶³ Ladurie and Goy, *Tithe and agrarian history*, 26.

One of the purposes of the international tithe survey was to develop some kind of standardized method 'to perfect the graphs we construct from tithes'. It was envisaged that a central databank might be created in which tithe data could be stored and then manipulated to calculate national averages.⁶⁴

The 1977 Paris meeting was preparatory to a strand in the Seventh Congress of Economic History held in Edinburgh the following year. The published proceedings contain some works on tithe but the large number of contributions to the preparatory colloquium merited publication in their own right.⁶⁵ These volumes give an impression of the diversity of work already conducted on tithe by 1977. A paper was given on tithe receipts of the Protestant Swiss states.⁶⁶ From eastern Europe, Makkai and Zimányi contributed a paper on Hungary where tithe receipts survive from as early as 1291-4. From the 1330s onwards they were able to use records of the *decima decimae* which was paid to the pope and, from the sixteenth century, they had at their disposal continuous tithe records. The Hungarian scholars were also notable for their use of new technology since they collected around eighty thousand tithe receipts on computer.⁶⁷ Material came from the New World as well as the Old. Morin presented a paper on agricultural

⁶⁴ E. Le Roy Ladurie, translated B. and S. Reynolds, 'Tithes and net agricultural output (fifteenth to eighteenth century)', in E. Le Roy Ladurie, *The territory of the historian* (Hassocks, Sussex; The Harvester Press, 1979), pp. 193-6.

⁶⁵ Flinn, *Proceedings*; J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris, Éditions de l'École des Hautes Études en Sciences Sociales, 1982).

⁶⁶ A.-L. Head-König, 'Les fluctuations des redements et du produit decimal cerealiers dans quelques régions du plateau Suisse 1500-1800', in Goy and Ladurie, *Prestations paysannes*, 259-81.

⁶⁷ L. Makkai and V. Zimányi (avec la participation de P. Bán et Z. Ujváry), 'Les registres de dîme, sources de l'histoire de la production agricole en Hongrie, 1500-1848', in Goy and Ladurie, *Prestations paysannes*, 93-119.

production calculated from the tithes imposed by the Spanish on Mexico and Paquet and Wollot published their research on eighteenth- and nineteenth-century tithe in Quebec.⁶⁸

At the preparatory colloquium there was one English contributor. Kain commented on the wide range of tithe material available in England but was forced to conclude the following:

*Si l'on considère les grands progrès accomplis en France dans l'étude des comptes décimaux sous l'Ancien Régime, il serait regrettable que les historiens anglais continuent à négliger les relevés décimaux antérieurs au XIX^e siècle.*⁶⁹

Certainly English historians have been aware of the potential of modern tithe records for the study of agriculture. In 1924 Clapham published his findings based on late eighteenth-century tithe surveys from Prescott (Lancs.) and advocated much wider use of such sources.⁷⁰ At the end of the 1950s, a steady trickle of publications on the English nineteenth-century tithe evidence began to appear. In 1959 Prince urged that the surveys carried out by the Tithe Commissioners of the 1840s were 'the most complete record of the agrarian landscape at any period'.⁷¹ Six years later the *Agricultural History Review* published another article, this time by Cox and Dittmer, extolling the virtues of the 1840s

⁶⁸ C. Morin, 'Le mouvement du produit décimal et l'évolution des rapports fonciers au Mexique, XVIIe-XIX siècles', in Goy and Ladurie, *Prestations paysannes*, 479-87; G. Paquet and J.-P. Wallot, 'Rentés foncières, dîmes et revenus paysans. Le cas canadien.' in *ibid.*, 749-61.

⁶⁹ Kain, 'Dîmes', 726.

⁷⁰ J. H. Clapham, 'Tithe surveys as a source of agrarian history', *Cambridge Historical Journal*, vol. 1 no. 2 (London: Cambridge University Press, 1924), pp. 201-208.

⁷¹ H. C. Prince, 'The tithe surveys of the mid-nineteenth century', *Agricultural History Review*, 7 (1959), p.

surveys but also drawing attention to the accompanying files.⁷² Various studies followed up these suggestions and they were brought together by Kain and Prince in 1985.⁷³

One strand of English work has considered a source akin to tithe records for the middle ages. The *Nonarum inquisitiones*, published as early as 1807, are the records of a taxation granted to Edward III in 1342: the king was given one-ninth of all the corn, wool and lambs produced in the realm. Since the ninth was taken after the tithe, it was one-ninth of nine-tenths of the total and therefore equal to the tithe.⁷⁴ One or two nineteenth-century historians commented on the *Nonarum inquisitiones* evidence but the first recognizable analysis of their implications for the history of medieval agriculture was published by Pelham in 1931, who investigated villages in Sussex.⁷⁵ Mitchell made a brief study of the ninths evidence in an attempt to examine medieval productivity in villages which later became great cloth producers.⁷⁶ Much more serious were Baker's studies, the first of which was originally published in 1966. He employed the 1291 taxation of Pope Nicholas IV in a comparison with the *Nonarum inquisitiones* to examine the abandonment of land in the early fourteenth century.⁷⁷ Although using earlier source material, Hallam's use of two thirteenth-century Lincolnshire tithe valuations was

⁷² E. A. Cox and B. R. Dittmer, 'The tithe files of the mid-nineteenth century', *Agricultural History Review*, 13 (1965), pp. 1-16.

⁷³ R. J. P. Kain and H. C. Prince, *The tithe surveys of England and Wales* (Cambridge; Cambridge University Press, 1985); e.g. P. K. Mitchell, 'West Cleveland land use, (circa) 1550-1850' (unpublished University of Durham Ph.D. thesis, 1965); E. J. Evans, *The contentious tithe: the tithe system and English agriculture, 1750-1850* (London; Routledge and Kegan Paul, 1976).

⁷⁴ *Nonarum inquisitiones in curia scaccarii*, ed. G. Vanderzee (London; Record Commissioners, 1807); A. R. H. Baker, 'Evidence in the "Nonarum Inquisitiones" of contracting arable lands in England during the early fourteenth century' in A. R. H. Baker, J. D. Hamshere, J. Langton, eds., *Geographical interpretations of historical sources: readings in historical geography* (Newton Abbot; David and Charles, 1970), p. 85.

⁷⁵ R. A. Pelham, 'Studies in the historical geography of medieval Sussex', *Sussex Archaeological Collections*, 72 (1931), pp. 156-84.

⁷⁶ J. B. Mitchell, *Historical geography* (London; English Universities Press, 1954), p. 244.

⁷⁷ *Taxatio ecclesiastica Angliae et Walliae auctoritate papae Nicholai IV circa 1291*, eds. J. Caley and S. Ayscough (London; Record Commissioners, 1802); Baker, 'Contracting'.

similar. He attempted to calculate sown acreages but admitted the results were 'rather doubtful'.⁷⁸ Even these historians, however, did not make use of continuous series of tithe receipts like their French counterparts were to do.

Following the publication of the last of the great works on medieval tithe series, with Bois' work on Normandy appearing in 1976 and Neveux' on Cambrai in 1980, French work on tithe has all but dried up.⁷⁹ Writing at the end of the 1990s the French historian Béaur suggested changing trends in academe were responsible:

Land productivity is no longer fashionable. The decay of economic history, the disarray of rural history, the mistrust of what we call quantitative history and more generally of numbers and statistics, could easily explain this neglect.⁸⁰

Even those French historians brave enough to undertake economic and rural studies in such a climate, have not inherited the boundless enthusiasm of Goy and Ladurie for tithe as an output indicator.⁸¹ Scepticism about the value of tithe series is shared by historians

⁷⁸ H. E. Hallam, *Settlement and society: a study of the early agrarian history of south Lincolnshire* (Cambridge; Cambridge University Press, 1965), pp. 8-9, 179, 238.

⁷⁹ G. Bois, *The crisis of feudalism: economy and society in eastern Normandy c. 1300-1550* (Cambridge; Cambridge University Press; Paris; Editions de la Maison des Sciences de l'Homme, 1984); H. Neveux, *Les grains du Cambrésis (fin du XIVe-début du XVIIe siècles). Vie et déclin d'une structure économique* (Paris; École des Hautes Études en Science Sociales, 1980). One example of more recent work is the examination of tithe accounts from north-west France in Derville, 'Dîmes'.

⁸⁰ G. Béaur, 'From the North Sea to Berry and Lorraine: land productivity in northern France, 13th - 19th centuries' in B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (middle ages - 20th century) elements for comparison*, Corn Publication Series 2 (Turnhout; Brepols, 1999), p. 138.

⁸¹ *Ibid.*, 139.

of an area where productivity is being intensively studied: the Low Countries.⁸² The CORN research group, set up by the University of Ghent, has undertaken the co-ordination of studies on production and a recently published volume contains several examples.⁸³ Although somewhat disdainful of the French movement of the 1960s and 1970s, the contributors follow clearly in their footsteps with their emphasis on 'long-run national statistics on agricultural productivity'.⁸⁴ The emphasis has moved away from sole reliance on tithe figures, however, and the studies of long-term production make use of demesne accounts, probate inventories and observations made by contemporaries.⁸⁵

The detailed discussion of method has also promoted an awareness of what we cannot learn from tithes. Ladurie was at pains to point out that tithe receipts were not simply proportional to levels of agrarian output but were also dependent on the area of land subject to tithe and on the rate at which tithe was levied, not least affected by the success of attempts to defraud the collectors.⁸⁶ The former unknown quantity received particular scrutiny by Morineau in his detailed critique of Neveux's method.⁸⁷ The question of tithe fraud, difficult to assess like any clandestine activity, has been studied across five centuries in the Lyonnais by Lorcin.⁸⁸

⁸² E.g. G. Dejongh and E. Thoen, 'Arable productivity in Flanders and the former territory of Belgium in a long-term perspective (from the middle ages to the end of the *ancien régime*)' in van Bavel and Thoen, *Land productivity*, 33-4.

⁸³ van Bavel and Thoen, *Land productivity*.

⁸⁴ P. Glennie, 'Introduction to Part I' in van Bavel and Thoen, *Land productivity*, 22.

⁸⁵ Dejongh and Thoen, 'Arable productivity', 32; B. J. P. van Bavel, 'Arable yields and total arable output in the Netherlands from the late middle ages to the mid-19th century' in van Bavel and Thoen, *Land productivity*, 88, 94.

⁸⁶ Ladurie and Goy, *Tithe and agrarian history*, 28.

⁸⁷ M. Morineau, 'Cambrésis et Hainaut: des frères ennemis?' in Goy and Ladurie, *Prestations paysannes*, 635.

⁸⁸ M. -T. Lorcin, 'La fraude des décimables: mouvement court ou mouvement long?', in Goy and Ladurie, *Prestations paysannes*, pp. 599-606.

Potential of English records

It has been suggested that the types of records surviving in England have prevented the use of tithe as an indicator of agrarian output in this country.⁸⁹ This idea is quickly dispelled by even the most casual search through English archives. Vast numbers of rectories were appropriated to religious corporations in England between the thirteenth and fifteenth centuries and it is in surviving accounts from these organizations that records of receipts from tithes are to be found. The complexities of medieval monastic administration mean that these receipts appear in different types of document, the most important of which are:

1) Central obedientiary accounts which were submitted to auditors by monk officials listing annual income from all sources. The Durham obedientiary accounts are a good example since they contain very full information on tithe receipts.⁹⁰ Whilst tithe receipts do not feature so prominently in the obedientiary accounts of Canterbury Cathedral Priory, the almoner at least entered tithe receipts in his main account.⁹¹ At Bolton Abbey the receivers recorded tithe receipts in their annual accounts.⁹²

⁸⁹ Kain, 'Dimes', 713.

⁹⁰ The following are printed examples: Durham hostiller SS99, 121; Durham chamberlain, SS99, 171-2; Durham almoner, SS99, 217; Durham commoner, SS100, 285.

⁹¹ E.g. Canterbury Cathedral Archives and Library, Almoner's account 24.

⁹² E.g. *The Bolton Priory compotus, 1286-1325: together with a priory account roll for 1377-78*, eds. I. Kershaw, D. M. Smith and T. N. Cooper, *Yorkshire Archaeological Society Record Series*, 154 (Woodbridge; Boydell, 2000), pp. 554-5.

2) Rectory accounts which were removed one level from the monastery and usually compiled by local officials responsible for collecting all the revenues in an appropriated parish. A particularly fine collection of rectory accounts is preserved in the Westminster Abbey Muniments.⁹³

3) Manorial accounts which were compiled by local officials who were responsible for looking after demesne land owned by the monastery in the given parish and collected any tithes as a matter of administrative convenience. For example, the Canterbury monks owned the rectory of Eastry (Kent) along with a manor in the same village and tithe receipts were recorded during the fourteenth century in accounts made by the almoner's serjeant.⁹⁴ The administrative association between manorial and rectorial receipts is demonstrated by the inclusion of information about East Meon rectory (Hants.) in the magnificent series of enrolled manorial accounts from the Winchester bishopric.⁹⁵

As the examples demonstrate, the survival of these three types of documents varies from institution to institution. Durham Cathedral archive contains an exceptional collection of obedientiary accounts recording tithe receipts. Ladurie wrote that the 'ideal situation [for compiling tithe data series] arises ... when it is possible to establish continuous series,

⁹³ E.g. Westminster Abbey Muniments, Kelvedon Rectory 1376-7, 25832. I am grateful to Professor Richard Britnell for providing me with this reference.

⁹⁴ E.g. Canterbury Cathedral Archives and Library, Beadle's rolls, Eastry 73.

⁹⁵ E.g. *The pipe roll of the bishopric of Winchester*, 1409-10, ed. M. Page, Hampshire Record Series, 16 (Winchester, Hampshire County Council, 1999), pp. 273-4, 278-9.

ideally covering more than one century⁹⁶ and the Durham obedientiary material amply realises this ideal.

This embarrassment of documentary riches means this study of tithe receipts has had to be confined to the area between the Tyne and Tees and to the years between 1340 and 1450.⁹⁷ Within these limits, tithes were found recorded in 91 accounts of the bursar and terrar (excluding duplicates), 102 accounts and inventories of the hostiller, 38 accounts of the chamberlain, 40 accounts and inventories of the almoner and eight accounts of the sacrist. Tithe receipts were also found in 237 accounts of the dependent cells of Finchale, Monkwearmouth and Jarrow which also collected tithes from parishes 'between the waters'.⁹⁸ The majority of references are to grain and livestock tithes but there are also mentions of tithes on cheese, milk, various types of fish, doves, salt and many other products.⁹⁹ Many of these documents contain references to tithe receipts from more than one individual vill: in total over four-and-a-half thousand individual tithe receipts were found which could be used in the construction of a tithe output series.

The rich tithe information at Durham has attracted the attention of historians. In his unpublished Ph.D. thesis, *Durham Cathedral Priory as a landowner and a landlord, 1290-1540*, Lomas systematically categorized the various incomes of all the obedientiaries. This meant he devoted a substantial part of the work to spiritual income,

⁹⁶ Ladurie and Goy, *Tithe and agrarian history*, 17.

⁹⁷ The accounts of the 1340s were used in the calculation of indices which covered the period 1350-1450.

⁹⁸ A. J. Piper, *Muniments of the Dean and Chapter of Durham: medieval accounting material* (Durham University Library Archives and Special Collections Searchroom Handlist, 1995). The contents of this handlist can be found on Durham University Library Archives and Special Collections web pages at www.flambard.dur.ac.uk:6336/dynaweb/handlist/ddc/

⁹⁹ The examples cited are in: DCM, Holy Island account 1396-7, *Recepta*; Lytham accounts 1347-8, charge section; Monkwearmouth account 1431-2, *Recepta*; Monkwearmouth account 1449-50, *Recepta*.

especially that of the bursar and tithing. His interest was primarily institutional although he did make some comments on the changing balance between spiritual and temporal income.¹⁰⁰ In his *Durham Priory 1400-1450*, Dobson considered the monks' own analysis of their tithe income made in the late 1430s. He produced a table of income from rectories across a long period and subjected his figures to some analysis as indicators of economic trends.¹⁰¹ Given his aim was to examine all aspects of the monastery's existence under a single fifteenth-century prior, however, Dobson did not need to push tithe evidence further than a basic summary. Certainly neither historian has subjected the Durham tithe receipt material to consistent statistical analysis.

The aim of this thesis is to adapt the methods of continental historians to produce indicators of overall output between the Tyne and Tees 1350-1450. This has involved the development of a complex method, which is detailed in Chapter 5. The results are described, and placed into their historical context, in Chapter 6. The final chapter attempts to understand the significance of the first continuous series of overall output in England in the middle ages within established models for explaining economic change. Before these chapters of quantitative analysis, however, the thesis explores the institutions of tithing, so neglected by historians. In the first place, incidental references build up a picture of tithe administration on the parochial level which is discussed in Chapter 2. The scale of Durham Priory's endowment meant the receipt and disposal of tithes at the monastery was a major administrative and bureaucratic operation; this is examined in Chapter 3.

¹⁰⁰ R. A. Lomas, 'Durham Cathedral Priory as a landowner and a landlord, 1290-1540' (unpublished University of Durham Ph.D. thesis, 1973), pp. 139ff.; 176-9.

¹⁰¹ R. B. Dobson, *Durham Priory 1400-1450* (Cambridge; Cambridge University Press, 1973), p. 270.

Chapter 2

Tithe administration: the parish level

'I holde hyt but an ydul þynge
To speke myche of teythynge
For þaz a preste be but a fonne,
Ask hys teyþynge welle he conne.'

John Myrc 'Instructions for parish priests'¹

When John Myrc wrote his manual for priests in the fifteenth century he had to convey some very basic information about how the sacraments and other aspects of clerical business should be performed. His book was intended for the less educated clergy. Yet, as the opening quotation suggests, even the most foolish priest knew how to collect his tithes and so there was no need to explain this aspect of clerical life in any detail. Myrc's comments illustrate well the difficulty faced by the historian of tithe collection at a parish level. For centuries prior to the Tithe Commutation Act of 1836, the collection of tithe was a routine part of parish life familiar to all, whether living in town or countryside. Its familiarity meant it rarely merited comment or description and yet, following the final abolition of tithe nearly a century after the first commutation legislation, the practice has altogether ceased and knowledge of the methods used has died out. This chapter will

¹ EETSOS31, 11-12.

examine information on the process of medieval tithe collection in the Durham Priory records.

The splendid Durham monastic records do not answer questions on tithe collection at the parochial level directly: hardly any rectory accounts survive. Even two rare examples from Eastrington parish (E. Yorks.) for 1433 and 1434² add little information not contained in the large set of incidental references from the series of obedientiary accounts, the main source for this chapter. Sheer volume of material has restricted the sections of the thesis on agrarian output to the appropriated parishes between the rivers Tyne and Tees but, because of the incidental nature of the references to tithe collection and processing, this chapter will refer to parishes beyond these boundaries. In order to build up the picture which emerges through these references, material has been added from a range of other sources. Accounting and estate documentation from other parts of England and France, and works based on this material, have proved useful since different bureaucratic practices sometimes leave more documentary trace of tithe collection in the parish fields. Late medieval literary works also make occasional revealing references. Examination of tithe collection since the middle ages has also been beneficial since certain features remained largely unchanged until the nineteenth century. In general, examples of malpractice on the part of the parishioners tend to have merited special notice in documentation and can sometimes throw a valuable light on the annual collecting routines. Finally, in examining how tithes were stored after collection, some use has been made of archaeological and architectural

² DCM, Eastrington rectory account 1433, Miscellaneous Charter 5627b (front); Eastrington rectory account 1434, Miscellaneous Charter 5627b (dorse).

evidence. There is, of course, a danger in drawing together material from such a wide range of sources in examining a process so dependent on local culture as tithe collection.

Collection

It is not always easy to determine what the priory's involvement in tithe collection was: most tithes were sold before collection but the monks sometimes collected their own tithes for consumption or later sale. Grain from tithes described as *in manu domini* were delivered to the monastic precinct for sale or consumption at Durham. The tithes of individual vills could also be sold as units after collection, presumably without being brought to Durham, but these cases are more difficult to spot. In 1350-1 the bursar entered the payment of 3s. 4d. for the collection of Shadforth (Pittington) tithes but also recorded their sale to Thomas of Coken for £8 6s. 8d.³ Collection sections in accounts only rarely go into such detail. It must be remembered, of course, that expenses were still entailed by the priory even if the tithe purchaser collected the actual sheaves. In the bursar's account of 1410-11, for example, 5s. 2d. were entered for the expenses incurred by John Hyndeley on the two occasions on which he was engaged in selling the Northallerton (N. Yorks.) tithes. A further payment of 16d. was made to the same agent for expenses incurred in getting to Northallerton '*causa decimalis*'.⁴ Instances in which the monks collected their tenth sheaves and delivered the grain to Durham provide the least ambiguous information about tithe collection on the parish level.

³ DCM, bursar's account 1350-1(A), *Decime Pittington, Collectiones decimarum*.

⁴ DCM, bursar's account 1410-11, *Expense necessarie*. Examples of such payments are fairly abundant in the obedientiary accounts. Similar examples in DCM, chamberlain's account 1357-8(A), *Expense*; chamberlain's Account 1370-1, *Expense*; sacrist's account 1390-1, *Expense necessarie*.

Tithe collection entries in the obedientiary accounts contain information about those responsible for gathering the priory's grain. Some give away details about the process of collection in the fields and the day-to-day role of different types of collectors. The common Durham practice of naming officials paid in account rolls means comments can also be made on the identity of the tithe collectors. Although the series of cash sums given in the collection entries are not consistent, some attempt can also be made to quantify changes in the cost of tithe collection.

Many payments were made to individuals for the collection of tithe grain and entered in the obedientiary accounts. In the bursars' accounts, these were often listed in a separate tithe collection section, as in the account of 1350-1⁵, or later on into the *Condonaciones et Allocaciones* section.⁶ In other obedientiaries' accounts they tend to feature in the general expenses sections.⁷ For example, two men were employed to collect the Wolviston tithes (Billingham) for a period of seven weeks at the cost of 7s. 2d. in 1355.⁸ Adam Jolilok was paid 7s. 4d. for the expenses he incurred in collecting the Dalton-le-Dale tithe in 1379.⁹ John Smith of Thorp collected and carried the garb tithes of the villis of Cavil, Burland and Portington (Eastrington) for which he was paid, 'by agreement made in total', 18s. 4d. in 1433.¹⁰ Evidence of people employed to collect tithes is abundant from elsewhere in England. The almoner of Peterborough paid

⁵ DCM, bursar's account 1350-1 (A), *Collecciones decimarum*.

⁶ E.g. DCM, bursar's account 1433-4, *Condonaciones et allocaciones*.

⁷ E.g. DCM, chamberlain's account 1355-6, *Expense*; sacrist's account 1342-3 (A), *Expense*.

⁸ DCM, bursar's account 1355 (A), *Collecciones decimarum*.

⁹ DCM, chamberlain's account 1379, *Expense*.

¹⁰ DCM, Eastrington rectory account 1433, Miscellaneous Charter 5627b.

individuals for this task in the late 1440s.¹¹ Likewise, Bolton Priory employed tithe collectors at the beginning of the fourteenth century to collect tithes which they kept in hand.¹² Cumberland parsons employed 'tithe leaders' in the eighteenth century to gather garb tithes and then transport them to the tithe barn.¹³

These Durham collection expense entries do not give much away about the work these individuals performed so other sources have been turned to for illumination. Homans suggested that crops could either be tithed on the tenth sheaf or by the tenth acre.¹⁴ All other examples encountered suggest that the former practice applied in England and France, at least from the fourteenth century. Any tithe collection process required exact knowledge of the area to be tithed. In most cases, field and parish boundaries would presumably be well-known locally but, on occasion, precise definition had to be given in the accounts. The 1427-8 Lytham Priory account refers to the collection from the parishioners of Poulton of various tithes from 'the cross of 'le Northhows' and 'le Hundhill' because this land is in the parish of Lytham'.¹⁵

As the fields were harvested, those to whom the crop belonged were expected to leave their tenth sheaves aside. Collectors then went through the fields gathering their

¹¹ *The book of William Morton almoner of Peterborough monastery 1448-1467*, eds. C. N. L. Brooke, P. I. King and E. T. Mellows, *Northamptonshire Record Society*, 16 (Oxford; Oxford University Press, 1954), 10-11.

¹² *Bolton compotus*, eds. Kershaw *et al.*, 198. I am grateful to Professor David Smith for letting me use this work in advance of publication.

¹³ R. F. Dickinson, 'Tithing customs in west Cumberland in the eighteenth century', *Transactions of the Cumberland and Westmoreland Antiquarian and Archaeological Society*, new series, 60 (1960), p.132.

¹⁴ G. C. Homans, *English villagers of the thirteenth century* (New York; Russel and Russel, reissue 1960), p. 385.

¹⁵ DCM, Lytham account 1427-8, *Recepta*.

portion.¹⁶ There is abundant evidence of this practice because of the seemingly common ruse of taking away the other nine sheaves before the collector came for his tenth, making the rector suspicious that he was receiving smaller sheaves composed of inferior corn. Such cases commonly came to court and an act was passed in 1548 formally outlawing sheave removal prior to the parson's inspection.¹⁷ Similar court cases have come to light in France.¹⁸ The parson's selection of the tithe sheave after harvesting is explicitly described in the following extract from a 1771 memorandum made by Richard Dickinson, rector of Lamplugh parish (Cumb.):

‘The Owner cuts down, binds up and stooks the Corn, and the Parson by the Owners knowledge and consent sets out every tenth Stook and tenth part with liberty to dry his Corn on the Stubel.’¹⁹

Tithes were not always left in the fields for collection, however. The peasants of Fryston (Sussex) had to take their tithes to the parsonage barn and the tithes of livestock at least were actually brought to the Church in Glossop (Derby.) and St Just-in-Penwith (Cornwall).²⁰ Legal proceedings recorded in the Durham prior's register suggest tithes seem to have been brought in this way in at least two parishes appropriated to Durham Priory. A case was brought by the prior and convent against the ‘inhabitants of Lowick and parishioners of Holy Island’ and the plaintiffs alleged that:

¹⁶ N. J. G. Pounds, *A history of the English parish: the culture of religion from Augustine to Victoria* (Cambridge; Cambridge University Press, 2000), p. 58.

¹⁷ *Ibid.*, 58; A. Wharam, ‘Tithes in country life’, *History Today*, 22 no. 6 (June 1972), p. 428.

¹⁸ Lorcin, ‘Fraude’, 602, 603.

¹⁹ Dickinson, ‘Tithing customs’, 130.

²⁰ Pounds, *English parish*, 58-9.

the defendants were bound to carry the harvests of wheat, barley, oats, beans, pease and other crops of the parishes of Holy Island and Norham (excepting those of the demesne lands of Ancroft, Fenwick and le Castelfeld') to the doors of the barns of these parishes for tithing, and to send the tithes to the prior and convent and their minister; ... and that the defendants took the tithe sheaves of Lowick of the months of August, September and October of 1351 and 1352 and maliciously threw them into pits for consumption by animals²¹

The system described in this extract is a combination of the two methods of tithing described so far. The parishioners had to take their entire harvests to the doors of the barns and then an official would take the tithe.

The process of tithe collection could be sufficiently complex to merit the employment of a supervisor to oversee the operation. Peter Hudson was paid 4s. 6d. for performing this task for the collection of the Kirk Merrington tithes in 1444-5.²² Rectory accounts from the villages of Feering and Great Sampford (Essex) go into a little more detail. There were two separate jobs involved in tithe collection, that of the *equitator* and that of the *collector* or *decimator*. The Feering *equitator* was paid 6s. 8d. in the Feering account of 1316-7 for 'riding in the vill to collect the tithes'. The Great Sampford *equitator* spent four weeks in the fields 'to protect and collect the grain' in 1332-3 and, in the same vill in 1334-5, spent five weeks 'protecting the grain and watching the tithe-

²¹ DCM, calendar by Dr Charles Kelham of prior's register II ff. 144r – 145r (Durham University Archives and Special Collections Searchroom, Number 5 The College).

²² DCM, Granator's account 1444-5 (A), *Condonaciones et allocaciones*.

collectors'.²³ In an account from Dewsbury (Yorks.), 6s. 8d. were paid for the wages and expenses of 'one man riding in the fields for the safety of the tithes' in the account of 1349-50.²⁴ A reference to 'one horse bought for collecting the tithes of Dalton-le-Dale' in a Durham chamberlain's account suggests some of the tithe collectors in the Northeast might have performed a similar role to the Feering and Great Sampford *equitatores*.²⁵ Certainly the process of careful supervision must have been universally important because of the many and varied stratagems which existed to defraud the tithe collector. In 1287 Bishop Quivel of Exeter condemned several malpractices: sometimes, for example, the costs of producing the grain were deducted before calculating the tenth and sometimes grain was taken from one-tenth of land sown rather than from one-tenth of the crop.²⁶ Robert de Brunne in his *Handlyng Synne*, written at the beginning of the thirteenth century, warned in particular that 'Of þe werst þou shal nat zive'.²⁷ The common practice of tampering with the tithe sheaves to ensure they contained the worst grain is echoed in the imaginative adaptation of the story of Cain and Abel by the author of the *Towneley Plays*. When told by Abel that they must prepare a tithe for the Lord, Cain was very reluctant and came up with a series of excuses. Eventually cajoled, he chose the best of his corn for himself and, in a particularly revealing passage, double counted his corn so

²³ PRO S.C.6 841/5; PRO S.C.6 846/27; P.R.O. S.C.6 846/28. I am grateful to Professor Richard Britnell for giving me these references and letting me read his 1966 unpublished paper 'The economic function of the parish church'.

²⁴ 'Account rolls of Dewsbury rectory 1348/9 - 1355/6', ed. S. J. Chadwick, *Yorkshire Archaeological Journal*, 21 (1911), pp. 372-3. I am grateful to Professor Richard Britnell for providing me with this reference.

²⁵ DCM, chamberlain's account 1364-5 (A) and (B), *Minute expense et necessarie*.

²⁶ Gasquet, *Parish life*, 14.

²⁷ EETSOS119, 292.

he paid a twentieth instead of a tenth. As in the more concise Biblical version, Cain's offering was not accepted by the Lord.²⁸

The *decimatores* of Great Sampford were employed in a lowlier non-supervisory role: in 1332-3, four men were paid for three weeks to collect the corn and help the carter and one man was paid for four weeks to do the same.²⁹ Certainly the Durham accounts suggest the collectors were doing hard work in the fields. Various collectors are recorded as having received gloves and drink worth 7*d.* in the bursar's account of 1362-3.³⁰ Likewise, gloves were received by the tithe collectors in the Bolton Priory parishes in 1305-6.³¹ It seems such gifts could become a bone of contention between tithe collectors and tithe owners since the author of the allegorical *Jacob's Well* condemned as worthy of excommunication

alle þat tythen þe werse or þe lesse, but ferst be 3ovyn hem hosyn or glovys,
sylver, ale, wyn, or swiche opere 3yftes, or ellys, tyl swiche 3iftes be be-hy3t
hem³²

Bishop Quivel condemned similar demands in 1287.³³ It seems that the Durham tithe collectors were expected to actually bind tithe sheaves since William Feryman was paid 3*s.* 8*d.* to bind and collect Billingham corn in the 1362-3 bursar's account. In the Bolton

²⁸ EETSES71, 12-7; Gen.4:3-5.

²⁹ PRO S.C.6 846/27.

³⁰ DCM, bursar's account 1362-3 (A), *Collecciones decimarum*. There is a similar example in DCM, bursar's account 1361-2, *Collecciones decimarum*.

³¹ *Bolton computus*, eds. Kershaw *et al.*, 201.

³² EETSOS115, 24.

³³ Gasquet, *Parish life*, 14.

Priory parish of Kildwick (Yorks.) *tassatores* were employed specifically for the purpose of binding tithe sheaves.³⁴

The next question arising out of the examination of tithe collectors is who they were. On the basis of Norman charters, Lennard argued that tithe collection was the responsibility of local peasants.³⁵ For example, Orderic Vitalis paraphrased a charter of William I containing land grants to the Abbey of St Évrault in which Hugh de Grentesmesnil gave two-thirds of the tithe on his lands '*et XVI rusticos ad ipsas decimas custodiendas*'.³⁶ This refers to the practice of lay ownership of tithes which had ceased in England by the late middle ages. Nevertheless, the employment of those whose crops were being tithed is suggested by the above quotation from *Jacob's Well* which associates those who fail to pay their tithes in full with those who demand excessive gifts to perform the task.³⁷ Certainly there is extensive Durham evidence of the employment of local men to collect tithes. In 1449-50, Thomas Smyth of Cowpen was employed to collect the Cowpen Bewley tithes, John Wermouth junior of Billingham to collect the Billingham tithes, John Taillor of Wolviston to collect the Wolviston tithes and John Emmotson of Newton to collect the Newton Bewley tithes.³⁸ All the Billingham parish tithes were collected by local men in this year. John of Nesbyt received £3 15s. 10½d. in 1349 for collecting the tithes of Heighington, School Aycliffe and Walworth.³⁹ His role must have been supervisory rather than hands-on because of the scale of the task, but he

³⁴ *Bolton compotus*, eds. Kershaw *et al.*, 200.

³⁵ R. Lennard, 'Peasant tithe-collectors in Norman England', *English Historical Review*, 69 (1954), pp. 580-96; R. Lennard, *Rural England, 1086-1135* (Oxford: Clarendon Press, 1959), pp. 360, 391.

³⁶ Lennard, 'Tithe-collectors', 580.

³⁷ EETSOS115, 24.

³⁸ DCM, bursar's account 1449-50, *Expense necessarie*.

³⁹ DCM, bursar's account 1349(A), *Collecciones decimarum*.

seems to have been a local man given that he held land near Greystones in 1340-1, the Aycliffe mill in the same year, and bought the tithes of various Aycliffe and Heighington parish vills in 1343.⁴⁰

We have more information on the identity of those performing supervisory duties over the collection of tithes. Rectors of appropriated parishes often appointed proctors of higher status than the collectors to look after tithe collection. John Myrc's *Instructions for parish priests* confirms this by condemning the 'herinyng of the person or of þe vicary or her proketours' during the process of tithe collection.⁴¹ Durham Priory seems to have been particularly inclined to employ proctors for its more far-flung parishes beyond the Tyne and Tees. Radulf of Semer, chaplain, was paid 12s. 9d. for expenses incurred '*circa decimas garbarum*' at Brompton (Northallerton) and he seems to have sent the information he gathered back to Durham in documentary form, possibly as rectory accounts like those Eastrington examples.⁴² Indeed, the Eastrington rectory accounts were rendered by William Well, a vicar of the priory's collegiate church of Howden (E. Yorks.).⁴³ Both the officials mentioned so far were members of the clergy. Radulf of Semer may well have been a chaplain in one of the Northallerton vills and William Wells held a vicarage in the priory's gift. It is not surprising the priory should have made use of individuals employed in other capacities to manage the process of tithe collection. In fact, it is likely the task was carried out by stipendiary vicars although no concrete examples

⁴⁰ SS198, 54, 65, 69, 70.

⁴¹ EETSOS31, 22.

⁴² '*ut patet per quidam cedulam per predictum Radulfum missam*'. DCM, bursar's account 1377-8, *Collecciones decimarum*.

⁴³ DCM, Eastrington rectory account 1433, Miscellaneous Charter 5627b (front); Eastrington rectory account 1434, Miscellaneous Charter 5627b (dorse).

of this practice have been found in the Durham material. The entry for the payment of the vicar of Billingham's stipend and the collection of tithes in the same entry in the 1435-6 bursar's account suggests the vicar might have done the collecting:

*Et in denariis solutis vicario de Billyngham et colleccione decimarum de Billingham et Neuton 36s 8d*⁴⁴

The same connection is suggested by a joint payment for the collection of the tithes of Whitworth chapelry (Kirk Merrington) and the priest's salary in a pre-Black Death sacrist's account.⁴⁵ A lower parochial official, the *clericus parochie*, was paid to collect the Monk Hesleden tithes in 1441-2 and 1442-3.⁴⁶

Tithe collection was occasionally deliberately hindered, an activity condemned by medieval didactic works.⁴⁷ In 1366-7 Andrew Wady impeded the collection of lamb and wool tithes in Norham parish (Northum.) which meant the proctor of Norham incurred expenses travelling to Durham to inform the prior of the hindrance. His trip to York, recorded in the same year although the cause is not given, suggests a more significant legal dimension.⁴⁸ Even when there was no resistance to the collection of tithes, expenses varied because of the changing costs of labour. It seems that special arrangements may have been made during the Black Death since Thomas of Preston was paid 16s. in the

⁴⁴ DCM, bursar's account 1435-6, *Condonaciones et allocaciones*.

⁴⁵ DCM, sacrist's account 1346-7, *Expense*.

⁴⁶ DCM, bursar's account 1441-2, *Condonaciones et allocaciones*; bursar's account 1442-3, *Condonaciones et allocaciones*.

⁴⁷ EETSOS115, 24; EETSOS119, 292.

⁴⁸ DCM, proctor of Norham's account 1366-7, *Diverse expense procuratori*.

following year '*pro decima de Preston colligenda tempore mortalitatis*'.⁴⁹ The extensive series of collection expenses contained in the obedientiary rolls give an indication of the changing cost of tithe collection throughout the period 1340 to 1450. Obviously any indications are approximate because it is often difficult to know what was entailed in the process of collection for which a single payment was entered in the account. The priory parish from which tithes were most consistently kept in hand, rather than sold, was Billingham, pertaining to the bursar and terrar. Consequently it is also the parish for which we have the best record of collection expenses: we have ninety-three usable tithe collection expense figures from the four Billingham parish vills. We do not have quantities of tithe grain collected from these vills for all the years because the bursars only began to make these records in the late 1370s and because tithe receipts were often entered for different vill combinations than those for which collection expenses were entered. The tithe collection data in Figures 2.1, 2.2, 2.3 and 2.4 are therefore raw: no attempt is made to account for the varying quantities of tithe grain collected.⁵⁰

⁴⁹ DCM, bursar's account 1350-1(A), *Collecciones decimarum*.

⁵⁰ It was decided not to index these collection costs against output indices (Figure 5.06) because one of the uncertainties of method in calculating the output indices is that they take no account of the changing costs of collection paid by the tithe purchasers. If the two series were combined, analysis would be confusing.

Figure 2.1: Billingham vill tithe collection payments in bursars' accounts

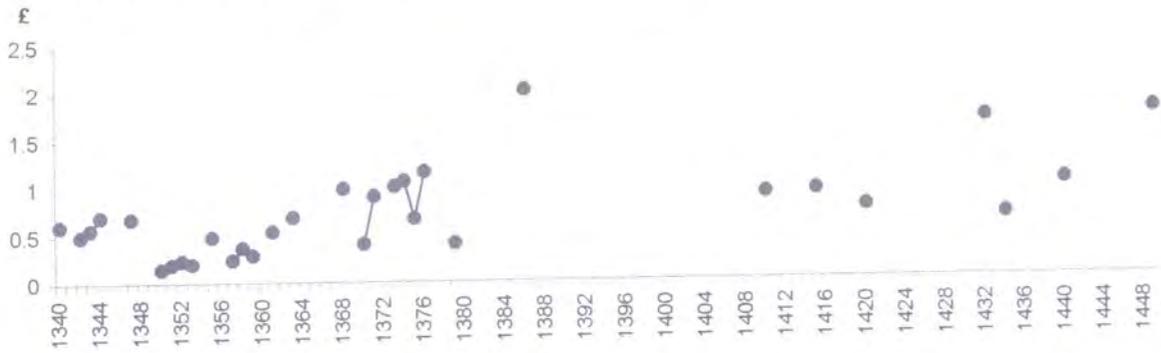


Figure 2.2: Wolviston (Billingham) vill tithe collection payments in bursars' accounts

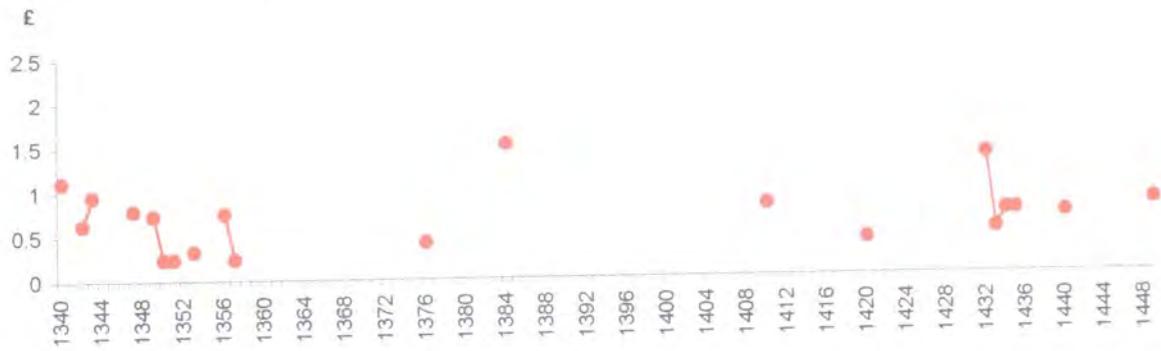


Figure 2.3: Cowpen Bewley (Billingham) vill tithe collection payments in bursars' accounts

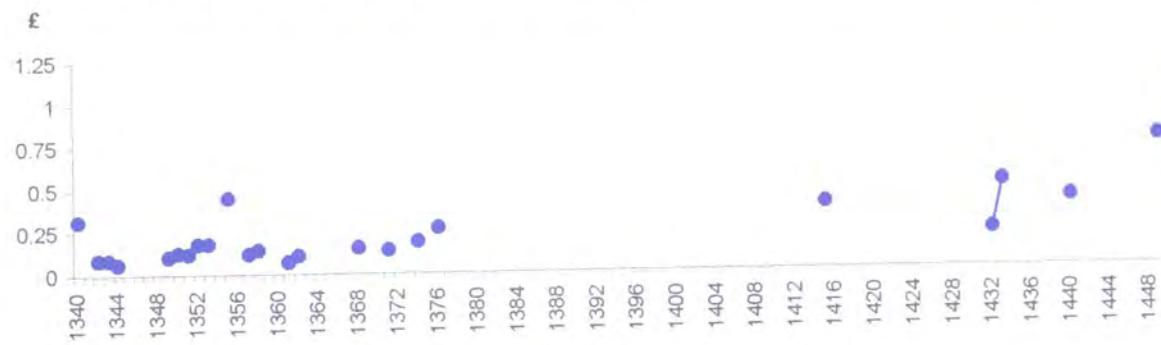
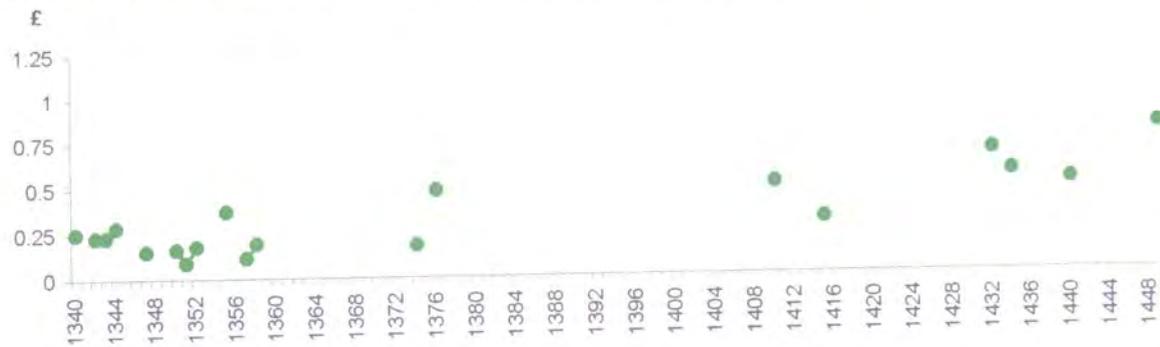


Figure 2.4: Newton Bewley (Billingham) vill tithe collection payments in bursars' accounts



Figures 2.1, 2.2, 2.3 and 2.4 show the increase in the cost of tithe collection between 1340 and 1449. Given that overall output fell during this period (see Chapter 6), the cost of collection per quarter of tithe grain must have increased even more dramatically. Table 2.1 confirms the rise in the cost of collection relative to the value of tithe by comparing collection costs with the value of tithe corn for twenty-three cases in which both are known. The monks sometimes sold the tithe after collection and eleven of these entries use the sale value of the tithe corn. Depending on the accuracy of the monks' annual grain prices used for accounting purposes, and we have no reason to doubt them, the sale value and the valuation levels should be comparable. The majority of values in Table 2.1 are from the fifteenth century. The tithe corn in hand from Billingham and Wolviston was valued in the bursar's account of 1342-3, however; this seems to have been a quirk in the accounting system which unfortunately did not re-emerge for another forty years. Table 2.1 suffers from a lack of early figures but, on the basis of the three percentages from the 1340s and 1350s, tithe collection does seem to have become considerably more expensive in relation to the value of the tithes by the late fourteenth and fifteenth centuries. Whilst tithe collection costs represented under 4 per cent of the value of the tithe in 1342-3 and 1352-3, it averaged over 6 per cent in the later accounts. The Wolviston table, however, is a warning that tithe collection costs were not always higher in proportion to tithe value in the fifteenth century by comparison with the period before the Black Death. In the 1420-1 account, for example, the cost of collecting Wolviston tithes was only 2.8 per cent of their value. Also, in the Bishop Middleham table, the tithe collection costs stood at 12*s.* for four years during the early 1430s and the sale value looks suspiciously rounded. It appears that the prior of Finchale may have

entered into some kind of agreement, formal or otherwise, for the collection and disposal of the tithes of Bishop Middleham.

Table 2.1 Tithe collection costs when the value or sale price of the tithe corn is known

Billingham vill

Bursar's account	Collection cost	Value of tithe corn	Collection as per cent of value
1342-3	£0-9-11	£20-0-0 (valuation)	2.5
1386-7	£2-0-0	£26-13-4 (sale)	7.5
1410-11	£0-18-0	£26-2-7 (valuation)	3.5
1415-16	£0-18-6	£18-10-10½ (valuation)	5.0
1420-1	£0-15-0	£18-18-0 (valuation)	4.0
1449-50	£1-14-8	£21-15-10 (valuation)	8.0

Bishop Middleham vill

Finchale prior's account	Collection cost	Value of tithe corn	Collection as per cent of value
1426-7	£0-13-4	£11-0-0 (sale)	6.0
1427-8	£0-16-0	£11-0-0 (sale)	7.3
1428-9	£1-3-4	£12-0-0 (sale)	9.7
1429-30	£0-15-0	£15-4-0 (sale)	4.9
1430-1	£0-13-4	£9-8-8 (sale)	7.1
1431-2	£0-12-0	£9-0-0 (sale)	6.7
1432-3	£0-12-0	£8-0-0 (sale)	7.5
1433-4	£0-12-0	£8-0-0 (sale)	7.5
1434-5	£0-12-0	£7-0-0 (sale)	8.6

Kirk Merrington vill

Bursar's account	Collection cost	Value of tithe corn	Collection as per cent of value
1352-3	£0-1-9	£2-13-4 (sale)	3.3
1433-4	£0-6-8	£5-14-0 (valuation)	5.9
1434-5	£0-10-0	£5-15-3 (valuation)	8.7
1449-50	£0-6-8	£4-4-0 (valuation)	7.9

Wolviston (Billingham parish)

Bursar's account	Collection cost	Value of tithe corn	Collection as per cent of value
1342-3	£0-12-6	£18-0-0 (valuation)	3.5
1410-11	£0-16-0	£20-7-4 (valuation)	3.9
1420-1	£0-8-0	£14-2-6 (valuation)	2.8
1449-50	£0-16-0	£15-16-8½ (valuation)	5

Increasing tithe collection costs must have been a result of generally increasing labour costs during the later middle ages.⁵¹ Manorial labour costs certainly rose on the priory's demesnes in the late fourteenth- and early fifteenth-century.⁵² The rising cost of tithe collection is suggested by the Feering rectory accounts since the team of tithe collectors was five men smaller in 1402 by comparison with 1316-7.⁵³

Transportation and storage

Tithe grain had to be transported between the various processes and its final destination for sale or consumption. Firstly, of course, it had to be carried from the tithe fields to the barn. The route taken by the tithe collectors was sometimes a cause of dispute. The writer of *Jacob's Well* singled out for condemnation

⁵¹ E.g. D. L. Farmer, 'The famuli in the later middle ages' in R. H. Britnell and J. Hatcher, eds., *Progress and problems in medieval England: essays in honour of Edward Miller* (Cambridge; Cambridge University Press, 1996), p. 232; E. Searle, *Lordship and community: Battle Abbey and its banlieu 1066-1538* (Toronto; Pontifical Institute of Medieval Studies, 1974), p. 307; R. H. Hilton, *The economic development of some Leicestershire estates in the fourteenth and fifteenth centuries* (London; Oxford University Press, 1947), p. 142; M. K. McIntosh, *Autonomy and community: the royal manor of Havering, 1200-1500* (Cambridge; Cambridge University Press, 1986), p. 149.

⁵² B. Dodds, 'Workers on the Pittington demesne in the late middle ages', *Archaeologia Aeliana*, 5th ser., 28 (2000), pp. 151-4.

⁵³ R. H. Britnell, 'The economic function of the parish church' (unpublished paper, 1966), p. 14.

alle þo þat malycously lettyn swyche tythes to be fetchyd out of here feeldys,
be weyis vsed of old tyme, & don hem gon ferr aboutyn wyth here cartys be
long compas⁵⁴

The grant by Robert of Hylton in 1313 already referred to makes provision for the transport of tithes from the fields when collected:

that they be freely able to collect and carry their tithes of corn and hay from
Hylton, Rysom', and Newton, by whatever ways are taken by the lords of
Hylton and their tenants for collection and carriage of their corn and hay,
without hindrance⁵⁵

Carriage of tithes from their place of collection to a tithe barn may have been more laborious in Durham than more southern parts of England because of the dispersed nature of the settlement in parishes in the Northeast. We have a reference, for example, to the expense of carrying tithes from the vill of Dalden and Murton to Dalton-le-Dale, the vill from which the parish takes its name.⁵⁶ The tithes were sometimes carried in wagons, two of which were bought for carrying the Bishop Middleham tithes in 1424-5.⁵⁷ The individual employed to collect the tithes sometimes provided his own carts, as did John Miriman who was paid 12s. to collect tithes in Billingham for twelve days in 1371-3.⁵⁸

⁵⁴ EETOS115, 24-5.

⁵⁵ DCM, calendar by Dr Charles Kelham of prior's register II f. 33v (Durham University Archives and Special Collections Searchroom, Number 5 The College).

⁵⁶ DCM, chamberlain's account 1355-6, *Expense*.

⁵⁷ SS6, clxxxix-cxc.

⁵⁸ DCM, bursar's account 1371-3, *Collecciones decimarum cum trituratione*.

The tithe sheaves were also sometimes carried by human porters, as was the case in Walworth in 1376-7 when twelve women were paid to perform the task.⁵⁹ In the Bolton Priory parishes, bread was baked for those carrying the unthreshed tithes.⁶⁰

Even when tithes were sold or leased it was necessary to transport the cash from the buyer to the mother house. This was an expensive process. In 1422-3 the Finchale monks paid 6s. 8d. for the 'farm of their North Yorkshire church of Giggleswick to be carried to Finchale.'⁶¹ In 1446-7 the same task was carried out by two men who received a 'reward' (*regardo*) for the task. In this latter year receipts from Giggleswick amounted to £44 and formed a considerable portion of the cell's annual income: carrying the money was an important, and perhaps dangerous, task.⁶²

Tithes were occasionally stored in places other than barns. In 1362 the tithe wheat from the villis of Monkwearmouth and Fulwell was stored conventionally in the barn but the tithe barley was kept in the 'old church'.⁶³ However, storage more usually entailed the expense of maintaining purpose-built constructions. We have many documentary references to tithe barns owned by the priory. For example, the inventory taken in January 1440 of the possessions of the Finchale prior after the death of William Barry mentions quantities of grain stored in the Bishop Middleham and Cornforth barns.⁶⁴ The bursar and terrar employed Robert Cocken to repair the Northallerton tithe barn in 1415-

⁵⁹ DCM, bursar's account 1376-7, *Collecciones decimarum*.

⁶⁰ *Bolton compotus*, eds. Kershaw *et al.*, 205.

⁶¹ SS6, clxxxiii.

⁶² SS6, ccxlvii, ccxlix.

⁶³ SS29, 157-8.

⁶⁴ SS6, cxxi.

6.⁶⁵ The warden and bursars of Durham College paid £27 12s. 9d. in 1425-6 for a new barn to be constructed in their rectory of Frampton, presumably intended for the tithes.⁶⁶ These were sometimes leased with the tithes. The payment to the hostiller for the Shincliffe tithe in 1387-8 explicitly included the lease of the barn.⁶⁷ The same arrangement appears in a three year lease of the Eastrington tithes in 1322 which included the 'use of their granges in Newland in Howdenshire for storing the tithes until the end of the same term'.⁶⁸ The priory's ownership of tithe barns is also indicated in many of the accounts' repair sections. In 1450-1, for example, the chamberlain paid John Cales and his apprentice for six days' work on the Dalton-le-Dale barn.⁶⁹

The priory did not always own the barns in which its tithes were stored. A barn was hired for 10s. in 1370-1 for the tithe of Monk Hesleden and one for 18d. at Wolviston in 1415-6.⁷⁰ In the early 1440s, a barn was even leased at Pittington from John Tailleur, at a rate of 6s. 8d. *per annum*, for the storage of the tithes.⁷¹ This is surprising given that the priory owned a manor at Pittington where, a century earlier, tithes had been collected.⁷² It is possible, however, that the Pittington demesne was leased during the early 1440s, since we have no surviving manorial accounts from these years.⁷³ If the manor was being leased then the priory may have had to buy back barn space for its

⁶⁵ DCM, bursar's account 1415-6, *Reparaciones domorum*.

⁶⁶ DCM, Durham College account 1425-6(A) and (B), *Expense Frampton*.

⁶⁷ DCM, hostiller's account 1387-8, *Vendicio decimarum*.

⁶⁸ DCM, calendar by Dr Charles Kelham of prior's register II f. 80r (Durham University Archives and Special Collections Searchroom, Number 5 The College).

⁶⁹ DCM, chamberlain's account 1450-1(A), *Reparaciones*.

⁷⁰ DCM, bursar's account 1370-1, [*Collectiones decimarum*]; bursar's account 1415-6 (A), *Expense necessarie*.

⁷¹ DCM, granator's account 1440-1, *Condonaciones et allocaciones*; Granator's account 1442-3, *Condonaciones et allocaciones*.

⁷² DCM, bursar's account 1341-2(A), *Decime Pittington*.

⁷³ Piper, *Medieval accounting material*.

tithes. There are other examples of payments to an individual on whose holding a tithe barn was situated. Adam Milner of Ferryhill was allowed 2s. on the farm of a cottage by the bursar and terrar because a tithe barn was situated there.⁷⁴

The obedientary account rolls give at least some idea of the structure of the tithe barns and the process by which they were built. In order to construct a tithe barn in a convenient location the land had to be acquired, as is shown by the long series of hostiller's payments to William Hett of Shincliffe in whose garden a tithe barn was being built.⁷⁵ A grant was made by Robert of Hylton in 1313 'of an area, 6 perches by 4½ perches, of his demesne of Hylton on the northern side of the western exit of the township of Hylton, for collection and deposit of their grain and hay tithes'.⁷⁶ The perch was a unit of measurement standardized at 5.029m so it is likely that this area measured around 683m².⁷⁷ The text implies the area was intended as an enclosure for dealing with tithes, and not just for a tithe barn.

Two documents in particular give us a detailed description of the repair or construction of tithe barns. The earliest is for the 'building and repair' of the Eastington tithe barn and the other for repair of a barn in Dalton-le-Dale.⁷⁸ The walls of the

⁷⁴ DCM, bursar's account 1375-6, *Condonaciones et allocaciones*. The wording of the entry suggests the priory might have interrupted Milner's lease and requisitioned the entire property for tithe storage: '*quia in manu domini et grancia decimale situantur in eodem loco*'.

⁷⁵ DCM, hostillers' accounts 1383(A), 1384-5, 1385-6, 1386-7, 1387, 1387-8, 1388-9, *Expense* sections.

⁷⁶ DCM, calendar by Dr Charles Kelham of prior's register II f. 33v (Durham University Archives and Special Collections Searchroom, Number 5 The College).

⁷⁷ L. Brown, ed., *The new shorter Oxford English dictionary on historical principles* (Oxford, Clarendon Press, 1973), p. 2156.

⁷⁸ DCM, Eastington rectory account 1433, Miscellaneous Charter 5627b (front), *Reparacione grangie decimale*; chamberlain's account 1448-9(B), *Reparaciones domorum*.

Eastrington barn were made of plaster or mud (*lutum*) whereas those of the Dalton-le-Dale barn may have been of stone, since sand and lime were used in the repairs. Dalton-le-Dale seems to have been an elaborate construction since it also had a slate roof for which slate pins (*stanebrodes*) and roof spars (*sparres*) were purchased and a slater was employed. Not all barns were so expensively roofed. Robert Karr of Croxdale was employed in 1448-9 to put a straw roof on the Shincliffe tithe barn.⁷⁹ A new lock was bought for the door of the Eastington tithe barn, a necessary precaution given the danger of theft of stored tithes mentioned below. The same barn was also surrounded by hedges (*hayar*).

Various tithe barns survive in England, the finest complete example of which is Great Coxwell (Oxon.). It is almost the size of the Hylton enclosure, measuring nearly 620m², and belonged to Beaulieu Abbey which is estimated to have owned a further twenty-seven examples.⁸⁰ This spectacular stone barn is thought to have been built before 1250.⁸¹ Although the age of barns is more difficult to ascertain than that of more elaborate buildings, some examples are datable to the late middle ages.⁸² Another monastic grange at Frocester (Glos.), belonging to St. Peter's Abbey, may initially have been built around the turn of the twelfth-thirteenth centuries but radiocarbon dating shows that at least parts of its roof are likely to date from the second half of the fifteenth century. A more complete example of a fifteenth-century tithe barn was that standing at

⁷⁹ DCM, hostiller's account 1448-9(A) and (B), *Reparaciones infra et extra*.

⁸⁰ R. W. Brunskill, *Traditional farm buildings of Britain* (revised edition; London; Victor Gollancz, 1987), p. 37.

⁸¹ W. Horn, 'The potential and limitations of radiocarbon dating in the middle ages: the art historian's view', in R. Berger, ed., *Scientific methods in medieval archaeology* (Berkeley; University of California Press, 1970), p. 30.

⁸² S. S. Rigold, 'Some major Kentish timber barns', *Archaeologia Cantiana*, 81 (1966), p. 3.

Nettlestead (Kent), prior to its destruction by fire in 1962.⁸³ Both these examples are of timber barns.

Archaeological evidence of north-eastern agricultural buildings is much rarer than in the south. Nonetheless, all the known examples of medieval barns north of the River Tees and Furness are in County Durham; these include examples within the Durham and Finchale monastic precincts, two well-known barns next to Hallgarth Street in Durham city and others at former priory properties. These buildings are made of stone, with walls up to 1m thick, and have pitched roofs. These survivors must represent the most durable medieval buildings, and seem to be more akin to the documented example at Dalton-le-Dale than the Eastrington barn, which had mud walls, and the Shincliffe barn, which had a straw roof. The design of the surviving Durham barns is characteristically functional with two opposing doors for the entry and exit of carts. The only surviving threshing floor is at Hallgarth in Pittington but may not be medieval.⁸⁴ As elsewhere in England, certain recorded medieval barns in Durham have since been demolished. The most spectacular example, and the largest known medieval barn in County Durham, was High Grange at Belmont which was destroyed following subsidence caused by mining. The other recorded example was in the city on South Street and 'forms part of what used to be the old rectory of St. Margaret's'.⁸⁵

⁸³ Horn, 'Radiocarbon dating', 46-51.

⁸⁴ M. Roberts, R. Laxton, R. Howard and C. Litton, 'The buildings of the religious estates in medieval Durham: a tree-ring dating project', *Durham Archaeological Journal*, 14-15 (1999), pp. 141-60.

⁸⁵ T. F., 'Tithe barns in Durham', *N. W. Chronicle*, June 29 1895. I have been unable to find this barn and it is possible it has disappeared over the last century.

It appears that the north-eastern barns may have been simpler in construction than the great southern examples. The surviving southern tithe barns are often aisled, with bays down either side of a central space. This design affords maximum width within the limitations of the building materials. The account evidence reveals little about the structure of the north-east England tithe barns but known examples do not appear to have been aisled. Although there seems to have been a concentration of aisled tithe barns in the south of England, and particularly in Kent, it is possible that some Durham barns were aisled since many barns still standing in the Pennines conceal what was originally an aisled structure.⁸⁶

There is a tendency for all medieval barns to be referred to as 'tithe barns'. Clearly, archaeological evidence alone gives no indication of the type of grain stored in the barn. Given the association between manors and tithe collection (see Chapter 3), and the existence of surviving medieval barns at the monastic centres of Durham and Finchale, there seems no reason to doubt their use for tithes along with grain from other sources.

One of the most important uses of medieval barns, including some tithe barns, was in threshing and winnowing the grain. Both processes were necessary before tithe grain could be consumed and often before it was sold. Threshing separated the grain from the straw. It was performed either by beating sheaves against a hard surface or by repeatedly hitting them with a hand flail. Winnowing was usually performed using a large

⁸⁶ Brunskill, *Farm buildings*, 48.

sieve. Both processes required a dry area and threshing needed a hard surface whereas winnowing needed restricted air currents.⁸⁷ There are many references to the time-consuming and expensive processes of threshing and winnowing tithes in the Durham account rolls. In 1351-2, for example, the bursar and terrar paid 50s., besides 2s. spent on drinks, for the threshing of the Northallerton tithes. Winnowing cost a further 7s.⁸⁸ Threshing, it seems, took place throughout the winter months.⁸⁹ Certainly, a brief granator's account running from 3 May to 29 September refers to the Pittington, Billingham and Kirk Merrington tithes remaining in sheaves and as yet unthreshed.⁹⁰ The priory often employed named individuals, on piece-rate wages, to perform the threshing. Unsurprisingly these tended to be local men, such as John Tiddesman of Billingham who threshed grain from that vill.⁹¹ Occasionally, individuals known from another context are recorded as having threshed. John Punchon was paid to thresh grain from North Sherburn and South Pittington in 1376-7.⁹² A man of the same name was the reeve of Pittington in that year and, if the two names refer to the same individual, then the reeve presumably simply threshed the tithe grain with the manorial grain.⁹³ It was sometimes necessary to send individuals to a parish to thresh. The sacrist paid for two servants to be sent '*versus Bedlington pro decimis trituranis*' in 1403-4.⁹⁴ The accounts do not tell us so much about the process of winnowing the grain. There are relatively few instances of named winnowers in the series and the twelve instances in which the threshers also winnowed

⁸⁷ *Ibid.*, 36-44.

⁸⁸ DCM, bursar's account 1351-2(A), *Trituracione decime de Alverton*.

⁸⁹ Brunskill, *Farm buildings*, 40.

⁹⁰ DCM, granator's account 1442, *Decime*.

⁹¹ DCM, bursar's account 1379-80, *Collecciones decimarum*.

⁹² DCM, bursar's account 1376-7, *Collecciones decimarum*.

⁹³ B. Dodds, '*In manu domini* Pittington demesne and its workforce, 1376-1452' (unpublished University of Durham M.A. dissertation, 1999), p. 116.

⁹⁴ DCM, sacrist's account 1403-4(A), *Expense minute*.

the grain suggest the two tasks were often performed by the same individuals. In 1445-6, two women were paid 3s. to winnow grain which might reflect the less physically demanding nature of the task or, perhaps, the impact of the mid-fifteenth century shortage in labour.⁹⁵

Grain continued to be stored after threshing and winnowing. If the monastery receiving the tithes wished to use the grain itself then clearly the tithe grain was stored prior to consumption. Sometimes, however, the reason for storing tithe corn was resolutely commercial. The master of Wearmouth sold some of his tithe wheat and barley in 1386-7 but kept the rest back because it could only be sold at a low price.⁹⁶ The storage of tithe grain, for whatever reason, inevitably carried risks. Ninety-seven tithe lambs belonging to the bursar and terrar and stored at Jarrow died of murrain or were stolen in 1428-9 representing a loss to the cell of £17 2s. 4d.⁹⁷ Presumably these were awaiting sale or consumption. This may also have been the case for the West Sleekburn (Bedlington, Northum.) tithes belonging to Robert of Middleham in 1344-5 before they, along with all his goods, were burned.⁹⁸

The gathering, processing, storage and transport of tithe grain was a complicated and expensive part of daily life in the middle ages and constituted a serious administrative concern for institutions with several appropriated parishes such as Durham Priory. The accounts give only indirect information on tithe administration in the parishes

⁹⁵ DCM, bursar's account 1445-6(A) and (B), *Condonaciones et allocaciones*.

⁹⁶ 'quia erat ad vile precium'. SS29, 178.

⁹⁷ DCM, bursar's account 1428-9, *Condonaciones et allocaciones*.

⁹⁸ DCM, bursar's account 1344-5(A), *Condonaciones et allocaciones*.

because this was one step removed from the monastery itself. The historian is much better equipped for an analysis of the administration of tithes received as cash and grain at the monastery because the surviving documents were designed to facilitate these aspects of monastic life.

Chapter 3

Tithe administration: the monastic level

‘For smale tithes and for smal offrynge
He made the peple pitously to synge,
For er the bisshop caughte hem with his hook,
They weren in the erchedeknes book.’

Geoffrey Chaucer, *The Friar's Tale*¹

The fictional grasping archdeacon, described by Chaucer's Friar, scrupulously extracted all the tithes owed to him and recorded any recalcitrants in his book. If Chaucer's contemporary audience was amused by this caricature then it probably contained some truth. Durham Priory constitutes a good case study of medieval bureaucratic methods for recording tithe receipts since it was among the best endowed English religious houses and tithe constituted its largest single source of income, representing around one-third of the total.² Nearly all the income from appropriated rectories was handled by the office holders at the mother house, although a small proportion was collected by the dependent cells. In some cases, the accounts recording tithe receipts form almost continuous series from the end of the thirteenth century until the dissolution and bear witness to the complex and developing bureaucratic system used to administer the tithe receipts. This

¹ Chaucer, 'The Friar's tale', in *The Riverside Chaucer*, ed. L. Benson (Oxford; Oxford University Press, 1987), p. 123.

² Dobson, *Durham Priory*, 268.

chapter will examine the priory's management of its spiritual endowment using the tithe entries in the account rolls. The research draws on scattered references to tithes received between the Tyne and Tees but also occasionally from beyond these boundaries.

The endowment and its division

Excluding collegiate foundations, nearly half the rectories between the Tyne and Tees were appropriated.³ Of these, twelve belonged to Durham Priory or its dependent cells at Finchale, Jarrow and Monkwearmouth.⁴ These are shown on the map. Of these, Monkwearmouth and Jarrow parishes were part of the endowment when the Benedictine community at Durham was founded in 1083 and the others were appropriated in the twelfth and thirteenth centuries.⁵ During the fourteenth and fifteenth centuries, Durham and its cells also received income, albeit not all at the same time, from a further nine appropriated rectories in Northumberland,⁶ five in Scotland,⁷ five in Yorkshire,⁸ one in Lincolnshire,⁹ one in Lancashire,¹⁰ and one in Nottinghamshire.¹¹

³ R. A. Lomas, *North-east England in the middle ages* (Edinburgh; John Donald, 1992), p. 117.

⁴ Aycliffe, Billingham, Bishop Middleham, Dalton-le-Dale, Durham St Oswald, Gilesgate St Mary Magdalene, Heighington, Jarrow, Kirk Merrington, Monk Hesleden, Monkwearmouth, Pitlington. This list was drawn up with the help of R. N. Hadcock, 'A map of mediaeval Northumberland and Durham', *Archaeologia Aeliana*, 4th series, 16 (1939), pp. 159-207 and SS198, 225-6.

⁵ Lomas, 'Landowner', 139-40. The documents acquired through Finchale's appropriation of Bishop Middleham are printed in SS6, 148-9.

⁶ Berwick upon Tweed, Branxton, Bywell St Peter, Holy Island, Norham, Edlingham, Ellingham, Bedlington, Norham. Lomas, 'Landowner', 160, 240; SS12; K. H. Vickers, *A history of Northumberland. Volume XI. The parishes of Carham, Branxton, Kirknewton, Wooler and Ford* (Newcastle; Andrew Reid and co., 1922), pp. 96-8.

⁷ Coldingham, Ednam, Earlston, Edrom, Stichill. Lomas, 'Landlord', 166. SS12.

⁸ Bossall, Eastrington, Fishlake, Giggleswick; Northallerton. Lomas, 'Landlord', 169; SS6; DCM, Durham College accounts.

⁹ Frampton. DCM, Durham College accounts.

¹⁰ Lytham. DCM, Lytham accounts.

¹¹ Ruddington. DCM, Durham College accounts.

Table 3.1 Accounting office responsible for income from Durham Priory's appropriated parishes *infra* and *extra aquas*

Accounting office	Parish (located between the Tyne and Tees unless otherwise indicated)
Bursar and terrar	Aycliffe, Bedlington (Northum.; reassigned to sacrist 1357), Billingham, Earlston (Scotland), Eastrington (E. Yorks.), Ednam (Scotland), Edrom (Scotland; shared), Ellingham (Northum.), Heighington, Holy Island (Northum.; shared), Jarrow (shared), Kirk Merrington, Monk Hesleden, Monkwearmouth (shared), Norham (Northum.), Northallerton (N. Yorks.), Pittington
Hostiller	Durham St Oswald
Chamberlain	Dalton-le-Dale
Sacrist	Bedlington (Northum.; reassigned from bursar and terrar 1357), Bywell St Peter (Northum.; shared), Edlingham (Northum.)
Commoner	Bywell St Peter (Northum.; shared)
Almoner	Gilesgate St Mary Magdalene, Witton Gilbert Chapelry (St Oswald parish)
Prior of Finchale	Bishop Middleham, Giggleswick (N. Yorks.)
Master of Wearmouth	Monkwearmouth (shared)
Master of Jarrow	Jarrow (shared)
Prior of Holy Island	Holy Island (Northum.; shared)
Warden and bursars of Durham College	Bossall (N. Yorks.), Fishlake (S. Yorks.), Frampton (Lincs.), Ruddington (Notts.)
Prior of Coldingham	Berwick upon Tweed (Northum.), Coldingham (Scotland), Edrom (Scotland; shared), Stichill (Scotland)
Prior of Lytham	Lytham (Lancs.)

References given in notes 4, 6, 7, 8, 9, 10 and 11.

Parish structure in northern and southern England differed and this had implications for the administration of tithes. Whilst in the south parish boundaries tended to contain one village and its fields, in the north parishes contained a number of discreet villis.¹² In the parishes between the Tyne and Tees appropriated to Durham Priory and its

¹² J. E. A. Jolliffe, 'Northumbrian institutions', *English Historical Review*, 161 (1926), p. 2.

dependencies, there were several vills, one of which was often a priory manor. Tithe was due from all the vills in a parish. Pittington parish represents a typical example. The priory owned a manor in the parish, the site of which is now known as Hallgarth, but tithe was collected from several further vills between 1340 and 1450: North Pittington, South Pittington, Ludworth, North Sherburn, South Sherburn, Shadforth, Ravensflat and 'Warknoll'. The priory accounts treat each of these vills, for each of the parishes, as a separate tithing unit which suggests their area must have been well-defined for tithing purposes.

Like all large Benedictine houses in the late middle ages, Durham Priory and its cells were managed by monk office holders known as obedientiaries. Within the wider Benedictine community the nature and responsibilities of these offices had become more closely defined when the financial system was overhauled between 1150 and 1250.¹³ The titles of some of the officers at Durham, along with occasionally inaccurate descriptions of their duties, were given by the sixteenth-century author of the *Rites of Durham*.¹⁴ More reliable details can be inferred through the thousands of documentary references in the Durham Cathedral Muniments.

Each obedientiary had a specific field of responsibility. The hostiller, for example, looked after the guesthouse and the sacrist the interior of the church. Depending on the nature of the obedience, some office holders were given a share of the monastery's endowment with which to carry out their duties. In 1221, following its southern

¹³*Book of William Morton*, eds. Brooke *et al.*, xvii – xix.

¹⁴SS107, 93-102.

counterpart, the General Chapter of the northern province enjoined monks responsible for receiving a proportion of the monastery's income to render annual account.¹⁵ This was reinforced by Benedict XII in 1336.¹⁶ The Durham obedientiaries who were responsible for receiving certain incomes annually, such as the bursar and terrar, are most familiar to the modern historian because of the thousands of account rolls they left behind. More elusive are the non-accounting obedientiaries, some of whom occupied positions of great importance at Durham, including the sub-prior, chancellor and precentor.¹⁷ The heads of dependent cells were similar to the accounting obedientiaries since they rendered annual account to the prior for their share of the endowment which was intended for the use of their cell, with occasional subsidies to the mother house.

Tithes were received by the monk obedientiaries who presented annual accounts. The author of the *Rites* suggests the Durham obedientiary system was centralised with his comment that it was the duty of the bursar to 'Receave all the Rentes that was pertheyning to the house'.¹⁸ Such a system did exist at other Benedictine houses. At Peterborough, for example, nearly all the endowment was handled by the treasurer and abbot's receiver who transferred income to the other offices.¹⁹ The system at Durham, like that at Worcester, was less centralised.²⁰ The endowment, both temporal and spiritual, was divided among several obedientiaries with the lion's share going to one office. The bursar was the best endowed obedientiary and was entitled to tithes from seventeen parishes in

¹⁵ Pantin1, 238.

¹⁶ Pantin2, 230.

¹⁷ Dobson, *Durham Priory*, 66.

¹⁸ SS107, 99.

¹⁹ *Account rolls of the obedientiaries of Peterborough*, ed. J. Greatrex, Northamptonshire Record Society, 33 (1984), pp. 28-43, 49-50, 108.

²⁰ *Comptus rolls of the priory of Worcester of the fourteenth and fifteenth centuries*, ed. S. G. Hamilton, Worcestershire Historical Society (Oxford; James Parker and Co., 1910), p. vi.

northern England and Scotland. He was responsible for providing the convent's meat and grain, with the help of his subordinates the cellarer and granator, and was assisted in his duties by the terrar whose own property was minimal.²¹ Enthusiasm for taking on this onerous office was at such a low ebb during the early fifteenth century that Prior Wessington spread the responsibilities by dividing receipts normally owing to the bursar between the bursar, granator and cellarer. The experiment was not popular and in 1445 the monks reverted to the old system.²² Table 3.1 illustrates this system of partial centralisation by showing the division of Durham's spiritual income.

Durham's nine dependent cells differed greatly in origin and scale. Jarrow and Monkwearmouth had been refounded in the eleventh century by Benedictines anxious to recreate the splendours of Northumbria's monastic past.²³ Durham College Oxford, on the other hand, was established at the end of the fourteenth century using a bequest from Bishop Hatfield.²⁴ The smallest of the cells, that on the site of St Cuthbert's hermitage on Farne Island, had no fixed apportionment of spiritual revenue. It did occasionally receive tithe revenue, however, as when the income from Preston in Ellingham parish was assigned to it in 1338-9 and 1375-6.²⁵ Nor did cells at Holy Island, Monkwearmouth and Jarrow enjoy regular income from a complete parish. Their spiritual revenue was much higher than that of Farne, however, since they shared with the bursar the income from the

²¹ Dobson, *Durham Priory*, 253-7; E. M. Halcrow, 'Administration and agrarian policy of the manors of Durham Cathedral Priory' (unpublished University of Oxford B.Litt thesis, 1949), p. 11.

²² Dobson, *Durham Priory*, 285-7.

²³ *Symeon of Durham: libellus de exordio atque procurso istius, hoc est Dunhelmensis, ecclesie: tracts on the origins and progress of this the church of Durham*, ed. and trans. D. W. Rollason (Oxford; Clarendon Press, 2000), pp. 203, 209.

²⁴ Dobson, *Durham Priory*, 347-9.

²⁵ E. Bateson, *A history of Northumberland. Volume II. The parishes of Embleton, Ellingham, Howick, Long Houghton and Lesbury* (Newcastle; Andrew Reid and Co., 1895), p. 280; J. Raine, *The history and antiquities of north Durham* (London; John Bowyer Nichols and Son, 1852), p. 346.

parishes in which they were situated.²⁶ Finchale Priory was much better endowed, having secured the appropriation of Giggleswick and Bishop Middleham for its own use.²⁷ By far the most impressive spiritual endowment of a cell, despite the lateness of the foundation, was that of Durham College Oxford which received income from no fewer than four rectories. As far as the study of tithe income is concerned, the cells are directly comparable to the monastic obediences: the heads of cells rendered account for their income at the same time as the obedientiaries.²⁸

As described in Chapter 1, an appropriated rectory yielded various types of income. The usual practice was for the obedientiary or head of cell to take the corn tithes and the vicar the small tithes.²⁹ This is suggested by hundreds of references to garb tithes in the account rolls and also by entries in the prior's register referring to the entitlement of vicars.³⁰ Special arrangements were sometimes in place, however. For example, neither the bursar nor the master of Jarrow received tithes from South Shields; Lomas suggests they were probably diverted to the Chapel of St Hilda in that vill.³¹ Likewise, there was no endowed vicarage in the parish of Durham St Oswald and, consequently, the hostiller received the small tithes, tithe lambs, altarage, oblations and so on and paid a stipend to a vicar.³² Such arrangements were occasionally subject to slight readjustment.

²⁶ The changing arrangements are evident in the changing lists of vills from which tithes were received in the series of accounts from these dependencies, the bursar and the proctor of Norham.

²⁷ SS6, 64, 148-9

²⁸ Dobson, *Durham Priory*, 301. John Oll was specifically enjoined to render account 'annually of all receipts and expenses' when he was appointed as prior of Finchale in 1450. SS6, 34.

²⁹ Lomas, 'Landlord', 140.

³⁰ DCM, prior's register II, f. 95r. This ordinance refers to the vicarage of Billingham and dates from c. 1325 – c. 1330. DCM, prior's register II, f. 97r. This assignment refers to the vicarage of Bishop Middleham and dates from 1325. I am grateful to Mrs Lynda Rollason for these references.

³¹ Lomas, 'Landlord', 140.

³² This is evident in the hostillers' accounts. E.g. DCM, hostiller's account 1357-8, *Ecclesia*.

For example, in 1445-6 the almoner acknowledged in his account that he should have received more from Witton Gilbert parish but that many of the profits had been seized by John Hexham, the chaplain. The almoner explained that he could not take this income from Hexham '*propter notoriam paupertatem eiusdem*'.³³ Parishes also sometimes had rectories and glebes which could yield income. Master John Thorp, for example, owed the sacrist 10s. for the Bedlington rectory garden in 1378-9.³⁴ Then in 1395-6 2s. were received from the orchard in the Bedlington rectory garden but the 'herbage' of the same garden was sold with the garb tithes.³⁵ Likewise, the 'lands and tenements' of Bishop Middleham rectory were leased by the Finchale priors.³⁶

Disposal of tithes

There were two basic methods by which the obedientiaries and heads of cells could receive their garb tithe income. Most obviously, an agent could oversee the collection of tithes in the fields and the preparation of the grain for use or sale by the monastery or cell. In these circumstances the accounts refer to the tithes as *in manu domini*. Much more common was the sale of tithes for cash: an agent made an agreement with the buyer prior to the harvest, either for one year or a fixed number of years, and received cash on appointed days. Occasionally, the two methods were combined: a tithe was sold for an agreed quantity of grain.

³³ DCM, almoner's account 1445-6(A), *Varia recepta*.

³⁴ DCM, sacrist's account 1378-9(A), *Debita que debentur officio*.

³⁵ DCM, sacrist's account 1395-6(A), *Recepta*.

³⁶ E.g. SS6, cvi.

The only obedientiary to make long-term use of the first method of tithe collection was the bursar. In his role as provider of the convent's grain, with the help of his subordinate granator, he had to ensure the supply either through receipts from manors, tithes and rents or through purchase. Other office holders did occasionally receive tithes in kind but without apparent regularity. The hostiller, for example, kept the tithes of Aldingrange *in manu domini* between 1387-90 and 1438-49;³⁷ this might have been the result of some kind of special arrangement since the manor of Aldingrange was rented by the bursar from Finchale Priory and used for stock rearing around these periods.³⁸ Other than this, the hostiller's accounts hardly ever mention tithes received in kind. Like the bursar, the heads of the dependent cells had to supply their communities. For this reason, the appearance of tithe receipts in kind is more frequent in the cell accounts. At Lytham, for example, where the cell was situated in an appropriated parish, the monks often reserved the tithes of one or more vills 'for the use of the house'.³⁹ Finchale Priory always sold the tithes of the distant Yorkshire parish of Giggleswick for cash but sometimes received those from closer Bishop Middleham as grain.⁴⁰

³⁷ The latter period may have extended into the 1450s but these accounts are beyond the time period defined for this study.

³⁸ SS198, 219.

³⁹ E.g. DCM, Lytham account 1391-2(A), *Recepta*.

⁴⁰ E.g. SS6, clxxxii.

Figure 3.1: Percentage of vills in bursars' accounts from which tithes were in hand (for years when over 50 vill entries survive)

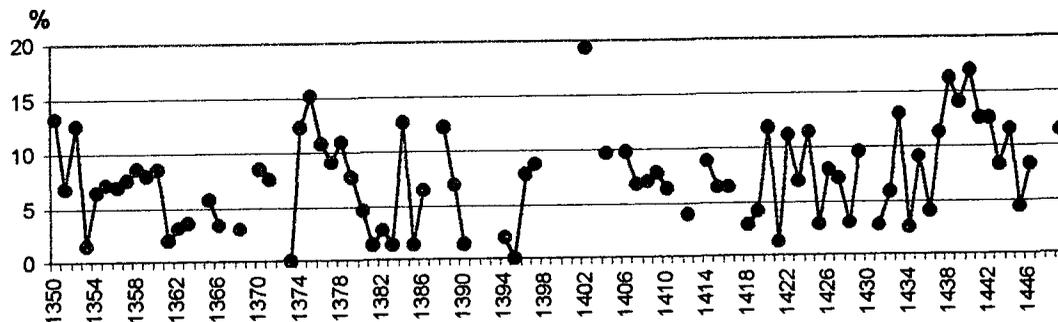


Figure 3.1 shows that there were only two years from which over fifty tithe receipts survive in which the bursar did not record the receipt of any tithes as grain: 1373 and 1395.⁴¹ Lomas interpreted the changing number of tithes in hand in terms of the long-term development of monastic policy but there may also have been economic reasons for the fluctuation: a shortage of available buyers may have forced the bursar to receive tithes as grain.⁴²

In the *Rites* the granator's job is described as 'to Receyve all the whet that came and all the malte corne, and to make accoumpte what malt was spente in the weeke, and whate malt corne was delyvered to the kylne and what was Receyved from the kylne and howe moche was spente in the house'.⁴³ The bursar appears to have delivered the grain on receipt to the granator, as is suggested by occasional references in his accounts.⁴⁴ The accounting system used by these two obedientiaries to record the transfer of grain quantities underwent development during the fourteenth and fifteenth centuries and is

⁴¹ This is contrary to Lomas' suggestion that none of the bursar's tithes were in hand between 1386-96. Lomas, 'Landlord', 141.

⁴² *Ibid.*, 141-3; Swanson, *Church and society*, 211.

⁴³ SS107, 100.

⁴⁴ E.g. DCM, bursar's account 1380-1, [*Decime*] Billingham.

dealt with more fully below. The survival of granators' accounts before the fifteenth century is scant but the fragments we have suggest quantities of tithes grain were entered.⁴⁵ We also have a series of bursar-granator indentures, the earliest surviving from 1396-7, in which the transfer was recorded.

As mentioned in Chapter 2, not all tithes received as grain were destined for consumption by the convent. Sometimes tithes grain was sold after collection. In 1380-1, for example, the bursar recorded that the tithes of Southwick (Monkwearmouth) was in hand and yielded 14q. of wheat which was 'sold by the serjeant of the manor at 7s. 6d. per quarter'.⁴⁶ Likewise, in 1442-3 the bursar recorded that the grain from the Northallerton parish vills of Romanby and Brompton was sold by Robert Sadiller.⁴⁷ This practice was common elsewhere. In 1298-9, for example, Adam the reeve sold tithes grain for Bolton Priory in Skipton parish.⁴⁸ In 1380-1 tithes wheat from Westoe (Jarrow) was given to John Godwyn the serjeant for use as liveries for the manorial *famuli* and in the same year tithes from Bewley manor (Billingham) were used to pay the shepherd at Le Holm.⁴⁹ Tithes grain was also consumed by the priory's workers and animals. In 1379-80 47q. of tithes peas and beans were used as fodder for the prior's horses and for carthorses.⁵⁰

⁴⁵ The tithes receipt section is unusually legible in DCM, granator's account 1376-7.

⁴⁶ DCM, bursar's account 1380-1, [*Decime*] Monkwearmouth.

⁴⁷ DCM, bursar's account 1442-3, *Decima* Northallerton.

⁴⁸ *Bolton computus*, eds. Kershaw *et al.*, 88.

⁴⁹ DCM, bursar's account 1380-1, [*Decime*] Jarrow, [*Decime*] Billingham.

⁵⁰ DCM, bursar's account 1379-80, *Empcio avene fabarum et pisarum*.

It was much more common for the Durham monks to avoid direct involvement in tithing, and sale of tithe produce, except to negotiate a sale prior to the harvest. Gasquet's view that this was a 'somewhat strange custom ... occasionally practised in the fourteenth and fifteenth centuries' is a severe underestimation of the prevalence of pre-harvest tithe sales, at least in the parishes appropriated to Durham Priory.⁵¹ Figure 3.1 demonstrates that the bursar never received as grain the tithes of more than one-fifth of his vill: more than 80 per cent of his tithes were sold every year. In fact, it appears that the sale of the anticipated tithe corn became common throughout Europe from as early as the eleventh century when the nuns of Ronceray began to do so.⁵² Swanson discusses examples of leasing, and even sub-leasing, of tithes from numerous other English institutions in the late middle ages.⁵³

The Durham obedientiaries and heads of dependent cells usually sold their tithes on an annual basis. Often this was not made explicit by the accountants but can be determined through an examination of the sums paid and the individuals paying them. Table 3.2 shows the contents of the bursar's account entries for the Heighington vill tithes during the 1350s and 1360s.

⁵¹ Gasquet, *Parish life*, 19.

⁵² Constable, *Monastic tithes*, 135.

⁵³ Swanson, *Church and society*, 241.

Table 3.2 Purchasers and sums paid for the tithes of Heighington vill 1350-68

Bursar's account	Purchaser name entered	Sum paid
1350-1	John of Nesbyt	£2-6-8
1351-2	John of Nesbyt	£5-6-8
1352-3	John of Nesbyt	£6-6-8
1353-4	Master John of Nesbyt	£6-13-4
1354-5	Stephen Shephird	£6-6-8
1355-6	William of Braffirton	£10-0-0
1356-7	vicar of Heghyngton	£7-0-0
1357-8	William of Brafferton	£10-0-0
1358-9	Master John of Nesbyt	£11-6-8
1359-60	William of Braffirton	£10-6-8
1360-1	Bonageo Moneour	£12-0-0
1361-2	John of Alverton	£10-13-4
1362-3	John of Helpby	£13-6-8
1365-6	Richard Howe	£15-6-8
1366-7	Master John of Alverton	£16-0-0
1368-9	Lady Nevyll	£16-6-8

The table shows that the sum paid for the tithes changed each year even if the purchaser did not. So John of Nesbyt bought the tithes for four years between 1350 and 1353 paying only £2 6s. 8d. in the first year and £6 13s. 4d. in the final one. It seems the tithe sales were negotiated immediately prior to the harvest. The collection of miscellaneous charters contains isolated examples of the type of document drawn up when sales were negotiated. For example, an agreement was drawn up on 1 August 1342 between Reginald of Haswell and the prior and convent for the payment of £15 13s. 4d. on 20 March and 24 June in 1343 for the Eden (Monk Hesleden) and South Sherburn (Pittington) tithes.⁵⁴ Table 3.2 suggests that this system worked well for the convent.

⁵⁴ DCM, Miscellaneous Charter 3957.

Swanson pointed out that tithe leases were risky because of the variation in the value of tithe income from year to year.⁵⁵ This danger was mitigated by the annual sale: the sum paid for the Heighington tithes between 1350 and 1368 fluctuated between £2 6s. 8d. and £16 6s. 8d. The system was, of course, reliant on a supply of willing purchasers. Occasionally it seems a buyer could not be found. Thomas of Annesley paid only £1 for the 1390 North Pittington tithes and the accountant explained that more was not received 'because it was assigned to him on the rent day'.⁵⁶ Moreover, there was a risk that those who had agreed to pay might be unwilling or unable to do so. For this reason, office holders seem to have negotiated pledges from other individuals to secure payment. For example, the tithes of Thrislington (Bishop Middleham) were sold to Henry Pillok in 1367 on the pledge of the vicar of the same parish.⁵⁷

Tithes were not always sold on an annual basis. In 1431-2 Richard Helmeslay paid £8 13s. 4d. for the first year of a three year lease on the Romanby (Northallerton) tithes.⁵⁸ In his status document of 1360, recording the goods and income of his house, the master of Wearmouth recorded a four-year lease of 'le Sayne' at £2 per annum, to be paid at Easter and on 1 August.⁵⁹ Office holders were most likely to lease tithes of rectories at some considerable distance from their house. The prior of Finchale, for example, commonly leased his Yorkshire rectory of Giggleswick. In 1382-3 a ten year lease was negotiated with Robert of Stayneford for which he paid an entry fine of two instalments

⁵⁵ Swanson, *Church and society*, 241.

⁵⁶ DCM, bursar's account 1390-1(A), [*Decime*] Pittington.

⁵⁷ DCM, Finchale *status* 1367.

⁵⁸ DCM, bursar's account 1431-2, *Decima garbarum* Northallerton.

⁵⁹ DCM, Wearmouth *status* 1360.

of £6 13s. 4d.⁶⁰ Likewise, in 1404-5 a £5 entry fine was paid for the revenues of the same church.⁶¹

There was considerable variation in the days on which payment for sold tithes was received. The bursars took theirs in two instalments, the 20 March and 24 June up to 1362-3 and the 2 February and 20 March from then on.⁶² Other obedientiaries and cells appointed different *termini*. In his 1346-7 account the prior of Finchale received payment for tithes on 10 August, 2 February, 3 May, 'the Easter rent day' and 20 March.⁶³ Although the precise payment days varied, it is clear that the pattern suggested by the 1342 Eden and South Sherburn agreement obtained generally: the cost of the tithes was fixed around harvest time and paid the following year. Occasionally Durham office holders received tithe payments in advance. In 1342-3, for example, the bursar recorded that £53 6s. 8d. had been received beforehand for the 1343 garb, wool and lamb tithes of Eastrington parish.⁶⁴ There seems to have been a concentration of beforehand tithe sales during the 1330s and 1340s which, according to Lomas, was due to very low income in these years.⁶⁵

Fixed quantities of grain were sometimes paid instead of part or all of a cash payment. In 1384-5, for example, the tithes of Cowpen Bewley (Billingham) and

⁶⁰ DCM, Finchale account 1382-3, *Varia recepta*; DCM, Finchale account 1383, *Varia recepta*.

⁶¹ SS6, cxxxii.

⁶² SS198, 68, 126. This reference gives payment days in 1343 and 1396. The precise timing of the change can be traced through DCM, bursars' accounts.

⁶³ SS6, xxii-xxiii.

⁶⁴ DCM, bursar's account 1342-3, *Recepta pre manibus*.

⁶⁵ Lomas, 'Landlord', 150.

Ferryhill (Kirk Merrington) were sold for 21q. of wheat and 21q. of barley each.⁶⁶ Lomas suggested that this expedient 'enabled [the bursar] to regulate the quantity and the variety of produce received' without the expense of 'collection, threshing and winnowing'. He also stated that the process was 'entirely discontinued' after 1386.⁶⁷ Certainly there are no references after this date to the sale of tithe for grain but other evidence suggests that the bursar and terrar were prepared to negotiate payment in kind even if a cash sum was given in their account. The exceptionally detailed rental of 1495-6 tells us that the tithe of Aycliffe, for example, was sold for £9, some of which was paid in cash, though 30s. were paid in the form of a horse and 36s. 6d. in the form of 9q. 6b. of barley.⁶⁸

Lomas identified three broad groups of individuals to whom the priory sold tithes: tenants of the land being tithed, clergy, and other individuals keen to profit from the sale of tithe corn.⁶⁹ Given the incompleteness of priory rental material, individuals in the first category are most easily detected when they were lessees of priory manors in appropriated parishes: in 1421-2, for example, the tithes of the demesnes of Merrington, Ferryhill, Belasis and Bewley were all sold to the farmers of the manors.⁷⁰ These purchasers were buying exemption from tithe on lands they were cultivating. The parish clergy also make regular appearances in the lists of purchasers. In 1355-6, the vicar of Aycliffe bought the tithes of Heworth and Aycliffe vills, both in his own parish; the vicar of Heighington bought the tithes of School Aycliffe, in Heighington parish; and the vicar of nearby Gainford, appointed by St Mary's Abbey in York, bought the tithes of Killerby

⁶⁶ DCM, bursar's account 1384-5, [*Decime*] Kirk Merrington, [*Decime*] Billingham.

⁶⁷ Lomas, 'Landlord', 142.

⁶⁸ SS198, 194.

⁶⁹ Lomas, 'Landlord', 144-9.

⁷⁰ DCM, bursar's account 1421-2, *Decima garbarum* Kirk Merrington, *Decima garbarum* Billingham.

in Heighington parish.⁷¹ Lomas's third category is the most varied. On the lowest level, parishioners purchased small amounts of tithe corn. In 1422-3, for example, the garb, wool and lamb tithes of Eastington were in hand and subsequently sold by William Barkear and Robert Cokke to 'various parishioners'.⁷² At the other extreme, certain names appear again and again in the account rolls as purchasers of the tithes of a number of different villis over a number of years. For example, Hugh of Corbridge is recorded as having bought the tithes of seven different villis between 1371 and 1401 from the parishes of Kirk Merrington, Heighington, Monk Hesleden, Monkwearmouth and Pittington. In 1374-5 he paid nearly £30 for the tithes of Heighington and Ferryhill (Kirk Merrington). Hugh of Corbridge crops up many times in different contexts in the priory records. The rental of 1396-7 records his payment of 3s. 6d. for a property called 'le Potterhough' in South Street in Durham and a more substantial payment of 26s. 8d. for the lease of the Old Borough.⁷³ He also seems to have been employed by the priory on more than one occasion. In 1371-3 he was paid 5s. for his expenses on a trip to York and then in 1387 the hostiller made a payment to John de Carrow through Corbridge for expenses incurred at Bewley.⁷⁴ Hugh of Corbridge seems to have been one of a number of individuals with cash available to buy tithes for profit.

This type of tithe purchaser has attracted the attention of historians. Lomas referred to a group of merchants from Hartlepool before 1350 who bought and sold tithes as part of their business. He suggests that this type of purchaser did not reappear after the

⁷¹ DCM, bursar's account 1355-6(A), *Vendiciones decimarum* Aycliffe, *Vendiciones decimarum* Heighington; Hadcock 1939, 195.

⁷² DCM, bursar's account 1422-3, *Decime agnorum et lane* Eastington.

⁷³ SS198, 121-2.

⁷⁴ DCM, bursar's account 1371-3, *Expense necessarie*; DCM, hostiller's account 1387, *Expense*.

Black Death but the example of Hugh of Corbridge, whilst perhaps not on the same scale as the Hartlepool merchants, belies this view.⁷⁵ Swanson comments that '[t]heir potential profitability perhaps made tithes especially liable to speculation and exploitation' and that '[i]f there is a connection between investment and economic return in the middle ages, then one area ripe for lay investment was tithe-farming.'⁷⁶ It seems that, by selling their tithes on an annual basis, the office holders of Durham Priory were tapping into a supply of ready buyers. Table 3.2 shows that, even in the disruption of the two decades after the Black Death, a string of individuals was willing to pay ever increasing sums for the Heighington tithes; the periodic reappearance of John of Nesbit, William of Brafferton and John of Alverton in the list may suggest competitive bidding.

Tithes were also transferred from one Durham Priory office holder to another. Sometimes they were simply purchased. The sacrist ran a mixed farm at Sacristonheugh, in the chapelry of Witton Gilbert, and often bought the tithes from his manor, or effectively exemption from the tithe, from the almoner to whom they belonged.⁷⁷ In the same way, the prior of Finchale sometimes paid his own sacrist for the tithes of St Godric's croft.⁷⁸ On occasion it seems tithes were diverted to a different office holder without purchase. During the period when the bursar's office was divided, the granator noted that he received no tithe from Chilton (Kirk Merrington) because 'the lord the prior received it for the payment of debts'.⁷⁹ The prior of Finchale seems to have borrowed the

⁷⁵ Lomas, 'Landlord', 148-9.

⁷⁶ Swanson, *Church and society*, 241.

⁷⁷ Lomas, 'Landlord', 236. E.g. DCM, sacrist's account 1401-2, *Expense minute*; DCM, almoner's account 1397-8(A), *Recepta*.

⁷⁸ SS6, lxxxiii, lxxxvii, xcii. Hardly anything is known about the obediatory system at Finchale Priory or the location of St Godric's croft.

⁷⁹ DCM, granator's account 1438-9, *Decime* Kirk Merrington.

tithes of Newton (Durham St Oswald) from the hostiller for which he owed 46s. 8d. in 1360-1.⁸⁰ Such transfers demonstrate the separateness with which the endowment of each office holder was treated. It was not unknown for a dispute to arise over the apportionment of various tithes. Those from Bolton (Edlingham) were contested between the bursar and sacrist in a situation complicated by the obligation to pay a pension to the prior of Kirkham.⁸¹ The transfer of tithes between obediences was by no means unique to Durham. The Abingdon lignar was compensated for tithes owed to him but received by the sacrist in 1396-7.⁸² Likewise throughout the middle ages the Norwich gardener made a payment of 12s., which was later reduced to 6s., to the almoner for the tithe from his garden.⁸³

During the 1390s a special situation arose in Durham Priory which required a diversion of revenue. Robert Walworth resigned as prior in 1391 and provision was made for him during his retirement.⁸⁴ This included the tithes of North Sherburn, South Sherburn, Ludworth, Hetton le Hill and Shadforth (Pittington) which he received until 1399-1400.⁸⁵ These circumstances were exceptional and show a surprising degree of flexibility in a system managed with rigid meticulousness.⁸⁶

⁸⁰ SS6, lvi.

⁸¹ J. Crawford Hodgson, *A history of Northumberland. Volume VII. The parish of Edlingham with the chapelry of Bolton; the parish of Felton with the chapelry of Framlington; the chapelry or parish of Brinkburn* (Newcastle; Andrew Reid and Co., 1904), p. 214. DCM, sacrist's account 1409-10, *Pensione*.

⁸² *Accounts of the obedientiars of Abingdon Abbey*, ed. R. E. F. Kirk, *Camden Society New Series*, 51 (London, 1892), pp. 60-1.

⁸³ *Farming and gardening in late medieval Norfolk; Norwich Cathedral Priory gardeners' accounts, 1329-1530; Skayman's book, 1516-1518*, eds. C. Noble, C. Moreton and P. Rutledge, *Norfolk Record Society*, 61 (1997), pp. 32, 84.

⁸⁴ Dobson, *Durham Priory*, 110-12.

⁸⁵ SS9, clxiv, clxxiv-clxxv; DCM, bursar's accounts 1394-5, [*Decime*] Pittington; 1395-6, [*Decime*] Pittington; 1396-7, [*Decime*] Pittington; 1397-8, [*Decime*] Pittington.

⁸⁶ Fifty-five years later Wessington received the tithes of Eastington parish and the manors of Wardley and Belasis for his retirement. SS9, cclxvii.

Accounts: form and purpose

The accounts of office holders were a device through which heads of houses, and provincial chapters, ensured the probity of their officials and prevented individual profiteering at the expense of the wider communities. In 1249 the General Chapter issued a series of statutes in which it was stated '*ut quod omnes tangit, per omnes vel eorum partem saniozem agatur*'.⁸⁷ At Durham, at least, there seems to have been a system of producing written accounts even before this date.⁸⁸ The mechanism through which the authority of the head of house was exercised was the annual audit of the accounts. A series of answers by the abbot of Eynsham to issues raised at a visitation in the 1360s show us how the system should have worked. Bailiffs and reeves of manors were to render account annually '*deputis et senioribus conventus ac uni perito seculari*'. Next the obedientiaries had to render account of their receipts and an indenture was prepared between the officer and the convent which was signed by the convent when the totals had been checked. At Eynsham, at least, the cellarer was the most important obedientiary and no other account was passed until his was '*per auditores approbatum*'.⁸⁹ On occasion, external authorities became interested in the audit. Also during the 1360s, Whitby Abbey was visited and found to be in such a poor state that a special commission was set up to revisit. Among other charges, William of Hayton the bursar was accused of fraud. The

⁸⁷ Pantin1, 42.

⁸⁸ A. J. Piper, 'Evidence of accounting and local estate services at Durham, c. 1240', *Archives*, 20 no. 87 (April, 1992), pp. 36.

⁸⁹ Pantin3, 41.

abbot replied that he and other auditors had checked Hayton's account and approved it.⁹⁰ Indeed, a Durham manuscript from after 1363 contains a list of articles for enquiry at visitation including an inspection of the accounts '*de singulis administracionibus tam intrinsecis quam extrinsecis et de cellis*'.⁹¹

Under this system, the accounts of the Durham office holders should have been regularly audited. During Bishop Hatfield's visitation in 1354, Prior Fossour was accused of 'not admitting the seniors to the audit of the obedientiaries' accounts, so keeping them in ignorance of the state of the house.'⁹² This is hardly a commendation of the Durham auditing process but at least shows the expectation was there. In her study of late fifteenth-century Durham obedientiary rolls, Threlfall-Holmes found 'only a small amount of evidence of auditing procedures': out of seventy accounts examined, she found only nine with any evidence of auditors' changes.⁹³ She also found 'frequent arithmetical errors which are only occasionally corrected'.⁹⁴

The tithe sections of the Durham accounts are by no means free of such arithmetical errors. The most spectacular and serious example appears in an account made by Henry Feriby prior of Finchale for 1446-7. In his tithe receipts section he recorded £15 14s. 8d. received from the tithes of Bishop Middleham parish '*in precio*' for certain amounts of grain. This form of wording was used to indicate a valuation for

⁹⁰ *Ibid.*, 282, 305.

⁹¹ Pantin2, 87.

⁹² B. Harbottle, 'Bishop Hatfield's visitation of Durham Priory in 1354', *Archaeologia Aeliana*, 4th ser., 36 (1958), p. 95.

⁹³ M. Threlfall-Holmes, 'Monks and markets: Durham Cathedral Priory, 1460-1520' (unpublished University of Durham Ph.D. thesis, 2000), pp. 41-4.

⁹⁴ *Ibid.*, 41.

accounting purposes of grain receipts and the cash charge was equalled by a fictitious purchase in the expenses section (see below). In the 1447-8 account made by the same prior, for example, cash is both received for the tithes of Bishop Middleham and spent on the same tithes.⁹⁵ In 1446-7, however, the accountant omitted the crucial expenses entry meaning that he was accounting for £15 14s. 8d. more than he actually received: this amounted to nearly 10 per cent of receipts excluding waste, decay and arrears.⁹⁶ This shows very poor auditing which may have been associated with the change of prior at the mother house following Wessington's resignation.⁹⁷

Nonetheless, the Finchale 1446-7 case is highly unusual. Threlfall-Holmes checked the arithmetic in all the surviving accounts of 1480-1 and found an 'overall inconsistency' of 0.04 per cent, an error which she described as 'laudably small'.⁹⁸ There are abundant examples of meticulous care on the part of the accountants, suggesting the expectation of intense scrutiny. In his account of 1433-4 the master of Wearmouth pointed out that no tithe was received from Hylton in Monkwearmouth parish because the vill was not sown in that year. The bursar's account of the same year also records Hylton as not sown.⁹⁹ Given that the tithes of the vills of Monkwearmouth parish were divided between the bursar and the master of the cell, the anxiety of both accountants to justify their nil receipt suggests they expected any auditors to be sharp enough to check both documents. Occasionally errors were rectified in the second version of an account. In the

⁹⁵ SS6, ccl-cclii.

⁹⁶ SS6, ccxlvii-ccxlix. DCM, Finchale account 1446-7. Examination of the document itself revealed that Raine's transcription is not at fault.

⁹⁷ A. J. Piper, personal communication.

⁹⁸ Threlfall-Holmes, 'Monks and markets', 46.

⁹⁹ DCM, Wearmouth account 1433-4(A), *Recepta*; DCM, bursar's account 1433-4, [*Decime*] Monkwearmouth.

(A) version of the Durham College account for 1409-10 the receipts section contains two entries for Fishlake church and the summing up section refers to £5 13s. 4d. owed by Richard Palmer for Fishlake church for 1408 and then further down to the same sum from the same individual for Bossall church in 1408. Both inconsistencies were not repeated in the (B) version.¹⁰⁰

The evidence for the level of auditing at Durham is ambiguous: there is no substantial body of direct evidence for a rigorous auditing procedure but there are hints both of surprising strictness and lamentable laxity. Certainly such a rich and important foundation would be expected to conduct its financial affairs with probity. The high standing of Durham monks in this field is suggested by the appointment of Uthred of Boldon, one of the most celebrated fourteenth-century Durham Benedictines and sometime prior of Finchale, as a special visitor to Whitby in 1366.¹⁰¹ A recent high-profile case in the United States demonstrates, however, that even well-established firms with the best reputations might not audit accounts with the thoroughness expected of them.¹⁰² The ambiguity of the evidence for auditing is surprising given the sheer scale of account production at Durham: dozens of accounts must have been written annually, often in duplicate or triplicate, by layers of accounting officers. A substantial portion of this enormous bureaucratic effort was expended in recording tithe receipts and these sections are a convenient means of testing the relationship between the form of accounts and their possible purpose.

¹⁰⁰ DCM, Durham College accounts, 1409-10(A) and 1409-10(B).

¹⁰¹ Pantin3, 277.

¹⁰² 'Andersen: countdown', *The Economist*, March 16th-22nd 2002, pp. 92-3.

At their most basic level, the Durham accounts are lists of transactions performed by the accounting officer. These were often diligently listed in the most precise detail. In 1370-1 the bursar, not unusually, listed exactly how much of each type of tithe grain he threshed in each vill.¹⁰³ Some transactions were of interest for more than just one year: this applied in particular to tithe receipts. The proctor of Norham recorded nil receipts from the mill tithes of Heaton, Lowick, 'Howburn', 'Bayremore' and Cornhill in 1360-1 but for each he noted the amount that the mill tithe 'used to render'.¹⁰⁴ He was clearly anxious to inform anyone inspecting his account that this was where the shortfall in his revenue lay and that this was due to circumstances beyond his control. In a case of possible confusion, the memory of the accountant and auditors could be even longer. The tithes of Bedlington were assigned to the sacrist in 1357, after which date the bursar no longer received tithe income from this parish, yet eight years later he still entered a nil receipt for the Bedlington tithes, explaining that they were assigned to the sacrist.¹⁰⁵

The tithe sections of the accounts seem to have been an ongoing record of transactions as useful to the office holders themselves as to the auditors. Doubt has occasionally been cast on the reality of the transactions recorded in obedientiary accounts. Brooke declared that the transfers of funds between Peterborough obedientiaries in the fifteenth century, for example, were 'no more than paper transactions'.¹⁰⁶ There seems no reason to doubt the reality of the inter-obedientary transfers in the Durham accounts, however. Sometimes arrangements meant an office

¹⁰³ DCM, bursar's account 1370-1, *Expense*.

¹⁰⁴ DCM, proctor of Norham's account 1360-1, *Decime molendini*.

¹⁰⁵ DCM, bursar's accounts 1357-8, Summing up; DCM, bursar's account 1366-7, [*Decime*] Bedlington.

¹⁰⁶ *Book of William Morton*, eds. Brooke *et al.*, xxii.

holder had to be aware of transactions in the previous accounting period. In 1362-3, for example, the master of Jarrow recorded the receipt of 6s. 8d. from the tithe of Hedworth (Jarrow) but pointed out that £4 13s. 4d. had been received in the previous account 'by agreement made between the same master and the buyers of the same tithe'.¹⁰⁷ In 1373-4 the bursar recorded that the farmer of Dalton had been allowed 40d. per annum between 1371-3 for the hay tithe of the same vill which amounted, at this stage, to 10s.¹⁰⁸ The accounting system also made provision for information not yet available. It is not unusual to find blank spaces in the accounts for the subsequent entry of grain prices or other values not yet known or calculated.¹⁰⁹ Likewise, grain valuations were occasionally scrubbed out and replaced with different figures: this may have been done prior to or at the auditing stage.¹¹⁰

Highly detailed documents which could later be amended and added to were needed to cope with the endless complications of tithe collection. The most common problem was non-payment for sold tithes. The main charge section of the account merely records what should have been received, rather than what actually was received. If money was still owing, then an allowance was entered for payments in arrears in the summing up after the receipts and expenses sections. It was not uncommon for accountants to give lump sums for arrears, including rents and other payments due, making tithes indistinguishable. In 1375-6, for example, the bursar pointed out that £228 19s. 1³/₄d. was outstanding for 'arrears for the Pentecost and Martinmas rent days together with tithes

¹⁰⁷ DCM, Jarrow account 1362-3(A).

¹⁰⁸ DCM, bursar's account 1373-4, *Condonaciones et allocaciones*.

¹⁰⁹ E.g. DCM, bursar's account 1383-4, [*Decime*] Monk Hesleden.

¹¹⁰ E.g. DCM, bursar's account 1424-5, *Decima garbarum* Billingham.

and four halmote rent days within this accounting period'.¹¹¹ Needless to say, non-payment on such a prodigious scale would make a nonsense of the accounting process, however scantily audited, if not noted down.

The limited information on arrears is one of the few deficiencies of the Durham collection of accounting material but details do sometimes survive. In 1398-9, for instance, the prior of Finchale listed his *arreragia* on the dorse of his account: the earl of Westmorland owed £4 for the tithes of Cornforth (Bishop Middleham), John Hette of Middelham and Thomas Fysch owed £6 2s. for the tithe of Bishop Middleham, and so on.¹¹² Sometimes such arrears were spread over a number of years, and were faithfully listed.¹¹³ Given the extent of his tithe revenue, arrears owed to the bursar seem to have been particularly extensive: so extensive, in fact, that details rarely survive in the account roll and it appears additional documents may have been drawn up.¹¹⁴ Of course, tithe payments due in kind could also fall into arrears, as the badly damaged and fragmentary fourteenth-century granators' accounts suggest.¹¹⁵ Sometimes the accountant was forced to concede that there was no hope of collection of arrears. William Eddyrston owed Durham College Oxford £18 for the revenues from Bossall church in 1412-13 but the accountant considered these to be arrears '*de quibus non est spes*', perhaps because of some problem with the documentation: '*super obligacionibus suis que nihil valent*'.¹¹⁶ Notwithstanding lost causes such as this, accountants were understandably prepared to go

¹¹¹ DCM, bursar's account 1375-6, Summing up.

¹¹² SS6, cxxiii-cxxiv. Other such arrears lists are extant in, for example, DCM, chamberlain's account 1344-5(A), dorse; DCM, sacrist's account 1341, after summing up.

¹¹³ E.g. DCM, proctor of Norham's account 1401-2.

¹¹⁴ DCM, B.Bk.F 39r-v, 40^r, 43^f, 56^f, Arrears 11 Nov. 1432.

¹¹⁵ DCM, granator's accounts [c. 1355 - 1360] and [c. 1370].

¹¹⁶ DCM, Durham College account 1412-13(A), *Arreagia de quibus non est spes*.

to considerable lengths to ensure tithe arrears were paid. The sacrist paid for letters of summons to the consistory court in 1403-4 to ensure the payment of tithes and other farms.¹¹⁷

Another besetting problem for accountants responsible for tithe income was that of vacant lands. Examples abound of accountants justifying a surprisingly low income by explaining that land 'lay waste'.¹¹⁸ The most likely explanation for this problem, though not usually given, was lack of tenants: in the case of the tithes due from his own leased manor of Newton Ketton in 1440-1, the bursar explicitly stated that '*non seminatur pro defectu tenentium*'.¹¹⁹

If the auditors accepted the non-payment of tithe, or any other receipt in the charge section of the account, then an *allocacio* or *condonacio* was granted. An individual owing money to the office holder might be allowed a payment if he could not settle his debt because of events beyond his control. In 1344-5, for example, Robert of Middelton was granted a *condonacio* for the tithes of West Sleekburn (Bedlington) because of 'the burning of these [tithes] and all his goods'.¹²⁰ In his account of 1346-7, covering the Battle of Neville's Cross in October 1346, the hostiller granted the prior of Finchale an *allocacio* for the garb tithes of the Wastes and Newton (Durham St Oswald) because they were 'destroyed by the Enemies'.¹²¹ Allowances could be granted to tithe purchasers for other services they provided. In 1370-1 the bursar allowed William of

¹¹⁷ DCM, sacrist's account 1403-4(A), *Expense minute*; DCM, sacrist's account 1401-2, *Expense minute*.

¹¹⁸ E.g. DCM, bursar's account 1380-1, [*Decime*] Heighington.

¹¹⁹ DCM, bursar's account 1440-1(A), *Decima Aycliffe*.

¹²⁰ DCM, bursar's account 1344-5(A), *Condonaciones et allocaciones*.

¹²¹ DCM, hostiller's account 1346-7, *Allocaciones anni presenti*.

Hilton and Henry Porter £8 1s. 2d. for the tithes of Brompton (Northallerton) of 1367 'because *dominus* Richard of Birtley then terrar took the same in the name of the bursar for his expenses on a trip to London'.¹²² In this case, it seems the allowance was being used to settle a seizure of cash by the terrar, the terms of which were presumably negotiated beforehand.

The instances cited so far refer to allowances granted to debtors. The same terminology was used for the next step up: when allowances were granted by the auditors to the accountant. Occasionally this system was used to allow for waste villis. During the period of the divided office, for example, the cellarer was granted 3s. 4d. in the *Condonaciones et allocaciones* section of his account for the tithes of Felling (Jarrow) because the vill 'is not sown this year'.¹²³ Likewise, the warden and bursars of Durham College had to ask for an allowance of £8 6s. 8d. for tithes payments due from John Storrour of Nottingham '*quia nihil habet et fugit*'.¹²⁴ The term could also be used to make explicit any administrative peculiarities. In his account of 1375-6 the bursar 'asked for an *allocacio* of £165' for arrears of the tithes from certain parishes because the payment days did not fall within the time span of the account.¹²⁵

To some extent, the terms *allocacio* and *condonacio* appear to have been used interchangeably. In 1404-5, 1405-6, 1406-7 and 1407-8 *condonaciones* of 2s. were granted for the construction of a tithe barn in Shincliffe but in 1409-10 the same payment

¹²² DCM, bursar's account 1370-1, *Allocaciones*.

¹²³ DCM, cellarer's account 1443-4(A), *Condonaciones et allocaciones*.

¹²⁴ DCM, Durham College account 1419-20(A), *Allocaciones*.

¹²⁵ DCM, bursar's account 1375-6, Summing up.

appears in the *allocaciones* section simply as 2s. paid to the tenants of Shincliffe.¹²⁶ When the terms were used distinctly, however, an *allocacio* seems to refer to an allowance made because of circumstances, such as war or waste tenements, and a *condonacio* to an allowance made by special dispensation. Such dispensation was often granted by the prior or by the terrar and often with no explanation of what prompted the allowance.¹²⁷ Occasionally something about the financial relationship between the individual granted the allowance and the priory can be gleaned from elsewhere in the account. John del Sayles, for example, was granted an allowance of 6s. 8d. ‘*per dominum Priorem*’ for a tithe payment and appears elsewhere in the same account as a priory creditor to whom money was paid: the two transactions may have been connected.¹²⁸ Sometimes, the personal nature of a relationship may have made leniency advisable on the part of the priory. William Moston was pardoned £5 6s. 8d. of the Eastrington tithe farm ‘*per dominum Priorem*’ and is described, in the same entry, as ‘*consanguineus domini Dunelmensis Episcopi*’.¹²⁹

Whilst the evidence for auditors’ annotations in account rolls is scant, and arithmetical errors raise suspicions of slackness, the grants of allowances suggest there was some scrutiny of receipts, possibly through the account rolls. Non-payment was entered as an arrear unless an *allocacio* was given: this implies there was a system through which such grants were made or denied. More compelling is the evidence of the

¹²⁶ DCM, hostiller’s account 1404-5, [discharge section]; hostiller’s account 1405-6, *Allocaciones*; hostiller’s account 1406-7, *Contribuciones et allocaciones*; hostiller’s account 1407-8, *Contribuciones*; hostiller’s account 1408-9, [discharge section]; hostiller’s account 1409-10, *Allocaciones*.

¹²⁷ E.g. DCM, bursar’s account 1363-4, *Condonaciones et allocaciones*.

¹²⁸ DCM, bursar’s account 1356-7(A), *Condonaciones et allocaciones*.

¹²⁹ DCM, bursar’s account 1432-3, *Condonaciones et allocaciones*.

role of senior monks such as the prior and terrar in granting *condonaciones* to those owing them money; many of the examples cited above were given with this sort of permission. Perhaps there was, indeed, a discussion of receipts before 'the abbot and seniors of the house' as the statutes of the General Chapter decreed there should be.¹³⁰

This examination of the system of allowances shows that the record of tithe receipts provided by the accounts was designed to be used. Accountants did not write down tithe receipts as part of an unthinking routine: they developed a practical bureaucracy and needed to refer to the documents it produced. The emergence of new methods of accounting during the fourteenth and fifteenth centuries is further evidence of the thought which went into the process. The most striking development in the tithe receipt sections was in the way in which grain receipts were recorded.

For the present study, bursars' accounts have been examined from a period of 110 years; in those from roughly the first four decades, few details were given for tithes received as grain. A mention was usually made in the summing up section for each parish, explaining why a certain vill had not been included in the list of cash receipts.

*Summa xxxvij li. iij s. iv d. Et non plus in denariis quia decima de Wyvistowe in manu Prioris et decime de Hetheworthe et de Jarowe assignantur magistro de Jarowe*¹³¹

¹³⁰ Pantin I, 84.

¹³¹ DCM, bursar's account 1350-1(A), *Decime Jarrow*.

In the above example, the accountant explains to the auditors why certain payments are missing from the list of Jarrow parish tithe receipts. The bursar occasionally entered quantities of grain, particularly if a tithe was sold for fixed quantities, as was that from Great Chilton and Little Chilton (Kirk Merrington) in the following 1362-3 example.

Summa lxxvj s. viij d. Et non plus in denariis quia decime de duabus Chyla[tons] venduntur Roberto de Dalden pro xxij q. frumenti et xxij q. orde¹³²

The damaged and fragmentary accounts surviving from this period suggest the granator made a record of the precise quantities of grain received from tithes.¹³³ In particular, the list of tithe receipts in the granator's account of 1376-7 conforms to the list of villis from which tithes were in hand in the bursar's account of the same year.¹³⁴

During the early phase, a valuation of grain was sometimes made. For example, round figures in pounds were entered for the value of the tithes of Westoe and Harton (Jarrow), Hylton (Monkwearmouth) and South Sherburn, North Pittington and South Pittington (Pittington) in 1342-3: these tithes were in hand.¹³⁵ In 1365-6 no cash was received for the Billingham parish tithes which were all in hand but worth £66 6s. 4d. 'secundum estimacionem', excluding certain tithes from specific villis. The summing up for all tithe receipts in the same year gives the amount of cash received from sold tithes

¹³² DCM, bursar's account 1362-3(A), *Vendiciones decimarum* Kirk Merrington.

¹³³ E.g. DCM, granator's accounts [c.1355 – 1360] and [c. 1370].

¹³⁴ DCM, granator's account [1376-7]; bursar's account 1376-7, [*Decime*].

¹³⁵ DCM, bursar's account 1342-3(B), *Decime*.

and the amount of grain received from tithes in hand, accompanied by a valuation.¹³⁶ In none of these examples, however, do the cash sums at which grain receipts were valued enter the overall cash calculations in the account.

In the bursar's account of 1379-80 a new system of accounting for tithes received as grain was adopted. The tithes of the parish of Billingham, among others, were in hand for that year and, instead of the usual *nihil* entry, the accountant recorded the quantities of grain received from each vill. The entry makes clear that 'nothing was received in cash' but then goes on to value the quantities of grain: receipts in kind were therefore charged as receipts in cash. The fictitious cash charge had to be discharged in the expenses. This was done in the grain purchase section. The accountants seem to have had an average price for each grain, calculated annually, which was used for valuations; how they established this price is unknown.¹³⁷ The new system used the device of a fictitious purchase to record a grain receipt in a cash account. The fictitious purchase system became the standard technique in the bursars' accounts gradually over the following twenty years or so. There were occasional reversions to the old system, such as in 1383-4.¹³⁸ Likewise, in 1390-1 the bursar entered certain tithe receipts as grain purchases without giving any indication that they were not received as cash in the tithe receipts section.¹³⁹ By 1400-1, however, the system had emerged in its final form.¹⁴⁰ Given the rarity of the receipt of tithes as grain by other office holders, it is not known whether the

¹³⁶ DCM, bursar's account 1365-6, *Vendiciones decimarum*.

¹³⁷ Threlfall-Holmes, 'Monks and markets', 107-8.

¹³⁸ E.g. DCM, bursar's account 1383-4, [*Decime*], *Empcio frumenti*.

¹³⁹ DCM, bursar's account 1390-1, [*Decime*], *Empcio frumenti*, *Empcio ordei*.

¹⁴⁰ DCM, bursar's account 1400-1, [*Decime*] Billingham, *Empcio frumenti*, *Empcio brasei et ordei*, *Empcio pise et fabe*.

accountants were aware of this technique at the time when it was adopted by the bursars. The priors of Finchale were using the system by 1414-5.¹⁴¹

It is possible that the introduction of the fictitious purchase system was associated with a development of the role of the granator: this is difficult to prove given the lack of granators' accounts before 1379-80. Using the account evidence available, such a change in role is not evident: in the fifteenth century, as before, the granator continued to enter details of quantities of grain received from each individual tithe.¹⁴² This raises the question of why the system was changed. Certainly, if the accounts were produced lackadaisically as part of an unchanging routine there would seem little point in making innovations. On the other hand, if the accounts were examined, scrutinized and referred back to then such an innovation would make sense. Given the level of detail of all office holder accounts, the matter of tithe receipts in kind represented a considerable loophole. There was little an auditor could do, without referring to additional documentation, with an entry such as that found at the bottom of the Aycliffe tithe receipts section in the bursar's account of 1350-1: 'And no more in cash because the tithe of Brafferton is in the hand of the Prior'.¹⁴³ The fictitious purchase system had the advantage of facilitating the entry of all receipts into one account. Also, the new system presented opportunities for the managerial use of accounting material since those using accounts from several years were able to compare the relative value of tithes sold and tithes received in kind. Such usage is suggested by a 1443-4 entry from the granator's account (during the period of the divided office): £1 5s. 7d. was received in grain from Bewley manor (Billingham) but

¹⁴¹ SS6, clxiii-clxv.

¹⁴² E.g. DCM, granator's accounts [1376-7] and 1415-6.

¹⁴³ DCM, bursar's account 1350-1(A), *Decime Aycliffe*.



the accountant observed that the manor used to produce £2 13s. 4d. when leased to John Ster.¹⁴⁴ It appears the introduction of the fictitious purchase system represented an innovation which improved the usefulness of the obedientiary accounts.

Another example suggests that the Durham accountants were capable of adapting their methods in the case of necessity. In the bursar's account of 1349-50, long before the fictitious purchase system was first used, the tithe receipt sections are unusually detailed. They suggest that, rather being sold or received in kind *en bloc*, the tithes of various villis were divided up for different purposes. The accountant noted, for example, that of the Ludworth (Pittington) tithe 8q. oats and 2½b. peas were sold, 4q. wheat and 6¾b. barley were delivered to the manorial serjeant and 13q. oats were delivered to the granator for fodder.¹⁴⁵ In the following account, the tithe receipt sections appear as they did before 1349-50. It appears that different accounting methods were used to cope with the desperate circumstances of the Black Death year: tithe disposal was presumably made more difficult by the death of many individuals who had agreed to purchase tithes or the inability to pay of purchasers who did survive. The Durham office holder accounting system was not fossilized: it was dynamic and adaptable.

The fictitious purchase system was by no means confined to the Durham accounts. In Peterborough, which had been subject to serious accusations of maladministration in the mid-fifteenth century, the abbot's receiver was using the

¹⁴⁴ DCM, granator's account 1443-4, *Decime* Billingham.

¹⁴⁵ DCM, bursar's account 1349-50(A), *Decime* Pittington.

fictitious purchase system to record tithe receipts by 1505-6.¹⁴⁶ Of a similar nature is the notional sale system used to record grain consumption in household and manorial accounts.¹⁴⁷ The household accountant of Richard Turberville at Sampford Peverell (Devon) in 1358-9 entered grain consumption in the '*Vendicio bladi*' section of his account, explaining how the grain had been used, and then cancelled out this fictitious receipt in the expenses section.¹⁴⁸ It appears that this accounting method was relatively widespread: it may have constituted a part of the course on business methods offered at Oxford University.¹⁴⁹

Monastic accountancy methods have often been criticized. Greatrex described the Peterborough obedientary accounts as 'inconveniently primitive and unnecessarily complicated' and Dobson referred to the 'extraordinary conservatism and rigidity of Durham's accounting organization'.¹⁵⁰ Doubtless the runs of Durham office holder accounts, by modern standards, are surpassingly long: the earliest bursar's roll to survive is from 1278-9 and the latest from 1536-7.¹⁵¹ Throughout this intervening period, the form of these accounts remained roughly the same: a list of receipts followed by a list of expenses. The monks regarded their tithes as a permanent endowment in a way which is inconceivable to modern accountants: the terminology of a charter of appropriation is

¹⁴⁶ D. Knowles, *The religious orders in England. Volume II. The end of the middle ages* (Cambridge; Cambridge University Press, 1955), pp. 210, 214; *Peterborough account rolls*, ed. Greatrex, 188, 193.

¹⁴⁷ L. R. Poos, *A rural society after the Black Death: Essex 1350-1525* (Cambridge; Cambridge University Press, 1991), p. 303.

¹⁴⁸ *Household accounts from medieval England part 2; diet accounts (ii), cash, corn and stock accounts, wardrobe accounts, catalogue*, ed. C.M. Woolgar, *British Academy Records of Social and Economic History, new series*, 17 (Oxford, 1992), pp. 489, 491.

¹⁴⁹ *Household accounts from medieval England part 1; introduction, glossary, diet accounts (i)*, ed. C. M. Woolgar, *British Academy Records of Social and Economic History, new series*, 17 (Oxford, 1992), p. 48.

¹⁵⁰ *Peterborough account rolls*, ed. Greatrex, 8; Dobson, *Durham Priory*, 255.

¹⁵¹ SS100, 484-9; SS103, 667-707.

witness to this.¹⁵² Yet emphasis on this continuity belies the flexibility of the system. The usefulness of the tithe receipt sections was improved upon and, when circumstances changed, record keeping could be modified accordingly.

Accounts: the tip of the iceberg?

Any judgment of the contemporary worth of Durham's system for recording tithe receipts is prejudiced by the incompleteness of our documentation. The Durham historian has at his disposal one of the best medieval monastic archives in existence and yet the bulk of the collection is made up of those documents which the monks themselves regarded as worthy of preservation. The offices of the major obedientiaries, the locations of which were described by the author of the *Rites*, and those of the heads of the cells must have been filled with ephemeral documentation used to produce the final presentable account rolls.¹⁵³ Even when the day of the audit arrived, hundreds of incidental references in the account rolls tell us that the officer had to produce additional evidence for the sums he entered. As the most important category of receipts, tithes must have produced their share of additional documentation and, using the account rolls, it is possible to discern several levels of bureaucracy.

Closest to the actual finished accounts were the draft accounts. Whilst the account rolls we have tend to be neat versions drawn up for presentation, some copies contain

¹⁵² E.g. SS6, 64.

¹⁵³ P. D. A. Harvey, *Manorial records* (Gloucester; Sutton for the British Records Association, 1984), p. 38-40. For the offices of the Durham obedientiaries see SS107, 93-101.

additions and corrections which suggest they were drafts.¹⁵⁴ In the only surviving bursar's account of 1366-7, for example, the tithe receipt sections do not contain the usual explanations for the tithes of villis not entered as cash receipts and, in later sections, notes were added in a darker ink in the margin.¹⁵⁵ One further stage away from the final accounts, and sometimes preserved in the archive, are the lists of tithe sales. Unlike the accounts, which were supposed to be final statements of annual income, the tithe sale lists were ongoing administrative documents subject to addition and correction throughout the year. This is apparent in the surviving examples.¹⁵⁶ Given that payments for sold tithes were received on two or more different days, the accountants were able to record the part payments which arrived on one rent-day in their tithe sale lists.¹⁵⁷ The ruling of multiple columns after the names of the villis in some of these tithe sale lists suggests the use of one list for several years may have been possible.¹⁵⁸ The lack of evidence for the actual use of the lists in this way, however, and the survival of series of separate tithe sale lists in the 1340s and 1380s suggests they may have been produced annually. Indeed, the survival of the tithe sale lists in bursar's books and the appearance of lists from consecutive years on the same folio suggests they might have been produced in codex form.¹⁵⁹ The lists of arrears owed for tithes, and other payments, seem to have been designed for continual recording of receipts and for the accountant's own reference.¹⁶⁰ It appears that there was a layer of documents, which survive much more sparsely than the

¹⁵⁴ Threlfall-Holmes, 'Monks and markets', 25.

¹⁵⁵ DCM, bursar's account 1366-7, [*Decime*], *Varia recepta*.

¹⁵⁶ E.g. DCM, B.Bk.D f.20rv, sale of tithes 2 Feb. & 20 March 1384.

¹⁵⁷ E.g. DCM, B.Bk.D f.22r, sale of tithes 2 Feb. & 20 March 1387. The entries made in a smaller hand and preceded by a letter, which presumably signifies a particular rent day, appear to be part payments.

¹⁵⁸ E.g. DCM, B.Bk.D f.23r, sale of tithes [1388 ?].

¹⁵⁹ E.g. DCM, B.Bk.D ff.19v-20r, sale of tithes 2 Feb. & 20 March 1383; B.Bk.D f.20rv, sale of tithes 2 Feb. & 20 March 1384.

¹⁶⁰ DCM, B.Bk.F. ff. 53r – 56r, arrears 1431-2.

accounts themselves, which were designed as on-going administrative records and from which the accounts must have been prepared.

The next type of documentation in the chain leading to the office holder accounts for which we have evidence is the contract drawn up for each transaction. These were often indentures, as in 1438-9 when the tithes of Coatsay Moor (Heighington) were leased to John Denome '*per indenturam*'.¹⁶¹ The bursar had to allow Thomas Surtays £1 3s. 4d. for the tithes of Felling (Jarrow) in 1376-7 even though he had agreed to pay more '*ut patet per indenturam*'.¹⁶² On occasion, an accountant might be asked to produce an indenture at the audit. In 1394-5 Uthred of Boldon, prior of Finchale, answered for £44 from Giggleswick church and a marginal note suggests the auditors wanted proof: '*Ostendantur indenturae proximo computo*'.¹⁶³ Indentures for this kind of sale or lease were a common device: the Peterborough chamberlain, for example, referred to a forty year cottage lease '*per indenturam*' in his account of 1499-1500.¹⁶⁴ Indentures were also used at Durham for the transfer of cash or grain between obedientiaries. The grain purchase section of the 1415-6 bursar's account refers to indentures made between the bursar and granator and presented with the account.¹⁶⁵ Indentures were also produced between monks for tithes received when an office was handed over. This occurred in 1376 when William of Aslakby handed over the office of bursar to William of Killerby.¹⁶⁶ Tallies could also be used for this purpose. In 1349-50, for example, the

¹⁶¹ DCM, bursar's account 1438-9(B), *Decima* Heighington.

¹⁶² DCM, bursar's account 1376-7, *Condonaciones et allocaciones*.

¹⁶³ SS6, cxii.

¹⁶⁴ *Peterborough account rolls*, ed. Greatrex, 29.

¹⁶⁵ DCM, bursar's account 1415-6(A), *Empcio frumenti*; Threlfall-Holmes, 'Monks and markets', 29.

¹⁶⁶ DCM, bursar's account 1376, *Vendicio decimarum*.

bursar made liveries of tithe corn to the serjeants of Rainton, Merrington and Aycliffe manors '*per talliam*'. In the same year, he transferred corn to the granator, also by means of tally.¹⁶⁷ Again, the tally was a common means elsewhere of giving the donor and recipient proof that a transaction had occurred: the Winchester hordarian received cash from manors '*per talliam*' in 1334 and the Ely sacrist received £10 14s. from the church of the Blessed Mary by tally in 1345-6.¹⁶⁸

Other documents commonly produced to confirm agreements for the purchase of tithes were obligations. In 1376-7, for example, the hostiller sold the garb and hay tithes of Shincliffe (Durham St Oswald) for £29 '*per obligacionem*'. These documents were sometimes duplicated, as was that made by the same obedientiary in the same year for the garb and hay tithes of Old Durham (Durham St Oswald).¹⁶⁹ Like indentures, the officers must have hoped that obligations would provide a binding agreement for the payment. An entry in the 'Arrears of which there is no hope' section of the 1412-3 Durham College account refers to £18 owed by William Eddyrston for the church of Bossall for which 'his obligations are worth nothing'.¹⁷⁰ In the case of further complications, more documentation expenses were incurred. There seems to have been some problem concerning the payment of the Fulforth (Witton Gilbert) coal tithes in 1436-7 since John Berhalgh was paid 2s. for drawing up a document for their 'recovery' (*recuperacio*) and master William Doncaster was paid a further 2s. for adding a seal.¹⁷¹

¹⁶⁷ DCM, bursar's account 1349-50(A), *Decime*.

¹⁶⁸ *Comptus rolls of the obedientiaries of St Swithun's Priory, Winchester*, ed. G. W. Kitchin, Hampshire Record Society, (London, 1892), p. 267; *The sacrist rolls of Ely. Volume II. Transcripts*, ed. F. R. Chapman (Cambridge; Cambridge University Press - printed for private circulation only, 1907), p. 126.

¹⁶⁹ DCM, hostiller's account 1376-7, *Decime*.

¹⁷⁰ DCM, Durham College account 1412-3(A), *Arreagia de quibus non est spes*.

¹⁷¹ DCM, almoner's account 1436-7(A), *Expense necessarie*.

The most ephemeral and probably originally most voluminous class of documentation included the notes, memoranda and schedules produced by the Durham office holders as they collected their tithes: the equivalent of the endless e-mails in the modern office environment. The accounts of the bursars occasionally mention 'bursar's papers' (*papiri Bursarii*) on which, presumably, were noted certain expenses. In 1376-7, for example, the costs of collecting the tithes of nine villis were answered for '*ut patet per papirum Bursarii*'.¹⁷² In the following account, the cost of threshing and winnowing tithes was recorded in this way.¹⁷³ Likewise, the sacrist produced such a 'paper' in 1403-4 on which he recorded the cost of collecting the Bedlington tithes.¹⁷⁴ Schedules (*cedule*) were sometimes used by individuals employed by the office holders to perform tithe collection duties. Master Ralph of Semer the chaplain sent a schedule to the bursar in 1377-8 containing details of the Brompton (Northallerton) tithe collection costs.¹⁷⁵ In claiming £4 2s. 7d. for the expenses of the bursar and a colleague in selling tithes in Norham, the proctor of Norham presented a sealed schedule in 1366-7.¹⁷⁶

One other type of document was used in the preparation of the tithe sections of the office holder accounts: the accounts of subordinate officials. Officers' accounts from other monasteries often reveal less about tithes and their collection than those from Durham because greater power was delegated to subordinate, and usually lay, officials who produced their own accounts. The Peterborough abbot's receiver, for example,

¹⁷² DCM, bursar's account 1376-7, *Collectiones decimarum*.

¹⁷³ DCM, bursar's account 1377-8, *Collectiones decimarum*.

¹⁷⁴ DCM, sacrist's account 1403-4(A), *Expense minute*.

¹⁷⁵ DCM, bursar's account 1377-8, *Collectiones decimarum*.

¹⁷⁶ DCM, proctor of Norham's account [1366-7], *Expensiis bursarii circa vendiciones decimarum*.

prepared a weekly list of receipts and expenses, including liveries from such collectors, in 1414.¹⁷⁷ The account of the same obedientiary of 1505-6 shows that the duties of the collector of Eston rectory included repairs.¹⁷⁸ Beaulieu Abbey near Southampton had substantial endowments at Faringdon (Oxon.) and it was worth opening a 'subsidiary accounts office' *in situ* through which tithes and manorial produce were administered and then account rendered to the distant monks.¹⁷⁹ The nature of the Durham obedientiary system, in which responsibility for the collection of tithes was delegated to a number of office holders instead of given to one 'receiver', encouraged less reliance on such subordinate accounting officials. Nonetheless, tithe collection and storage duties were sometimes delegated, particularly by the bursar and terrar.

Tithes were sometimes dealt with through manorial reeves when the priory directly cultivated a manor in an appropriated parish. Indeed, tithe receipts were occasionally recorded in manorial accounts such as that of the reeve of Bewley manor (Billingham) in 1378-9 who recorded the receipt of tithes from Billingham parish vills.¹⁸⁰ In 1346-7, the granator recorded a *nihil* receipt for tithes in hand 'because the serjeants [of the manors] will answer for them in their accounts'.¹⁸¹ This practice was not established on a regular basis, however, since a detailed examination of all the Pitington manor accounts from 1376-7 to 1451-2 did not yield a single reference to tithe despite the manor being situated in an appropriated parish.¹⁸² The integration of the produce from

¹⁷⁷ *Peterborough account rolls*, ed. Greatrex, 134.

¹⁷⁸ *Ibid.*, 187.

¹⁷⁹ *The account book of Beaulieu Abbey*, ed. S. F. Hockey, *Camden Society*, 4th ser., 16 (London, 1975), p. 14.

¹⁸⁰ DCM, Bewley manor account 1378-9. I am grateful to Professor R. H. Britnell for this reference.

¹⁸¹ DCM, granator's account 1346-7.

¹⁸² This research was conducted during the preparation of my Masters thesis. Dodds, '*In manu domini*'.

rectories and manors seems to have been greater in southern England. In his account of 1417-8, for example, the chamberlain of Abingdon Abbey included a section for receipts from 'Bradele' where the demesne and garb tithes were sold to John Smyth for a single sum.¹⁸³ Similarly, in 1504-5 the Peterborough abbot's receiver's account shows that the same collector received rents from holdings and the rectory in Eston.¹⁸⁴ Beaulieu Abbey owned the manor and rectory of Inglesham (Thamesdown) and the account book contains an example of a single account for both sources of income (datable to 1269-70). Thus, the wheat section of the grain account records the issue of 73q. 5b. from the grange and a further 21q. 5b. from the tithe.¹⁸⁵

This apparently weak connection between manor and rectory in Durham Priory *infra aquas* parishes may reflect the distinctive northern parochial structure: the manor only represented one of a number of discreet villis in the parish. However, examination of accounting material from Bolton Abbey, another northern monastery with appropriated multiple-vill parishes, suggests this topographical variation does not explain Durham Priory's practice. Skipton parish (N. Yorks.) seems to have consisted of several discreet villis: in 1302-3 these included Emsay, Carleton, Beamsley, Storiths, Berwick, Stirton, Eastby, Draughton and Skibeden.¹⁸⁶ Yet the association between manor and rectory is much clearer in the Bolton Abbey account rolls than in the Durham Priory ones. In 1295-6, for example, 3½q. of Carleton tithe wheat were used for seed corn at Cononley manor. In the 1298-9 rectory grange account, tithe was discharged for use as seed at How and

¹⁸³ *Accounts of Abingdon*, ed. Kirk, 84.

¹⁸⁴ *Peterborough account rolls*, ed. Greatrex, 173.

¹⁸⁵ *Account book of Beaulieu*, ed. Hockey, 71.

¹⁸⁶ *Bolton computus*, eds. Kershaw *et al.*, 153.

Riddings manors.¹⁸⁷ Certainly the Bolton Abbey examples date from much earlier than the Durham Priory cases; with the exception of an isolated account roll from 1377-8, Bolton Abbey accounting material does not survive from after 1324-5. Estate management practice changed considerably during the fourteenth century, especially with the leasing of manors. However, most of Durham Priory's manors were not leased until the turn of the fourteenth to fifteenth centuries so, even when directly cultivated, they appear to have been little used for tithe collection.¹⁸⁸ Likewise, the association between manor and rectory at Bolton Abbey continued later into the fourteenth century: although no grain accounts survive with the 1377-8 Bolton Abbey account, the tithe collection expenses record the payment of the reeve to collect and bind the Long Preston tithe sheaves.¹⁸⁹ It seems there may have been an institutional difference in Durham Priory's tithe collection practice.

Manorial accounts may have formed a minor part of the tithe bureaucracy at Durham but the accounts of various proctors were much more important. Accounts by the proctors of Norham, responsible to the bursar and terrar, survive in abundance; they were responsible for the collection of the tithes of Norham parish and part of Holy Island in Northumberland.¹⁹⁰ Proctors of St Oswald and St Margaret accounted for certain tithes to the hostiller and left a few account rolls, as did the proctor of Frampton, who accounted

¹⁸⁷ *Ibid.*, 64, 97

¹⁸⁸ R. A. Lomas, 'The priory of Durham and its demesnes in the fourteenth and fifteenth centuries', *Economic History Review*, 2nd ser., 31 (1978), p. 345.

¹⁸⁹ *Bolton compotus*, eds. Kershaw *et al.*, 567.

¹⁹⁰ DCM, proctor of Norham account rolls. The relationship between the proctor of Norham and the prior of Holy Island, who shared the tithes of Holy Island parish, could be complicated; in 1364-5 and 1365-6 the proctor leased tithe barns from the prior of the cell: Holy Island accounts 1364-5(A), 1365-6(B), [*Debita*].

to the warden and bursars of Durham College.¹⁹¹ References in the account rolls of the priors of Finchale mention a proctor of Giggleswick.¹⁹²

An examination of all receipts and expenses of the Durham accounting material would be required to elucidate further the substantial documentation which lay behind the completed account rolls. At least as far as tithe administration is concerned, the office holder accounts, which constitute the bulk of the existing archive, were clearly just the final presentable versions of a much more substantial body of documentary material.

¹⁹¹ Lomas, 'Landlord', 199. E.g. DCM, hostiller's account 1447-8(A), *Decime*; hostiller's account 1349-50, *Expense necessarie*; Durham College accounts 1419-20(A) and 1420-1(A), *Expense Frampton*. Surviving accounts of these three officers are listed in Piper, *Medieval accounting material*.

¹⁹² E.g. SS6, ccii.

Chapter 4

Tithe and agrarian output: the monks

The monks' reason for analysis

In drawing up and then archiving their obedientiary accounts, the Durham monks inadvertently left an exceptional historical source. This accidental legacy to posterity was repeated by dozens of medieval institutions across England, as our series of office holder and, especially, manorial accounts demonstrate. The historical value of the minutiae in these records on the day-to-day running of medieval businesses is obvious but the purpose of contemporary estate managers and ecclesiastics in storing accounts more than a few years old is less clear. Historians have long emphasized that the purpose of medieval accounting material was not the diagnosis of general economic difficulties: the manorial account, for example, was essentially 'a debate between local officials and auditors'.¹ Obedientiary accounts have received less attention than manorial accounts but P. D. A. Harvey's general comments are applicable to both types of document: their main purpose was to ensure the honesty of officials and to keep a written record of allowances.² Moreover, those who have studied the Durham accounting material have been sceptical of the seriousness of the monks' economic interest in their estates.³ Dobson, for example, pointed out that the monks rarely analysed their economic

¹ Harvey, *Manorial records*, 33.

² *Manorial records of Cuxham, Oxfordshire, c. 1200-1359*, ed. P. D. A. Harvey (London; H. M. S. O., 1976), p. 15.

³ Lomas, 'Demesnes', 353.

condition on the basis of their accounting material.⁴ Like P. D. A. Harvey, he emphasized that the accounts were a means of preventing misappropriation of revenues:

[the accounting system] had the great practical advantage of insulating the convent from the personal mismanagement of a particular monk and preventing an extraordinarily complicated system from falling into complete incoherence.⁵

Yet the Durham monks carefully prepared, duplicated, stored and subsequently reordered their hundreds of obedientiary accounts.⁶

There is scattered evidence that manorial accounts were more than the checks made by a conscientious landowner on potentially fraudulent minor officials. Stone produced a famous study of the profit calculations of the Norwich monks, who were interested in the economic viability of their manors, and he observed that the Canterbury monks were making similar assessments from the final decade of the thirteenth century.⁷ B. F. Harvey found profit evaluations in the accounting material of the Westminster monks.⁸ Nor was Durham excluded from this widespread practice: in the series of accounts from the bursar and terrar's manor at Pitlington, for example, we often find

⁴ Dobson, *Durham Priory*, 269.

⁵ *Ibid.*, 255.

⁶ A. J. Piper, 'Dr Thomas Swalwell, monk of Durham, archivist and bibliophile (d. 1539)' in J. P. Carley and C. G. C. Tite, eds., *Books and collectors 1200-1700: essays presented to Andrew Watson* (London; The British Library, 1997), p. 78.

⁷ E. Stone, 'Profit-and-loss accountancy at Norwich Cathedral Priory', *Transactions of the Royal Historical Society*, 5th ser., 12 (1962), pp. 30-46.

⁸ B. Harvey, *Westminster Abbey and its estates in the middle ages* (Oxford; Oxford University Press, 1977), p. 149.

calculations of profit or 'wainagium'.⁹ Campbell considered the medieval 'concept of 'profit'' to be 'relatively unsophisticated' and certainly the Durham monks were more interested in valuing receipts from the manor than calculating the returns on their investment.¹⁰ Nevertheless, Halcrow long ago observed that 'no possible combination of the money totals given in the rolls produces the figure given as profit' and a detailed recreation of the possible method used by the monks shows the complexity and level of understanding involved.¹¹

Medieval accounts were not used to calculate return over and above costs in a way that would satisfy a modern shareholder but nor were they parchment tallies, recording merely what was received and spent. Again the published evidence is derived only from manorial accounts but it appears their diagnostic purpose was to determine the best method of exploitation of manors. The profit calculations which appear in the Westminster Abbey accounts, for example, were used to decide whether to maintain manors as home farms or to lease them out.¹² The Durham monks may have used their calculations in the same way since surviving examples of profit calculations are concentrated around the 1390s, precisely the period when many manors were being newly leased.¹³ The monks of Battle Abbey adopted a slightly different practice: they

⁹ E.g. DCM, Pitlington manor accounts 1380, 1384-5, 1390-1, 1392-3, 1394-5, 1395-6, 1396-7, 1397-8, 1398-9, 1407-8, 1408-9, 1409-10, 1420-1. This examination of the Pitlington manorial accounts was completed as part of my Masters thesis. Dodds, *In manu domini*, 71-81.

¹⁰ B. M. S. Campbell, 'Measuring the commercialisation of seigneurial agriculture c. 1300' in R. H. Britnell and B. M. S. Campbell, eds., *A commercialising economy: England 1086 to c. 1300* (Manchester, Manchester University Press, 1995), p.191.

¹¹ Halcrow, 'Administration and agrarian policy', 41; Dodds, *In manu domini*, 72-81.

¹² Harvey, *Westminster*, 149.

¹³ Halcrow, 'Administration and agrarian policy', 32; Lomas, 'Demesnes', 345.

evaluated the usefulness of leasing by calculating running expenses from their accounting material.¹⁴

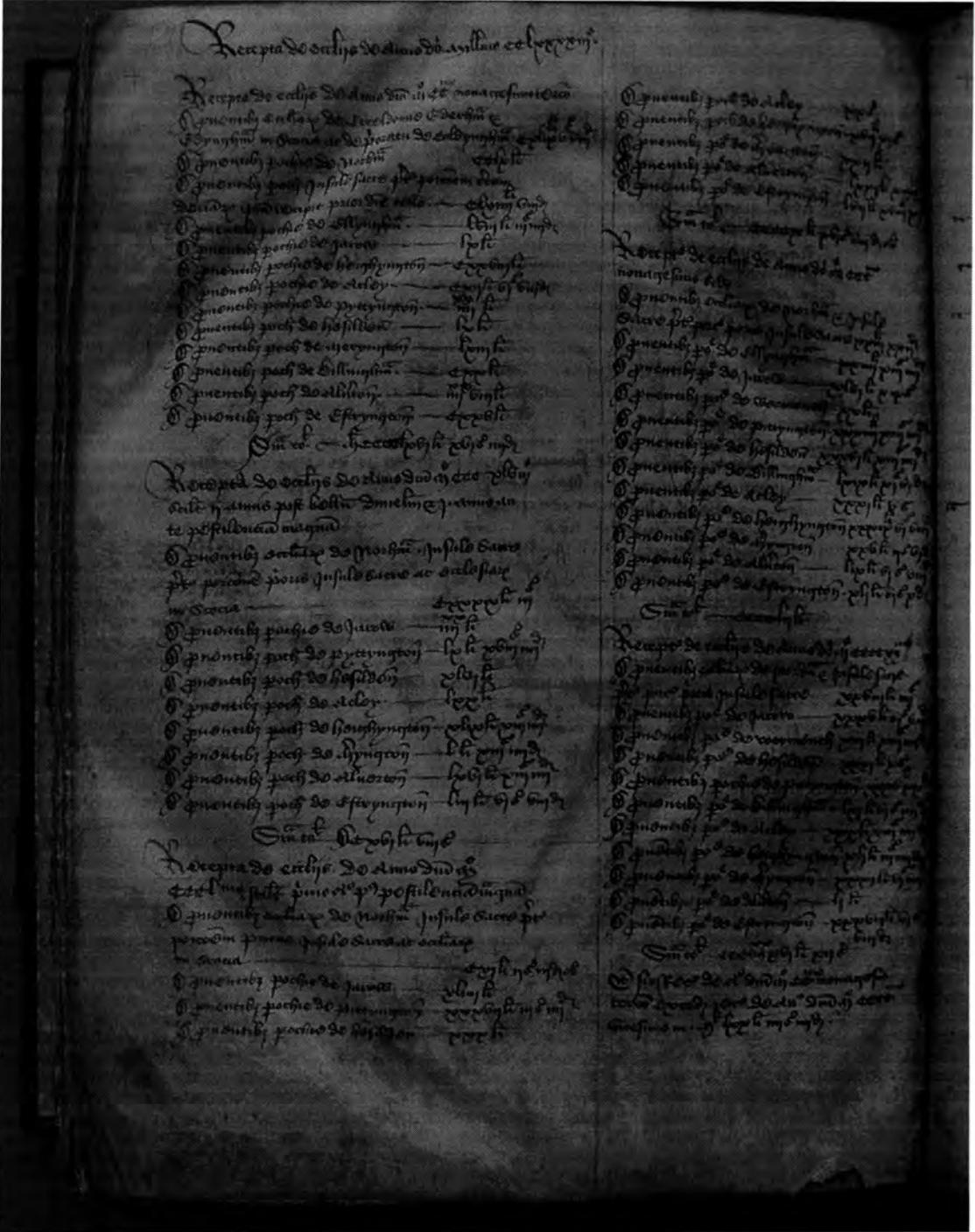
Evidence for such diagnostic use of obedientiary accounts is much scarcer. One of the few examples comes from the accounts of the Durham cellarer and granator around the turn of the thirteenth to fourteenth century when 'calculations of averages of expenditure and consumption' were made.¹⁵ By and large, however, obedientiary accounts have attracted a different type of historical attention from their manorial counterparts. The latter have aroused the interest of historians wanting to pin down precise economic and agrarian changes, some of whom have adopted highly statistical approaches in order to reproduce the calculations of estate managers. The accounts of office holders, on the other hand, have been the preserve of historians of monastic life and consumption; although some of this work is also statistical, it has relied less on recreating the monks' calculations. As a result, less effort has been expended in working out how obedientiary accounts were used.

The intimidating completeness of the Durham obedientiary series lends itself particularly to the collection of series of comparable data from decade to decade and even century to century and modern historians have not been the first to take advantage of this resource. At the end of the second prior's register a tabulation was inserted showing tithe income, parish by parish, for seven years between 1293 and 1436.

¹⁴ Searle, *Battle Abbey*, 336.

¹⁵ *Household accounts part 1*, ed. Woolgar, 45.

Plate 1: The Durham monks' tabulation of tithe receipts page 1 (DCM, prior's register II f. 355^v)



This is shown in Plates 1 and 2. As long ago as the 1830s, this tabulation caught Raine's eye and he published a transcription.¹⁶ Dobson also made use of the figures, and extended the tabulation, in his analysis of the early fifteenth-century monastic economy.¹⁷ For ease of reference in this chapter, the figures from Plates 1 and 2 are given in Table 4.1.

Table 4.1 'Receipts from churches': calculations made by the Durham monks

	1293	1348	1350	1392	1420	1430	1436
	£-s.-d.	£-s.-d.	£-s.-d.	£-s.-d.	£-s.-d.	£-s.-d.	£-s.-d.
Scottish parishes	149-5-8						
Norham (Northum.)	260-0-0						
Holy Island (Northum.) (besides portion belonging to cell)	164-0-8	139-3-0	111-2-3½	23-1-10	28-4-0	99-3-1	39-8-10
Ellingham (Northum.)	58-3-4			24-13-4			
Jarrow	60-0-0	80-0-0	44-0-0	46-19-0	35-6-8	29-6-4	31-6-8
Monkwearmouth				20-0-0	13-13-4	12-0-0	7-13-4
Heighington	128-0-0	49-13-4	17-11-0	39-6-8	41-3-4	47-6-8	48-3-4
Aycliffe	111-6-8	70-0-0	1-0-0	31-5-0	30-13-4	24-10-0	24-8-4
Pittington	80-0-0	60-18-4	37-3-4	34-13-4	35-1-8	32-13-4	28-3-4
Monk Hesleden	60-0-0	46-0-0	30-0-0	36-13-4	31-10-0	27-13-4	27-7-0
Kirk Merrington	63-0-0	50-13-4	22-0-0	25-2-6	31-6-8	27-13-4	26-7-4
Billingham	120-0-0			69-11-6	61-6-4	57-18-8	54-13-4
Northallerton (N. Yorks.)	88-0-0	66-13-4	71-1-2	59-6-8	51-0-0	47-16-8	41-13-4
Eastrington (E. Yorks.)	125-0-0	53-6-8	57-18-11	41-6-10	37-6-8	26-13-4	23-14-8
SUM TOTAL	1466-16-4	616-8-0	410-16-8½	452-0-0	396-12-0	432-14-9	353-0-6

¹⁶ SS9, ccxlviii – cclii. Raine's transcription is accurate on the whole but contains four minor errors in interpreting the Roman numerals.

¹⁷ Dobson, *Durham Priory*, 271. Although Dobson used other sources to supplement the table, he must have based his figures on Raine's version since he repeated Raine's four errors.

Not only did the monks collect tithe receipt figures across this wide period, they even suggested four causes for the severe decline these figures showed. Plate 3 shows a detail of Plate 2 containing the four suggested causes. The document gives no explanation for its preparation yet this tabulation represents a rare collection of information probably derived from obediary accounts and used for analytical purposes. The rest of this chapter will attempt to elucidate the origins of the tabulation and the methods used to compile it.

Plate 3: Four causes of the decline in tithe income between 1293 and 1420 (DCM, prior's register II f. 356')

Quod pro causa p[er]mone. d[omi]n[u]m d[omi]ni s[an]c[t]i
de anno d[omi]ni millibus c[ir]ca p[er]mone d[omi]ni s[an]c[t]i
de anno d[omi]ni m[ille] c[ir]ca p[er]mone d[omi]ni s[an]c[t]i
et p[er]mone d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i
causas infra p[er]mone.
P[ri]ma d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i
classe in d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i non p[er]mone.
S[ec]unda quoniam m[ille] p[er]mone et p[er]mone in north
lat[er]e d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i sunt p[er]mone
d[omi]ni s[an]c[t]i p[er]mone p[er]mone in p[er]mone d[omi]ni s[an]c[t]i
d[omi]ni s[an]c[t]i quoniam d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i p[er]mone et d[omi]ni s[an]c[t]i
recep[er]unt d[omi]ni s[an]c[t]i d[omi]ni s[an]c[t]i et p[er]mone p[er]mone
d[omi]ni s[an]c[t]i p[er]mone ad p[er]mone
T[er]cia p[er]mone p[er]mone p[er]mone d[omi]ni s[an]c[t]i
p[er]mone p[er]mone loca sunt d[omi]ni s[an]c[t]i et nihil
d[omi]ni s[an]c[t]i m[ille] p[er]mone.

It is unlikely that the Durham monks produced this tabulation merely for their own satisfaction and such a long-term analysis would seem to have little practical purpose in any decision-making process about maximising tithe revenue. It seems more likely that there was an external stimulus at work. One likely explanation is that the monks tabulated their dwindling tithe income to satisfy an outside authority. Benedictine monasteries were subject to regular visitation and it was not unknown for an abbot to have to make a detailed financial statement if irregularities were discovered. For example, the abbot of Whitby prepared just such a document in 1366 which included a breakdown of spiritual income. This was at the behest of the abbot of St Mary's York and Uthred of Boldon, a Durham monk, who had been commissioned by the General Chapter to perform a special visitation following the 'grave accusations' made during the regular visitation in the same year.¹⁸

There were three significant parties to whom the Durham Benedictines were answerable, at least to some degree. In the first place, they were subject to archiepiscopal visitation in 1408, 1438 and 1449.¹⁹ The latest year from which tithe figures are listed in the document is 1436 and therefore it is possible that it was drawn up for Archbishop Kemp's visitation in 1438 following the death of Thomas Langley bishop of Durham the previous year. Kemp appointed his registrar Master John Marshall to undertake the questioning of monks and probing into monastic life; unfortunately no written results of his enquiries survive.²⁰ The archiepiscopal visitations were very serious affairs in the eyes of the Durham monks since the archbishop's powers *in sede vacante* had been hotly

¹⁸ Pantin3, 63-8, 277.

¹⁹ Dobson, *Durham Priory*, 53.

²⁰ *Ibid.*, 218, 220.

disputed since the late thirteenth century.²¹ However, there is no direct evidence linking the 1438 visitation with the tabulated tithe receipts.

By comparison with other cathedral monasteries, the Durham monks were relatively free from the interference of their own bishop, their titular abbot. Episcopal visitations were 'very infrequent' and seem by this stage to have been confined to the primary visitation made when a new bishop took office.²² Nevertheless, documents may well have been prepared to present to the bishop since, in Dobson's view, such an inspection constituted 'the most serious and nervously anticipated occasion of monastic life'. Langley's successor Bishop Neville arrived for his primary visitation on 9 July 1442 and Prior Wessington had prepared conscientiously for the occasion.²³ It appears that at Durham episcopal visitations were much more rigorous than those made by the metropolitan. All aspects of monastic life were enquired into, not least the prior's competence in managing the monastery's finances. Indeed, in his examination of the voluminous Lincolnshire visitation records, Knowles concluded that 'incompetence or self-will of the superior' was one of the most common complaints raised by the monks.²⁴ Financial management was certainly an important issue for the 1442 visitors: Wessington was accused of overspending and took these managerial criticisms so seriously he ordered Robert Westmorland, his chancellor, to conduct an enquiry into expenditure.²⁵

²¹ *Ibid.*, 218-9.

²² *Ibid.*, 223.

²³ *Ibid.*, 230-1.

²⁴ Knowles, *Religious orders II*, 210.

²⁵ Dobson, *Durham Priory*, 235-7.

Of more relevance to the tabulation of tithe receipts is the first of the forty-six surviving articles produced by the bishop, which refers to the administrative experiment of dividing the bursar's office, 'the burning issue in internal monastic politics at the time'.²⁶ These are exactly the circumstances in which such a detailed examination of income as the tithe receipt tabulation might have been produced: the prior had initiated a daring, perhaps desperate, policy of dividing the bursar's office in 1438 and four years later his effectiveness was scrutinized by his ecclesiastical superior. Nor is this evidence entirely circumstantial: in 1442 a file of documents was prepared by the monks justifying the decision to divide the office of the bursar.²⁷ This unusual record consists of seven separate sheets of paper sewn together which go into copious details about the bursar's office, so onerous for handling by one man.²⁸ The tabulation of tithe receipts seems to have been used in the preparation of one of these documents, originally drawn up by Prior Wessington for Bishop Neville, on the state of the monastery's finances and that of the bursar's office in particular. The use of the tabulation is suggested by the attribution of the particularly severe fall in spiritual revenues to '*guerra inter regna anglie et scocie*' and lands '*quondam culte ... ad pasturam posite*'. This uses the same form of words as the document transcribed into the register. Wessington pointed out at the end of the section that these problems could not be attributed '*negligenti dicti Prioris*'.²⁹ The suggestion that this set of documents and the tabulation of tithe income were connected is strengthened by the section in the middle of the latter listing the income of the accounting

²⁶ *Ibid.*, 233-5.

²⁷ *Ibid.*, 285. It seems the documents were actually collected after Neville's visitation because the bishop stipulated that he would not attempt to enforce a solution to the problem of the bursar's office until there had been debate among the monks. *Ibid.*, 289.

²⁸ DCM, Loc.XXI.20.(ii).

²⁹ DCM, Loc.XXI.20.(vii). Another document, also produced in 1442, goes to further lengths to describe the fall in spiritual revenue and its causes: DCM, Loc.XXVII.1.(a). It is likely that this was also in some way associated with the visitation.

obediencies. The list shows that the income of the bursar's office amounted to £1000 and that of the second richest obedience to only £170 and could be used as a strong argument in favour of the division. The connection between the office of bursar and the tabulation is suggested by the inclusion of only the bursar's tithe receipts. It appears the difficult administrative issues facing the convent at the end of the 1430s, and in particular Wessington's desire to prove his own competence in these circumstances, created a stimulus for the tabulation of tithe receipts.

The register is a convenient record of documents regarded as particularly important or useful; moreover, it contains transcriptions of documents once existing separately. The appearance of the tabulation among miscellaneous material at the end of the second register means the historian is reliant on internal and circumstantial evidence to conjecture its origins. The document does not give any explanation of its purpose but its form may provide some clues. With no introduction, it begins with 'receipts from churches in the year of our Lord 1293', gives five further lists of receipts, and then a calculation of the overall fall in annual receipts between 1293 and 1420. This total is then repeated and followed by a list of four causes for the '*decreseñcia sive decasus*'. Following this list is a breakdown of the annual income of each obedience. Next, a further two years' church receipts are given and the document is concluded by a statement attributing the low 1436 receipt to decrease in the profit from Norham and Holy Island. As such, the document contains two distinct parts: the list of receipts between 1293 and 1420 with explanation and obedience incomes, followed by receipts added for two further later years. In the light of this evidence it might be suggested that

the document, as it appears in the register, contains a conflation of two original documents, the first prepared soon after 1420 and the latter soon after 1436. Although all the entries are very similarly worded, those for 1430 and 1436 give a '*summa*' and those for the previous years a '*summa totalis*'. This may confirm that more than one document was transcribed to produce the tabulation in the register.

The connection between the tabulation as it existed in the late 1430s and Wessington's need to justify the division of the bursar's office is convincing. This does not, however, explain the preparation of an earlier document in the early 1420s. This may have been associated with Prior Wessington's changes in the status of the church of Hemingbrough (N. Yorks.). The priors of Durham had long enjoyed the right of presentation to Hemingbrough, from which they derived an annual pension.³⁰ The living was an exceptionally rich one, however, and during the fourteenth century the monks attempted to appropriate the revenues of the church for their own use. At one point a licence was obtained for appropriation but was not actually put into effect because of objections from the papacy.³¹ Giving up this idea, in 1427 Prior Wessington succeeded in converting Hemingbrough into a college, like that at Howden (E. Yorks.), to which Durham Priory appointed the prebends.³² It is possible that the tabulation of tithe income in the early 1420s, demonstrating ruinous decline, could have been part of a late attempt at appropriation before Hemingbrough's collegiate status was finally decided upon. After all, in 1347-8 the prior and convent had written to the archbishop of York petitioning for the appropriation and using the excuse of fallen spiritual revenues. This letter was backed

³⁰ SS198, 223.

³¹ Dobson, *Durham Priory*, 151 n. 1, 156-7.

³² *Ibid.*, 146.

up by one from Lord Percy and Lord Neville confirming that the monks were experiencing ruin because of the Scottish wars; this is the first of the causes given for the fall in tithe income in the 1420/1436 document.³³

Persuasive though the 1340s letter evidence is, there is no clear evidence that the tithe receipt tabulation was drawn up to secure the appropriation of Hemingbrough. In fact, it appears that the monks gave up on appropriation in the fourteenth century. Wessington described the process himself in a letter to the archbishop of York about the conversion of Hemingbrough into a college. He described the attempts to appropriate 'the parish church of Hemingbrough, in your diocese of York and our patronage' as having occurred 'in the time of king Edward III'.³⁴ It is possible, of course, that the prior was being disingenuous because he had a new scheme but, unless further evidence comes to light, the connection between the appropriation of Hemingbrough and the tabulation of tithe income is speculative.

There is also the possibility that the tabulation of the early 1420s was drawn up for an anticipated visitation which never actually occurred. Bishop Langley had made his primary visitation in 1408 but seems to have been considering a further visitation in 1420 which he never made.³⁵ It is possible that Wessington was aware that the low level of spiritual revenue might be raised at such a visitation and therefore prepared the lists from five years between 1293 and 1420 to defend himself. Table 4.1 shows the magnitude of

³³ *Historical papers and letters from the northern registers*, ed. J. Raine, *Rerum britannicarum medii aevi scriptores*, 61 (London; Longman, 1873), pp. 392-5.

³⁴ SS9, cexiv.

³⁵ Dobson, *Durham Priory*, 231 n.1.

the decline was undoubtedly severe but that most of it occurred in the first half of the fourteenth century. This raises the question of why spiritual revenue was not examined before, the answer to which is surely that it may well have been but the resulting documents do not survive. The priory, after all, was visited by Hatfield in 1347 and 1354, by Fordham in 1383 and by Skirlaw in 1391 and 1397.³⁶

The other organisation which was interested in the finances of Durham Priory was the Provincial Chapter of the Black Monks which met in Northampton every three years. It was the predecessor of this organization, the General Chapter of Black Monks, which set up the procedure for monastic accountancy in the first place.³⁷ These triennial meetings arranged for the monks to visit each other's houses so any one of these occasions could have prompted the examination of spiritual revenue at Durham. In 1421, however, the comfortable three-year cycle was broken when Henry V called an 'extraordinary meeting' at Westminster. This was such a serious affair that Wessington went in person, one of only three visits he made to the capital during his priorate.³⁸ This unusual gathering, which was very well attended by Benedictine superiors, was convened in response to growing criticism of the Benedictine order. Financial competence and responsibility was a topic of discussion and featured in the articles produced.³⁹ It is possible that the original calculations of tithe income were drawn up for this meeting but here the evidence is circumstantial. It is not clear that such a general meeting would have required a detailed financial statement from each individual house, although such

³⁶ *Ibid.*, 231.

³⁷ *Ibid.*, 258.

³⁸ *Ibid.*, 93, 241.

³⁹ Knowles, *Religious orders II*, 182-4.

statements were certainly demanded by the triennial meetings, to which the Durham monks used to send a bursar's account.⁴⁰

It appears that the tabulation shown in Plates 1 and 2 may have been the product of more than one original document drawn up for more than one reason. The most firmly established use of this tabulation is in the defence drawn up by Prior Wessington against Bishop Neville's criticisms: we have documentary evidence for this. The archiepiscopal visitation which preceded Neville's may also have created a need for such a document and this might explain why the latest figures are taken from 1436 rather than a year closer to 1442. The putative earlier document of the 1420s is less easy to explain: the demands of the Provincial Chapter, or the extraordinary meeting in 1421, may be relevant. This combination of explanations reveals the directness of the monks' motivation in preparing the tabulation. This is instructive of the monks' own attitude to their accounting material. Like the owner of a manor, they were concerned to prevent embezzlement by their office holders and, just like modern accountants and auditors, they wanted to be seen to be taking care with their finances.

⁴⁰ Dobson, *Durham Priory*, 246, 259-60.

The monks' method

Table 4.2 The monk's tithes tabulation and parish totals given in bursars' accounts

Year given in monks' tabulation	Parish entries traceable in bursars' accounts	Period covered by bursar's account in which entry(ies) traceable
1348	Heighington (1)	11 Nov. 1347 – 11 Nov. 1348
1350	Heighington (1)	11 Nov. 1350 – 11 Nov. 1351
1392	N/A	NO SURVIVING BURSARS' ACCOUNTS 1391-2 OR 1392-3
1420	Jarrow, Monkwearmouth, Heighington, Aycliffe, Pittington, Monk Hesleden, Kirk Merrington (7)	4 June 1419 – 26 May 1420
1430	Kirk Merrington (1)	15 May 1429 – 4 June 1430
1436	Jarrow, Monkwearmouth, Heighington, Aycliffe, Pittington, Monk Hesleden, Billingham (7)	11 Nov. 1436 – 11 Nov. 1437

The second column of Table 4.2 shows that before 1420 only two monks' totals can be matched with parish totals in surviving bursars' accounts. The 1348-50 accounts predate the advent of the fictitious purchase system. This raises the possibility that the discrepancy between the figures in the accounts and those in the monks' list are the result of the valuation of produce received in kind by the monks using documentation no longer extant. Procedures for valuation were well-known, as is demonstrated by the fictitious purchase system itself and by methods used to calculate manorial profit.⁴¹ This suggestion is strengthened because the tithes of all the Heighington vills, for which the

⁴¹ Stone, 'Profit-and-loss', 27, 44-5.

monks' totals match those given in the accounts, were sold in the bursar's account of 1347-8 and that of 1350-1: this applied to no other *infra aquas* parishes in these accounts. Also, all the monks' totals are higher than the cash parish totals given in the accounts with the exception of the tiny 1350 Aycliffe figure which is discussed below. The monks may have used the granators' accounts, very few of which survive, in which it has already been suggested that receipts in kind were recorded.

It was decided to test the theory that the monks included valued produce received in kind in their tabulation. On the basis of the Heighington totals which correspond in Table 4.2, it was assumed the 1347-8 bursar's account was used by the monks for their 1348 figures and the 1350-1 bursar's account for their 1350 ones. Vills in hand in these years were listed and the value of the grain received was estimated using the average 1340s tithe receipt for each vill.⁴² These valuations were then added to the total cash receipts from each parish in an attempt to calculate the total value of all the tithes from each parish. The results are shown in Table 4.3.

⁴² The method used involved calculations described in detail in Chapter 5. The 1340s average was multiplied by the 1347 output index, given in Figure 5.08, for the 1347-8 calculation and by the 1350 output index, given in Figure 5.06, for the 1350-1 calculation.

Table 4.3 Valuation of 1348 and 1350 receipts in kind using 1340s averages

Parish	1348 monks' total	Recalculated total using 1347-8 account	1350 monks' total	Recalculated using 1350-1 account
Jarrow	£80 0s. 0d.	£90 18s. 0d.	£44 0s. 0d.	£41 10s. 2d.
Aycliffe	£70 0s. 0d.	£67 10s. 10d.	£20 0s. 0d.*	£19 1s. 7d.
Pittington	£60 18s. 4d.	£61 4s. 5d.	£37 3s. 4d.	£34 6s. 0d.
Monk Hesleden	£46 0s. 0d.	£45 19s. 0d.	£30 0s. 0d.	£23 10s. 5d.
Kirk Merrington	£50 13s. 4d.	£57 18s. 10d.	£22 0s. 0d.	£20 16s. 2d.

* The probable fifteenth-century transcription error has been corrected here.

The recalculated sums are very close to the monks' totals in many cases; in seven out of ten the difference is smaller than 8 per cent and no greater than 22 per cent in the remaining three.

The closeness of the recalculated totals suggests the monks probably did include valuations of produce in kind. The calculations would not have been so difficult using the granators' accounts which presumably still survived in 1420-36. The inaccuracy of the method of valuation used in the above table must be caused by unknown annual fluctuations in production in each of the vills. After all, each vill could produce significantly varying quantities of grain each year and these variations did not always follow the same pattern from vill to vill.

The suggestion that the monks' method in their tabulation was surprisingly sophisticated is weakened by several apparent inconsistencies. Of the forty-four entries from *infra aquas* parishes shown in Table 4.1, only seventeen can be matched with entries in bursars' accounts either beginning or ending in the year given. In fact, comparison of the monks' figures and those of the bursars' accounts is hampered by the survival of both these accounts for only twenty-seven of the forty-four *infra aquas* entries. Nonetheless, it is clear from Table 4.2 that the monks sometimes drew their figures from the account opening in a given year and sometimes from an account closing in that year.

This inconsistency in choice of account is difficult to explain. Certainly, the days on which the bursar and terrar received payments for sold tithes changed across this period. Up to 1360-1 they fell on the feast of St Cuthbert in March (20 March) and the feast of the Birth of John the Baptist (24 June). From 1361-2 they fell earlier in the year on the feast of the Purification of the Blessed Virgin Mary (2 February) and the feast of St Cuthbert in March.⁴³ These were still the payment days around the end of the fourteenth century.⁴⁴ Unfortunately no evidence of payment days during the fifteenth century has been discovered. Assuming payment was made on two days falling roughly into the first half of the year following the harvest, which gave the buyer time to sell his tithe grain, change in precise days would not explain the inconsistencies in Table 4.2. For their 1420 figure the monks used receipts from the 1419 harvest; for their 1436 figure they used receipts from the 1436 harvest. If the missing 1430-1 bursar's account

⁴³ The change is shown by the practice of giving the payment days with the first tithe receipt which appears in many of the bursars' accounts between 1356-7 and 1374-5.

⁴⁴ DCM, sale of tithes 1383 and 1396. The latter is published in SS198, 126-8.

contained the information for their 1430 figure, which appears likely since there is only one matching receipt in the 1429-30 account, then they must have used receipts from the 1430 harvest.

It is possible that confusion could be caused by the version in the register being the conflation of two separate documents. This might explain the use of figures from the 1419 harvest for the 1420 figure, which contrasts with the 1430 and 1436 method. However, this explanation does not account for the inconsistency in the use of the 1347-8 for the 1348 figures and 1350-1 account for the 1350 figures.

A further inconsistency is that the monks did not include Monkwearmouth and Billingham parishes in their 1348 and 1350 figures which leads to serious inaccuracy in the overall totals produced. Given that the tithes from all the Billingham vills were kept in hand, as well as that from at least one Monkwearmouth vill, the monks should have been able to produce grain valuations for these parishes in the same way as they did for the others. The explanation may lie in the state of preservation in 1420 of material now lost: perhaps the monks simply lacked the requisite grain quantities from these years around the Black Death. Another explanation could be, of course, that the monks were using different documents altogether. Whilst it is impossible to argue for or against the existence of documents which survive without trace, this seems unlikely given the correspondence of the monks' later figures with those in the bursars' accounts. It is also possible that the monks deliberately underestimated tithe income around the Black Death in order to exculpate themselves by minimizing the scale of later decline. If this was the

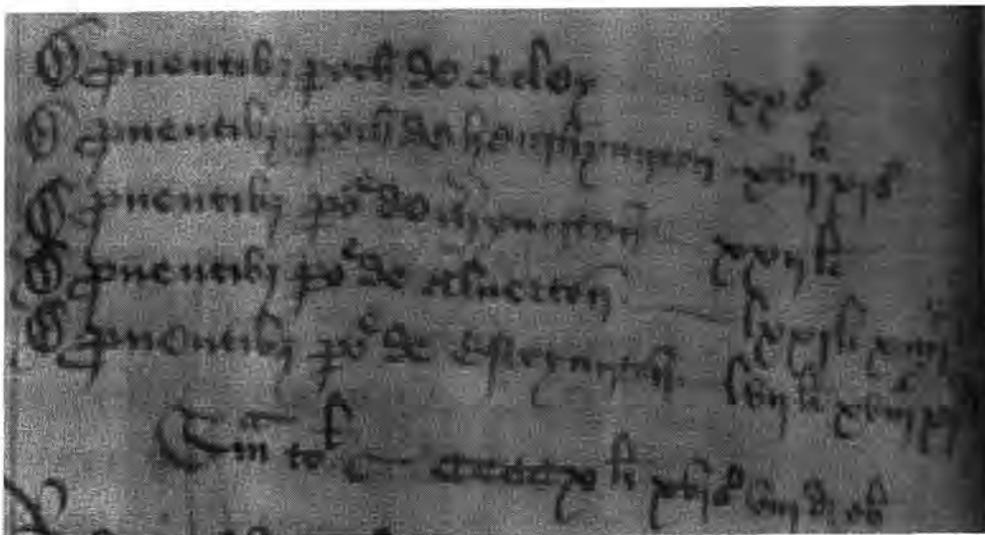
case, then their deception was not very effective given the disastrous fall shown by their tabulation.

Also strange is the lack of correspondence between the Billingham figure for 1420 and the parish total for 1419-20. All the other parish receipts in the tabulation for this year correspond to this bursar's account. In 1419-20 the bursar recorded that Newton Bewley was sold for £10 13s. 4d. but that the other villis were taken in hand. If the values of the three villis in hand are added along with the sale price of Newton Bewley then the total comes to £64 19s. 8d. This does not correspond to the sum of £61 6s. 4d. given by the monks.

One error can be observed with certainty in the monks' calculations. In Table 4.1 only one year's sum total does not match that given when all the parish totals are added up: that of 1350. Two of Raine's figures were inaccurately transcribed for this year (Pittington and Northallerton) and needed to be corrected. The shillings and pence of the sum of the parish figures (£391 16s. 8½d.) and the total given by the monks (£410 16s. 8½d.) correspond which suggests the set of figures is nearly accurate. The monks, however, recorded a receipt of £1-0-0 for Aycliffe parish in 1350. This is impossible to reconcile with the 1350-1 bursar's account where nine individual cash receipts were recorded from Aycliffe parish totalling £16 8s. In the 1349-50 account, where lengthy details are given about the disposal of tithe grain from various villis in Aycliffe parish, there are still four straightforward cash receipts which total £13 6s. 8d. It seems likely that the fifteenth-century transcriber should have entered £20 and not 20s.; this would

make the total given in the tabulation accurate and is reconcilable with evidence in the accounts. This transcription error is shown in Plate 4.

Plate 4: *Five 1350 receipts, including the Aycliffe transcription error (top) and the monks' total (bottom) (DCM, prior's register II f. 355v)*



Many aspects of the preparation of the tithe receipt tabulation have resisted explanation. The Aycliffe transcription error and inconsistent use of accounts suggest the monks were sometimes slapdash. On the other hand, their valuation of receipts in hand for fourteenth-century entries, like the fictitious purchase system itself, reveals a detailed appreciation of the precise meaning and significance of the tithe sections in their accounts. Instead of 'conservatism and rigidity' and 'unnecessary complications', the system for recording tithe receipts changed over the years and in their tabulation the monks showed themselves aware of the characteristics of these changes. At the same time, the tithe tabulation seems to have been a utilitarian exercise: the compilers of the table wanted to show that changing economic conditions, and not mismanagement, had caused tithe income to fall. Precisely which accounts were used was not important for

this end to be achieved. Even the omission of important parishes in 1348 and 1350 did not make any difference. The monks used their accounting material with shrewd practicality. Their daily existence centred on the perpetuity of the guardianship of Cuthbert's shrine: incumbents of perpetual offices worry less about profitability than about ensuring superiors and posterity of their competence.

Chapter 5

Tithe and agrarian output: calculating output indices

Tithe receipts and output

6,555 *infra aquas* parish tithe receipts were extracted from the Durham obedientiary and cell accounts drawn up between 1340 and 1450. Not all of these were useful for estimating arable output levels: some were small tithes; some were combined garb tithes and small tithes; some were only from a part of the year and so on. The best indicators of output are the tithe receipts collected by the monks' officials and delivered to the priory as grain: 278 of these survive, each one giving details for various grain types. The vast majority of usable tithe receipts, however, were cash sums received for the sale of tithes: 4,390 in total. The French historians of the 1960s and 1970s made familiar the process of 'deflation' of cash tithe receipts by price.¹ This is described in Equation A.

Equation A: Estimated output basic equation

$$\text{output} = \frac{\text{cash tithe receipt}}{\text{price of average quarter}}$$

¹ Ladurie and Goy, *Tithe and agrarian history*, 43-51. The historiography is discussed in detail in Chapter 1.

Equation A attempts to reproduce the calculation made by the tithe purchaser.² When he made his bid in August he estimated how much grain would be produced across the tithable area, worked out what his tenth would amount to, and then calculated its value by predicting the price the grain would fetch at market. When the historian deflates a cash tithe receipt, he uses the amount paid by the purchaser, divides it by the estimated price per unit of grain, and is left with the tithe yield predicted by the bidder just before the harvest. This should represent one tenth of the total predicted output from the tithable area.

Figure 5.01: *Wallsend and Willington (Jarrow) tithe output estimated using Equation A*

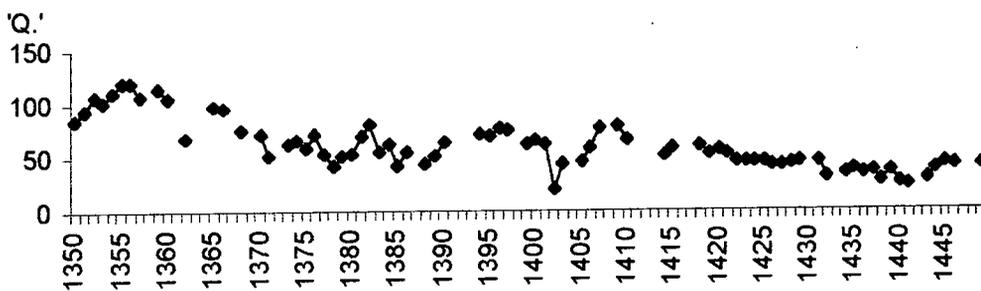


Figure 5.01 shows the results of deflating the tithe receipts from Wallsend and Willington (Jarrow) by an appropriate price series, discussed below, using Equation A. This graph could be replicated dozens of times for every individual vill, or combination of vills, from which tithe sale prices were recorded in the Durham accounting material. Such is the quality of the *infra aquas* tithe data set, however, that for some years we have over fifty receipts from different tithing units. Between 1340 and 1450 the priory and its dependencies received tithes from over two hundred individual vills or combinations of vills. Using only Equation A, the historian would be left with a

² Ladurie, *Peasants of Languedoc*, 77.

confusing proliferation of series. In any case, the series would be patchy because the combinations of villas sold for single cash sums varied from year to year. For example, Newbiggin (Heighington) was sold in the following combinations during the 1360s alone:

Newbiggin

Middridge and Newbiggin

Middridge, West Thickley and Newbiggin

Thickley grange, West Thickley and Newbiggin

Nor is it possible simply to add up all the tithe receipts to produce an aggregate figure for all the priory parishes between the Tyne and Tees. In the first place, this would require consistent survival of accounts from each obedience for each year: even the care of the Durham monks and their successors has not preserved all the series in complete form. Secondly, occasional changes of administrative arrangements mean gaps in series of receipts from certain villas. For example, Prior Robert Walworth was given the income from certain villas in Pittington parish upon his retirement in 1391; we know this from documents entered in the prior's register but the Pittington receipts are simply absent from the bursars' accounts.³ In other cases, it is not possible to explain the absence of a vill or set of villas from the tithe receipts sections of specific accounts.

³ SS9, clxiv, clxxiv; DCM, bursar's accounts 1394-5, [*Decime*] Pittington; 1395-6, [*Decime*] Pittington; 1396-7, [*Decime*] Pittington; 1397-8, [*Decime*] Pittington; Dobson, *Durham Priory*, 110-113.

A method was developed to enable the calculation of indices of output levels comparable from year to year. The basis of this method was the calculation of pre-Black Death averages for each individual vill. This enabled each post-Black Death cash receipt to be expressed as a percentage of pre-plague levels. Unlike the estimated output levels produced by Equation A, these percentages are mutually comparable, no matter which vill the tithe receipts come from, and can be averaged to produce mean output indices.

Output index equation

Equation B: Annual output indices

v = cash tithe receipt from individual vill, combination of vills sold together or parish (if vills not listed separately)
 y = year of harvest

Step One: Tithe receipt index for year y

$$\begin{aligned} \text{Vill receipts from year } y \\ \text{as a proportion of the average} &= \frac{\text{sum } (v_y^1 + v_y^2 + v_y^3 \dots)}{\text{sum } (v_{1340s}^1 + v_{1340s}^2 + v_{1340s}^3 \dots)} \times 100 \\ \text{receipt from the same vills} & \\ \text{in the 1340s} & \\ &= A_y \end{aligned}$$

Step Two: Price index for year y

$$\begin{aligned} \text{Price index} &= \frac{\text{Price autumn } y \text{ to autumn } y + 1}{\text{mean price}_{1340s}} \\ &= P_y \end{aligned}$$

Step Three: Output index for year y

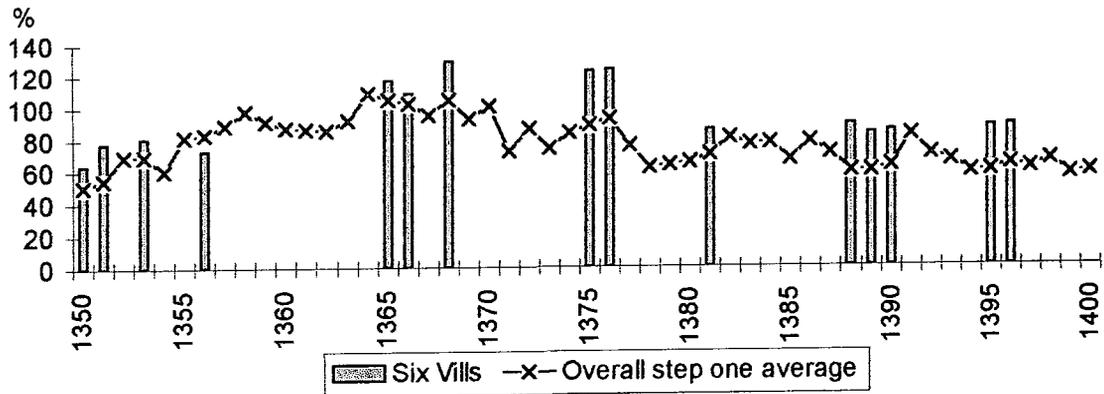
$$\text{Output index for year } y = \frac{A_y}{P_y}$$

Equation B Step One

The annual output index equation expresses tithe receipts as proportions of their 1340s averages. The method used to calculate the 1340s averages requires an understanding of the overall equation and is described below. The purpose of Step One is to eliminate the problem of the inclusion of tithe receipts from different vills and combinations of vills from year to year (not, as yet, adjusted for price changes). If, for example, the survival of hostillers' accounts for a decade is scant, those few hostiller tithe receipts which could be collected can still be used in the calculation. Step One, if repeated for every year, creates a series of percentages each of which is calculated using a number of individual receipts. This could be as many as fifty-seven or, as was uniquely the case for 1369, as few as one. On average forty-one tithe receipts for each year were used to calculate the index.

Irregularities in the survival of accounts, damage to surviving accounts, and changes in accounting methods mean that the list of vills included in each year's calculation can vary considerably. In an attempt to test the validity of the overall series produced by Step One, six of the vills most consistently represented in the second half of the fourteenth century were chosen and their cash receipts depicted as average percentages of their 1340s levels. The results are shown in Figure 5.02. Step One of the Equation B method was used and calculations were only made for years from which we have receipts from all six vills.

Figure 5.02: The overall Step One average and a sample from six consistently represent villis 1350-1400



Vills used: Old Durham, Shincliffe (Durham St Oswald); Nunstainton (Aycliffe); Killerby (Heighington); Hardwick, Eden (Monk Hesleden).

There is a broad similarity in the shape of the six vill and overall percentage lines. That is, the series both rise until around 1370 and then gradually fall off. The similarity gives confidence in the reliability of Step One. However, the six vill percentages are almost always higher than the averages calculated using Step One. A likely explanation for this difference is that the six vill percentages were only calculated when receipts were available from all six villis; the overall percentages, on the other hand, incorporate nil receipts from villis which were waste. For example, the overall receipts series is particularly low in the late 1380s and, in these years, certain waste villis were included in the calculations: in 1388 Grindon (Aycliffe) produced nothing and in the following year Spennymoor (Kirk Merrington) and Hetton le Hill (Pittington) were *vasta*.

Equation B Step Two

This step in the equation indexes annual prices against 1340s prices. It requires an accurate price series for north-east England and Lord Beveridge was on the verge of publishing just such a series when he died in 1963. His notes and calculations, deposited in the London School of Economics, have been used and these data are tabulated in Appendix 1.⁴ Calculation of the average price of a quarter of grain requires an indication of the proportion represented by each type of grain in the overall harvest. Complete information on the composition of the harvests on which the tithes were levied is not available; if it were, the whole process of deflating cash tithe receipts would be redundant. However, we do have recorded grain receipts from the beginning of the fictitious purchase accounting system and from 1349.⁵ These receipts constitute over one thousand individual grain quantities and were used to estimate the average composition of a quarter of grain in the Durham parishes.

Each grain receipt was converted into a percentage of the total output from that particular vill in that particular year. These percentages were then averaged producing overall figures for wheat, barley, peas or beans (which the accountants treated interchangeably) and oats. Rye was excluded from the calculations because it was present only in a tiny proportion of harvests and always represented under 5 per cent of total output. Wheat appeared in almost every harvest but the other grains were less consistent: clearly all four major grains were not cultivated in all vills every year.

⁴ Boxes C1, C2, C3, C4, C5, C6, C7, C8(i) and C8(ii), The Beveridge Price History Archive (British Library of Political and Economic Science).

⁵ Chapter 3 explains the changes in the accounting procedure for grain receipts.

Nil percentages were included in the average calculations and the results are shown in Table 5.1.

Table 5.1 Composition of grain harvests

Grain type	Durham tithe receipts	Pittington demesne 1377 ⁶	Pittington demesne 1449 ⁷	Crawley (Hants.) 1377 ⁸	Skipton tithe (N Yorks) 1324 ⁹
Wheat %	24.9	31.7	20.2	22.0	13.5
Barley %	29.4	18.5	24.6	48.2	8.8
Peas / beans %	18.3	8.4	0	4.2 (inc. vetches)	0.5
Oats %	23.9	41.4	55.2	25.6	77.2

It is clear that there was considerable chronological, geographical and institutional variation in the composition of harvests. The proportions of all four major grains changed significantly on the Pittington demesne between 1377 and 1449. The figures from the southern demesne of Crawley are substantially different from those from the northern demesne of Pittington, being much more heavily weighted towards barley cultivation. Figures from the two demesnes featured in Table 5.1 differ substantially from each other and from the tithe receipts. The Durham and Skipton tithe receipts are very different with the latter strongly favouring the cultivation of oats.

⁶ DCM, Pittington manor account 1376-7.

⁷ DCM, Pittington manor account 1449-50.

⁸ N. S. B. Gras, *The economic and social history of an English village* (Cambridge, Mass.; Harvard University Press, 1930), pp. 342, 346, 351, 359, 365, 371.

⁹ Skipton parish contained several vills; these receipts are taken only from Skipton vill itself. *Bolton compotus*, eds. Kershaw *et al.*, 549-51.

This casts doubt over the validity of the use of average harvest composition figures for Equation B. This doubt is strengthened by an examination of Table 5.2.

Table 5.2 Composition of the 1349 harvest in two villis (based on tithe receipts)

Grain type	Shadforth (Pittington)	Preston Skerne (Aycliffe)
Wheat %	9.9	41.8
Barley %	29.3	5.0
Peas / beans %	8.4	5.0
Oats %	52.4	48.4

Although oats and legume output was comparable in each vill, the balance between wheat and barley cultivation was very different. There was also considerable chronological change in the composition of Durham harvests as indicated by tithe receipts. This is shown in Figure 5.03.

Figure 5.03: *Decennial average composition of grain harvest from tithes in hand*

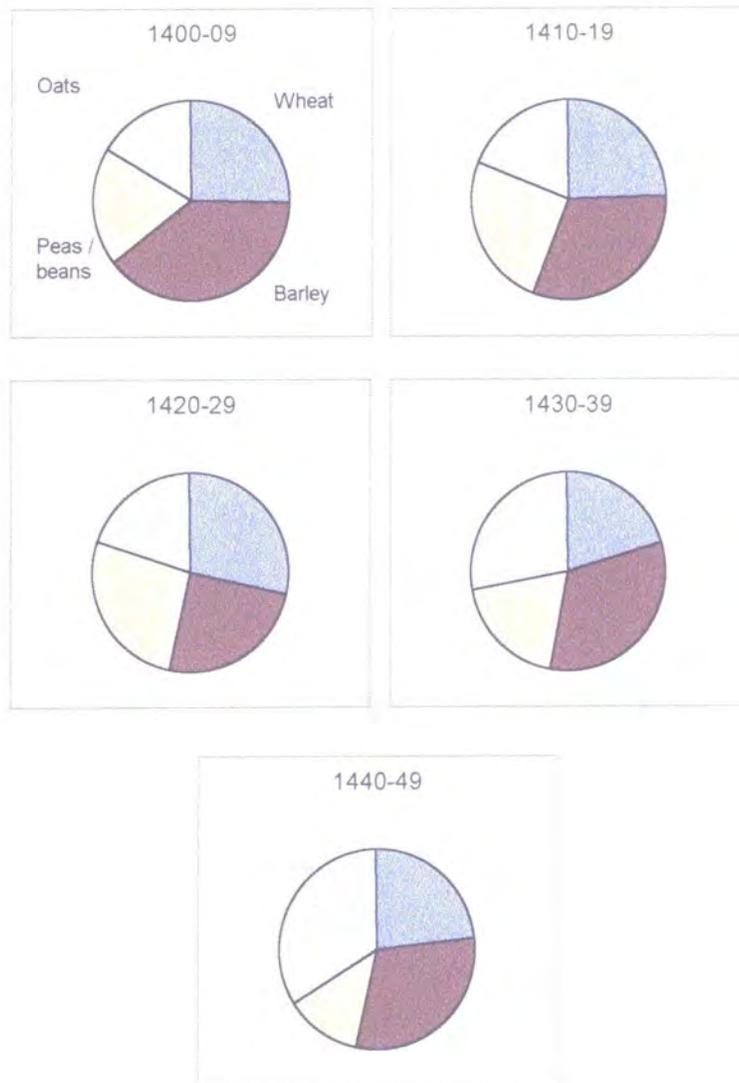


Figure 5.03 shows changes in the composition of the tithes collected as grain during the fifteenth century. The proportion of oats grown rose steadily from 18 per cent in the 1400s to 31 per cent in the 1440s. This is rather unexpected given the evidence for contraction in oats cultivation at the expense of legumes on demesnes, including those in north-east England.¹⁰ The pattern of change for the other three major grains is less

¹⁰ Campbell, *Seigniorial agriculture*, 245-6.

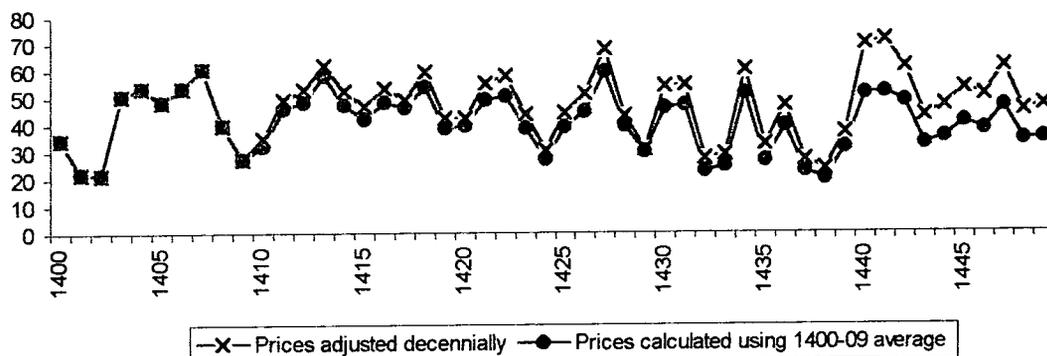
regular. Wheat production was particularly high in the 1420s but low during the following decade. Barley production was high in the 1400s but low in the 1420s.

The failure of Equation B to take changing harvest composition into account seems to be a major deficiency. It was decided, however, not to introduce this factor into the calculations for several reasons. In the first place, priory accounting procedure means that records of tithe in kind only survive from the late fourteenth century onwards, with the exception of 1349. This means it would be impossible to introduce a continuously changing factor for harvest composition. Secondly, although the evidence for tithes received in kind is exceptionally good for the later period, it is based neither on a constant selection nor a large number of villis. The former difficulty is serious given the differing composition of harvests from vill to vill (Table 5.2). The latter difficulty means the data are not statistically reliable. This casts a shadow of doubt over the data in Figure 5.03.

A test was carried out to assess the significance of the harvest composition problem and the results are plotted in Figure 5.04. The line of crosses shows a series of output indices calculated using decennially changing harvest composition. The line of dots shows output indices calculated using only the 1400-09 composition figures. The graph shows that both series move in the same way. This much is consoling: at least Equation B can be relied upon to indicate major fluctuations in production. Less heartening is the divergence in the series towards the end of the period. However, the use of an overall average has been deemed less risky than using statistically narrowly based changing harvest composition figures.

Figure 5.04: Output indices graph showing the effects of adjusted harvest composition figures in Step Two of Equation B

Index: 100 = 1340s average



Steps One and Two are both complicated by the varying dates on which accounts were opened. For example, the bursar began his account on 1 January in 1375 but the almoner did not begin his until 31 May in the same year. The office holders also received the payments for sold tithes on varying days. After 1362 the bursars received theirs on 2 February and 24 June whereas the hostillers received some tithes on 11 November. Nonetheless, it appears that most tithe sales were negotiated shortly before the harvest and that the tithe receipts in most accounts are therefore from the harvest of the year in which the account opened. For example, the 1382-3 account contains entries for income from the sale of the 1382 harvest tithes.

Step Two uses a single annual price from harvest to harvest, which roughly coincides with Beveridge's intention to use a Michaelmas to Michaelmas year.¹¹ It is difficult to recreate the speculation on the part of the tithe purchaser when negotiating his offer price for any given tithe. He must have had some notion of the potential market value of the grain he was buying. This, in turn, must have relied on his estimation of the quality of the harvest and, therefore, the likely abundance or dearth of

¹¹ Appendix 1 discusses Beveridge's difficulties in dating prices.

grain in the year to come. It was decided that the safest assumption was that the tithe purchaser's prediction would be accurate: his familiarity with agriculture and the markets would mean his judgment was sharp.

Annual prices were chosen in favour of using a moving average price. On the face of it, adoption of a moving average price series has certain advantages. Often no explicit distinction is made in the Durham material between tithes sold annually and those sold for terms of years. A list of consecutive receipts might provide clues. For example, the vill of Ludworth (Pittington) was sold for £4 in 1376-8, then for £2 in 1379 and for £2 3s. 4d. in 1380-1. This might be interpreted as one three year lease, an annual sale and a two year lease. Clearly, it is not reasonable to calculate estimated output from a leased tithe on the basis of annual price changes; it creates a false impression of output moving according to price. However, it is not certain the Ludworth tithes were leased 1376-8 and 1380-1; they may have been sold annually for the same price. If this were the case, the calculation of estimated output on the basis of annual price is reasonable. An examination of the list of buyers of the Ludworth tithe clears up the matter. £4 was paid for the tithe by three different buyers in 1376, 1377 and 1378, there was a change of name again in 1379, but both the sales of 1380 and 1381 were made to Thomas Menevyll. It seems the sales were annual 1376-9 but then the tithe was leased from 1380-1 for a term of at least two years. The process of incorporating this variation in terms of sale into the overall tithe receipts calculations would be extremely complicated. It would also introduce inconsistencies because a relatively small proportion of accounts gives the names of the buyers of the tithes. The use of average prices might help mitigate this difficulty. However, a five- or ten-year

moving average is a blunt instrument to allow for occasional sales of tithes for fixed sums over varying numbers of years.

The main disadvantage of the adoption of a moving average price is the distortion it causes in the final plotting of the results. Years of exceptionally high or low prices appear as trends, rather than sudden crises caused by freak conditions, because the unusual price figures are incorporated in a number of moving average price figures. Whilst the plot is more jagged and difficult to interpret using annual prices, it is more accurate than the deceptive smooth version created using moving averages (Figure 5.05). To assist the interpretation of overall trends, and to avoid the deceptiveness of sudden peaks and troughs, the output series was plotted omitting the ten highest and ten lowest prices of the series (Figure 5.06).¹² Equation B is unlikely to give an accurate result in years of exceptional prices since the tithe purchaser's prediction of price level might be expected to be less accurate than usual.

Equation B Step Three

Step Three produces the final index which expresses the cash receipts as a proportion of 1340s income weighted by price. The calculation in Step Two means that $P=1$ if the price was the same as the 1340s average in any given year. Therefore if cash receipts and grain price were both at their 1340s levels then the index will equal 100. If the cash receipts were equal to their 1340s levels but P is lower than 1 then the index

¹² The ten years with the lowest prices were, in ascending order of price: 1441, 1378, 1440, 1427, 1377, 1407, 1387, 1392, 1388, 1447. The ten years with the highest prices were, in ascending order of price: 1432, 1409, 1367, 1437, 1366, 1402, 1374, 1375, 1401, 1438.

exceeds 100. It will be observed that the result of Step Three fluctuates in the same way as the result of Equation A. The index created by Step Three is therefore directly proportional to output.

Pre-Black Death Averages

Cash tithe receipt figures survive from the early accounting material of the late-thirteenth century.¹³ The limitations of this project meant there was not enough time to collect all this pre-Black Death data. Instead only receipts from 1341-8 were collected and used to calculate pre-Black Death averages. It must be remembered that the 1340s were not the high-point of pre-plague production; it is likely that output was already lower by the 1340s than it had been *c.* 1300.¹⁴

Averages were calculated for the eight years 1341-8. The 1340 harvest could not be included because no usable receipts survive from that year and, of course, 1349 harvests were not representative because of the arrival of the Black Death in the north.¹⁵ The accounting material from 1341-8 contains usable cash tithe receipts from sixty-six vills or vill combinations. This means a substantial number of vills which appear in the post-Black Death accounts do not appear in the 1340s. Moreover, only twenty of the 1340s tithing units are represented in either every year or every year but

¹³ Lomas, 'Landlord', 141-2.

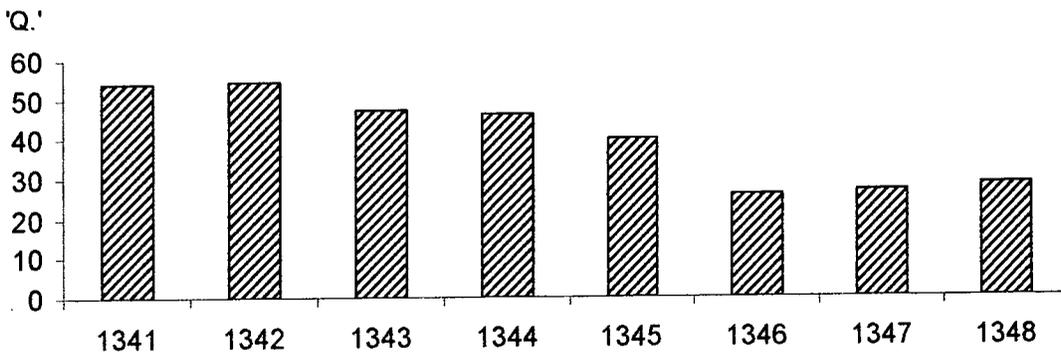
¹⁴ R. H. Britnell, *The commercialisation of English society 1000-1500* (2nd edn.; Manchester; Manchester University Press, 1996), 155; Campbell, *Seigniorial agriculture*, 232-4.

¹⁵ 1348, on the other hand, does seem to have been an ordinary year in the Northeast despite the establishment of plague in southern England. The chronology of the arrival of plague is discussed in detail in Chapter 6.

one. The margin of error would be very high if 1340s averages were calculated for villis from which only one or two receipts survive from that decade. A method was devised to minimize the impact of these shortcomings.

Output levels fluctuated sharply during the 1340s. Figure 5.07 shows estimated output for one of the twenty villis from which cash tithe receipts survive from all eight years. In 1342 as much as 55q. may have been produced but in 1346 this had fallen to an estimated 26q. If a 1340s average were calculated for a vill from which receipts survive for only two years then the result would be unlikely to reflect the decennial average accurately.

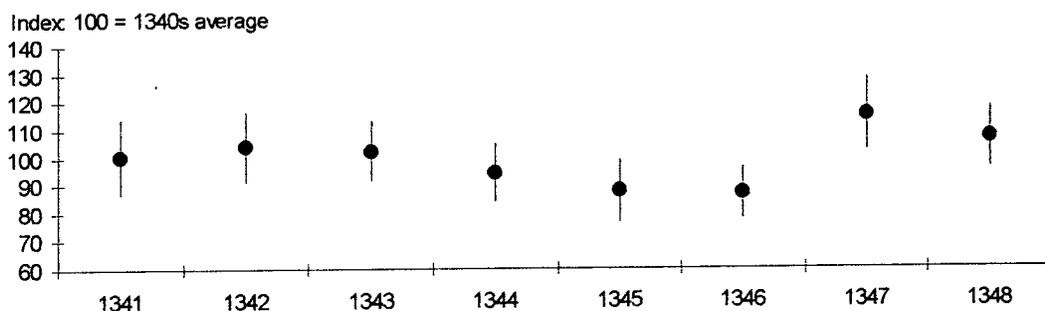
Figure 5.07: *Killerby (Heighington) cash tithe receipts deflated by annual prices, 1341-8*



In other words, it was important that 1340s averages for tithing units were not artificially high or low because they were calculated using receipts from poor years or good years. To avoid this problem, 1340s averages were calculated using receipts adjusted according to the pattern of output for the decade. An average index was

worked out for each year from 1341 to 1348 using the twenty villis from which seven or eight receipts survive. These indices are shown in Figure 5.08.¹⁶

Figure 5.08: *Indexed tithe receipts from twenty villis with seven or eight individual receipts surviving showing margins of error at 95% confidence level*



The error bars show that receipts changed in different ways in different villis during the 1340s but that there is a discernible pattern (the shape of Figure 5.08 is dissimilar to that of Figure 5.07 because in the latter the receipts are deflated by price). The Figure 5.08 indices were used to adjust receipts from other tithing units from which fewer receipts survive. As shown in Table 5.3, the final 1340s average for the tithing unit is the mean of the available adjusted receipts. Exceptionally low or high figures which are the result of purely local factors may still be included, such as the anomalously low 1341 figure for Monkton in Table 5.3. There is no consistent way of dealing with such incongruous data. By and large, however, the adjustment does create a series of more accurate 1340s averages.

¹⁶ The twenty villis used to calculate the indices are as follows: Aycliffe, 'Frussura' Newton Archdeacon and Newhouse, Grindon, Preston le Skerne, Woodham (Aycliffe); Heighington, Killerby, Redworth, School Aycliffe, Walworth (Heighington); Fallingsby, Preston and Simonside (Jarrow); Eden, Hetton le Hill (Monk Hesleden); South Sherburn (Pittington); Aldingrange, Burn Hall, Old Durham, Wastes, Elvet (St Oswald).

Table 5.3 Calculating an adjusted 1340s average for Monkton (Jarrow)

Year	Actual receipt from account (£)	1340s index (Figure 5.08)	Adjusted receipt (£)
1341	3.33	100.27	3.32
1342	8.00	103.81	7.71
1344	6.67	94.30	7.07
1346	4.67	86.77	5.38
1348	6.67	106.87	6.24
		Adjusted 1340s average:	5.94

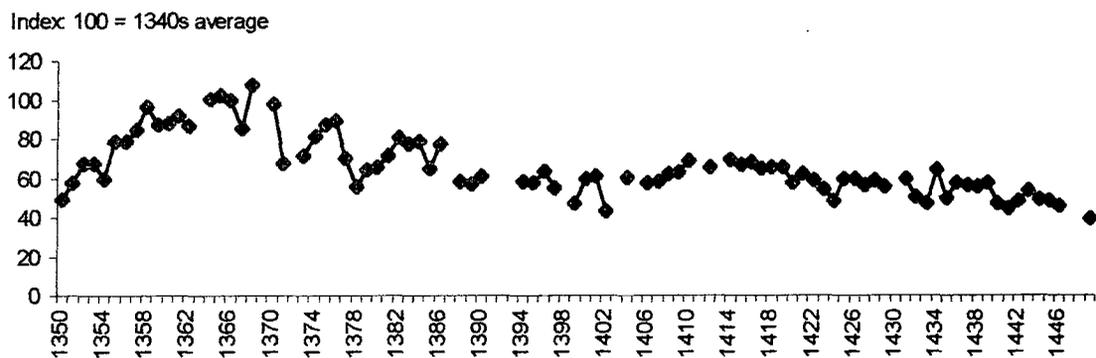
On this basis, 1340s averages were calculated for the sixty-six vill or vill combinations appearing in the 1340s accounting material. It was then possible to calculate 1340s averages for vill combinations which appeared in different combinations after 1350. For example, the tithes of Eden and Hardwick (Monk Hesleden) were sold separately during the 1340s but were sold jointly in the early 1380s. In order to calculate Equation B for these years, a 1340s average for Eden and Hardwick is needed. This was calculated simply by adding the two separate 1340s averages. This method is not perfect: the purchaser may have received some discount buying the tithes from both vill combinations jointly. In the absence of any information about tithe farmers' profits, however, this is the closest approximation possible.

A further forty-four 1340s averages could be calculated using this simple process of addition or, in some cases, subtraction. In total, a set of one hundred 'pure' 1340s averages were calculated; that is, averages which were based on actual 1340s receipts. This left, however, 115 tithing units of which all or a part did not appear at all in the 1340s. Over 1,300 receipts from the tithes from these vill combinations,

appear between 1350 and 1450 meaning they constitute a substantial proportion of the available dataset and could not be ignored. A method was devised, therefore, to estimate 1340s averages.

The cohort of one hundred 'pure' 1340s averages was used to produce a series of percentages according to Step One of Equation B. This series is shown in Figure 5.09. Each of these percentages is the mean of the tithe receipts divided by their 1340s averages.

Figure 5.09: Step One of Equation B performed using only 100 'pure' 1340s averages



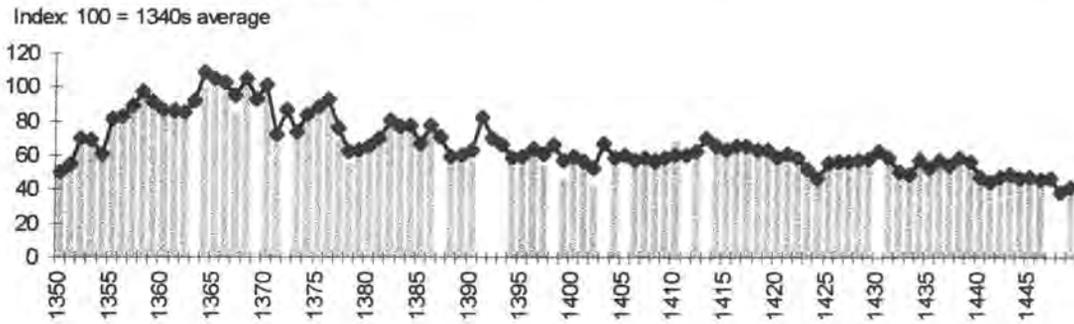
1340s averages were estimated for villis which do not appear in the accounting material of the 1340s using the percentages in Figure 5.09. Table 5.04 demonstrates the method used. Billingham vill appears very consistently in the accounts of the bursar and terrar but the tithe was often received in kind meaning cash receipts are few and entirely absent for the 1340s.

Table 5.4 Estimating a 1340s average for Billingham

Year	Actual receipt from account (£)	Step One percentage (Figure 5.09)	Estimated 1340s level (£)
1381	20.00	71.43	28.00
1383	24.00	77.67	30.90
1385	24.00	64.88	36.99
1386	26.67	77.52	34.40
1389	26.00	56.78	45.70
1390	26.00	60.70	42.83
1394	21.00	58.09	36.15
1421	20.00	62.22	32.14
1425	21.00	59.80	35.12
1427	22.50	56.62	39.74
1428	21.00	58.84	35.69
		Estimated 1340s average:	36.15

In Table 5.4 an estimate of 1340s average level is produced for each individual receipt and these fluctuated from £28.0 to £45.7. This means the cash receipts from Billingham vill did not rise and fall in exactly the same way as do the percentages in Figure 5.09. Taking the mean of all the estimates is an attempt to compensate for inaccuracies caused by the difference between local and global output. For combinations of vills some or all of which did not all appear in the 1340s, the 'pure' and estimated 1340s averages were added and subtracted to produce estimated averages. In this way, real 1340s information was used whenever possible. The close correspondence between the Step One results using the cohort of 100 'pure' 1340s averages and the results using all 1340s averages, shown in Figure 5.10, suggests this method did not produce inaccurate results.

Figure 5.10: Step One of Equation B performed using 100 'pure' 1340s averages (line) and all 1340s averages (bars)



Margins of Error

Despite the exceptional quality of the Durham Priory tithe data, the number of cash tithe receipts from each year is still limited. A method was devised by which the vicissitudes in the number of surviving receipts from year to year could be represented graphically as margins of error. The method is based on the formula used for calculating confidence intervals.

x = mean
 S = standard deviation
 n = sample size

$$x \pm 1.96 \sqrt{(S^2/n)}$$

Strictly speaking, however, the output indices calculation (Equation B) does not involve the calculation of a mean since it depends on the division of the sum of the individual receipts by the sum of the 1340s averages for the same vill. It is better not to calculate the individual vill receipts as percentages of their 1340s output and then average them because this affords a disproportionate weight to very small vill which were waste and therefore gives an artificially low output index.

This raises the question of which standard deviation to use in the calculation of the confidence interval. Clearly the standard deviation of the individual vill receipts is meaningless because it depends upon the size of the various vills which comprise the sample for any given year. It was therefore decided to calculate a standard deviation for each year using the individual vill estimated output indices.

$$\text{Individual vill output index for year } y = \frac{v_y}{P_y}$$

The resulting margin of error indications seem to be realistic although technically they are not confidence intervals because they are based on standard deviations of means that do not feature in the calculation of the output index. Also, the number of individual receipts from some years, especially those when it falls below ten, is too low for the reliable calculation of margins of error using this equation. Most importantly, it must be remembered that the margins of error plotted with the output indices only indicate possible error resulting from the use of changing numbers of tithe receipts. They do not represent margins of likely error for the output index series since these would be dependent also on the accuracy of the price series used.

Further problems

Problems with the method have already been discussed in this chapter when they relate directly to a part of Equation B. The process of using the Durham tithe receipts as indicators of output throws up a number of other difficulties which will be discussed in this section.

We have very little information on arrears of payment. Chapter 3 describes the process of accounting for payments not received and attempts to reconstruct the form of some associated documentation which has since disappeared. In his attempt to deflate the tithe receipts from the Chapitre Saint-Géry in Cambrai, Neveux was so beset by arrears which were not itemized in the accounts that he had to approximate and make a standard deduction.¹⁷ As far as the Durham material is concerned, however, the problem is less serious. The large number of annual tithe sales means that tithe income was probably not undermined by substantial arrears of payment in the way that fixed rents might have been. Undoubtedly there must have been occasions when individuals failed to meet their contractual obligations drawn up in August: the unusual accounting practice of the Black Death year is testimony to this. Such occasional visitations of disaster, however, have a less serious impact on the reality of the series of tithe figures than constant substantial arrears which mar series of rental receipts.

Equally elusive is the question of exactly what was being sold when cash was paid for tithes. In many cases, the tithes sold were explicitly garb tithes, that is the tithes of the major grains, and the lesser tithes were received by endowed vicars. This

was common practice for appropriated churches, not least between the Tyne and Tees.¹⁸ For example, a document of 1325 issued by the prior of Durham confirming the assignment made to the vicar of Bishop Middleham (appropriated to the prior of Finchale) says the vicar was accustomed to receive 'the tithes, offerings and mortuary payments of the church, excepting the tithe sheaves'.¹⁹ This was not, however, the case for St Oswald's parish, the revenues of which pertained to the hostiller: the vicar of St Oswald's had no fixed endowment. This meant his pension was paid annually by the hostiller.²⁰ It also meant the hostiller received all the tithes from St Oswald's parish. In some cases, small tithes were received separately. For example, in the hostiller's account of 1423-4, 6s. 8d. were received for the hay tithe from Burn Hall; in the same year the vill yielded no garb tithe because it was not sown. In the majority of cases, however, hay tithes were sold with garb tithes. Again in the 1423-4 account, the hay and garb tithes of Broom, Relley and Houghall were sold together. The process is further complicated by the proctors of St Oswald's and St Margaret's who were involved in tithe collection. They sometimes collected the small tithes, for which they accounted separately, and left the collection of the garb tithes to the hostiller himself.²¹ In the hostiller's account of 1418-9, for instance, £1 was received for the garb tithes from Broom and Relley whereas the proctor of St Oswald received the hay tithes. The very fact that this hostiller's account recorded a nil receipt for the hay tithe and referred the auditors to the account of the proctor demonstrates that this practice was

¹⁷ Neveux, 'Une région frontalière', 58-9.

¹⁸ See Chapter 1.

¹⁹ DCM, calendar by Dr Charles Kelham of prior's register II f. 97r (Durham University Archives and Special Collections Searchroom, Number 5 The College). I am grateful to Mrs Lynda Rollason for bringing this reference to my attention.

²⁰ Lomas, 'Landlord', 197.

²¹ *Ibid.*, 199.

not fixed. Indeed, sometimes the proctor received garb and hay tithes: sometimes he received neither.

The upshot of this varying practice is that the modern reader of the accounts is often ignorant of exactly what was being paid for and, if garb and hay tithes were explicitly included, they cannot be separated. This means the hostiller tithe receipts are not as reliably consistent as those from other parishes for calculating output using Equation B. On the other hand, 1049 tithe receipts were collected from hostillers' accounts and it is undesirable to exclude such a large dataset. Given that many entries do not say whether the hay tithe was included, and the garb and hay tithes seem to be received together so frequently, it was decided to include all such entries in the datasets fed into Equation B. The hay tithe represented a small proportion of income and, notwithstanding occasional inconsistencies, the majority of the receipts represented garb tithes. Likewise, it might be expected that annual sale figures for the receipt of garb and hay tithes would fluctuate in the same way as those for just garb tithes. This solution is far from scientific but merely the most satisfactory given the inconsistencies of the evidence: it means output estimates using these figures are slightly too high.

The use of tithe receipts as an indicator of production levels over a century depends on knowledge of the rate at which grain was tithed: did the tithe collectors really succeed in taking a tenth of all corn as the name of the tax suggests? The answer is almost certainly that they did not.²² Two factors could mean that less than 10 per cent of grain was actually received: tithe was either officially levied at a different rate

or those paying the tithe succeeded in making only partial payments. Lorcin has studied rates of tithing in the Lyonnais and concluded, in the first place, that official proportions due as tithe changed little from the thirteenth to the eighteenth century. She did uncover, however, an on-going series of disputes, tithe fraud and downright refusals to pay.²³ An examination of the Durham prior's register suggests that this sort of issue must have arisen. The case of the Holy Island parishioners wilfully destroying their tithes, quoted in Chapter 2, is indicative of resistance to tithe payment although this is an extreme example. On a more mundane administrative front, a number of fifteenth-century entries concern an inquiry into the provisions for the chapel at Hylton (Monkwearmouth). This suggests there may have been some confusion over which tithes should be received by which body.²⁴ A thorough search of the Durham Cathedral Muniments court material, along with diocesan records at York, would be likely to uncover a substantial amount of anecdotal material relating to difficulties in collecting tithe. It would not, however, enable quantification of these problems.

Collection costs also represent an unknown quantity unaccounted for by Equation B. The detailed evidence discussed in Chapter 2 reveals that those buying tithes sometimes paid themselves for collection and sometimes bought tithes already collected by monastic employees. The accounts do not always distinguish between the two types of sale. In the case of the former, changing collection costs would reduce the effectiveness of Equation B in calculating output levels. Chapter 2 also suggested that collection costs rose substantially during the period studied: purchasers would

²² Ladurie and Goy, *Tithe and agrarian history*, 28-9.

²³ Lorcin, 'Fraude'.

²⁴ DCM, calendar by Dr Charles Kelham of prior's register IV ff. 128rv – 129v (Durham University Archives and Special Collections Searchroom, Number 5 The College).

have had to take account of this increase in the bids they made for the priory's tithes. Likewise, costs may have fluctuated from year to year because of difficulties in collecting dirty or wet tithes. It was decided not to introduce a factor relating to collection in Equation B because, again, increased costs are difficult to quantify and, in any case, the sums paid do not always include collection. If such a factor were included then the fifteenth-century indices, already exceptionally low, would be even lower.

Even more slippery is the question of the profits made by the tithe purchasers. There seem to have been two types of tithe purchasers: those who bought exemption from tithe on land they cultivated themselves and those who bought tithes speculatively for profit.²⁵ We do not have any idea of the profit margin the speculators made from their tithe purchases nor of whether those merely buying exemption expected to make money from the transaction. In his retrospective analysis of French work on tithe, Derville highlighted the problem of profits and pointed out that estimates ranged from 1.5 per cent to 55.77 per cent.²⁶ If tithe purchasers' profits were fixed then they would not affect the results of Equation B. It is unlikely, however, that they were. In the same way as grain prices were affected by changing supply and demand, so tithe prices must have changed. No accurate method could be devised for quantifying the impact of changing levels of profit going to the tithe farmers. Demand for tithes may have moved in a similar way to grain prices in which case it is indirectly taken into account.

In conclusion, there are several unresolvable and serious problems with the Equation B method of analyzing tithe receipts. Various factors have not been and

²⁵ Lomas, 'Landlord', 143-9.

²⁶ Derville, 'Dîmes', 1411.

cannot be accounted for. It is preferable, however, to leave the results of Equation B unaltered by speculative factors and to be aware that the method is more accurate for some periods than for others. Using these indices to measure the precise impact of crises in production, precisely when factors such as collection costs and purchaser's profit must also have been affected, is risky. In the absence of other evidence for production in the middle ages, however, the historian must make the best of what is available. At the very least, the series of tithe output indicators does show roughly when crises occurred and give a general, if not precise, impression of relative production levels from decade to decade.

Figure 5.06: *Durham Prioory* infra aquas parishes estimated output indices with price crisis years omitted

Index: 100 = 1340s average

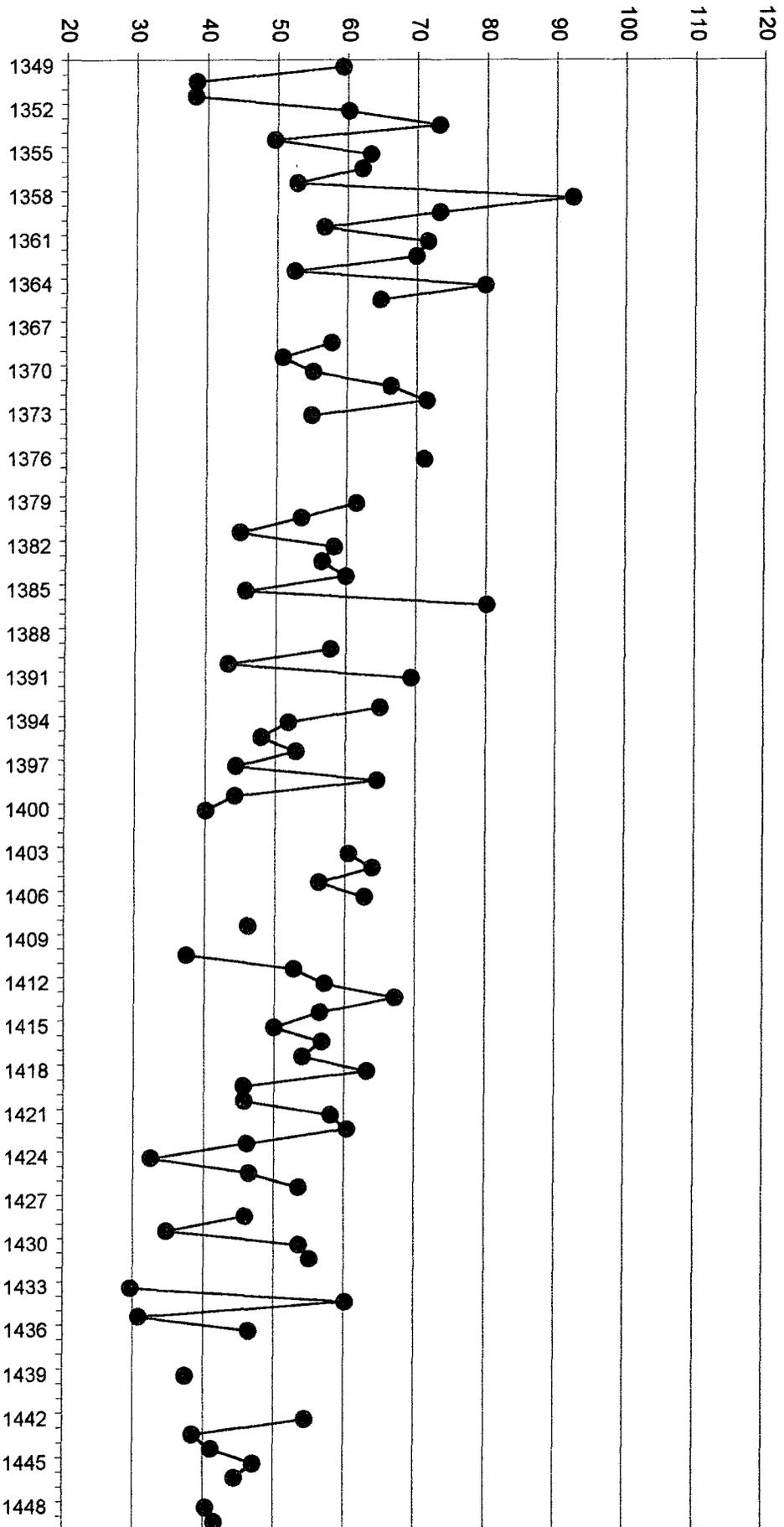
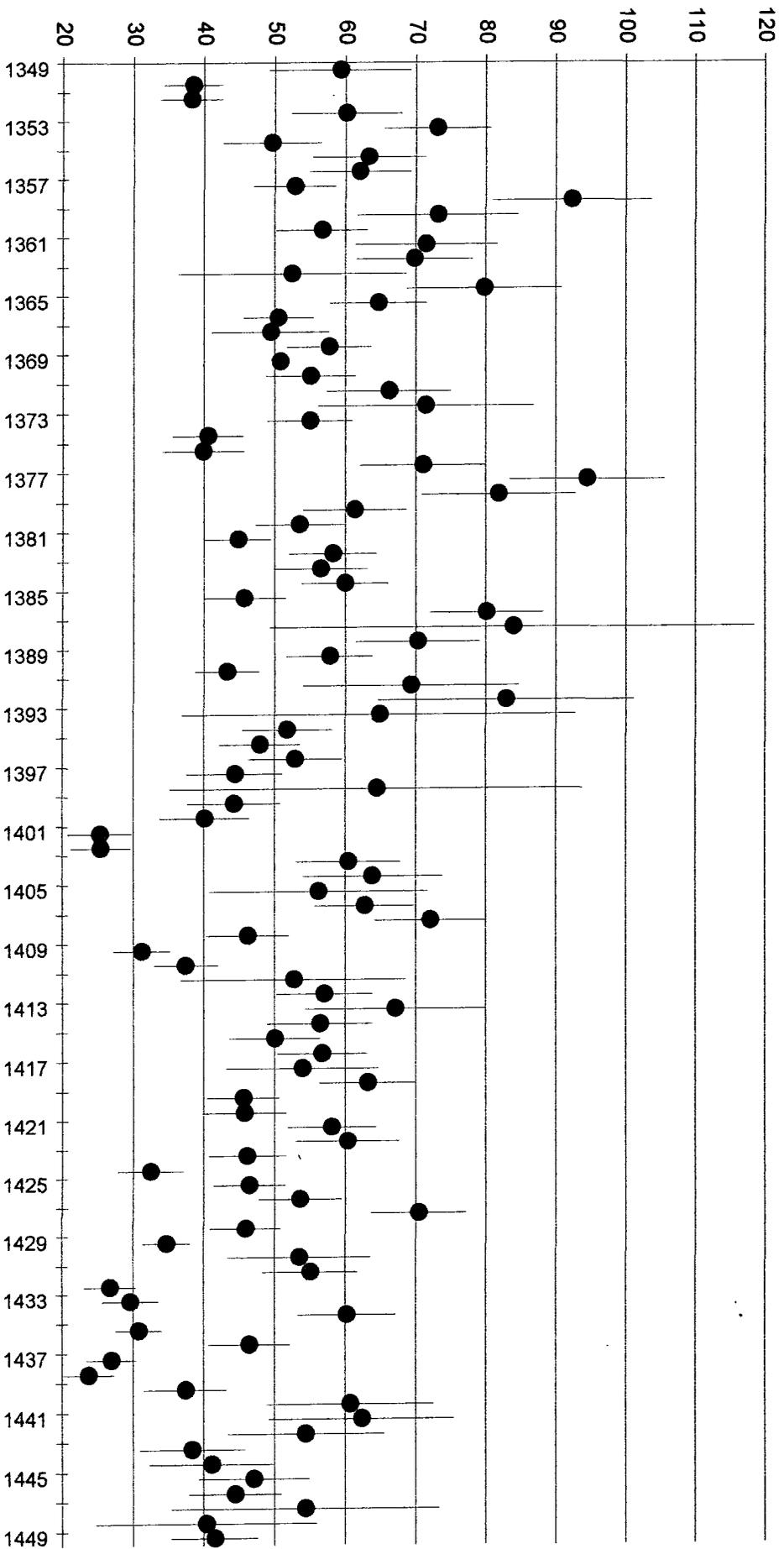


Figure 5.05: Durham Priory infra aquas parishes estimated output indices with bars indicating likely error in tithes receipt averages

Index: 100 = 1340s average



Chapter 6

Output indices: description

The description and analysis of the indices calculated using the method described in Chapter 5 will be the subject of Chapters 6 and 7.¹ Chapter 6 is chronologically based and concerned solely with the description of economic indicators: each section is prefaced with a brief summary of work to date on demesne and rental evidence, the closest indicators to output itself. After this survey of secondary material, each section contains a detailed description of the movement of the output indices, estimated output levels in individual vills and, where possible, real output levels. Discussion of the significance of the results is saved for Chapter 7 which compares the Durham tithe material with other indicators and examines the factors causing change in arable production levels.

Tithe receipt evidence survives in Durham Priory obedientiary and cell accounts from the end of the thirteenth century until the dissolution. The sheer volume of material made necessary some kind of selection and this was done using major chronological divisions in other studies of late medieval economic history. The period selected for examination begins with the Black Death, the axis around which modern and contemporary analysis of the economy of the fourteenth century turns. It ends one hundred years later with the next firm, although less precise, chronological anchor: the

¹ An earlier attempt to describe and analyse production between the Tyne and Tees 1349-1400 is now published as B. Dodds, 'Durham Priory tithes and the Black Death between Tyne and Tees', *Northern History*, 39 (2002), pp. 5-24.

'wide-ranging slump of precipitous proportions' of the mid fifteenth century.² The economic difficulties with which the English economy was increasingly afflicted over the course of this century have long been recognized. Landlord rental incomes characteristically fell; demesnes declined in profitability and increased in costliness for their owners; the area under cultivation probably decreased.³ Yet, at the same time, the lives of those working on the estates improved with increased wage rates and better prospects of renting their own parcels of land.⁴ Levels of agrarian production are an important factor in these developments. Examination of output between 1349 and 1450 around Durham is meaningful both as a contribution to the extensive existing historiography of an important period and as an attempt to elucidate questions not fully answered by evidence examined hitherto.

Such detailed evidence presents problems for analysis and description: there are too many ways in which it might be presented. The backbone of this descriptive chapter is Figure 5.06 in which the annual Durham output indices are plotted in their simplest form with crisis years excluded. This is supported by Figure 5.05 which includes price crisis years and indicates likely error caused by the number of surviving tithe receipts.

² J. Hatcher, 'The great slump of the mid-fifteenth century', in R. H. Britnell and J. Hatcher, eds., *Progress and problems in medieval England: essays in honour of Edward Miller* (Cambridge; Cambridge University Press, 1996), p. 241.

³ An exhaustive bibliography is impossible here and more references are given throughout the chapter. For rental income see G. A. Holmes, *The estates of the higher nobility in fourteenth century England* (Cambridge; Cambridge University Press, 1957), ch. 4; C. Dyer, *Lords and peasants in a changing society: the estates of the bishopric of Worcester, 680-1540* (Cambridge; Cambridge University Press, 1980), ch.s 5-6. For demesne cultivation see D. V. Stern and C. Thornton, *A Hertfordshire demesne of Westminster Abbey: profits, productivity and weather* (Hatfield; University of Hertfordshire Press, 2000); D. Stone, 'The management of resources on the demesne farm of Wisbech Barton, 1314-1430' (unpublished University of Cambridge Ph.D. thesis, 1998). For the extent of cultivation see articles in E. Miller, ed., *The agrarian history of England and Wales, III: 1348-1500* (Cambridge; Cambridge University Press, 1991).

⁴ The bibliography is, again, extensive. For examples of recent work see Dodds, 'Workers'; D. L. Farmer, 'Prices and wages, 1350-1500', in E. Miller, ed., *Agrarian history III*, 431-525.

These charts provide an easy reference tool: broad developments can be appreciated at a glance. Figures 5.05 and 5.06 hide the more complex and varying patterns displayed by estimated output levels in individual villis. This was examined for fifty-seven individual cases for which estimated output was calculated by dividing annual income by the annual price index. The estimated tithe output graphs for these villis, because of their bulk, have been incorporated into Appendix 2; each graph can be easily located because they are presented in alphabetical order of parish then vill. To use only the cash sums for which tithe was sold, however, would be to ignore the finest output evidence contained in the accounts. This is represented by the tithe receipts recorded in the accounts as quantities of grain when tithes were kept in hand. Prior to 1370 we have only a handful of receipts from 1349 but after this date the 'real' output evidence proliferates. The most useful series for long term comparison come from Billingham parish and are shown in Figures 6.01, 6.02, 6.03 and 6.04. For the purpose of even more detailed comparison, however, Figures 6.05, 6.06, 6.07 and 6.08 show receipts from individual types of grain from four villis in different parishes. Grain tithe receipt evidence is particularly good from the end of the 1430s and Figures 6.09, 6.10, 6.11 and 6.12 show the data from three villis and one complete parish.

Figure 6.01: Total grain tithes receipts from Billingham (including combined)

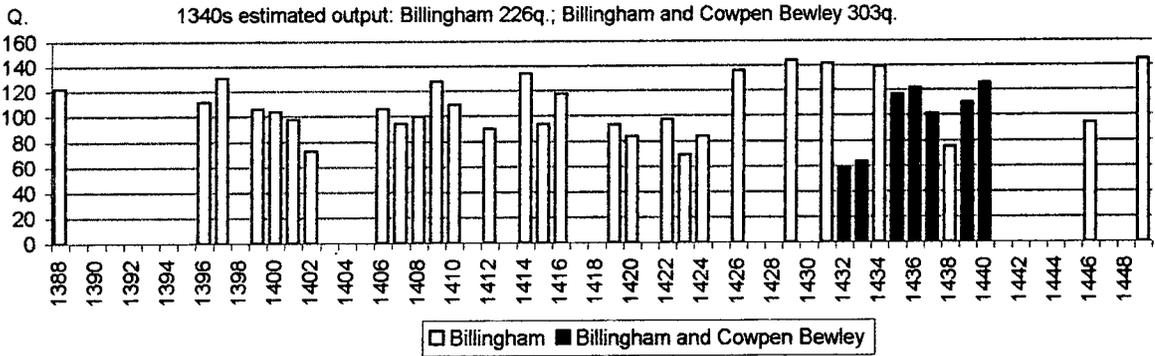


Figure 6.02: Total grain tithes receipts from Cowpen Bewley

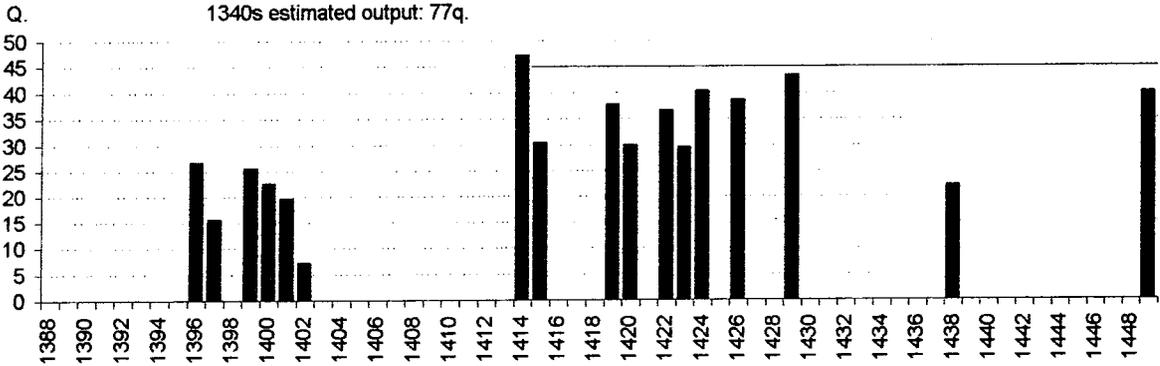


Figure 6.03: Total grain tithes receipts from Newton Bewley

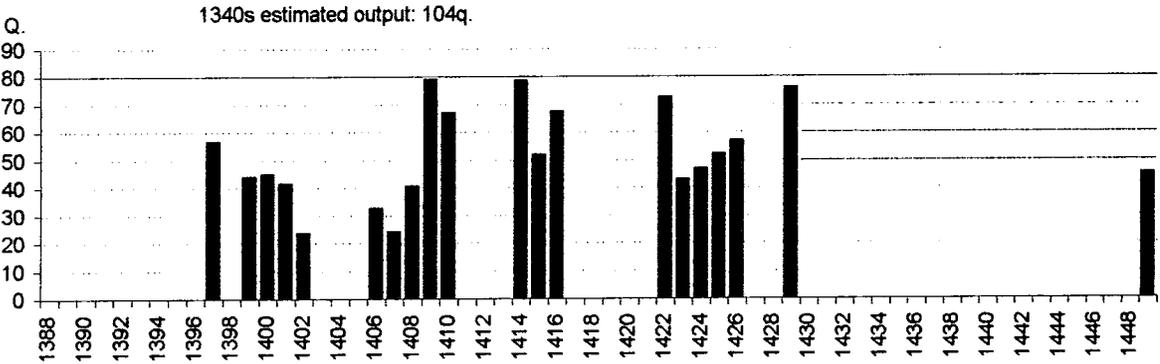


Figure 6.04: Total grain tithes receipts from Wolviston (including combined)

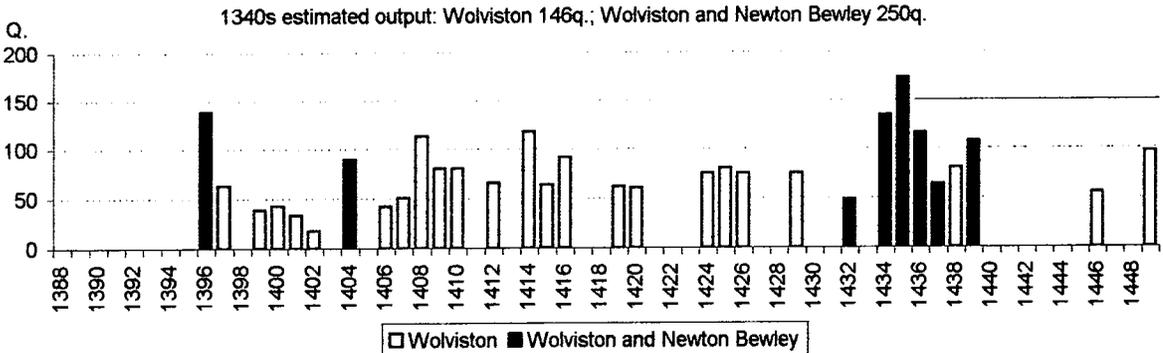


Figure 6.05: Grain tithe receipts from Billingham (Billingham)

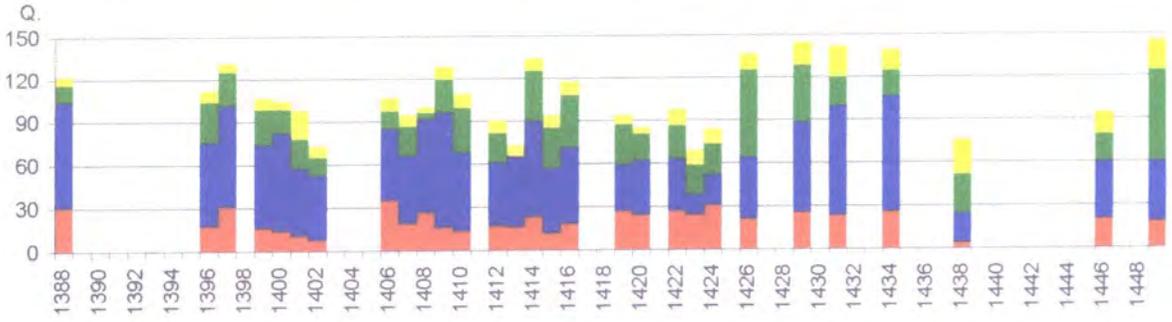


Figure 6.06: Grain tithe receipts from Aycliffe (Aycliffe)

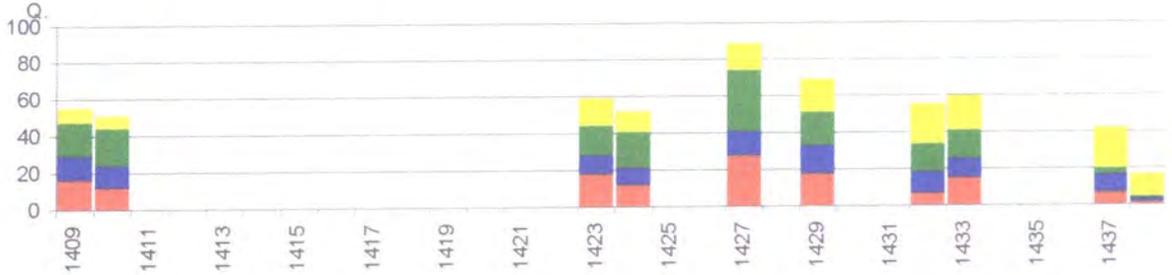


Figure 6.07: Grain tithe receipts from Shadforth (Pittington)



Figure 6.08: Grain tithe receipts from Ferryhill (Kirk Merrington)

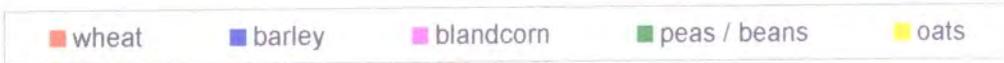
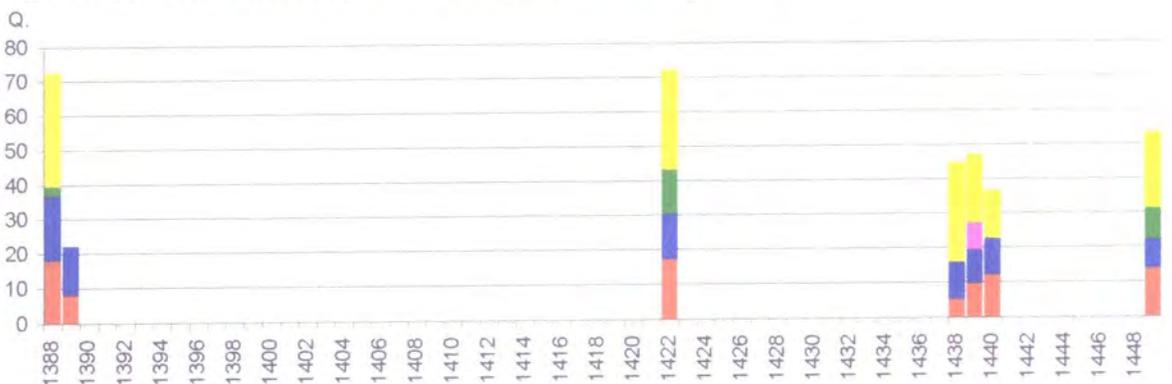


Figure 6.09: Grain tithe receipts from Hardwick (Monk Hesleden)

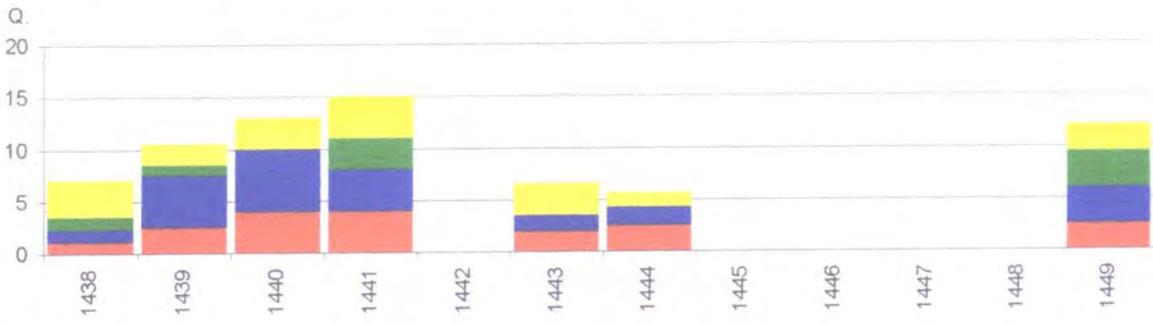


Figure 6.10: Grain tithe receipts from Monk Hesleden (Monk Hesleden)

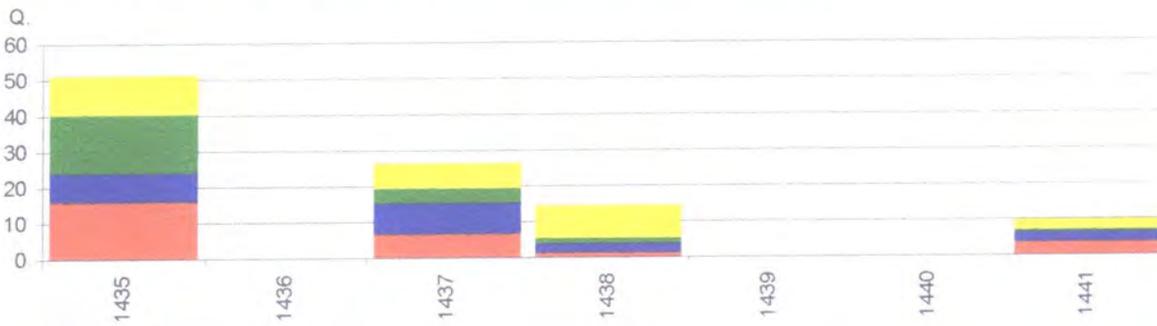


Figure 6.11: Grain tithe receipts from Pittington parish

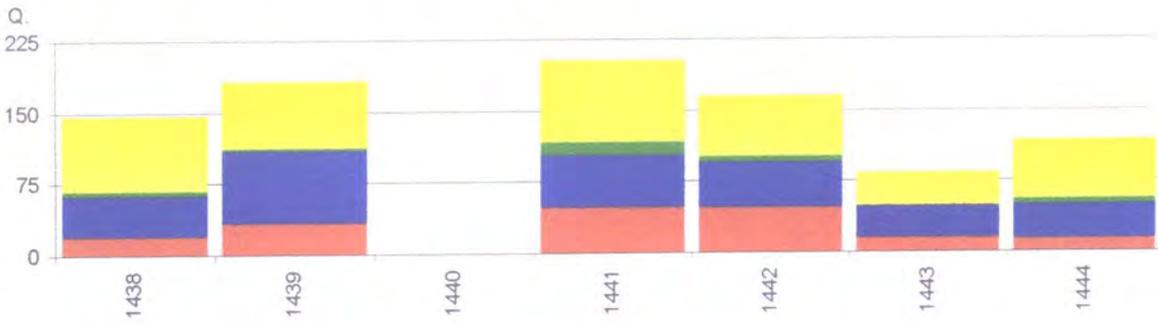
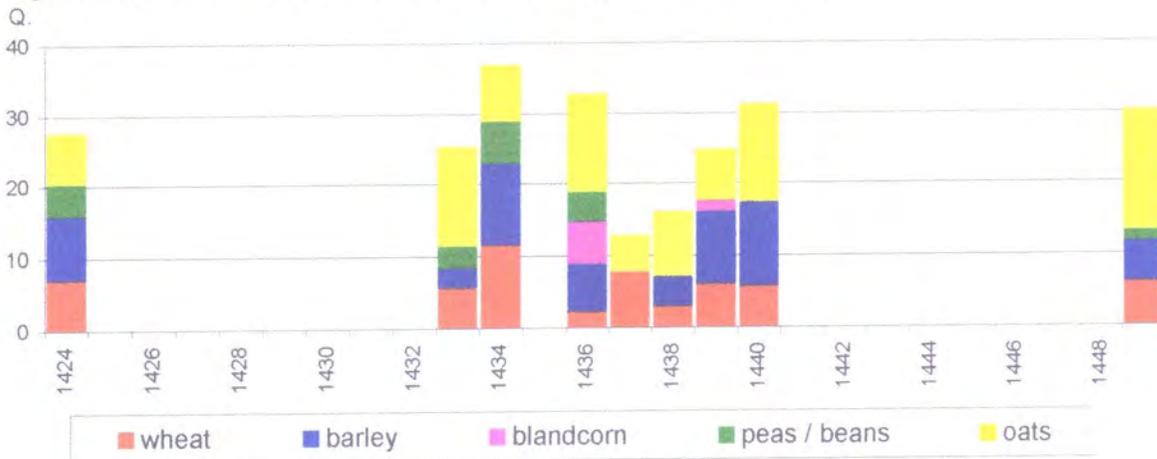


Figure 6.12: Grain tithe receipts from Kirk Merrington (Kirk Merrington)



The pattern displayed by Figure 5.06 is striking: the index only rises above 80 per cent of 1340s levels twice and in over one-third of cases falls below 50 per cent. The graph is marked by a series of peaks and troughs but, as the century wears on, the high-points become less and less impressive and the low points increasingly dismal. Estimated output from individual vills rarely exceeded pre-Black Death levels. Nine of the vills were described as 'waste' or 'not sown' at some point during the period; this is probably an underestimate of the true number since some accountants were inclined to simply omit waste vills from their receipts lists. The picture revealed by the direct output graphs is chronologically narrower and more fragmented but the fifteenth-century Billingham receipts were low by comparison with estimated 1340s levels.

The Black Death

The Black Death made its first appearance in England in June 1348 on the southwest coast and spread rapidly northwards.⁵ By Palm Sunday 1349 it had reached Lincoln and the Dominican chronicler Stubbs tells us it arrived at York on 21 May.⁶ Although we have no chronicle evidence to tell us when the Black Death crossed the River Tees, the Durham bishopric halmote records give some evidence about the beginning of the epidemic in the county. When the court opened on 14 July at Chester-le-Street, nothing unusual was recorded but the following day the steward was greeted with panic at Houghton-le-Spring, where the peasants refused to take on holdings for fear of the

⁵ J. L. Bolton, *The medieval English economy, 1150-1500* (London; Dent, 1980), p. 207.

⁶ P. Ziegler, *The Black Death* (Harmondsworth; Penguin, 1970), pp. 185-8; A. Hamilton Thompson, 'The pestilences of the fourteenth century in the diocese of York', *Archaeological Journal*, 71 (1914), p. 105.

impending plague.⁷ The approaching pestilence did not always have this effect: on 18 July the men of Stockton took holdings unperturbed.⁸ During July, plague ravaged North Yorkshire close to the Tees. On 23 July the suffragan for the archbishop of York was asked to consecrate a new graveyard in Seamer and to allow the extension of the burial ground in Guisborough.⁹ By November the bishop of Durham's steward was unable to exact any fines in West Thickley because all the inhabitants were dead.¹⁰ The halmote evidence tells us the Black Death swept through the priory parishes between the Tyne and Tees during the late summer of 1349.

The impact of the plague varied considerably from town to town and village to village in England. For example, in Yorkshire some 59 per cent of beneficed clergy died in the Doncaster deanery whereas only 29 per cent died in Craven; as many as 40 per cent died in Pontefract but in the city of York mortality stood at only 32 per cent.¹¹ The scale of the demographic catastrophe is in no doubt, however. A contemporary record counted 13,180 deaths in Amounderness in Lancashire alone.¹² Needless to say, County Durham did not escape. Fifty-five out of the eighty-three Benedictine monks of Durham died of the plague and the death of a substantial proportion of the tenants of the Hospital of St

⁷ F. A. Gasquet, *The Black Death of 1348 and 1349* (2nd edn.; London; George Bell and Sons, 1908), p. 185.

⁸ F. Bradshaw, 'Social and economic history', in W. Page, ed., *The Victoria county history of the county of Durham volume II* (London; Archibald Constable and Co. Ltd., 1907), pp. 210-11.

⁹ Hamilton Thompson, 'Pestilences', 109.

¹⁰ R. H. Britnell, 'Feudal reaction after the Black Death in the palatinate of Durham', *Past and Present*, 128 (1990), p. 31.

¹¹ Ziegler, *Black Death*, 187-8.

¹² Gasquet, *Black Death*, 182.

Giles at Kepier confirms that the city of Durham was badly affected.¹³ The best evidence of the impact of the plague between the Tyne and Tees comes from three parchment rolls prepared by the Durham monks. Anxious to assess the scale of the disaster on their properties, and to make some record of the exceptionally high number of changes of tenancy, the monks listed the names of their tenants who died in the *pestilencia magna*. Lomas used these rolls, in conjunction with lists of tenants drawn up shortly before the plague, to calculate death rates among tenants living in the vills. Overall, in the twenty-eight townships covered by the rolls, slightly over 50 per cent of tenants died. The worst affected township was Jarrow where 78 per cent of tenants succumbed and, despite its proximity, the least affected was Monkton where only 21 per cent perished.¹⁴

Henry Knighton, a canon of Leicester Abbey, described the autumn of 1349 as follows:

many crops were left to rot in the fields. However, in the year of the pestilence, these crops were so abundant that no one cared whether they wasted or not.¹⁵

The implication is that agrarian output may have all but dried up in the year of the plague. The final sentence is ambiguous, however. Does it mean the crops were so abundant that there was no need to harvest them all? Even a plentiful harvest is no use if it is not reaped. The court rolls from Walsham-le-Willows (Suffolk) suggest not much harvesting

¹³ R. A. Lomas, 'The Black Death in County Durham', *Journal of Medieval History*, 15 (1989), p. 127; J. F. D. Shrewsbury, *A history of bubonic plague in the British Isles* (Cambridge; Cambridge University Press, 1971), p. 114.

¹⁴ Lomas, 'Black Death', 127-40.

¹⁵ Ziegler, *Black Death*, 181.

took place in the year of the plague. John Spileman the reeve was fined 40s. 'because he did not perform his duties in a proper manner, as a result of which a great part of the lord's corn had died in the autumn'.¹⁶ The Carthusians of Witham (Somerset) were forced to petition the king in 1354 to exempt them from labour legislation; the following is taken from his reply.

a large part of their lands ... remain waste and untilled, and the corn in the rest of their estate, which had been sown at the time of harvest, had miserably rotted as it could not be gathered for lack of reapers.¹⁷

It seems a lot of grain was left unharvested in the pestilence year. Lack of available labour rendered the collection of the harvest difficult in County Durham also. On the bishop of Durham's manor of Stockton, for example, 257 fewer reaping and binding works were performed at the harvest of 1349 than in the previous year '*causa pestilenciae mortis*'.¹⁸ Changed relations between landlord and tenant and employer and employee in the wake of the heavy mortality also affected agrarian production. In the spring of 1350 nine of the men of Boldon appeared before William of Kirkeby, the bishop's coroner, and their leader Thomas Short of Boldon announced that they wished to leave the bishop's land and move elsewhere. The court roll describes their acts of defiance:

¹⁶ R. Lock, 'The Black Death in Walsham-le-Willows', *Proceedings of the Suffolk Institutes of Archaeology and History*, 37 (1992), p. 324.

¹⁷ Gasquet, *Black Death*, 198.

¹⁸ SS32, 242.

from this wickedness and from malice aforethought they gave in the iron shoes of their ploughs to the lord at Auckland on Thursday next before the feast of Pentecost (13 May)¹⁹

Records of tithe receipts in the Durham Cathedral Muniments afford the best evidence of the impact of the Black Death on agrarian productivity between the Tyne and Tees. In their 1436-7 analysis of the decline in their spiritual income over the previous century and a half, the monks gave great prominence to the *pestilencia magna* by choosing ‘*primo anno ante pestilenciam magnam*’ and ‘*primo anno post pestilenciam magnam*’ as two of the seven years for which they listed tithe income by parish. The monks calculated that tithe income fell by around one third in these years from £616 8s. to £410 16s. 8½d.²⁰

The bursar’s account of 1349-50 also contains ample evidence of disruption since an unusually large number of tithes were *in manu domini* rather than sold. Whilst only ten and fourteen *infra aquas* villis were *in manu domini* in the bursars’ accounts of 1347-8 and 1348-9 respectively, some twenty-nine villis were in hand in the year of the Black Death. The unexpectedness of this situation is shown by the unique accounting procedure adopted in the 1349-50 account. As described in Chapter 3, the Durham bursars did not enter grain receipts from tithes in hand in their accounts until a fictitious purchase system was developed in the 1370s. The bursar’s account of 1349-50 anticipates this

¹⁹ Bradshaw, ‘Social and economic history’, 212.

²⁰ SS9, ccxlviii – ccxlix. This document is discussed and these figures tabulated in Chapter 4.

development by giving a detailed description of what happened to each garb tithe. The following extract describes the destination of grain from Ludworth (Pittington):

de xvijs. receptis de viij qr. avene qr. ad ijs. ij b. et di. pise decime de Ludworth venditis

nihil de iv qr. frumenti et vj qr. iiij b. et di. ordeï eiusdem decime quia liberatis servienti de Petingdon per talliam

nihil de xiiij qr. avene eiusdem decime quia liberatis granatorio prioris pro prebenda²¹

The exceptionally high rate of collection by the priory and the adoption of an emergency accounting procedure suggests buyers were very difficult to find after the 1349 harvest. Likewise, an analysis of the names of the tithe buyers in the bursars' accounts of 1348-9 and 1349-50 shows that a particularly large number of tithes which were sold in the year of the Black Death were bought by new purchasers. We know the names of the purchasers of the tithes of fifteen vills in both these accounts and the names differ completely in ten cases, partially in two cases, and are identical in only three. This is an exceptionally high turnover; in 1347-8 and 1348-9, the tithes of eight of the same selection of vills were bought by purchasers with identical names. The three vills for which the purchaser did remain the same in 1348-9 and 1349-50 were Fallingsby (Jarrow), Nunstainton (Aycliffe) and Walworth and Heighington (Heighington). The first two of these were the only vills which produced the same cash receipt in the two years. Given the devastating demographic impact of the Black Death, the high turnover of tithe

²¹ DCM, bursar's account 1349-50(A), *Decime Pittington*.

purchasers is hardly surprising. The tithe sale contracts were drawn up prior to the harvest of 1349, when the plague had not crossed the Tees, and it is likely that many purchasers died before they could make their payments in 1350.

However, the picture is not one of crops abandoned to rot in the fields. It is clear from the collection entries, such as the Ludworth one quoted above, that whilst the tithes may not have been bought in 1349-50, they were collected. The seed was sown months before the plague's arrival and it seems the grain was probably harvested on the eve of the epidemic. That collection, disposal and detailed recording of tithes took place at all demonstrates the remarkable continuity of activity in the worst days of the Black Death.

Figure 5.06 shows that 1349 estimated output was 59.3 per cent of the 1341-8 level.

Table 6.1 Output indices in the year of the Black Death

Parish	Vill	% 1340s levels ²²
Aycliffe	Brafferton	37.0
Aycliffe	Grindon, Newton Ketton	85.6
Aycliffe	Heworth	68.2
Aycliffe	Newhouse	97.0
Aycliffe	Nunstainton	108.1
Durham St Oswald	Aldingrange, Broom, Relley	59.3
Durham St Oswald	Burn Hall	45.7
Durham St	Butterby	103.6

²² This was calculated by performing steps one, two and three of the output index equation (Chapter 5 Equation B) for a single vill receipt, i.e. the cash tithe receipt was divided by the 1340s average, converted into a percentage, and then divided by the annual price index.

Oswald		
Durham St Oswald	Croxdale	17.0
Durham St Oswald	Elvet, Wastes	30.7
Durham St Oswald	Harbour House, Newton	75.1
Durham St Oswald	Old Durham	76.2
Durham St Oswald	Shincliffe	117.6
Durham St Oswald	Sunderland	65.3
Heighington	Killerby	43.6
Heighington	Middridge, West Thickey	26.3
Heighington	Newbiggin	28.4
Heighington	Redworth	75.3
Heighington	School Aycliffe	70.5
Jarrow	Fallingsby	91.9
Jarrow	Felling	66.6
Jarrow	Nether Heworth, Over Heworth	61.5
Jarrow	Preston, Simonside	46.9
Jarrow	Wallsend, Willington	63.0
Kirk Merrington	Spennymoor	42.2
Monk Hesleden	Eden	31.9
Monk Hesleden	Hulam	33.0
Monk Hesleden	Sheraton	37.8

Table 6.1 presents the output indices for each vill or combination of vills sold in the year of the Black Death. The indices are very varied: Croxdale (Durham St Oswald) and Middridge, West Thickey and Newbiggin (Heighington) are all under 30 per cent of 1340s levels whereas Shincliffe (Durham St Oswald), Butterby (Durham St Oswald), and Nunstainton (Aycliffe) exceed 1340s levels. This is not surprising given the vicissitudes of the demographic impact of the Black Death. Unfortunately, the only vills for which

Lomas gives death rates among tenants from the list in Table 6.1 are Nether Heworth and Over Heworth. He cites these as an example of how adjacent villis might have widely differing death rates: 36 per cent of tenants died in Over Heworth and 72 per cent in Nether Heworth.²³ The distinction, if it existed, cannot be made for output since the tithes of the two villis were sold jointly. Surviving evidence does not enable the correlation between fall in output and demographic impact of the Black Death to be assessed.

Figure 5.06 shows that output was much lower in 1350 than in 1349; the overall index for this year is 38.4 per cent. This is also not surprising: the 1349 seed was sown before the plague crossed the River Tees. Problems were caused by the death of prospective purchasers but, at least for those tithes for which output indices could be calculated, many of those who were not carried away by pestilence paid for their tithes as agreed. By the time the fields were ready to be sown for the 1350 harvest, that is in the winter of 1349-50 and the spring of 1350, the region was suffering severe dislocation. This meant that a lot of land remained unsown. On the 7 June 1350, for example, the coroner of the bishop's halmote court at Chester-le-Street declared that fourteen of the Boldon bondmen had not sown their land.²⁴ Refusal to sow land must have reduced agrarian production as must the emptiness of so many holdings. The bursars' accounting procedure again provides an insight into the economic situation: 1350-1 was the first bursar's account for which totals for 'wasted' and 'decayed' rents were entered in the summing up section, a practice which was continued thereafter.²⁵

²³ Lomas, 'Black Death', 129.

²⁴ Bradshaw, 'Social and economic history', 213.

²⁵ DCM, bursar's account 1350-1, summing up.

Demonstrating remarkable administrative resilience in the face of crisis, and the death of nearly two-thirds their number, the monks succeeded in selling their garb tithes in 1350: only twenty-eight usable cash tithe receipts were collected from the accounts of 1349-50 whereas fifty-two were extracted from those of 1350-1. Receipts from these garb tithes were very low, however, presumably because of the combination of a poor harvest and vacant tracts of land. The output indices for those villis with over 100 per cent in Table 6.1 fell to 57 per cent at Shincliffe (Durham St Oswald), 49 per cent at Nunstainton (Aycliffe) and, in the case of Butterby (Durham St Oswald), to a mere 45 per cent. Aycliffe vill was the worst affected: its 1340s average receipt was £11 13s. 4d. and it was only sold for £1 13s. 4d. in 1350-1 representing a fall of nearly 90 per cent after adjustment for grain prices.

1350-92 Recovery and renewed downturn

There were two landmark events in the social history of the late fourteenth century: the Black Death of 1348-9 and the Peasants' Revolt of 1381. The first widespread and devastating outbreak of bubonic plague in six hundred years of English history dealt a sudden blow to economic activity. The Peasants' Revolt was less widespread but was at least partly economic in character. When the bands of rebels from Essex and Kent met Richard II at Mile End and Smithfield, the limitation of rents to 4*d.* per acre was prominent among their demands.²⁶ The assumption that a connection existed between these two events has cast a long historiographical shadow over the economic history of the intervening decades. These years have been described in terms of severe dislocation when 'harvests rotted on the ground, and fields were left untilled'.²⁷ In his famous study of the Peasants' Revolt, Oman connected economic difficulties with political upheavals by emphasizing landlords' difficulties in maintaining levels of income: demesne farming had become unprofitable and rent rolls suffered from the vacancy of tenements.²⁸

More recent research on the decades following the Black Death has maintained a two-pronged approach – concentrating on demesne agriculture and rent levels – but has introduced new layers of detail. Bridbury famously identified 'the Indian summer of demesne farming ... in the period of much publicized difficulty that followed the introduction of bubonic plague into England, when it lasted for at least one decade and

²⁶ M. H. Keen, *England in the later middle ages: a political history* (London; Methuen, 1973), p. 269.

²⁷ J. R. Green, *A short history of the English people* (re-issued; London; J. M. Dent and Sons Ltd., 1934), p. 234.

²⁸ C. Oman, *The great revolt of 1381* (new edn.; Oxford; Clarendon Press, 1969), pp. 6-7.

may have lasted for two'.²⁹ Low rent levels resulting from swathes of vacant land have also been questioned: Hatcher suggested that 'within a few years of 1350 the land of England was almost fully reoccupied, and at rents which seemingly stood comparison with former years'.³⁰ These interpretations suggest landlord incomes were quick to recover from the ravages of the Black Death but may have experienced renewed difficulties in the mid-1370s.

Historians have found evidence for the 'Indian summer of demesne farming' in series of manorial accounts which show profitable cultivation of home farms was possible after the Black Death. On the manor of Tillingdown (Surrey), for example, 67.5 acres were cultivated in 1326, falling to only 50 acres in 1350, but rising to 145 acres in 1358.³¹ On some Wiltshire manors the amount of land leased fell off after the Black Death also.³² There is ample evidence of renewed difficulties in demesne cultivation between the 1370s and the 1390s. Whilst only 66-7 acres were leased on the Bedfordshire manor of Shillington between 1368-81, this rose to 281 acres from 1381-1400.³³ The timing of the leasing of manors in the Northeast corresponds to this pattern also. Although some properties belonging to Finchale Priory were leased before the Black Death and then at the beginning of the 1360s, there was also a phase of leasing in the early 1370s.³⁴ All but two of the demesnes pertaining to the bursar and terrar of the

²⁹ A. R. Bridbury, 'The Black Death', *Economic History Review*, 2nd ser., 26 (1973), p. 584.

³⁰ J. Hatcher, 'England in the aftermath of the Black Death', *Past and Present*, 144 (1994), p. 6.

³¹ M. Saaler, 'The manor of Tillingdown: the changing economy of the demesne 1325-71', *Surrey Archaeological Collections*, 81 (1991-2), p. 28.

³² E. Miller, 'Tenant farming and farmers: southern counties', in E. Miller, ed., *Agrarian history III*, 704.

³³ P. D. A. Harvey, 'Tenant farming and farmers: home counties', in E. Miller, ed., *Agrarian history III*, 663.

³⁴ B. Dodds, 'An analysis of the accounts and inventories of the priory of Finchale, a cell of Durham Cathedral Priory, 1347-99' (unpublished University of Durham undergraduate dissertation, 1998), pp. 23-4.

mother house were leased by 1416 but the main phase of leasing did not begin until 1373.³⁵ Although almost no Durham manorial accounts survive from the 1350s and 1360s, it might be suggested on the basis of the leasing evidence alone that the Indian summer was experienced between the Tyne and Tees as elsewhere in these decades. The national picture of the buoyancy of demesne farming in these years is not uniform, however. On some manors, such as those belonging to Owston Abbey (Leics.), leasing followed closely on the heels of the Black Death indicating short-lived or non-existent recovery.³⁶ On the other hand, leasing was delayed until the 1390s or even later on some manors suggesting it was easier to uphold profits during the 1370s and 1380s.³⁷

Evidence of the recovery of landlords' rental income before 1370 is abundant. Vacancies were quickly refilled on the Oxfordshire manor of Cuxham where 'by May 1355 all the holdings which had come into the lord's hands in 1349 had been let out to new tenants'.³⁸ On the manors of the duchy of Cornwall not only were tenancies filled by the mid-1350s but by 1356 it was often possible to raise rents to 'pre-plague levels'. This recovery was sustained during the early 1360s.³⁹ Elsewhere, however, recovery in rental income was sometimes delayed until the early 1360s. In the mid-1350s the prior and convent of Ely were forced to resort to temporary tenancies on their manor of Lakenheath (Suffolk). Even with such expedients, one-third of the unfree holdings were still in the lord's hands in 1356. By 1361, however, matters had improved considerably; nine out of

³⁵ Lomas, 'Demesnes', 345.

³⁶ Hilton, *Leicestershire estates*, 131.

³⁷ Dyer, *Lords and peasants*, 147; J. A. Raftis, *The estates of Ramsey Abbey* (Toronto; Pontifical Institute of Medieval Studies, 1957), p. 266.

³⁸ P. D. A. Harvey, *A medieval Oxfordshire village: Cuxham 1240-1400* (London; Oxford University Press, 1965), p. 44.

³⁹ J. Hatcher, *Rural economy and society in the duchy of Cornwall* (Cambridge; Cambridge University Press, 1970), pp. 122, 128.

the eleven labour service virgates which had been empty in 1356 were occupied under the old terms.⁴⁰

There are signs of renewed downturn in rent levels by the 1370s. Hampton (Worcs.), which belonged to the bishops of Worcester, fell in value from £20 to £14 between 1371 and 1393 and the East Anglian land market began a gradual decline in the 1380s.⁴¹ Low rents were accompanied by vacant tenements such as those at Great Wymondley (Herts.) and on the estates of the bishops of Worcester.⁴² The pattern of rent levels seems similar to that of the profitability of demesne farming: speedy convalescence after the Black Death followed by relapse. The chronology of recovery varied considerably from estate to estate and manor to manor. The 1370s and 1380s were crippling to some landlords yet saw recovery on the estates of Ramsey Abbey; depression only struck rent levels there during the 1390s.⁴³

Hardly any work has been done on aggregate levels of arable production in England during these years.⁴⁴ Demesne cultivation represents a specialized aspect of production and the leasing of demesnes cannot be assumed to have made the land less productive acre for acre: the opposite could have been true. Rents can also be deceptive.

⁴⁰ M. Bailey, 'The prior and convent of Ely and their management of the manor of Lakenheath', in M. J. Franklin and C. Harper-Bill, eds., *Medieval ecclesiastical studies in honour of Dorothy M. Owen* (Woodbridge; Boydell Press, 1995), pp. 8-9.

⁴¹ Dyer, *Lords and peasants*, 119-20; M. Bailey, *A marginal economy? East Anglian Breckland in the later middle ages* (Cambridge; Cambridge University Press, 1989), p. 220.

⁴² P. D. A. Harvey, 'Occupation of the land: home counties', in E. Miller, ed., *Agrarian history III*, 110; Dyer, *Lords and peasants*, 239.

⁴³ Raftis, *Ramsey*, 265.

⁴⁴ In contrast with several continental studies: e.g. Bois, *Feudalism*; H. Van der Wee, 'Agrarian development in the Low Countries as reflected in tithe and rent statistics, 1250-1800', in Flinn, *Proceedings*, 130-136.

Stagnation can masquerade as recovery if rental arrears are not taken into account. John of Tickhill, prior of Finchale, accounted for £155 6s. 3½*d.* received in assized rents in his account of 1365-6. Only at the end of this account did he record that £39 3s. 1*d.* remained unpaid because of rental arrears and £3 4s. 0*d.* because of waste tenements.⁴⁵ Whilst land may have been reoccupied under conditions which look favourable to the landlord in some places, there were often considerable arrears of rent, as at Lakenheath.⁴⁶ Whilst the monks of Ramsey were successful in limiting the number of vacancies on their estates, many of their manors suffered mounting debts during the 1350s.⁴⁷ Similar problems existed on manors in Hampshire.⁴⁸ Neither does the re-tenancing of land have any necessary implications for the nature and intensity of land use.

The tithe receipts from the *infra aquas* parishes of Durham Priory and its cells therefore provide a hitherto unused indicator of trends during these four important decades for one part of England. The bounds of this period selected for analysis, 1350-92, were chosen on the basis of the monks' calculations which are tabulated in Table 4.1; these show a small increase in tithe income. When the figures are weighted by price and incorporated into output indices (Figure 5.05) then an increase is more apparent: the index is 38 per cent for 1350 and 82 per cent for 1392 (the latter figure makes use of the monks' 1436 calculations in the absence of a surviving bursar's account). However, the early 1390s should not necessarily be treated as a production peak: the error bars indicated in Figure 5.05 are unusually wide, reflecting the thin survival of accounts from

⁴⁵ SS6, lxix, lxxi.

⁴⁶ Bailey, 'Lakenheath', 15.

⁴⁷ Raftis, *Ramsey*, 252-4.

⁴⁸ V. M. Shillington, 'Social and economic history', in W. Page, ed., *The Victoria county history of Hampshire and the Isle of Wight volume V* (London: Archibald Constable and Co. Ltd., 1912), p. 420.

these years, and 1392 is omitted from Figure 5.06 because of exceptionally low grain prices. Figure 5.06 suggests output was higher in the early 1390s than at the beginning of the 1350s, and usually between 50 and 70 per cent of 1340s output levels, but lower than the recovered levels of around 1360.

Figure 5.06 shows that the pattern of changing output in the four decades after the Black Death was complex. The 1350s was a decade of strongly recovering output, rising from 38 per cent in 1350 to over 70 per cent in the final two years of the decade. The 1360s then saw sharp fluctuations and an end to recovery; by the end of the decade the index plummets to its lowest level since 1354 at just over half of 1340s output. The indices over the following two decades, the 1370s and the 1380s, continue to fluctuate sharply; the evidence of Figure 5.06 suggests a series of oscillations with index troughs in 1381, 1385 and 1390 when output fell below half of 1340s levels. On three occasions, however, estimated output rose above 70 per cent of pre-Black Death levels.

Although we have direct output levels from 1349 for five vills (Ludworth, South Sherburn, Preston le Skerne, Ricknall and Woodham), only from one of these vills do any direct output figures survive from later (South Sherburn) and in this case only from 1402 and 1433. These means that it is not possible to compare estimated output with real output for the four decades following the Black Death.

The basic impression given by Figure 5.06 that output was considerably lower between 1350 and 1392 than in the decade before the Black Death is amply confirmed by

examination of estimated output levels in individual villis. Estimated output in many villis did not approach 1340s levels; for example, the Hetton le Hill (Pittington) index never exceeded 64 per cent of 1340s levels. There were exceptions: the most spectacular example was Old Durham (Durham St Oswald) where the estimated output exceeded 1340s levels twelve times between 1350 and 1392. Yet even this vill produced seventeen indices under 1340s levels for this period. Correspondingly, very few villis showed any steady and sustained increase between 1350 and 1392; two exceptions here are Brafferton (Aycliffe) and Sheraton (Monk Hesleden). Steady decline, such as that shown by Wallsend and Willington (Jarrow) and Hetton le Hill (Pittington), was also rare: the predominant pattern is one of low but fluctuating receipts. The worst affected villis failed to produce any tithe receipts at all in some years. Examples include Spennymoor (Kirk Merrington) and Grindon (Aycliffe).

Many villis recovered quickly during the 1350s. 1340s output was exceeded by 1358 in villis such as Heworth (Aycliffe) and Heighington (Heighington). Whilst the latter had produced 65.3q. during the 1340s, this fell to 11.0q. in 1350 and yet had risen to 66.4q. by 1358. Heighington was a large vill but recovery in the much smaller Heworth was no less dramatic. During the 1340s it produced an average of 24.9q. This fell to an estimated 6.3q. in 1350 but by 1358 had risen to 43.0q.

Not all villis followed this pattern of speedy recovery, however. Fallingsby (Jarrow), Spennymoor (Kirk Merrington) and Hardwick (Monk Hesleden) all showed falling estimated output levels during the 1350s. Spennymoor constitutes the most striking

example. From a 1340s average level of 33.6q., receipts fell to 14.2q. in 1349 but continued to fall until they reached 0.2q. in 1357. It could be, however, that the explanation for this marked change in output levels is related to the changing definition of Spennymoor rather than to plummeting production. Spennymoor began as 'a large tract of moorland in which several peripheral townships had rights of common' and over the years these rights were infringed by various parties.⁴⁹ The bursars' accounts of the 1350s and 1360s refer not only to 'Spennymoor' but also to 'Morehouses in Spennymoor', 'Hett in Spennymoor' and 'Spennymoor in Tudhoe'. The villis which failed to recover during the 1350s seem to have been small: these examples all have 1340s average output levels of under 34q. and Fallingsby and Spennymoor went on to be abandoned completely during the 1370s.

Of the fifty-seven villis for which estimated output series were drawn up, none showed continuing recovery from the 1350s into the 1360s. Twelve villis showed downward trends and but a majority of those for which sufficient data survive showed stable or fluctuating output. It seems the marked recovery of the 1350s was brought swiftly to an end. This unsteadiness of the 1360s turned into instability during the 1370s and 1380s. The small villis seem to have been the worst affected with Grindon (Aycliffe), Fallingsby (Jarrow) and Spennymoor (Kirk Merrington) all falling waste at some point during the 1370s. All these villis produced under 34q. annually on average during the 1340s; the first and last produced under 8q. The larger villis tended to show greater stability during the 1370s and 1380s: Shincliffe is the best example with estimated output never falling below 60 per cent of 1340s levels during these decades.

⁴⁹ SS198, 217.

All in all, the pattern showed by Figure 5.06 is broadly confirmed by the individual vill graphs. We see strong recovery during the 1350s which was halted during the 1360s and turned into instability often tending towards decline during the 1370s and 1380s. This pattern is closely related to the demesne and rents evidence discussed at the beginning of this section. It is surprising, however, that the post-Black Death recovery in overall output was so short-lived: followed quickly by unsteadiness and downturn, the eight year recovery of the 1350s is more comparable to a few days of autumnal sunshine than to an Indian summer.

1393-1420 Crisis at the turn of the century

From the 1390s and the early years of the fifteenth century, the patchy rental and demesne evidence for an end to post-Black Death recovery becomes widespread. Low prices and rising wages had serious repercussions in the countryside, as Hatcher's summing up suggests: 'Landlords abandoned farming, rents tumbled, arrears multiplied and vacancies proliferated'.⁵⁰

Parcels of demesne were leased even before the Black Death and a trickle of demesne leases continued during the decades after. Only in the final quarter of the fourteenth century, and in particular in the 1390s and 1400s, did the trickle turn into a tide. For example, all the demesnes of the bishops of Worcester were leased by 1410,

⁵⁰ Hatcher, *Cornwall*, 142.

most having been granted in the 1390s.⁵¹ The Hertfordshire demesne of Kinsbourne, the subject of a recently published study, is another case in point since it was leased by Westminster Abbey at the end of the 1390s.⁵² A similar pattern obtained on large lay estates such as those of the duchy of Lancaster where direct cultivation of demesnes had been almost completely abandoned by 1399.⁵³ The years between 1373 and 1416 were a turning point in the management of demesnes by Durham Priory: only one demesne was newly leased between 1350 and 1373 but between this date and 1416 ten more were rented out.⁵⁴

At the same time, landlords were often experiencing difficulties in maintaining rental income. In the East Anglian Breckland, for instance, the most rapid decline in rents came in the decades 1390-1410.⁵⁵ Rental income also fell in the Northeast in these years. The bishops of Durham received £392 for the rent of Barnard Castle in 1390-1 but only £279 in 1420-1.⁵⁶ The annual arrears of the priors of Finchale, which had only exceeded £20 on two occasions between 1346 and 1398, rose above this level four times between 1398 and 1430.⁵⁷ Nonetheless, not all landlords suffered serious difficulties in rent collection around the turn of the century. In Cornwall, for example, the years 1375-1400 were ones of 'high landlord's incomes' and 1400-1425 saw 'unprecedented, and as yet unparalleled, prosperity'.⁵⁸

⁵¹ Dyer, *Lords and peasants*, 147-8.

⁵² Stern and Thornton, *Hertfordshire demesne*, 54.

⁵³ Holmes, *Higher nobility*, 116.

⁵⁴ Lomas, 'Landlord', 117-24; Lomas, 'Demesnes', 345; Piper, *Medieval accounting material*.

⁵⁵ Bailey, *Breckland*, 266.

⁵⁶ A. J. Pollard, *North-eastern England during the Wars of the Roses: lay society, war and politics 1450-1500* (Oxford: Clarendon Press, 1990), p. 48.

⁵⁷ SS6, lxxi, lxxiii, cxxiii, cxxx, cliii, clxxxv.

⁵⁸ Hatcher, *Cornwall*, 142.

The sluggishness of the land market was often accompanied by a contraction in the cultivated area. P. D. A. Harvey's study of the occupation of villages in the Home Counties turned up a lot of evidence for reduced occupation in the last decades of the fourteenth century: here again, though, the pattern was not universal.⁵⁹ In some areas, the reduction of arable acreage was accompanied by increased emphasis on pastoral farming.⁶⁰ Estates seem to have suffered a sudden shortage of suitable tenants. Page's reflection on her evidence from the accounts of Crowland Abbey is often quoted:

the supply of men [in the second half of the fourteenth century] seemed limitless. It was not until 1391 that any difficulty was found in securing tenants for vacant holdings or men to fill the manorial offices.⁶¹

The detailed demographic evidence from Kibworth Harcourt (Leics.) suggests the Crowland situation applied more widely. It seems that in this one village the population declined by half between 1390 and 1410. The result was an increase in the number of holdings described as 'uncultivated' or 'fallow' in the records.⁶²

As usual, there has been very little consideration of agrarian output around the turn of the century. In his analysis of the impact of the conflict with the Scots in

⁵⁹ Harvey, 'Occupation', 110-113.

⁶⁰ *Ibid.*, 115.

⁶¹ F. M. Page, *The estates of Crowland Abbey* (Cambridge; Cambridge University Press, 1934), p. 152.

⁶² C. Howell, *Land, family and inheritance in transition: Kibworth Harcourt, 1280-1700* (Cambridge; Cambridge University Press, 1983), pp. 44-54; D. Postles, 'Demographic change in Kibworth Harcourt, Leicestershire, in the later middle ages', *Local Population Studies*, 48 (1992), p. 46.

Northumberland in these years, Lomas considered tithe receipts from rectories belonging to Durham Priory and its dependent cell on Holy Island. Although he did make some comments on economic decline around the turn of the fourteenth to fifteenth centuries, the direction of his research lay primarily in assessing the impact of military activity.⁶³ The tithe evidence from between the Tyne and Tees furnishes much more comprehensive evidence of fluctuations in production over these years.

Table 4.1 seems to show only a slight reduction in overall tithe income during this period; an inaccurate impression is given, however, by the inclusion of Ellingham (Northum.) in the 1392 list and not in the 1420 list. Even the *infra aquas* totals are not evidence of universally lower receipts at the end of the period than at the beginning. Only five out of the eight parishes listed yielded less tithe income in 1420 than in 1392. Again, however, the monks' data, unweighted by price and taken only from the beginning and the end of the period, mask considerable fluctuation in production between these years. Figure 5.06 shows a more dramatic pattern. The troughs in the output series continue to plumb new depths and in 1410 estimated output fell, for the first time, below the level of 1350-1. Even the peaks in production show continued decline: on only one occasion between 1392 and 1420 did estimated output exceed 65 per cent of 1340s levels. Nonetheless, output does seem to have recovered some buoyancy after the early 1400s. The cluster of low indices between 1394 and 1400 is followed by two clusters of higher estimated output levels in 1403-6 and 1411-18. The pattern in Figure 5.06 is one of crisis

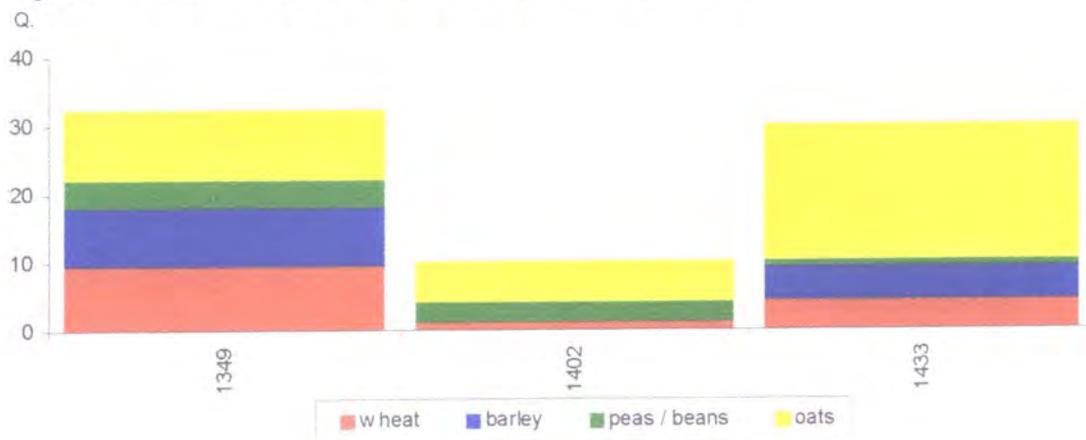
⁶³ R. A. Lomas, 'The impact of border warfare: the Scots and South Tweedside, c. 1290 - c. 1520', *Scottish History Review*, 75 (1996), pp. 143-67.

during the 1390s and at the turn of the century followed by some higher output estimates at over half pre-Black Death levels in the first decades of the fifteenth century.

This is the first sub-period for which the most direct output evidence can be used and that from Billingham parish is shown in Figures 6.01, 6.02, 6.03, 6.04. These data add some weight to the pattern shown in Figure 5.06. All four Billingham graphs show very low output in the mid-late 1390s with some recovery by the second decade of the fifteenth century. This is most marked in Figures 6.02 and 6.03, showing output from the small vill of Cowpen Bewley and Newton Bewley. The former, for example, produced 26.1q. in tithe in 1396 but only 6.5q. in 1402; by 1414 this had recovered to as much as 46.5q. although this was still only 60 per cent of 1340s levels.

Wheat production seems to have suffered most during the 1390s: production of other grains showed a less steep decline. For example, Figure 6.05 shows there was a bumper harvest of oats in Billingham in 1401 despite the low wheat receipt. Likewise, despite the overall decline in production in Wolviston, 4q. of oats were received as tithe in each year between 1396 and 1402. Very little direct output evidence of this turn of the century crisis survives from other vill. Figure 6.07 shows that whilst Shadforth (Pittington) had produced 56.1q. in 1388, only 39.6q. were produced in 1402.

Figure 6.13: Grain tithe receipts from South Sherburn (Pittington)



South Sheburn (Pittington) is the only vill from which we have grain tithe receipts from 1349 with which to compare the turn of the century crisis. These are shown in Figure 6.13. Examination of these receipts casts production levels at the beginning of the fifteenth century in a very dismal light. The vill produced 32.3q. as tithe in 1349 but in 1402 this was two-thirds lower at only 9.9q. Whereas 8.5q. of barley had been produced in 1349, no barley tithe at all was received in 1402. Admittedly the 1349 figures are difficult to interpret: the seed for this year's harvest must have been planted before the arrival of the plague but there may have been some dislocation while the harvest was being collected. Nonetheless, the direct output evidence from the bursars' accounts confirms the reality of the crisis of the 1390s and early 1400s shown in Figure 5.06 and the very low level to which production plunged by comparison with 1340s levels.

Whilst Figures 6.01, 6.02, 6.03 and 6.04 do show recovery in tithe output levels in the second decade of the fifteenth century, there was still considerable fluctuation in production. At Billingham the poor harvests of 1412, 1413, 1419 and 1420 were comparable to that of 1402. The pattern of production in Wolviston is very different:

between 1406 and 1420 wheat production alone did not fall below the disastrous overall output level of 18q. in 1402. The good harvests of 1408 and 1414 produced spectacular amounts of grain in this vill: overall tithe receipts reached 80q. and 117.5q. respectively. Just as in adjacent Billingham, 1412-13 and 1418-19 saw poor harvests but production in these years was always three times that of 1402. Tithe receipts in Newton Bewley and Cowpen Bewley resembled those of Wolviston more closely than those of Billingham. Sadly, no comparative material survives from other parishes for these years. Broadly speaking, the pattern in Figure 5.06 is vindicated by examination of grain tithe receipts in individual vills; clearly, however, the relative severity of the 1396-1401 crisis varied from vill to vill and parish to parish.

Unfortunately, the cash tithe evidence from individual vills for the 1390s and very early 1400s is not as good as that from other decades. This is because between 1397-8 and 1404-5 the bursar and terrar sold the tithes of nearly all the vills of Aycliffe and Heighington parishes together for £73 6s. 8d. Similarly, bursars' accounts do not survive from 1393-4, 1398-9, 1403-4 and 1405-6. Whilst the latter difficulty is probably attributable to the vicissitudes of the survival of documentation over six centuries, the former may be indicative of the problems faced by monks in this crisis period. Usually the monks were not inclined to lease the tithes of large numbers of vills for any length of time whereas this looks like a seven year lease of almost all the tithes of two parishes. £73 6s. 8d. was not an unreasonable receipt since all these tithes sold for £73 10s.⁶⁴ in 1396-7, the year before the lease was granted, but such a fixed receipt was counter to

⁶⁴ This includes the monks' own valuation of the tithe from Aycliffe vill which was received in the form of 20q. wheat, 20q. barley, 20q. peas and 20q. oats. DCM, bursar's account, 1396-7, [*Decime*] Aycliffe, [*Decime*] Heighington.

usual policy and meant the monks did not stand to benefit in any particularly good years during the period of the lease. These joint receipts were obviously used to produce the output indices in Figure 5.06 but could not be used to prepare graphs of individual vill estimated output levels. This meant that it is difficult to discern trends during the 1390s in seventeen out of the fifty-seven individual vill graphs produced.

Given the better sequence of hostillers' accounts between 1392 and 1405, which survive from every year except 1403-4, the individual vill graphs from Durham St Oswald's parish are good indicators of output levels during these turn of the century crisis years. The medium-sized, large and very large vills of Old Durham, Wastes and Shincliffe produced gradually less between 1392 and 1402. Wastes, for example, had produced an estimated 18.0q. as tithe in 1393 which had fallen to 3.7q. by 1402. Not all vills in the parish showed such a precipitous downturn, however. The medium-sized vill of Burn Hall produced an increase in estimated tithe output between 1397 and 1400.

Evidence in Figure 5.06 for an improvement in output levels in the middle of the first decade of the fifteenth century is strongly supported by the individual vills examined, thirty-six of which showed an increase in these years. Hedworth (Jarrow) is a particularly good example: estimated tithe output rose from 4.0q. in 1402 to 25.5q. in 1407. Eight vills showed counter-cyclical trends, the best example of which is Wastes (Durham St Oswald) where estimated tithe output fell from 15.2q. in 1406 to 2.2q. in 1409 and then to a mere 0.9q. by 1411. Three small vills remained waste during these years also: namely, Grindon (Aycliffe), Fallingsby (Jarrow) and Ravensflat (Pittington).

The evidence for stability in the second decade of the fifteenth century is also compellingly backed up by the patterns in individual villis. Forty of the fifty-seven individually examined villis showed a stable series of receipts between 1409 and 1420. Hesleden manor (Monk Hesleden), for example, where production had plummeted in 1402, showed consistent estimated tithe output during the second decade of the fifteenth century; in fact, £1 10s. 0d. was consistently received by the bursar and terrar for this vill during this period. Only two villis showed declining production during these years. Burn Hall (Durham St Oswald) is the most conspicuous example. This vill had showed counter-cyclical increasing production during the first decade of the fifteenth century but, just when stability was being regained elsewhere, estimated tithe output at Burn Hall fell off so dramatically that by 1416 it was recorded as 'not sown'. Crook Hall (Durham St Oswald) is an unusual instance of a vill that seems to have suffered a very short term crisis in production. From 1397 to 1418 Crook Hall estimated tithe output ranged between 5.0q. and 17.7q., showing relative stability in this period of flux elsewhere but in 1420 estimated output suddenly fell to 0.1q. Cash receipts had fallen from approximately £1 2s. to a mere 2d. The accountant entered the words '*que solebat reddere xxvj s. viij d.*' next to this exceptionally low entry, presumably to emphasize the accuracy and honesty of such a paltry sum to the auditors.⁶⁵ Increasing production between 1409 and 1420 was evident in only two villis: namely, Woodham (Aycliffe) and Heighington (Heighington).

On the basis of the *infra aquas* tithe evidence presented here, it is not unreasonable to say that the crisis in the management of the Durham Priory demesnes and

⁶⁵ DCM, hostiller's account 1420-1, *Decime*.

the rent collection difficulties experienced by the priors of Finchale and the bishops of Durham at the turn of the fourteenth to fifteenth century were accompanied by a crisis in agrarian production. The pattern shown by Figure 5.06 does not obtain universally but was certainly very widespread among the villis examined. When stability was regained, it was established at a new low level. By this point it must have become clear that receipts were not going to regain their 1340s levels. Figure 5.06 suggests that this had remained a possibility during the second half of the fourteenth century when production not infrequently rose to around 70 per cent of 1340s levels or above. Figure 5.06 shows, however, that the peaks in estimated production continued to fall from the beginning of the 1360s. A permanently less favourable economic climate ties in well with the demesne leases which the bursar and terrar sold in the first two decades of the fifteenth century. Similarly, the alarm in the decline in their spiritual income which provoked the monks to tabulate declining tithe receipts in 1420 appears to have been well-justified.

1421 – 1449 '*Non mediocriter est collapsus*'

In September 1446, shortly after succeeding John Wessington as prior of Durham, William Ebchester wrote to one of the Durham brethren living in the distant Lancashire cell at Lytham that Durham Priory's condition '*non mediocriter est collapsus*'.⁶⁶ Two miles downstream from Durham, Henry Feriby was presiding over the worst financial crisis in the recorded history of Finchale Priory. The accounts submitted annually by Feriby to the Durham chapter can only have deepened Ebchester's concerns about the

⁶⁶ Dobson, *Durham Priory*, 253.

financial state of Durham and its dependencies. The *superplusagia* (i.e. the amount by which expenses exceeded receipts) averaged nearly £140 in the Finchale prior's accounts of the 1440s, constituting very severe overspend since annual expenditure averaged less than £170.⁶⁷ Durham and its dependent cells seem to have shared in the 'wide-ranging slump of precipitous proportions' which gripped England, and continental Europe, in the middle decades of the fifteenth century.⁶⁸

By the third decade of the fifteenth century it was becoming unusual for landlords to manage their own demesnes. The monks of Canterbury, for example, abandoned direct cultivation swiftly in the 1390s following the accession of Prior Thomas Chillenden meaning detailed manorial records no longer survive, except from one Kentish manor. During the fifteenth century the types of leases sold changed: whole manors, rather than just the demesnes, were leased to one person, and the length of the leases increased.⁶⁹ The chronology and scale of leasing varied, however. Whilst parcels of demesne were leased before the Black Death in some places, as on the manors of the prior and convent of Durham for example, sometimes even these small pieces of land were not leased until the fifteenth century, as on the manor of Lakenheath belonging to the prior and convent of Ely.⁷⁰ On the manors of Ramsey Abbey 'the minute parcelling' of the demesne of the fourteenth century gave way to the lease of larger portions of land to fewer individuals in the fifteenth century. It was not until the mid-fifteenth century, however, that the abbey

⁶⁷ SS6, ccxxxv – cclx.

⁶⁸ Hatcher, 'Great slump', 241.

⁶⁹ R. A. L. Smith, *Canterbury Cathedral Priory: a study in monastic administration* (Cambridge, Cambridge University Press, 1943), pp. 192-200.

⁷⁰ The Pitlington parish tithe sections of the bursars' sale of tithes lists contain entries for tithes from 'newly leased' demense during the 1340s; eg. DCM, sale of tithes 1347-8. Bailey, 'Lakenheath', 11-12.

gave up its own plough animals kept on each of these manors: a return to direct cultivation was probably anticipated until then.⁷¹ Even on estates where managers persevered in direct cultivation into the fifteenth century, leasing was imminent in the third decade. For example, at Wisbech Barton (Cambs.), belonging to the bishopric of Ely, the reeves paid less detailed attention to the operation of the demesne during the 1420s and leasing followed in 1430.⁷² As with all these trends, however, there were exceptions. Tavistock Abbey in Devon, for example, continued to cultivate some of its manors directly until the beginning of the sixteenth century and even until the dissolution.⁷³

The chronology of the lease of demesnes in north-east England was comparable to that elsewhere. The bishops of Durham abandoned direct cultivation of their demesnes by 1387 whilst the Percies, who also leased Northumberland property during the fourteenth century, only finally leased Yorkshire manors in 1416.⁷⁴ The evidence from the manors of the prior and convent of Durham is much more detailed. From the third decade of the fifteenth century only Pittington and Bearpark were directly cultivated. Even on these manors the scale of cultivation was severely curtailed during the fifteenth century: sown acreage at Pittington, which had already fallen considerably during the fourteenth century, plummeted in the second decade of the fifteenth century.⁷⁵ Although Bearpark may have been retained in hand, Pittington was leased during the 1450s.⁷⁶ Evidence from

⁷¹ Raftis, *Ramsey*, 289-91.

⁷² Stone, 'Wisbech Barton', 211.

⁷³ H. P. R. Finberg, *Tavistock Abbey: a study in the social and economic history of Devon* (Cambridge; Cambridge University Press, 1951), p. 258.

⁷⁴ Lomas, 'Demesnes', 340.

⁷⁵ Dodds, '*In manu domini*', 53.

⁷⁶ Lomas, 'Demesnes', 344.

the well-documented hostiller's manor of Elvet Hall shows that a manor could be maintained in hand throughout the fifteenth century and made a profitable centre of grain production.⁷⁷

Landlords had already suffered periods of desperately low rental income since the Black Death but land values plunged to new depths in the first half of the fifteenth century. Average rents per acre on the Bigod manor of Fornsett (Norfolk) were only two-thirds their 1370s levels by the second half of the fifteenth century and Glastonbury Abbey experienced similar levels of decay on its estates in Somerset and Wiltshire.⁷⁸ Even on the manors of the duchy of Cornwall, where the difficulties of the 1390s and early 1400s were largely avoided, severe difficulties were beginning by 1420. On the manor of Tywarthaile, for example, accession fines had peaked at around £6 annually but by the third decade of the fifteenth century had fallen to 13s. 4½d.⁷⁹ Some areas were worse affected than others, of course. Rents on the estates of the bishopric of Worcester did fall during the first half of the fifteenth century but not too severely. The Cleeve demesne, for example, was worth £18 6s. 8d. in the 1410s and £16 13s. 4d. in the 1420s.⁸⁰ Just as the effects of the difficulties varied from estate to estate, so did the timing. The Northeast was particularly badly affected during the 1430s where the slump in rental income was felt on the Fitzhugh estates, the Neville estates and those of the

⁷⁷ R. A. Lomas, 'A northern farm at the end of the middle ages: Elvethall Manor, Durham, 1443/4 - 1513/4', *Northern History*, 18 (1982), pp. 26-53.

⁷⁸ M. M. Postan, 'Some agrarian evidence of declining population in the later middle ages', in M. M. Postan, *Essays on medieval agriculture and general problems of the medieval economy* (Cambridge: Cambridge University Press, 1973), pp. 203-4.

⁷⁹ Hatcher, *Cornwall*, 156.

⁸⁰ Dyer, *Lords and peasants*, 164, 167.

bishopric and priory of Durham. The receipts from the estates of the bishops of Durham fell from £2568 in 1434-5 to £1914 in 1438-9.⁸¹

This evidence from rents and demesnes can prove a distraction in an analysis of agrarian production. Famously, increasing wage rates are said to have inaugurated 'the golden age of the English labourer' in the fifteenth century; however, the workers' boon could spell the landlords' ruin and expensive labour may have forced up the costs of cultivation and undermined the value of land.⁸² Peasant land, output from which is included in tithe receipts, probably did not require such large amounts of wage labour. The Durham tithe material provides a new type of evidence: it is a more direct indicator of overall production. When the monks prepared their tabulation of tithe income in 1436-7 (reproduced in Table 4.1) they found that it stood at less than a quarter of 1293 levels and under 60 per cent of 1348 levels. Indeed, 1436 produced the lowest overall tithe income in the table at nearly £60 lower than the 1350 receipts immediately following the Black Death. Figure 5.06 shows that estimated output continued to fall after 1420. Even the peaks were below 60 per cent of 1340s levels, with two exceptions, and the troughs regularly plunged to under 40 per cent. Figure 5.05, which includes indices for price crisis years, suggests the 1430s were particularly disastrous: unfortunately, the wild fluctuation of prices makes it difficult to trust the precision of the exceptionally low figures at the beginning and the end of the decade. There seems to have been some

⁸¹ A. J. Pollard, 'The north-eastern economy and the agrarian crisis of 1438-40', *Northern History*, 25 (1989), p. 94.

⁸² J. E. Thorold Rogers, *Six centuries of work and wages: the history of English labour* (5th edn.; London; Swan Sonnenschein and Co., 1901), p. 326.

rallying of output during the 1440s but even these figures are nearly all under 50 per cent of 1340s levels.

The direct output evidence from tithes in hand is at its best after 1420, although for most villis outside Billingham parish it still tends to be patchy: this enables real output to be considered together with estimated output. The gaps in Figure 5.06 show that the 1430s, like the 1390s, were years of exceptional prices; the serious harvest failures in the Northeast during this decade are attested by Pollard's work.⁸³ Given the difficulty of calculating output indices for price crisis years, the direct output evidence can be used to complement the information in Figures 5.05 and 5.06.

By and large, the grain tithe receipt graphs show tithe receipts were stable during the 1420s by comparison with the low late-1430s levels. Data survive from four years between 1421 and 1431 from Aycliffe vill (Figure 6.06). None of them even approach the low receipts from the same vill in 1437 and the 88.5q. received as tithe in 1427 is the highest figure of the period, caused by abundant crops of wheat and legumes. Although data from Ferryhill (Kirk Merrington) only survive from one year in the 1420s, shown in Figure 6.08, overall output was very high compared with the cluster of low receipts from 1438-40. The pattern shown in the direct output graphs is not always so simple, however. Although output in Wolviston (Figure 6.04) was stable during the 1420s, the 1438 receipt for Wolviston vill does not indicate decline. The evidence from Billingham vill, in the same parish as Wolviston, is different again: receipts were lower in the first half of the 1420s than at the end of the decade and the beginning of the 1430s. The worst Billingham

⁸³ Pollard, 'Agrarian crisis'.

harvest from which we have record of grain receipts is that of 1423 when only 69q. were received, less than in 1402. These depths were not plumbed again: even in 1438 total tithe receipts amounted to 75.1q. Peculiar local conditions may have prevailed in Billingham in this year, though, since the low overall tithe receipt was caused by the meagre 14q. of barley received compared with 36q. in the previous year. It is noticeable that Newton Bewley, also in Billingham parish, experienced low production levels in 1423. In comparison with this low receipt, peaks of production were attained in 1429 and 1431.

Estimated output levels in the overwhelming majority of vills showed no great fluctuations between 1421 and 1431. This is to be expected given that price levels were at their most stable during the 1420s: smaller vills such as Coatsay Moor (Heighington) sold for the same amount in each year. Only around one-fifth of the fifty-seven vills examined deviated from the pattern of stability during this decade, excluding those from which we have insufficient receipts to observe any trends. Seven vills showed decline during the 1420s rather than stability. This was most dramatic in Woodham (Aycliffe) where estimated tithe output fell precipitously in the middle of the decade and in 1430 the vill was recorded as waste. Only two vills, Killerby (Heighington) and Hardwick (Monk Hesleden), showed signs of increasing production. Several vills showed more dramatic fluctuation with Hetton le Hill (Pittington) being the most spectacular example.

Some stability was obtained during the 1420s but this collapsed calamitously at the beginning of the 1430s. The real output graphs, free of the inaccuracies in estimating

output levels caused by exceptional prices, provide evidence of the first agrarian crisis of the 1430s. Combined receipts from two pairs of villis, Newton Bewley and Wolviston and Billingham and Cowpen Bewley, shown in Figures 6.01 and 6.04, were very low in 1432. Receipts from Newton Bewley and Wolviston in particular tumbled to 47.8q. in 1432 which was disastrously low even by comparison with the poor year of 1404 when 89.8q. were received. Receipts in Aycliffe were also very low in 1432 and 1433 by comparison with the levels of the late 1420s although not with those of 1409-10 (Figure 6.06). Shadforth (Pittington), shown in Figure 6.07, and other villis for which graphs have not been produced, including Walworth and Heighington (Heighington) did not produce exceptionally low receipts in 1432-3. However, direct output evidence from these villis is very scant and therefore comparison with earlier decades is difficult. Figure 6.13, however, adds weight to the idea that desperate crisis was not universal in the early 1430s: the 1433 receipt was high by comparison with 1402 direct output levels.

Direct output evidence from the early 1430s is, therefore, rather patchy. In conjunction with the evidence of exceptionally high grain prices in 1432-3, however, it is suggestive that these were years of dearth. The presumed inability of the tithe purchasers to predict prices in crisis years means the individual vill estimated output graphs cannot be relied upon as accurate indicators of short-term crisis in the early 1430s.

Figure 5.06, and the lack of exceptional prices in the mid-1430s, suggests the crisis of 1432-3 was short-term and followed by better harvests in the middle of the decade. This is confirmed by some of the grain tithe receipt graphs. The grain tithe

receipt from Billingham, shown in Figure 6.01, is comparable with the best of the series and the joint receipts from Billingham and Cowpen Bewley, shown in the same graph, show considerable improvement on those of 1432-3. Likewise, the receipts from Wolviston and Newton Bewley, shown in Figure 6.04, which were disastrously low in 1432, were considerably higher 1434-6.

Figure 5.06 shows only one index between 1436 and 1442: these were years of exceptionally high and then exceptionally low prices. Predictably, and perhaps unreliably, Figure 5.05, which includes these prices, shows very low then very high output indices. This is strong evidence of renewed agrarian crisis and it is confirmed by an examination of the grain tithe receipt graphs. This marks the second agrarian crisis of the 1430s. At Aycliffe vill, shown in Figure 6.06, only 16.1q. were collected in 1438; the second lowest receipt of this series was in the previous year and amounted to 41.6q. Similarly, Monk Hesleden vill produced only 14.3q. in tithe by comparison with 51.1q. in 1435. Wheat and barley were the grains most severely affected in the disastrous harvest of 1438. At Billingham vill, shown in Figure 6.05, 26q. of wheat were received in 1434 and only 4q. in 1438 and barley production fell to a quarter of its 1434 level but production of legumes and oats increased by between 50 and 60 per cent. Similarly, the wheat and barley tithe receipts from Hardwick (Monk Hesleden) were exceptionally low by comparison with previous years but the receipts of legumes and oats were not. Some villis did not experience particularly low harvests in 1438. Although we do not have grain receipts for Wolviston (Billingham) for six years either side of 1438, grain receipts from this year were high in comparison with those of 1431 and 1446 (Figure 6.04). Despite a

low wheat harvest in this year, receipts were bolstered by prodigious oats production. It seems the principal cash crops of wheat and barley were worst affected in the crisis of the late 1430s.

The pattern of grain tithe receipts between 1438 and 1442 is less clear. Hardwick (Monk Hesleden) and Kirk Merrington (Kirk Merrington) produced increasing tithe receipts, shown in Figures 6.09 and 6.12. Ferryhill (Kirk Merrington), Monk Hesleden (Monk Hesleden) and Pittington parish, shown in Figures 6.08, 6.10 and 6.11, did not show continued recovery in these years, however. There seems to have been some variation in cropping strategy in Ferryhill and Kirk Merrington, both in Kirk Merrington parish, during these years since blandcorn was cultivated.

Figure 6.14: Grain tithe receipts from Bishop Middleham parish

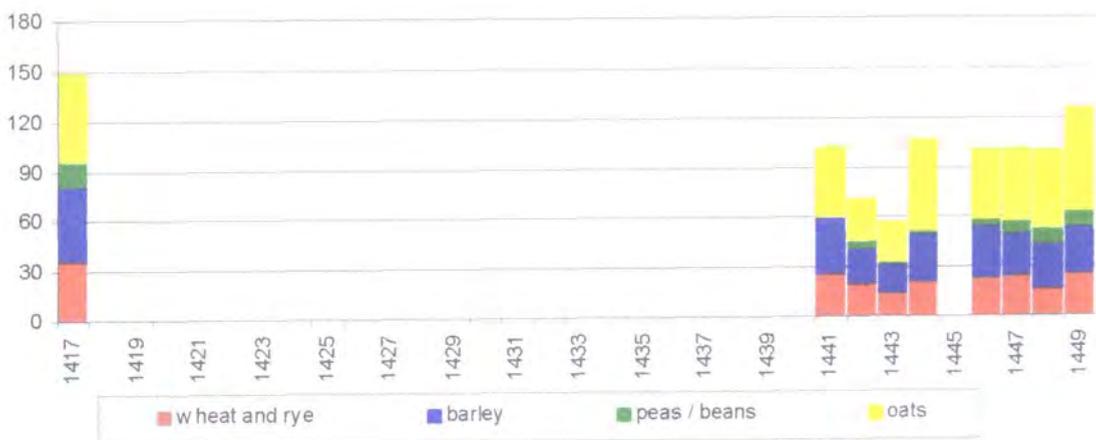


Figure 5.06 shows tithe receipts at a stable, although very low, level after 1442. This is corroborated by the rather scant evidence in Figures 6.01, 6.02, 6.03, 6.04, 6.05 and 6.12. The only parish for which a good series of grain receipts exists is Bishop Middleham and these are shown in Figure 6.14. This supports the idea of renewed

stability during the 1440s since all four grains maintained fairly constant levels with a slight dip in 1442-3. Although the data from Pittington parish do not extend to the end of the 1440s, Figure 6.11 might be a warning that output was not always high in the last decade of the series by comparison with the 1430s: this parish produced 146q. in tithe in 1438 which fell to 82.5q. in 1443 and only reached 116.9q. in the following year.

Although the individual vill graphs have not been useful for analysing year by year changes in output during the unstable 1430s, they do provide evidence for a recovery in stability during the 1440s. A majority of the vill s from which evidence survives from this period showed revival at some point during the 1440s at least. The upturn was particularly steep at Burn Hall and Newton (Durham St Oswald). Burn Hall had been a medium-sized vill during the 1340s but had suffered severely at the end of the first decade of the fifteenth century. It was recorded as not sown by 1416 and no further receipt appeared until 1441 after which tithe was consistently received for the rest of the decade. Of course, recovery was not universal: Hulam (Monk Hesleden) suffered continual decline during the 1440s. None of the vill s demonstrate continued recovery throughout the 1440s; as in Figure 5.05 recovery seems to have halted around 1445 in the vast majority of cases from which evidence survives. Without pushing analysis into the 1450s it is impossible to comment on the significance of the stability or downturn at the end of the 1440s.

The final three decades of the output series are the first for which a detailed comparison of real and estimated output levels can be made. This makes possible a

highly detailed examination of yearly fluctuations in output. In general, this substantiates the impression created by Figure 5.06: output continued to fall throughout the period and there were years of very serious crisis during the 1430s. This chapter has established a solid pattern of changes in output between 1349 and 1450 and the significance of this will be discussed in Chapter 7.

Chapter 7

Agrarian production and economic change

Introduction: explanatory models

A broad distinction can be made in explanations of economic change between the exogenous, i.e. those factors beyond human control, and the endogenous, i.e. the influence of human activity. In the former category fall disease and fluctuations in the weather; the monks of Durham acknowledged the effects of the plague on the long term decline in their tithes income.¹ Although less divine in origin, the effects of the wars between England and Scotland also fall into the exogenous category. The monks also referred to the activities of men in their appropriated parishes who converted arable land to pasture.² Without denying the importance of *deus ex machina* acts of nature, economic thinkers since the middle ages have become increasingly interested in the role of endogenous, though not necessarily conscious, factors in promoting economic change. This interest accelerated rapidly in the eighteenth century with the emergence of the Physiocrats in France and, in particular, Adam Smith in Scotland. These thinkers laid the foundations of classical economics which strongly influenced twentieth-century students of the middle ages.

Ladurie and Postan developed a framework for explaining medieval economic change sometimes known as the 'population and resources' model. Loosely based on the

¹ Plate 3. SS9, ccl.

² Plate 3. SS9, ccl.

classical economics of Malthus and Ricardo, the model gives primacy of causation to the changing balance between the number of mouths to be fed and the resources available to do so.³ The model divides the late middle ages into two broad phases: during the first, which lasted until the early fourteenth century, population rose and during the second, lasting until the sixteenth century, population fell and stagnated. Production was determined by changes in land and labour productivity, both of which were affected by population change. As population rose, land productivity per unit fell because the area under cultivation was extended to the less fertile margins.⁴ At the same time, each unit of labour also became less productive because of the diminishing return yielded by applying more and more labour to the same strip of land.⁵ Although overall production may have increased under these circumstances, it did not do so as fast as population. This resulted in Malthusian crisis: eventually too little was produced to feed the growing number of mouths. The crisis represented a turning point, after which population fell. Then as population decreased the pattern was reversed: land and labour productivity per unit increased meaning overall production did not fall as quickly as population.⁶ Figure 7.1 expresses, in its simplest terms, the relationship between production and population postulated by this model.

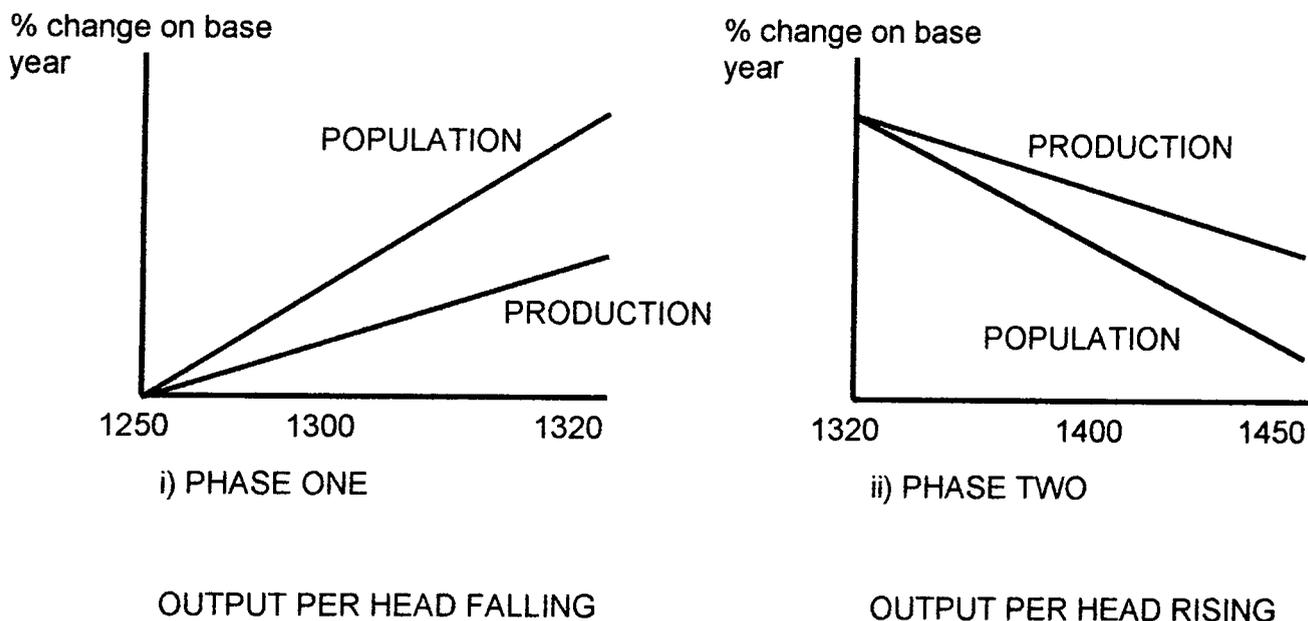
³ J. Hatcher and M. Bailey, *Modelling the middle ages : the history and theory of England's economic development* (Oxford; Oxford University Press, 2001), pp. 21-4.

⁴ Postan, *Medieval economy*, 25.

⁵ Hatcher and Bailey, *Modelling*, 23.

⁶ Campbell, *Seigniorial agriculture*, 24.

Figure 7.1 Diagrammatic representation of the relationship between population and production in the population and resources model



The population and resources model makes certain assumptions. The changes it expresses are driven by endogenous factors, because change is inherent in the system, but the population driving the change does so unconsciously. Like the bees in Mandeville's 'Grumbling Hive', they labour for their own personal benefit and unknowingly make their contribution to macroeconomic change.⁷ The medieval farmers respond to increasing demand only by extending cultivation: the crisis point is reached when the marginal product of labour falls so low as to threaten the subsistence of a large sector of the population. Likewise, they respond to falling demand by contracting the extent of cultivation. Agricultural technology is assumed to be stagnant and therefore, in the

⁷ G. Bannock, R. E. Baxter and E. Davis, *Dictionary of economics* (6th edition; Harmondsworth; Penguin, 1998), p. 257.

model, the cultivators are unable to make a more sophisticated response to demand by changing their method of production.⁸

There are various problems with the model. In particular, for the purposes of the present study, Malthus's thought makes no provision for the prolonged decline and stagnation in population levels of the fourteenth and fifteenth centuries: after the crisis point, population should have slowly risen until another crisis point was reached and the process repeated. For this reason, Ladurie referred to his model as neo-Malthusian because of the introduction of new factors, including the impact of repeated epidemics.⁹

Detailed studies of manorial demesnes have also revealed new layers of causation. Medieval farmers were not necessarily ignorant boors blindly using the same primitive techniques. Rather they responded to contemporary market conditions: those near major cities cultivated cash crops, those in remoter locations exploited limited marketing opportunities in the most profitable way possible. In other words, medieval farmers could be commercialised; they could respond to varying levels of demand.¹⁰

Given that this chapter proposes to examine agrarian production as part of the process of economic change, there are historians who would consider the theoretical framework so far described to be largely irrelevant. Reflecting on the neo-Malthusian model, Bois considered it to be '[s]erved by the reputations of the historians who defend

⁸ Postan, *Medieval economy*, 41.

⁹ E. Le Roy Ladurie, 'A reply to Robert Brenner', in T. H. Aston and C. H. E. Philpin, eds., *The Brenner debate: agrarian class structure and economic developments in pre-industrial Europe* (Cambridge; Cambridge University Press, 1985), p. 101.

¹⁰ Campbell, *Seigniorial agriculture*, 424-30; Hatcher and Bailey, *Modelling*, 145-6.

it; it is crushing our historiography in its tentacles'.¹¹ Rather than attributing a dominant causal role to demographic change, Marxist historians argue that class relations were the principal factor precipitating economic change in the late middle ages and all other periods. Marx himself explained history in terms of dialectic on various levels: at the heart was the conflict between the 'forces of production', i.e. the technology, geography and so on which enabled society to produce, and the 'relations of production', i.e. the relationship between those who owned the forces of production and those who worked. The transition between feudalism and capitalism occurred when this conflict reached a crisis point.¹² However, Marx himself was more interested in the capitalist mode of production than the feudal, and outlining the Marxist explanation of medieval historical change has been left to others. Brenner, in particular, threw down the gauntlet in the 1970s and attempted to formulate an explanation of late medieval economic change based on the autonomous development of class relations.¹³ Rather like the population and resources model, the Marxist framework has been more successful in explaining pre-Black Death development than late-fourteenth- and fifteenth-century change. The peasantry was squeezed tighter and tighter by lords wanting surplus income to spend on conspicuous consumption and warfare which produced crisis in the early fourteenth century: the stagnation of the forces of production and the ever sharpening division in the relations of production meant peasants could scarcely scrape a living.¹⁴ The period after

¹¹ G. Bois, 'Against the neo-Malthusian orthodoxy', in Aston and Philpin, *Brenner debate*, p. 107.

¹² K. Marx, 'Preface to "A contribution to the critique of political economy"', in *Karl Marx and Frederick Engels selected works in two volumes* (Moscow: Foreign Languages Publishing House, 1962).

¹³ R. Brenner, 'Agrarian class structure and economic development in pre-industrial Europe' in Aston and Philpin, *Brenner debate*, p. 18.

¹⁴ *Ibid.*, 31-3.

1350 was supposedly different in some way, heralding the emergence, presumably, of a new capitalist society to replace the feudal one but this has yet to be coherently defined.¹⁵

In this light, it is difficult to use the Marxist model as a tool for examining the Durham output series in the same precise terms with which the population and resources model can be used. There is no Marxist consensus on what effect the feudal crisis of the early fourteenth century should have had on later production levels. The problem here is that the two models do not seek to explain the same things; in fact, they are not based on the same methodological premise. Marx was not attempting to explain certain quantitative economic developments like Postan and Ladurie. Rather he was attempting to explain all types of historical change: the economic base, he thought, gave rise to the political and cultural superstructure.¹⁶ The Marxist hammer is too large to use on the Durham output series. This chapter will instead examine agrarian production under two different landlords between the Tyne and Tees in order to assess the impact of seigneurial power on production. Hardly a test of the Marxist model, this merely attempts to look beyond the relationship between population and resources.

The problem with these models, but also their appeal, lies in the lack of evidence. If Figure 7.1 were to be empirically tested then continuous series of production and population indicators would be required over a period of nearly two centuries. These are not available. If levels of commercialisation were to be accurately measured then the historian would need to know the location of markets, the volume of agricultural produce

¹⁵ Hatcher and Bailey, *Modelling*, 109.

¹⁶ K. Marx and F. Engels, *The German Ideology Part I*, ed. C. J. Arthur (London; Lawrence and Wishart, 1970), p. 57.

sold and that saved for personal consumption, and even the nature of fourteenth- and fifteenth-century consumption patterns. The historian of the area between the Tyne and Tees does not even know the location of grain markets outside the obvious urban centres. If the Marxist explanation were to be examined, then a plethora of studies would be needed on serfdom and landlord-tenant relations in the region. The theoretical models are most useful as frameworks for trying to explain the scattered and fragmentary evidence we do have. This chapter will consider these historiographical perspectives in turn. First the nature of the exogenous factors will be examined as far as possible and then the evidence for changing land use and labour supply, so important in the Postan model. The final section will look at the impact of different landlords on production levels.

Exogenous factors and production levels

Population is determined by the relationship between birth rates and death rates which are affected by endogenous factors such as standards of living and marriage patterns. However, medieval and modern populations alike can be visited by sudden mortalities caused by new diseases. Again, endogenous factors such as nutrition and sexual practices might heighten a population's susceptibility to an epidemic. It appears, however, that new viral and bacterial mutations explain the appearance of unknown diseases: in other words, they are exogenous factors of change. Prior to the arrival of the Black Death, plague had been absent from the British Isles for six centuries.¹⁷ Pestilence was not a one-off disaster

¹⁷ *Bede: the ecclesiastical history of the English people; the greater chronicle; Bede's letter to Egbert*, eds. J. McClure and R. Collins, (Oxford; Oxford University Press, 1994), pp. 161, 170, 195 (Ecclesiastical history, III:27, IV:1, IV:14); C. Creighton, *A history of epidemics in Britain from A.D. 664 to the extinction of the plague volume I* (Cambridge; Cambridge University Press, 1891), pp. 4-7. The features of this plague

for the economy in the late middle ages: following its appearance in 1347-9, it went on to become endemic and revisited perhaps as often as once a decade.¹⁸ Plague was therefore an ongoing influence on agricultural production which affected both supply and demand.

Figure 7.2: Durham output indices (price crisis years omitted) and years of pestilence in the north

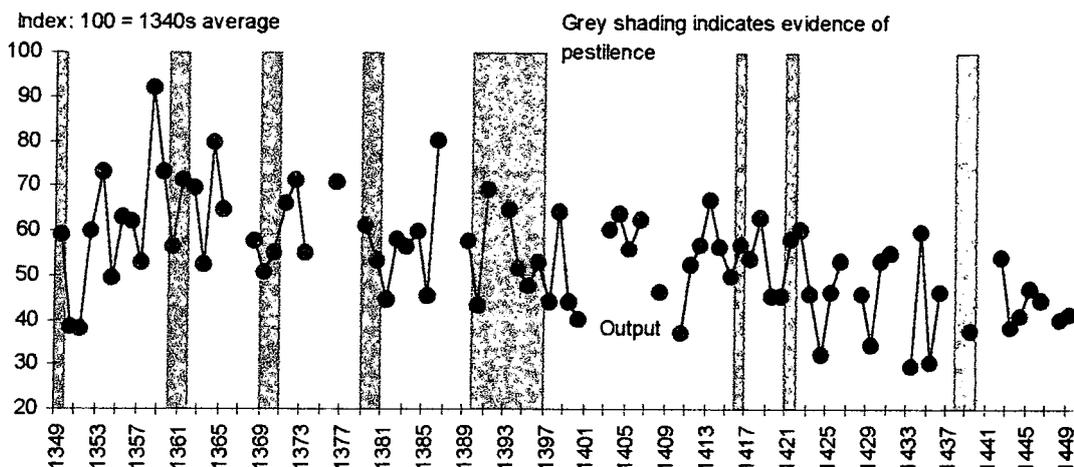


Figure 7.2 shows the *infra aquas* output series alongside years for which there is evidence of plague outbreaks in northern England.¹⁹ There does seem to have been an association between pestilence and falls in output: presumably heavy mortality affected the labour supply available in the fields and the demand for grain. Most obvious is the sharp downturn in output in 1349 and 1350 as a result of the ‘Great Pestilence’. The known outbreak at the beginning of the 1360s seems to have coincided with the end of the post-Black Death recovery in production levels and the epidemic at the end of the 1360s is associated with the sharp fall in production of those years. There is also a clear

outbreak, especially the apparent slowness of its spread, appear dissimilar to those of the Black Death and the connection between the two has been denied by some medical historians, e.g. G. Twigg, *The Black Death: a biological reappraisal* (London; Batsford, 1984), p. 41.

¹⁸ E.g. Poos, *Rural society*, 112.

¹⁹ See Appendix 3 for information on post-Black Death plague outbreaks in northern England.

association between plague and falling output in the 1390s when considerable evidence of disease coincides with low turn of the century indices and a collection of years where indices are omitted because of crisis level prices. The association between disease and output is less clear in the fifteenth century. Nonetheless, the sudden dip in output in 1424 may have been associated with a plague outbreak at the beginning of the 1420s. More clearly, there is evidence of plague in the years of very low output at the end of the 1430s.

To make a closer appraisal of the impact of outbreaks of disease on production, information is needed on the death toll of each mortality. We do not yet have a localised study of population evidence around Durham and so it is not possible to compare Figure 7.2 with a detailed and continuous series.²⁰ As described in Chapter 6, comparison between mortality and fall in production levels is only possible for the Black Death itself when both seem to have fallen to a little under half of 1340s levels.

More abundant evidence from elsewhere suggests the demographic impact of some plague epidemics may have been longer lasting than a sudden depletion of those afflicted. A notary's survey of the dead in a plague outbreak in Pistoia, for example, recorded that only 485 out of 1625 victims were unquestionably adults, and many of these could have been the elderly.²¹ If most of the victims of disease were below child-bearing age, then the population could recover quickly: only later, when the missing

²⁰ Work has been done on mortality in the well-documented Durham Benedictine community by Professor John Hatcher, Dr David Stone and Mr Alan Piper but has not yet been published.

²¹ D. Herlihy, *Medieval and renaissance Pistoia: the social history of an Italian town 1207-1430* (New Haven and London, Yale University Press, 1967), p. 110.

generation should have reached maturity, would reproductive capacity be impaired. An examination of the age distribution of the population of Prato in 1371 reveals a low proportion of young adults. This corresponds to chronicle evidence that children were particularly badly affected by the 1363-4 plague outbreak. Data from the same city in the early fifteenth century suggest that this pattern recurred in the epidemics after 1370. Epidemics may have targeted certain age groups for biological reasons: Herlihy suggested that if an individual survived one outbreak then he was likely to survive another.²² If this was the case, then post-Black Death outbreaks of the same disease would be more likely to afflict those who had not survived the earlier onslaught, that is children born since. It is possible that some people inherited a genetic immunity to the bubonic plague bacillus.

Some English evidence points towards the same conclusions as that from the north Italian towns. Razi's examination of court rolls from Halesowen (W Midlands) suggests that people in the parish were much older in 1393 than in 1350:

the population of the parish was overwhelmed at the end of the fourteenth century by the middle-aged and elderly and was doomed to a long period of stagnation and decline.²³

²² D. Herlihy and C. Klapisch-Zuber, *Tuscans and their families: a study of the Florentine Catasto of 1427* (New Haven, Conn.; Yale University Press, 1985), pp. 186-92.

²³ Z. Razi, *Life, marriage and death in medieval society: economy, society and demography in Halesowen, 1270-1400* (Cambridge; Cambridge University Press, 1980), p. 151.

The demographic evidence from the community of Benedictine monks at Durham bears this out: if a monk survived one plague outbreak, then he stood a better chance of withstanding recurrences of the plague.²⁴

If genetic immunity to plague was a significant factor in determining the age structure of populations in the fourteenth and fifteenth centuries then the recurrent epidemics must have been caused by the same bacillus. Given the anecdotal nature of the evidence on symptoms, this is extremely difficult to prove. Medical historians are notoriously undecided on the precise nature of the infection which caused the Black Death, never mind the even murkier question of subsequent plague outbreaks.²⁵ In fact, an examination of the various narratives suggests the '*pestilencie frequenter accidentes*' mentioned by the Durham monks in 1436 may have been a mixture of diseases including plague.²⁶ The evidence from Prato and the Durham monastic community, which is not dependent on ambiguous descriptions of symptoms, does at least indicate that immunity to plague among individuals who had survived one outbreak was a significant factor. If a pattern similar to that at Prato obtained between the Tyne and Tees, that is one of high mortality of children in the period 1360-1400, then lower levels of productivity from the 1390s appear more readily explicable: gradually the demographic effect of the

²⁴ Mr A. J. Piper, personal communication.

²⁵ A recent, though brief, discussion of the controversy is in W. Naphy and A. Spicer, *The Black Death and the history of plagues 1345-1730* (Stroud; Tempus, 2000), pp. 55-6. A classic and much more lengthy case arguing that the Black Death was not caused a the modern bubonic plague bacillus is put forward in Twigg, *The Black Death*. The DNA tests performed by Didier Raoult in a plague cemetery in Montpellier in 2000 suggest the medieval bacillus was similar to the *yersinia pestis* which causes modern plague. *The Times*, 10 November 2000. However, Professors Duncan and Susan Scott have recently argued the Black Death was caused, not by a bacillus, but by a virus. *The Independent*, 23 July 2001 and www.bbc.co.uk/world...tech/highlights/010801_blackdeath.shtml

²⁶ E.g. Creighton, *Epidemics*, 207, 220.

annihilation of generations of children must have lowered demand for foodstuffs and weakened the productive capacity of society.

Not only could late medieval plague outbreaks be age-specific but they could also be highly geographically specific, even within a very small area. The very different effects of the Black Death in adjacent villages between the Tyne and Tees have been described in Chapter 6. The Durham Priory evidence used by Lomas, however, does not enable sustained comparison over a number of decades.²⁷ Detailed evidence from hearth taxes in the region of Estella in Navarra in 1350 and 1366 demonstrate severe demographic decline in some villages across these sixteen years and healthy recovery in others.²⁸ The same effect is not visible in the overall figures presented in Figure 7.2, but gives weight to an exogenous explanation for the varying patterns of production from vill to vill between the Tyne and Tees.

Another exogenous factor responsible for agricultural fluctuations in any period is the weather. There can be no doubt that many meteorological extremes could cause fluctuations in harvest levels: severe cold in the winter, intense heat in the summer, heavy rains at harvest time and so on. Climatic conditions must have been responsible for the sharp annual fluctuations in output shown by the Durham tithe series. Once again, the 1390s deserve special attention. The continuation of the chronicle of Ranulf Higden, for example, refers to '*immensus calor*' lasting from the beginning of June until September

²⁷ Lomas, 'Black Death'.

²⁸ J. Carrasco Perez, *La población de Navarra en el siglo XIV*, Colección Histórica de la Universidad de Navarra, 29 (Pamplona, 1973), p. 122.

in the summer of 1390 and the dearth which resulted.²⁹ Manorial account evidence from southern England attests to the expedients forced upon the reeves because of unusual weather. The reeve of the Winchester bishopric manor of Stoke had to use more customary works than usual in the autumn of 1354 because of the heavy rains.³⁰ Such examples are unsurprising. Something more than the usual annual variation is needed, however, if the downward trend in overall Durham output between 1350 and 1450 is to be explained meteorologically. Following the advantageous climate of the twelfth and thirteenth centuries, it appears the weather became less propitious during the fourteenth. In particular, the summers seem to have become wetter which was damaging to the crops maturing before harvest. However, the meteorological explanation is not valid for the long term decline in production between the Tyne and Tees because the period of particularly bad weather seems to have fallen between the 1315-17 famine and the Black Death; by 1375 there seems to have been an improvement.³¹

Two other factors remain for consideration which, although not completely beyond human control, are exogenous to the population and resources model. The first is the impact of war between England and Scotland, which the monks gave second place in their list of causes of the decline in tithe income. Dobson and Lomas both described the damage caused to sources of monastic income by the Scottish wars of Edward I and Edward III but they referred to tithes from appropriated churches north of the Tyne and,

²⁹ *Polychronicon Ranulphi Higden monachis cestrensis vol. IX*, ed. J. Rawson Lumby, *Rerum britannicarum medii aevi scriptores* (London; Longman, 1886), pp. 237-8, 242.

³⁰ J. Z. Titow, 'Le climat à travers les rôles de comptabilité de l'évêché de Winchester (1350-1450)', *Annales Économies Sociétés Civilisations*, 25 (1970), p. 316.

³¹ C. Dyer, *Making a living in the middle ages: the people of Britain 850-1520* (New Haven and London; Yale University Press, 2002), pp. 156, 254; Campbell, *Seigniorial agriculture*, 369.

especially, north of the Tweed.³² It was impossible for almost the whole period of this study for the bursar and terrar to collect the income due from their Scottish appropriated parishes (Earlston, Ednam and half of Edrom). Indeed, the only mention of income from these rectories between 1340 and 1450 is a clutch of references to Ednam in the 1370s.³³ The wars also affected rectories between the Tyne and Tweed. In 1384-5, for example, the bursar accounted for a smaller than usual receipt from Ellingham parish and explained that the poor revenue was the result of destruction wrought by the Scots.³⁴

These examples are taken from outside the region chosen for study in this project; the impact of the wars south of the Tyne is less obvious. The only direct reference from the tithe sections of the account rolls to the impact of the war with Scotland *infra aquas* is in the hostiller's account of 1346. The prior of Finchale, purchaser of the tithes of Newton and Wastes (Durham St Oswald), was granted an allowance of £3 13s. 4d. because the vills were 'by the Enemies destroyed'.³⁵ This is the year in which the Scots attacked northern England, in order to help their allies the French, and were met by the archbishop of York and northern noblemen at Neville's Cross outside Durham.³⁶ It appears that the parishes between the Tyne and Tees were not too far south for their agriculture to be undisturbed by the wars between England and Scotland.

³² Dobson, *Durham Priory*, 274; Lomas, 'Border warfare', 158.

³³ DCM, bursars' accounts 1370-1, *Decime*; 1371-3, [*Decime*]; 1373-4, [*Vendiciones deci*]marum; 1374-5, [*Decime*].

³⁴ DCM, bursar's account 1384-5, [*Decime*].

³⁵ DCM, hostiller's account 1346-7, *Allocaciones de anno presenti*.

³⁶ Keen, *England*, 136.

A Pittington manorial account of 1384-5 explained low income from parcels of meadow because they were ‘destroyed by men on their way to Scotland’. It appears this may have been caused by the armies of Richard II, which passed through Durham in July 1385, on their way to meet Franco-Scottish forces assembled across the border.³⁷ No mention is made of destruction to tithe grains in any of the years around 1385 in Pittington parish.

Figure 7.3: Pittington parish average output indices compared with south Durham parishes

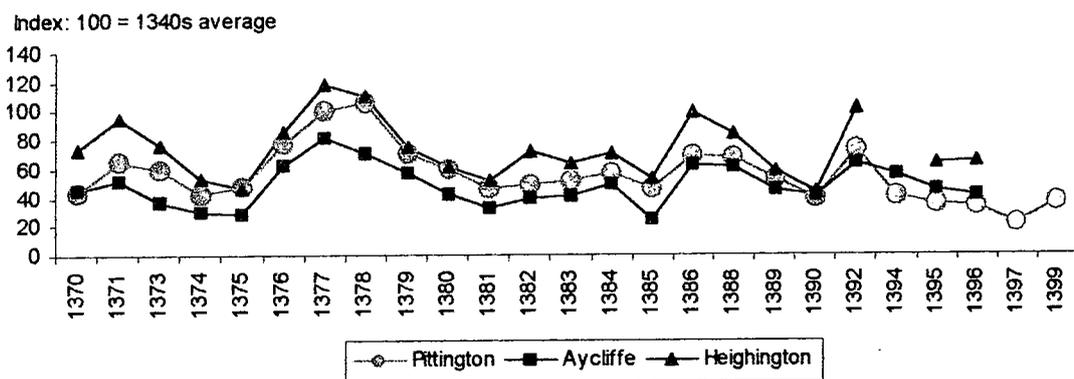


Figure 7.3 compares the Pittington parish estimated output for 1370-99 with that from Aycliffe and Heighington. The fluctuation of Pittington’s production levels does not seem to have been substantially different to that in Aycliffe and Heighington; in general, it was slightly lower by comparison with 1340s averages than that from Heighington, and slightly higher than that from Aycliffe. Output in Durham parishes does not seem to have been significantly affected by the passage of the English army to Scotland in 1385.

³⁷ Dodds, ‘*In manu domini*’, 47-8.

Any difficulties experienced between the Tyne and Tees from 1340 and 1450 as a result of war appear to have been insignificant compared with those of the Northumberland and Scottish parishes. Given the infrequent references in the account rolls, it does not seem reasonable to ascribe the long term decline in agricultural production in the *infra aquas* parishes to war.

There is a school of thought that ascribes the economic difficulties of the late middle ages to monetary causes. Historians using the shortage of currency in circulation to explain the export slump of the mid-fifteenth century have extended their argument to the agrarian slump.³⁸ Day analysed mint output and found a desperate shortage at the beginning of the fifteenth century, some increase in circulation during the 1420s and 1430s, and a precipitous crisis c. 1440-60.³⁹ Mint output is not necessarily a sound indicator of the amount of coin in circulation and Nightingale attempted to use levels of lending to the crown as a more reliable indicator. Her study confirmed the shortage, at least in the mid-fifteenth century.⁴⁰ There is evidence of a European bullion famine originating in the late fourteenth century and caused by the abandonment of silver mines. Floods, tunnel collapses and increased labour costs all contributed. The mines at Freiburg which, in the twelfth century, had produced around four tons of metal annually rarely produced more than half a ton during the fifteenth. These difficulties were compounded

³⁸ J. Day, *The medieval market economy* (Oxford; Blackwell, 1987), p. 199.

³⁹ *Ibid.*, 58.

⁴⁰ P. Nightingale, 'England and the European depression of the mid-fifteenth century', *Journal of European Economic History*, 26 (1997), pp. 637-40.

by export of bullion to the Levant to balance the trade deficit caused by large quantities of spices being imported.⁴¹

On the face of it, the monetarist thesis is highly appealing: it is certainly a persuasive explanation for the export slump of the mid-fifteenth century. As the force behind long term decline in production between 1350 and 1450 it is less convincing: in particular, it is difficult to reconcile with the high price and wage levels of the period. Postan long ago observed that the wage and price evidence cannot be reconciled with a currency shortage without recourse to a demographic explanation of some kind.⁴²

Vacancies and sheep: land use and production levels

Central to the Postan thesis on population and resources is the contraction of cultivation during the phase of population decline: as fewer mouths needed feeding, plots of land newly cropped in the thirteenth and fourteenth century were left waste. However, as the cultivated area fell, so the level of production per acre rose. This is because the husbandmen retreated to the core areas of highly fertile lands and left the assorted marginal lands to lie waste.⁴³

Unlike the minutely detailed manorial accounts, tithe records give little away about the actual cultivation in the appropriated parishes. However, the monk office holders were responsible for making sure their incomes were collected in full: if a

⁴¹ Day, *Market economy*, 61, 111.

⁴² Postan, 'Declining population', 196-95.

⁴³ Postan, *Medieval economy*, 25.

revenue was smaller than in years past, then the auditors wanted to know why. It is through these explanations that a rough indicator of cultivated area between the Tyne and Tees is to be found. Northern parishes consisted of several discreet villis and sometimes a situation arose where tithe could not be collected from one or more of these villis because they were 'waste' or 'unsown'. The accountant acknowledged this in his list of receipts from each vill. In 1390-1, for example, the bursar recorded receipts from the Aycliffe parish villis of Aycliffe, Heworth, Preston le Skerne, Newton Ketton, Brafferton, Nunstainton, Woodham and Newhouse; the villis of Ricknall Grange and Grindon, however, produced no receipt because they were waste.⁴⁴

Figure 7.4: Proportion of villis 'waste' or 'not sown' and output index decennial averages (price crisis years omitted)

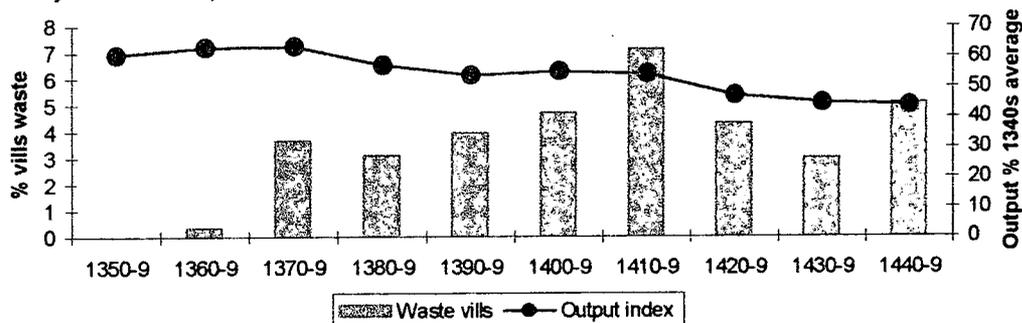


Figure 7.4 attempts to use the records of waste villis as an indicator of the extent of cultivation between the Tyne and Tees 1350-1450. It is a very blunt instrument and the results must be interpreted carefully. The nil and very low percentages for the 1350s and 1360s do not necessarily suggest there was no contraction in cultivation during these decades; they do indicate that any such contraction occurred only on a field by field basis

⁴⁴ DCM, bursar's account 1390-1, [*Decime*] Aycliffe.

and that whole vills were not laid waste. Nor does the decrease in the number of waste entries during the 1420s and 1430s necessarily suggest vills were reoccupied; rather accountants may have ceased entering nil receipts for long vacant vills.

Figure 7.4 shows some association between the number of vills recorded as vacant and the movement of overall production. In particular, there was a sharp increase in the number of vacant vills around the turn of the century at the same time as falling output. However, the relationship between the two series is not always inversely proportional. Between 1350 and 1389 the decennial output index fluctuated between 60.3 per cent and 62.9 per cent; in the first of these decades no waste vills were recorded and in the last two nearly 3 per cent of vills were waste. Nonetheless, the overall decline in production does seem to have been accompanied by a decrease in the cultivated area. This is not surprising: the more important question is whether the vills which did fall waste were different from those which remained in cultivation.

The data in Table 7.1 enable an estimate to be made of the average size of the vills which were recorded as waste throughout the series. Again, the use of 1340s average income is an imprecise tool: it is reliant on representative 1340s averages and assumes a consistent and gradual increase in vill size from number 1, the smallest, to number 105, the largest. The mean ranking of all the vills recorded as waste is just under 37 which suggests they were more likely to be small than large. Nonetheless, some large vills such as Monkwearmouth and Woodham were recorded as waste. More interestingly, the smaller vills seem to have fallen waste before the larger vills: the mean ranking for vills

first recorded as waste before 1400 is 28 and that for vill s falling waste after 1400 is 54.⁴⁵ It is not necessarily true that smaller vill s would be ‘marginal’ areas of cultivation but it does at least seem possible that they represented vill s with less fertile farm land. The evidence is not sufficiently detailed for a comprehensive survey and the sample size too small for statistical testing. However, the fact that small vill s fell vacant first and then larger vill s does suggest that there may have been an initial increase in productivity per acre as cultivation was concentrated in large core fertile vill s. This would be in keeping with the classic Postan model depicted in Figure 7.1.

Table 7.1 Vill s recorded as ‘waste’ or ‘unsown’

Parish	Vill	Earliest harvest from which no tithe received	Ranking of 1340s average (1 = lowest; 105 = highest)
Aycliffe	Grindon	1371	14
Aycliffe	Ketton Grange parcel	1449	N/A
Aycliffe	Newhouse	1381	17
Aycliffe	Newton Ketton	1440	37
Aycliffe	Ricknall	1374	74
Aycliffe	Ricknall Grange	1374	18
Aycliffe	Woodham	1431	82
Heighington	Middridge Grange	1380	27
Jarrow	Fallingsby	1374	7
Jarrow	Felling	1384	26
Jarrow	Hedworth	1423	48
Jarrow	Jarrow	1423	50
Jarrow	Wardley	1390	9
Kirk Merrington	Spennymoor	1375	58
Monk Hesleden	Hardwick	1423	53
Monkwearmouth	Hylton	1427	85
Monkwearmouth	Monkwearmouth	1379	97
Monkwearmouth	Newton	1368	3
Monkwearmouth	‘Threptend’	1368	6

⁴⁵ These results are significant at a 99% confidence level but such a test is not reliable for such a small sample.

Parish	Vill	Earliest harvest from which no tithe received	Ranking of 1340s average (1 = lowest; 105 = highest)
Pittington	Downside	1404	10
Pittington	Haswell Grange	1449	N/A
Pittington	Hetton le Hill	1389	45
Pittington	Ravensflat	1397	15
Pittington	Warknoll	1397	4
St Oswald	Burn Hall	1415	67
St Oswald	Houghall	1383	34

Land could not only be used for arable crops: there is considerable evidence from elsewhere that whilst arable production declined during the phase of demographic contraction, the pastoral sector may have fared better. Drawing on a large collection of demesne accounts, Campbell calculated that the mean number of livestock units per manor rose from 62.2 in 1250-1349 to 74.2 in 1350-1449 whilst the mean number of sown acres fell from 194.1 to 150.3 in the same period.⁴⁶ He did concede that extensive pastoral operations were already in existence in northern England meaning the change would not, perhaps, be so marked.⁴⁷ Investigation of a possible pastoral boom in the Durham Priory parishes is required because of the monks' own comment that their tithe revenue was diminishing 'because lands ... once cultivated ... afterwards by their lords were put to pasture'.⁴⁸

There are no livestock tithe figures, from south of the Tyne at least, with which a series comparable with the arable output series can be compiled: overall arable and pastoral production levels cannot be plotted. The historian is reliant, therefore, on

⁴⁶ Campbell, *Seigniorial agriculture*, 178.

⁴⁷ *Ibid.*, 432.

⁴⁸ Plate 3. SS9, ccl.

demesne stock accounts as an indicator of pastoral activity *infra aquas* between 1350 and 1450. The priory operated an 'inter-manorial system ... which was fully developed as early as the end of the thirteenth century' and was overseen by the bursar and terrar. Whilst stock was kept on many of the priory's manors, Halcrow identified Muggleswick as the 'great stock rearing and wool producing centre' and Saltholme⁴⁹, near Billingham, as the 'only other sheep farming centre of importance'.⁵⁰ Enrolled stock accounts survive with some regularity from 1340 to 1423 and we have individual accounts until the late fifteenth century for Muggleswick and Saltholme. The existence of at least thirty-nine different stock centres managed from Muggleswick and Saltholme makes the collection of a series of comparable figures for the priory's flocks and herds very difficult to compile.⁵¹ Muggleswick, although well represented in the accounting material, was really a group of stock centres since it was connected with at least sixteen different places.⁵² Given the incomplete state of many of the enrolled accounts, it was not possible to put together a list of Muggleswick stock in which all these centres are fully represented for each year. Saltholme, on the other hand, was a less sprawling operation. The livestock accounts only mention its connections with 'Bartoncotes' and 'Hoggecote' and it was possible to extract a useful series of sheep numbers from both the enrolled and individual stock accounts.

⁴⁹ The documents themselves refer to 'Le Holme' as does Piper's handlist to the accounting material. SS198, 208, however, describes 'the separate manor of Saltholme in marshland to the east [which] was let for a corn-rent until 1350, when it became the priory's principal lowland centre of sheep-farming'. Modern maps identify Saltholme to the east of Billingham new town. Although identification between modern Saltholme and medieval 'Le Holme' is probably not exact, the term 'Saltholme' has been used here for convenience.

⁵⁰ Halcrow, 'Administration and agrarian policy', 2, 10, 69.

⁵¹ This figure is taken from Piper, *Medieval accounting material*.

⁵² SS198, 218; Piper, *Medieval accounting material*.

Figure 7.5: Heads of sheep at Saltholme and output indices (price crisis years omitted)

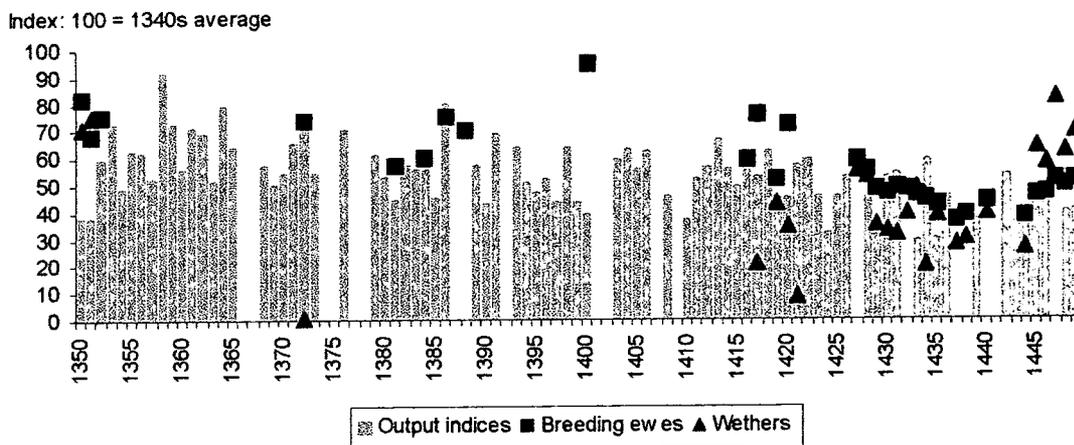


Figure 7.5 presents the Saltholme pastoral evidence most directly comparable with the arable output series: the sheep quantities represent the number remaining from the previous account.⁵³ The limitations of Figure 7.5 are obvious: the arable indices were calculated using around four thousand tithe receipts, and refer to both peasant and demesne sectors, whereas the sheep series uses only sixty-one numbers, and those from the demesne only. Nonetheless, the figure adds weight to the suggestion that some arable land was converted to pasture between the Tyne and Tees in the wake of the Black Death. The number of ewes and wethers at Saltholme was not so seriously affected in 1350 as the level of arable production: the number of ewes was 20 per cent lower and that of wethers 30 per cent lower than their respective 1340s averages whereas arable output fell by over 60 per cent. Although the Saltholme figures from the late fourteenth century are scant, the pastoral trend does seem to have run counter to the arable trend between 1370 and 1400. Unlike the overall arable output, the Saltholme pastoral indicators, with one anomalous exception, do not fall under 50 per cent and the number of ewes in 1400 was over 90 per cent the 1340s level.

⁵³ The accounts used in the preparation of Figure 7.5 are listed in the Bibliography.

This buoyancy may have been maintained up until the end of the second decade of the fifteenth century: this is suggested by the number of breeding ewes although the number of wethers had fallen below 1340s levels. Most striking is the corresponding downturn in arable, ewe and wether indices from the late 1420s until the late 1430s. The ewe indices form the smoothest line, with the arable and wether indices showing greater fluctuation, but all three drop considerably. The three series do not move so closely during the late 1430s and 1440s but there is still some similarity in pattern: the pastoral sector seems to have enjoyed greater improvement during the 1440s on the disastrous years of the 1430s.

No doubt this evidence is rather threadbare: the suggestion that pasture may not have suffered as much as arable 1370-1420 is based on only ten figures. There is scope within the priory records, and in other northern collections, for a much more thorough study of the pastoral sector than that permitted within the time constraints of this project. The only existing study on the balance of arable and pastoral was done by Pollard as part of his work on the agrarian crisis of the 1430s. He noticed increases in rents on the Fitzhugh estates of Mickleton, Cleasby and Clowbeck, just to the south of the River Tees, during the 1420s and very early 1430s. This he attributed to a 'pastoral boom' and added evidence from Stanhope Park in Upper Weardale to support his conclusions. The Saltholme figures suggest that demesne pasture operations may have peaked earlier: they hint at a turn of the century high. Nor do they support Pollard's conclusion that the 'main

impact of the crisis of 1438-40 thus fell on arable husbandry'.⁵⁴ More study is needed to reach a consensus on the timing of the vicissitudes of pasture farming in the Northeast. It appears highly likely, however, that the fall in arable was compensated for, to some extent at least, by the pastoral sector.

Peasant productivity: a comparison with the manorial sector

The great unanswered question implicit in the research done to test the population and resources model concerns differences between the seigneurial and peasant sectors: published data derive overwhelmingly from the former whereas most cultivated land in the middle ages belonged to the latter. It has been possible, of course, to extrapolate from demesne evidence, using estimates based on what we know of consumption and markets, to make suggestions about the relationship between overall output and population.⁵⁵ There is still a great need, however, to clarify our knowledge of peasant agriculture. Broad comparisons were made in Chapter 6 between the Durham output series, which comprises both the demesne and peasant strips, and work done on the demesne sector; this revealed that the pattern shown in Figure 5.06 is not unlike the established pattern for demesne production. This descriptive comparison did not, however, seek to define the differences between the overall output and the demesne output evidence. This section will juxtapose some actual demesne output series with the Durham series in order to clarify exactly where the similarities and differences lay. These observations provide the

⁵⁴ Pollard, 'Agrarian crisis', 91-2, 99.

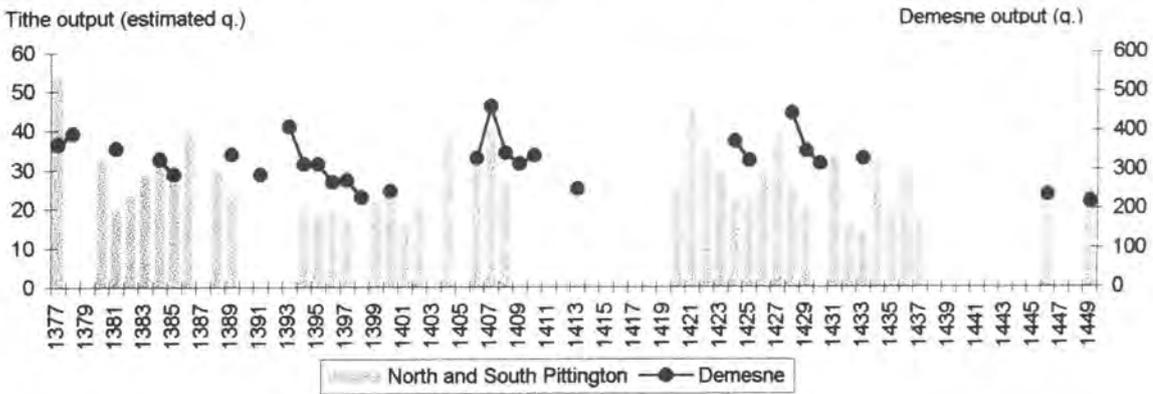
⁵⁵ Campbell, *Seigniorial agriculture*, 392-3.

basis for speculation on the reasons behind comparable or divergent movement in the two sectors.

The obvious test is a comparison of overall Durham production with that on the Durham manors; moreover, all the priory demesnes from which accounts for arable demesne operations survive for between 1340 and 1450 were situated in appropriated parishes.⁵⁶ The distribution of surviving demesne accounts makes a systematic comparison for the whole period impossible: there are no surviving manorial accounts for the period between 1349-50 and 1369-70. Fifteenth-century manorial accounts are also rare: the only survivals from after 1412-13 are from Houghall (only for 1425-6) and Pittington. This latter manor was selected for comparison with the overall output figures. The survival of only two complete and one fragmentary 1340s Pittington accounts meant it was not possible to index manorial production against 1340s figures in the way done for the overall output series. Figure 7.6 depicts Pittington demesne output in all grains against total estimated tithe output from North and South Pittington. These villis were adjacent to the Pittington demesne. The left hand y-axis represents estimated tithe output and therefore, if multiplied by ten, should approximate total output. This means the total range of output from Pittington demesne and from the two villis of North and South Pittington was roughly equal during these years.

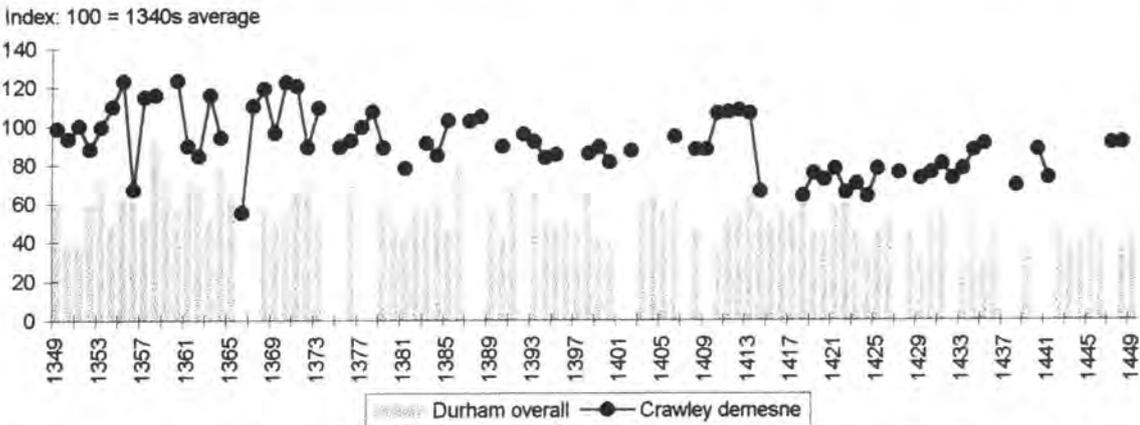
⁵⁶ Piper, *Medieval accounting material*. Bearpark (Durham St Oswald); Bewley (Billingham); Billingham; Dalton (Dalton le Dale); Ferryhill (Kirk Merrington); Fulwell (Monkwearmouth); Houghall (Durham St Oswald); Ketton (Aycliffe); Merrington (Kirk Merrington); Pittington; Wardley (Jarrow); Westoe (Jarrow).

Figure 7.6: Estimated output from two *Pittington* villis and demesne



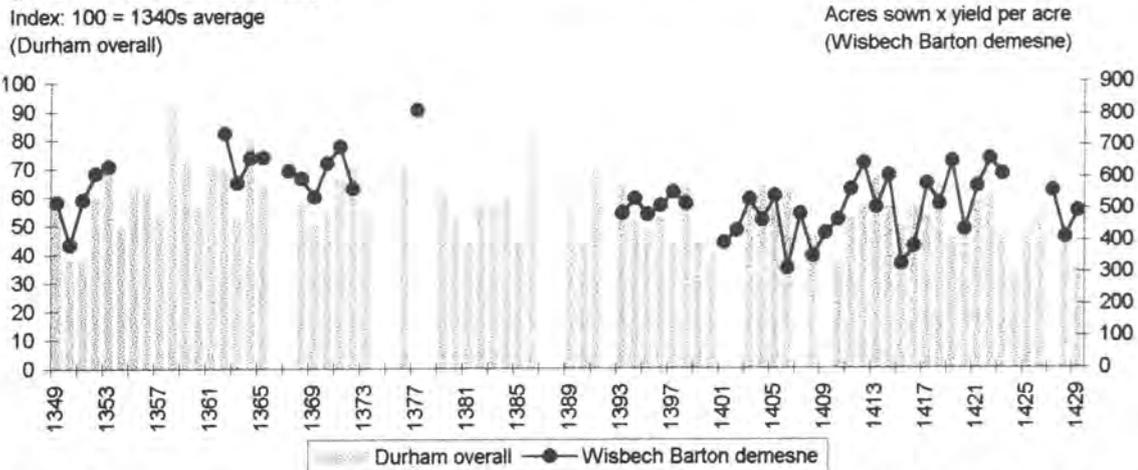
Source: tithe output series and Pittington manorial accounts listed in Bibliography.

Figure 7.7: Demesne output in *Crawley* (Hampshire) and the Durham output indices (price crisis years omitted)



Source: N. S. B. Gras, *The Economic and Social History of an English Village* (Cambridge, Mass.; Harvard University Press, 1930), pp. 340-3.

Figure 7.8: Demesne output in *Wisbech Barton* (Cambridgeshire) and Durham output indices (price crisis years omitted)



Source: D. Stone, 'The Management of Resources on the Demesne Farm of Wisbech Barton, 1314-1430' (unpublished University of Cambridge Ph.D. thesis, 1998), pp. 259-60, 263-4.

Figures 7.7 and 7.8 were plotted using output figures from demesnes in southern and eastern England in order to provide a broader chronological comparison between demesne and overall output than that provided by the Durham manorial series. There is a problem with all these comparisons: it is not known what proportion of the Durham Priory *infra aquas* tithes came from seigneurial demesnes and what proportion came from peasant strips.

The three demesne series in Figures 7.6, 7.7 and 7.8 are similar in overall shape to the Durham output indices. Recovery after the Black Death was rapid: although output fell to 390q. at Wisbech Barton in 1350, it had risen to 636.4q. by 1353. At Crawley, output had reached 123 per cent of 1340s levels by 1355. Although the Crawley indices are always very high by comparison with Durham overall output, the buoyant production levels of the 1350s were not consistently maintained during the rest of the fourteenth century: the 1360s and early 1370s stand out as a period of marked fluctuation on the demesne at Crawley. Both the Pittington demesne and Wisbech Barton series show substantial falls in the 1390s. The low levels of estimated output from North Pittington and South Pittington were matched by a dramatic fall in Pittington demesne production from 409.4q. in 1393 to 228.8q. in 1398. Although there is a gap in information from Wisbech Barton between 1377 and 1393, production was at a significantly lower level by the second date and fell further into the first decade of the fifteenth century. Figure 7.7 suggests that a slightly different pattern obtained at Crawley: the turning point in demesne production levels seems to have come in the late 1370s. Nonetheless, there was a further drop in output at Crawley between the end of the 1380s and 1400. Figures 7.6

and 7.7 both show a rise in production levels in the first two decades of the fifteenth century. The fall in output at Crawley between 1413 and 1414 seems to have been the result of a change in leasing policy.⁵⁷ Unfortunately, the demesne figures are too scant from the 1430s to compare the extent to which home farms were affected by the agrarian crisis of that decade: the slightly lower 1438 Crawley figure might give some hint of difficulties. The Pittington demesne figures suggest output had reached a low level comparable with the bleak years of the turn of the century by the end of the 1440s.

Historians have made two contradictory assumptions about the relative stability of demesne and peasant output. On the one hand, they suggest peasant production would be inferior per acre because of poorer land, lower livestock density and less manure.⁵⁸ The demesne sector, they argue, would be more resistant to crisis because it was managed less for subsistence and more for cash profit and there would therefore be surplus grain for sale even in dearth years, possibly at hugely inflated prices.⁵⁹ On the other hand, it is suggested that, whilst demesne managers relied on labour services and wage labourers, peasant strips were cultivated by more productive free family labour.⁶⁰ This might mean that peasant production levels were less likely to plunge during periods of increasing labour costs. This could mitigate against the reduced resilience of peasant agriculture to crisis: during periods of high labour costs, family labour on a subsistence farm would still be free. The period of the sharpest increase in labour costs during the later middle ages came at the end of the fourteenth century and affords the historian an opportunity to

⁵⁷ Gras, *English village*, 342-3, n.4.

⁵⁸ Campbell, *Seigniorial agriculture*, 391; Postan, *Medieval economy*, 122-4.

⁵⁹ Campbell, *Seigniorial agriculture*, 2.

⁶⁰ *Ibid.*, 396.

compare wage levels and overall production levels.⁶¹ In particular, the excellent series of wage rates from the Pittington manorial accounts provides a specific context for comparison.⁶² Evidence for rising wage rates at Pittington in the final quarter of the fourteenth century is abundant. The cost of threshing one quarter of wheat, barley and oats all increased by $\frac{1}{2}d.$ during this period and payments to weeders rose in 1382-3. Most striking were the increases in the *famuli* cash stipends: between 1390 and 1413 the level of the most common cash wage given to a Pittington *famulus* rose from 14s. to 18s.⁶³

Manorial production seems to have fluctuated less than Durham overall output. If the estimated tithe output levels in Figure 7.6 are multiplied by ten to give total production then the standard deviation for this series is 87.5 compared with only 60.7 for the demesne. More striking in Figures 7.6 and 7.7 is that demesne production seems to have fared considerably better than overall production. Output from the Pittington demesne and from North and South Pittington was comparable in 1377 but whereas the manorial output fell to a low of 217.3q. in 1449, that of the peasant villis plummeted to 138q. (multiplying estimated tithe output by ten) in 1433. In the Crawley figures, which are comparable with 1340s levels, the difference is much more apparent: demesne output exceeded 120 per cent during the 1350s and 1360s. Even at its lower fifteenth century levels, it did not sink below 60 per cent.

⁶¹ Farmer, 'Famuli', 207-36; Searle, *Battle Abbey*, 307; Hilton, *Leicestershire estates*, 142; McIntosh, *Havering*, 149.

⁶² Examination of the Pittington wage material was part of my Masters project: Dodds, 'In manu domini', 21-33. It was subsequently published as Dodds, 'Workers'.

⁶³ *Ibid.*, 151-2.

The apparent simplicity of this comparison between peasant and manorial sectors hides traps. In fact, it is very difficult to compare the two types of agriculture because so little is known about cultivated area, at least for the Durham output series: it is obviously unreasonable to compare production on a demesne where the reeve was sometimes able to lease portions of land and sometimes had to cultivate them. For example, it seems the Wisbech Barton managers were unable to lease land during the early 1350s and so the rapidly increasing production figures of these years may be the result of expanded acreage.⁶⁴ A watertight comparison would use output per acre. Nevertheless, it does seem that Durham overall output levels were much lower by comparison with their 1340s averages than those from the Crawley demesne and that output from two Pitlington peasant villis suffered more severely from 1380 to 1449 than that from the adjacent demesne. In other words, overall production did not recover after the Black Death as well as demesne agriculture and was more vulnerable to periods of dearth thereafter. This is in keeping with the suggestion that the peasant farms, which were largely geared towards subsistence, were less resilient to periods of crisis than the cash demesne farms.

Figure 7.6 shows that the 1390s saw a precipitous fall in demesne production at Pitlington and this must have been caused by a decline in sown acreage perhaps due to spiralling labour costs.⁶⁵ However, it is equally apparent from Figure 7.6 that production from the peasant villis of North and South Pitlington plummeted during the same years. During this crisis at least, the reliance of peasant farmers on family labour did not enable them to maintain production levels. It appears that the difference in labour types on the

⁶⁴ Stone, 'Wisbech Barton', 79-80.

⁶⁵ Dodds, '*In manu domini*', 53.

two sectors may have been more complicated; moreover, peasants might be disinclined to spend time tilling their own lands when extremely high wages could be secured elsewhere.

If the relative instability of the overall Durham output levels by comparison with those from demesnes is the main difference between the two series, perhaps the most prominent similarity is the post-Black Death recovery. In Figure 7.7, for example, this seems to have been comparable for the Durham overall indices and Crawley demesne indices, even if it was sustained for rather longer and at a higher level in the latter. It has long been suggested that there was sufficient over capacity before 1347-9 to enable a speedy recovery despite demographic disaster: Bridbury's famous 'submerged and pullulating throng' of landless labourers and vagrants suddenly grasped a golden opportunity.⁶⁶ Whilst southern England may have been sufficiently overpopulated before the Black Death to release a pool of under utilised labour, this is difficult to imagine between the Tyne and Tees. High numbers of entry fines and marriage fines on the bishop's manors in 1350 suggest there was some immediate activity to occupy vacated lands but land hunger was severely limited.⁶⁷ Using the bursars' accounts, Lomas deduced that 'there was no stampede on the part of the survivors to take up vacant holdings and that, even after ten years, there was still plenty of untenanted land'.⁶⁸ Britnell's work on the Haswell charters suggests that there never ceased to be an abundance of moorland and pasture in this lightly populated area; moreover, this is

⁶⁶ Bridbury, 'Black Death', 590.

⁶⁷ Britnell, 'Feudal reaction', 31.

⁶⁸ Lomas, 'Landlord', 29-30.

confirmed by the 'informality' of arrangements for farming these lands 'that could hardly have been tolerated in a large Midland village'.⁶⁹

The work of Harris and Dunsford has greatly widened the available information on the colonisation around Durham before the Black Death. Their mapping has revealed great tracts of wasteland in Durham in the seventeenth century which, they argue, was probably largely uncultivated during the middle ages. Evidence from charters and from the exchequer land sections of the Hatfield Survey reveals that there was much expansion into wasteland around Durham. More striking is the timing of the expansion: there seems to have been a limited initial phase in the second half of the twelfth century, but then we have a substantial collection of waste grants from the pontificates of Walter of Kirkham and Richard of Kellaw, that is from the mid-thirteenth century until 1316. This is late by comparison with southern evidence. In the light of continued colonisation of waste at so late a date and the probable continued existence of tracts of wasteland, it seems inconceivable that there could have been a floating mass of landless labourers in Durham who were desperate to take on holdings in the 1340s.⁷⁰

Various factors seem to have meant that there was not the same intensity of land hunger in the Northeast before the Black Death as in southern England. The agrarian economy in the region was heavily pastoral and the available moorland was unattractive for arable cultivation. The pressure of numbers of potential cultivators had caused all

⁶⁹ R. H. Britnell, 'Between Durham and the sea, 1100 - 1300', Durham University Inaugural Lecture, 25 October 2000.

⁷⁰ H. Dunsford and S. Harris, 'Colonization of the wasteland in County Durham, 1100-1400' (forthcoming).

available land to be carved up for cultivation in the south. Around Durham, by contrast, the land was of relatively low quality which made it unattractive to smallholders. The region was also subject to tight landlord control; this is suggested by the lack of holdings smaller than two bovates in the bishop's rental material.⁷¹

Yet, even with fewer lands occupied after the plague and the absence of landless people waiting in the wings, overall production levels still recovered quickly during the 1350s. This raises two questions, those of demand and supply. Firstly, if output per head was increasing during a decade of low population, there must have been increased demand per head. Where was this increase in demand coming from in the wake of such a serious epidemic? Secondly, given there was no reserve of surplus labour to be tapped from before the Black Death, how were depleted numbers peasants able to increase production levels?

If population fell to under half of pre-Black Death levels but production levels reached an average of 69 per cent between 1355-9 then grain consumption per head must have increased. Peasant diets improved in three ways in the century following the Black Death: more bread was baked, rather than boiling inferior grains in pottage, more ale was drunk and more meat was eaten.⁷² This meant an increase in consumption of grain *per capita*. The problem is that the increase in consumption was long term and did not occur suddenly, as soon as the first plague epidemic abated. Nonetheless, Dyer's statistics for harvest workers at Sedgeford in Norfolk suggest the period of sharpest increase in

⁷¹ E.g. SS32.

⁷² C. Dyer, *Standards of living in the later middle ages* (revised edn.; Cambridge; Cambridge University Press, 1998), pp. 158-9.

consumption was during the two decades after the Black Death.⁷³ Whilst the demand side of the 1350-65 increase in Durham overall output is mysterious, when looked at in the light of the consumption evidence, it is not inconceivable.

The number of individuals of working age can scarcely have recovered within fifteen years of the Black Death, remaining at under half of pre-Black Death levels, yet production exceeded two-thirds of 1340s levels by 1355-9. At least in its simplest terms, the Postan paradigm does not fit: the abundance of waste land suggests the fields had never been overworked in the first place meaning the law of diminishing returns for labour could not be reversed. Yet, if there was an increase in *per capita* output in the Durham Priory parishes during the 1350s, then there must have been an increase in production per unit of land and per unit of labour.

An increase in *per capita* production may have been brought about by changes in the way the land was cultivated. The old idea of inert undeveloped medieval agricultural technology and technique has come into question: 'technology was in fact far from static in this period ... many yield-raising techniques were known and successfully adopted'.⁷⁴ Stone found such techniques being used even in the backwater demesne of Hinderclay and speculates on the implications for peasant farmers some of whom, he pointed out, were employed as demesne managers.⁷⁵ There must have been a diffusion of sophisticated agricultural knowledge beyond the bounds of the demesnes. Techniques

⁷³ *Ibid.*, 158.

⁷⁴ D. Stone, 'Medieval farm management and technological mentalities: Hinderclay before the Black Death', *Economic History Review*, 54 (2001), p. 612.

⁷⁵ *Ibid.*, 634.

employed on manors included the use of complex cropping systems, the substitution of horses for oxen and the development of more efficient ploughs and carts, and the integration of pastoral and arable farming providing better manure for crop cultivation.⁷⁶ It seems unlikely that peasant farmers working small strips of land would suddenly be able to introduce different cropping strategies and still less replace oxen with horses. More likely, perhaps, is that they took advantage of a higher ratio of livestock to arable acres and manured the land better (Figure 7.5).

If the idea of peasant responsiveness to demand is pursued then it affects our notion of the outlook of the medieval peasant. Perhaps he was not lacking know-how and, when the opportunity arose, was able to put this knowledge into effect. Examples of peasants in different periods and places suggest they may have been more adaptable than previously thought. Eighteenth-century peasants in southern France, an area notorious for *ancien régime* agrarian conservatism, were able to take advantage of the developing Mediterranean wine trade by turning their land over to vines.⁷⁷

Certainly, the evidence from the Durham bishopric and priory halmote court rolls suggests the peasants between the Tyne and Tees were highly proactive in responding to the crisis of the Black Death. In 1352 the bishop's steward had to force the peasants of Sedgefield to leave one-third of their land fallow, as had been their traditional practice. It seems they had begun to sow even the third field with grain in the early 1350s. This

⁷⁶ Campbell, *Seigniorial agriculture*, 15-6, 273-4.

⁷⁷ N. Plack, 'Viticulture and wine trade in 18th century Languedoc', paper presented to the Economic History Society Conference, April 2002.

apparently bizarre behaviour so soon after a heavy mortality is explained by Bradshaw as follows:

It seems probable that as each man had more land at his disposal while labour was dear, the peasants had decided to go in for 'extensive' as opposed to 'intensive' cultivation, or at any rate only to sow the most fertile patches of each field.⁷⁸

The suggestion that, faced with a greater abundance of land already broken for cultivation at their disposal, the peasants chose to cultivate only the most fertile parts is particularly persuasive. It is supported by evidence from the priory halmotes where the West Merrington peasants refused to sow the '*exteriores partes campi*'.⁷⁹ Although from 1367, and therefore too late to directly explain the 1350s recovery in output levels, this shows the type of device by which a reduced number of peasants may have expanded their *per capita* output.

Frustratingly, the illuminating comparison between population and production levels cannot be extended beyond the 1350s because of our ignorance of the demography following the renewed outbreaks of plague. The appearance of Figure 5.06 suggests, however, that the increase in *per capita* output of the 1350s may have been a one-off: this is the only sustained period of recovery during the series. A demographic explanation seems likely: as renewed epidemics took their toll, the recovery was halted and by the

⁷⁸ Bradshaw, 'Social and economic history', 216.

⁷⁹ *Ibid.*, 217; *Halmota prioratus Dunelmensis*, eds. W. H. Longstaffe and J. Booth, *Surtees Society*, 82 (1886), p. 65.

end of the fourteenth century instability turned to stagnation and downturn as the long term effect of repeated mortalities became apparent. The Pittington wage evidence suggests that, in an area which had never been overpopulated, labour became markedly scarcer in the final quarter of the fourteenth century.

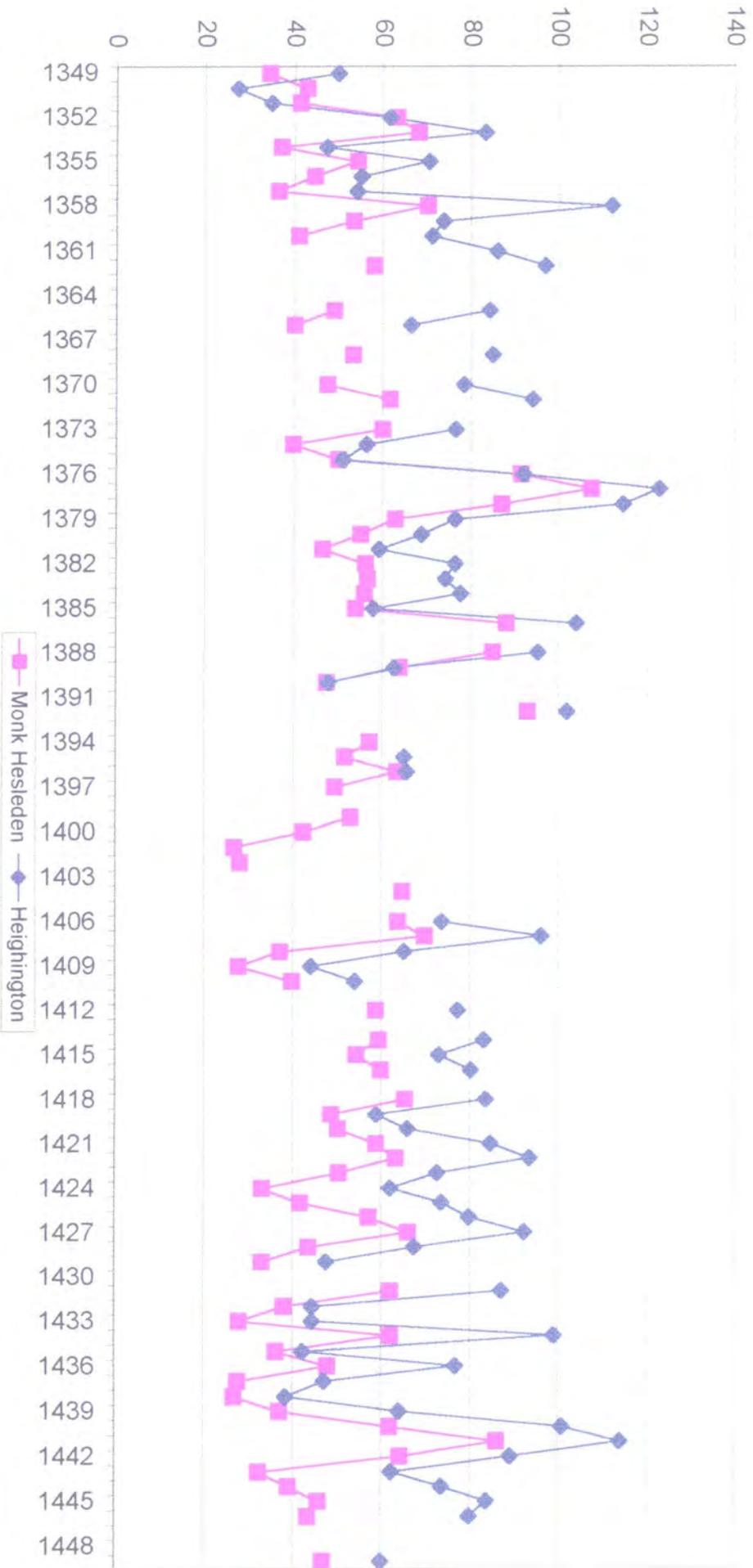
The proposed relationship between peasant numbers and production levels during the 1350s is not incompatible with Postan's original thesis. Even in an area which was never overpopulated, and where the land was not worked by too many people, a fall in population still increased land and labour productivity. Prior to the Black Death, the peasants had not reached the limits of expansion of cultivation between the Tyne and Tees. Presumably, it was not economically viable to go to the expense of breaking new land for cultivation. In 1350, however, they were faced with an abundance of land ready for ploughing; they responded to this by adopting more extensive methods and concentrating cultivation on the fertile lands. This process is similar to the retreat to the core of fertile lands postulated by Postan. Even if an apparently central structural pillar of his model is removed, that is the pre-Black Death overpopulation, the model does not completely collapse. What is more surprising, and not predicted by the population and resources historians, is the suddenness with which this process took place. In the space of one decade, the increase in production per head was dramatic. After that, the situation changed again with renewed plague outbreaks.

Landlord-tenant relations

The introduction made clear the difficulties with using Marxist models as a means of explaining changing production levels in Durham 1350-1450. These arise not from any deficiency in the Marxist model but instead from a lack of clarity on exactly what was happening in the late middle ages by Marxist historians and a difference in the scale of the questions being posed. The work of Harris and Dunsford on colonisation of wastes between the Tyne and Tees has opened a window of opportunity, however, for an examination of the effect of landlord-tenant relations on output. This will fall far short of a Marxist analysis of the output indicators but will at least investigate the importance of variables not considered in the population and resources model.

Figure 7.9: Output indices from Heighington (bishopric: 80% increase c. 1183 - c. 1383) and Monk Hesleden (priority: 71% decrease c. 1235 - 1340-1)

Index: 1340s average = 100



Source: H. Dunsford and S. Harris, 'Colonization of waste in County Durham, 1100-1400' (forthcoming).

One of the most striking conclusions from Dunsford and Harris's work is the apparent difference in the extent of the colonisation on waste on the bishopric and priory estates. Between the Boldon Book of *c.* 1183 and the Hatfield Survey of *c.* 1383 there was an increase of approximately 34 per cent in arable acreage on the episcopal estate. Between the Gillycorn Rental of *c.* 1235 and the bursar's rental of 1340-1, the extent of arable on the priory estate decreased by 37 per cent. The decline on priory land is even more striking since the later data are taken from a shorter period before the Black Death. Dunsford and Harris have examined this divergence in terms of the different capacities of prior and bishop to expand into wasteland.⁸⁰ The fundamental difference between the two estates, however, justifies a comparison of arable production after the Black Death.

Figure 7.9 compares estimated production levels in Heighington, the bishopric parish with the largest increase in arable acreage *c.* 1183 to *c.* 1383, and Monk Hesleden, the priory parish with the largest decrease in arable acreage *c.* 1235 to 1340-1. The divergence between the two series is striking. The vast majority of Monk Hesleden indices are lower than the Heighington indices. Nor is the contrast temporary: the bishopric parish produces consistently higher indices between 1350 and 1450. Also striking, however, is that whilst the two parishes differed markedly in production levels, the shape formed by the output series is similar.

The consistency in the divergence shown by Figure 7.9 suggests the method is not at fault here. Unfortunately, priory tithes tend to derive from parishes which were part of the priory estate. Only two bishopric parishes, those of Heighington and Bishop

⁸⁰ Dunsford and Harris, 'Colonization'.

Middleham, were appropriated to the priory or, in the latter case, to Finchale Priory. This makes further testing difficult. Confirming the Figure 7.9 evidence, however, the individual vill graph from Heighington, an important bishopric vill, shows a pattern dissimilar to those of all other individual vill: output estimated from tithe receipts increased steadily between 1350 and 1450.⁸¹ Evidence from one bishopric parish, and a counter-cyclical output pattern from one bishopric vill, suggests the bishop may have been able to exert greater control over output than other landlords.

The bishops' access to wasteland had enabled them to increase their arable acreage while the priory's actually fell. Although the date of the later bishopric acreage figures analysed by Dunsford and Harris is *c.* 1383, it might be assumed that most of the increase took place before the Black Death. Yet, even in the period of lower population, the bishop seems to have been able to maintain arable acreage and production levels better than the prior. The examples already cited from the bishopric halmote court rolls certainly indicate conflict between the bishop and his tenants. The extent of the feudal reaction by the bishop of Durham in securing the occupation of his lands in the wake of the Black Death has been studied by Britnell. He concluded that, despite the 'exceptional force' with which the reaction was implemented, it was incapable of reversing trends.⁸² Figure 7.9 casts the reaction in a different light: it may not have prevented a fall in occupation, which is reflected by the low level of the output indices compared with their 1340s levels, but it was a lot more effective than any reaction attempted by the prior. The priory halmote court records indicate that there was also conflict between the priory and

⁸¹ SS32, 16-9.

⁸² Britnell, 'Feudal reaction', 46.

its tenants: the injunction referred to above against West Merrington men refusing to plough the outlying sections of their lands is evidence of this. The estimated output figures, however, suggest the priory must have been less effective in ensuring the occupation of its lands than the bishop.

This comparison of a bishopric and a priory parish is supported by Dunsford and Harris's work on the waste grants and, to some extent, by Britnell's work on the feudal reaction in suggesting that the presence of an extremely powerful landlord between the Tyne and Tees must have affected agriculture. Certainly, the exercise of this power by the bishop created conflict with the individuals working on his estate. Yet, this falls far short of a Marxist interpretation of the output indices. In particular, it does nothing to explain the shape of the movement in output between 1350 and 1450: this was similar in Heighington and Monk Hesleden. It merely suggests that peasant productivity, and even the impact of epidemics, were not the only factors in determining levels of agrarian production from parish to parish and vill to vill.

Conclusion

Agrarian production was the mainstay of the English economy in the middle ages and for long after. The Northeast was no exception, although pastoral production might have had a greater relative importance than further south. As a result, agrarian production plays a crucial role in the models proposed to explain economic development. This thesis has attempted to explore two neglected aspects of this important topic: archival work has

focused on demesne output, rather than that on peasant strips, and theoretical work has concentrated more on the pre-Black Death period at the expense of the rather enigmatic late fourteenth and fifteenth centuries. The conclusions reached in this final chapter propose slight modifications, rather than a wholesale overhaul, to existing conceptions. There were important similarities between peasant and demesne production: they both moved in the same way and were vulnerable at the same times. Perhaps the gulf between the peasant cultivator and the demesne was narrower than once thought. The detailed analysis of overall production in the light of the Postan-Ladurie model has revealed that processes were not so simple as projected: trends were not smooth and changes in production levels were not mechanical and automatic. Factors more appropriate to the Marxist school of thought also had an effect. Yet, the conclusions fall far short of abandoning the population and resources framework: even in a remote region of England, and when applied to a new type of evidence, Postan and Ladurie's explanatory system seems to help describe and explain economic change.

Appendix 1

Lord Beveridge's northeastern grain price series

The method described in Chapter 5 for deflating Durham cash tithe receipts to give an indication of output requires a series of annual average prices for each of the major grains from 1341 to 1449. The most broadly-based and scientific such series in existence is that compiled by Farmer for the medieval volumes of *The agrarian history of England and Wales*.¹ Farmer's aim was to produce the closest approximation to a 'national' series possible and his calculations are based on fifteen regional groupings. These are heavily weighted towards southern England: in fact, the 'Northumberland and Durham' category is the only one north of the Trent.² Given the continuity and consistency of the tithe data series used it was desirable to use a northeastern price series and the transcripts made for Lord Beveridge's International Committee on Wages and Prices provide just such a source.³

¹ D. L. Farmer, 'Prices and wages', in H. E. Hallam, ed., *The agrarian history of England and Wales, II: 1042-1350* (Cambridge; Cambridge University Press, 1988), pp. 716-817; Farmer, 'Prices and wages, 1350-1500'.

² *Ibid.*, 498-9.

³ Farmer's prices from Northumberland and Durham were taken in part from this source. *Ibid.*, 499.

Table A1.1 A northeastern price series

Key

normal type = price taken from Beveridge's final table.⁴

italic type = no figure given in Beveridge's final table so Farmer's 'national' price inserted.⁵

Harvest year ⁶	Wheat (s.)	Rye (s.) ⁷	Barley (s.)	Oats (s.)	Peas / beans (s.)
1341	3.67		4.00	1.53	2.77
1342	4.43	3.22	3.36	1.61	2.50
1343	5.85		3.75	1.80	3.76
1344	3.04		2.50	1.33	2.66
1345	3.25		2.92	1.13	3.05
1346	5.33		4.50	2.25	3.67
1347	5.72		4.25	2.75	3.30
1348	6.00		4.50	2.25	2.31
1349	5.49		4.30	1.69	2.70
1350	6.88		5.84	1.75	2.21
1351	7.71		5.59	2.05	3.33
1352	5.45		4.43	2.42	2.80
1353	4.15		3.77	1.87	2.67
1354	5.92		4.88	1.99	3.17
1355	6.28		4.62	2.26	3.76
1356	6.06		5.00	3.17	3.33
1357	8.15		6.59	2.58	4.76
1358	4.86		3.59	2.22	3.38
1359	5.39		5.50	1.96	3.27
1360	6.02		8.02	2.34	3.00
1361	4.48		5.59	2.49	2.98
1362	5.36		5.03	2.17	3.33

⁴ Box C8(ii), The Beveridge Price History Archive (British Library of Political and Economic Science).

⁵ Farmer, 'Prices and wages', in *Agrarian history II*, 791; Farmer, 'Prices and wages. 1350-1500', 502-4.

⁶ Beveridge published his prices under the year in which the grain was harvested. Individual prices are from Michaelmas to Michaelmas; thus, the prices under 1350 are taken from accounts dated between Michaelmas 1350 and Michaelmas 1351. W. Beveridge, *Prices and wages in England from the twelfth to the nineteenth century volume 1 price tables: mercantile era*, Publications of the International Scientific Committee on Price History (London; Longmans, Green and Co. Ltd., 1939), xliii-xliii.

⁷ The series of rye prices has not been completed using other sources since rye prices were not used in deflating the tithe cash receipts. See Chapter 5.

Harvest year ⁶	Wheat (s.)	Rye (s.) ⁷	Barley (s.)	Oats (s.)	Peas / beans (s.)
1363	8.69		6.34	3.25	4.72
1364	7.47		4.42	2.43	3.66
1365	6.99		6.69	3.21	4.17
1366	10.00		6.95	4.98	4.69
1367	10.60		6.68	3.07	4.90
1368	8.78		6.43	3.47	5.33
1369	8.00		7.58	3.49	4.72
1370	9.19		7.00	2.83	4.97
1371	4.47		4.47	2.36	3.05
1372	8.29		4.00	1.67	1.50
1373	6.19		5.07	2.44	4.00
1374	10.78		7.07	4.46	4.79
1375	10.35		6.58	4.09	9.33
1376	5.21		5.97	2.41	3.34
1377	3.43		3.38	1.28	2.50
1378	3.34		2.21	1.78	3.05
1379	5.03		4.03	1.89	2.50
1380	6.45		4.75	2.32	2.14
1381	9.39		4.96	2.74	3.25
1382	8.29		3.63	3.39	2.95
1383	7.05		4.33	2.70	3.91
1384	6.66		4.75	2.23	3.19
1385	7.31		3.78	4.00	4.76
1386	4.28		4.09	1.39	3.00
1387	3.87		2.68	2.16	2.52
1388	4.68	3.33	2.50	1.50	2.67
1389	5.03		3.78	1.51	3.41
1390	6.32		6.35	2.35	4.00
1391	6.07		4.00	1.80	4.00
1392	3.33		2.98	2.06	2.95
1393	5.44		3.14	2.16	2.88
1394	5.08	3.00	4.94	2.02	2.50
1395	5.64		4.62	2.57	3.62
1396	6.11		4.56	2.00	3.17
1397	6.39		5.55	3.23	2.50
1398	5.00		3.78	2.25	2.29
1399	7.05		4.13	2.17	3.87
1400	9.50	8.00	4.25	2.34	3.33
1401	13.28	6.67	6.83	4.21	5.00
1402	11.65	9.21	7.00	3.33	5.00
1403	5.20		4.50	1.92	2.81
1404	4.48		3.77	1.59	2.00
1405	6.25		3.21	1.50	3.20
1406	4.44		3.44	2.00	2.00
1407	3.66		3.32	1.50	2.03
1408	6.49		4.58	2.67	2.00
1409	9.73		6.04	4.50	4.50
1410	9.62		4.99	2.32	4.44

Harvest year ⁶	Wheat (s.)	Rye (s.) ⁷	Barley (s.)	Oats (s.)	Peas / beans (s.)
1411	5.67		3.63	2.48	3.41
1412	5.97		3.98	1.67	2.70
1413	4.70		3.44	2.31	3.48
1414	4.86		4.99	2.14	3.21
1415	7.32	4.06	4.79	1.47	2.90
1416	6.47	4.33	4.21	1.92	2.40
1417	6.37		3.44	1.96	4.69
1418	6.09	4.67	3.25	1.67	2.02
1419	6.36		5.35	2.55	3.96
1420	6.23		3.94	2.57	4.38
1421	5.22		4.05	1.72	2.62
1422	4.23	3.50	4.13	1.62	2.66
1423	5.60		4.45	1.66	2.77
1424	8.00	6.67	5.09	2.14	3.43
1425	6.67		4.59	1.74	2.54
1426	5.00		4.50	1.67	2.50
1427	3.33	2.50	3.34	1.67	2.10
1428	6.71		4.08	2.58	3.11
1429	9.33		4.31	2.54	6.60
1430	7.00		3.21	2.18	3.16
1431	5.13		2.99	1.76	4.69
1432	12.04		5.06	2.50	5.33
1433	7.25	6.67	6.72	2.43	5.25
1434	5.20		3.11	1.51	2.75
1435	14.89		3.45	1.62	2.06
1436	7.25		4.02	1.80	2.98
1437	10.85		6.21	3.46	6.30
1438	13.58	8.35	8.34	3.37	7.69
1439	7.00		5.00	2.00	6.60
1440	3.36	2.67	2.67	1.40	2.95
1441	3.29	2.90	2.90	1.04	1.98
1442	4.27	2.29	2.00	2.35	3.34
1443	6.95		4.17	2.44	3.20
1444	6.68		3.60	1.72	2.75
1445	5.85		2.66	2.00	NO DATA
1446	5.33	3.34	3.33	1.72	3.33
1447	3.98	3.67	3.00	1.71	2.67
1448	5.25	4.00	3.17	1.70	2.17
1449	5.33	4.00	3.83	1.50	2.09

The Beveridge collection

In the 1920s Lord Beveridge launched an ambitious project to compile series of prices for many commodities from the middle ages until the nineteenth century. He initiated the collection of price data from various English record depositories with the help of a large number of assistants and ultimately hoped to publish his material in a multi-volume work on English prices and wages. Over the next four decades a substantial amount of data was collected from all over England and the first volume of the series was published in 1939.⁸ Although this volume only contains a small proportion of the data already collected by the assistants, hopes of further publication were curtailed by Beveridge's death in 1963. The project then floundered and the material collected was deposited, along with the rest of Beveridge's papers, in the London School of Economics.⁹

An unbound handlist exists in the British Library of Political and Economic Science giving details of the contents of the price history section of the Beveridge collection. This lists nearly three hundred boxes, nine of which contain material relating to Durham.¹⁰ It appears from the material in box C8(ii) that Beveridge was on the verge of publishing his Durham price series when he died; there exist numerous drafts of 'Durham and Its Monastery. Introduction' to which a note has been added saying 'Beveridge's last months' and the first sentence of which is 'The study of Durham

⁸ Beveridge, *Mercantile era*.

⁹ N. Belford, *An inventory of the Beveridge price history archive at the London School of Economics* (British Library of Political and Economic Science Unbound Searchroom Handlist, 1983).

¹⁰ *Ibid.*; Boxes C1, C2, C3, C4, C5, C6, C7, C8(i) and C8(ii), The Beveridge Price History Archive (British Library of Political and Economic Science). Hereafter only the number of the box will be given in footnotes and text.

Prices and Wages is all but complete'. There is also a summary of the contents of the projected chapter on Durham prices and wages. Box C8(ii) contains the Durham price data in their most processed form: that is, in a large table running from the late thirteenth century until the dissolution giving a single price for each commodity for each year. The prices given in Table A1.1 are taken from this table.

It must be pointed out that Beveridge's price series based on Durham archival material was not entirely complete for the period 1341-1449. Of the 436 price figures required (four grains over 109 years) sixty-seven were missing and had to be supplemented using Farmer's figures. In one case only, that of peas in 1445, neither series offered a price and so that from the previous year was used for final calculations.

Fortunately, the material in the other boxes substantiates the figures given in the table in box C8(ii). Along with correspondence and notes made on the Durham records in the early days of the project in the 1920s, we also have the sheets on which the price data were collected from the obedientiary and cell accounts. These are in the following boxes:

C1. Price data from the bursars' accounts 1278-1450.

C2. As above 1453 - dissolution.

C3. Price data from printed material. This seems to have been done at an early stage prior to the use of the original accounts.

C4. Price data from cellarers' accounts.

C5. Price data from the accounts of the granator, chamberlain, sacrist, hostiller and almoner.

C6. Price data from the accounts of the priors of Stamford, Lytham, Farne and the proctors of Norham.

C7. Price data from the accounts of the priors of Finchale, Wearmouth, Jarrow, Farne, Holy Island and Coldingham. Also from Whitby Cartulary and other miscellaneous Surtees volumes.

Not all these sources were used to create the final table in box C8(ii). The superscript letters indicating the source of each price figure mention the almoner, bursar, cellarer, chamberlain, hostiller, sacrist, master of Wearmouth, master of Jarrow and prior of Finchale. The range of accounts is still broad, however, and it is clear that the series was not created using prices exclusively from the area between the Tyne and Tees: some of these obedientiaries, and in particular the sacrist, had extensive business interests north of the Tyne. The series must be regarded as northeastern.

Beveridge's assistants used a separate sheet for each account they examined on which they noted each entry referring to prices under a standard set of headings which varied slightly depending on the type of account. For example, data from the bursar's account of 1362-3 were entered under: name of commodity, quantity, rate (i.e. price given in account or calculated on the basis of information in the account), price (i.e. the overall amount paid), place at which commodity was bought or sold and any further remarks. Each data collection sheet shows evidence of subsequent work: there are lots of pencil tick marks indicating that data were checked, and later attempts to define precisely the periods being accounted for in cases of doubt.

The Beveridge collection contains the results of many years' work on the Durham archive material: it was impossible to repeat it for the purposes of this project. A funding award was made for the checking of Beveridge's figures, and thousands of prices were extracted once more from the obedientiary accounts. As yet the results of this work remain unpublished.¹¹ In the course of his work on a 'national' price series, Farmer checked the contents of the Beveridge boxes and clearly found them reliable enough for use in his final figures.¹² It was decided to put the Beveridge material through a series of tests to establish the reliability of this price series which is potentially ideal for the purpose of deflating the Durham tithe receipts. Two approaches were used. In the first, the collection methods and calculations of the Beveridge team were examined. A number of sample price figures were chosen for which the individual data entry sheets were located in the hope of establishing the methods used to create the final price series. The second approach involved a detailed examination of the results of Beveridge's work on the Durham material in an attempt to establish their plausibility.

¹¹ I am grateful to Dr. Elizabeth Gemmill for notifying me of the forthcoming publication of some of this work.

¹² Farmer, 'Prices and wages, 1350-1500', 495, 498-9.

Method of the Beveridge team

The most obvious and serious problem with Beveridge's Durham price series is the dating of the accounts used. In the first place, the extensive collection of Durham accounting material had not been systematically dated when Beveridge's team used it. This work was only performed by Piper many years after Beveridge's death.¹³ In the first place, this means some accounts may have been inaccurately dated by Beveridge's assistants. Whilst their work must have been considerably slowed down by this problem, however, it seems Beveridge's team were careful and systematic in dating the material they worked with. The account heading, giving the period of the account, was transcribed on each data sheet. Although not as precise as Piper's later dating, the accounts used to calculate the sample prices tested were dated accurately.

Rather more haphazard was the inclusion of information from several accounts in the calculation of a single price figure. The obedientiary accounts did not run from the same point each year. For example, whilst the bursar's account ran from 11 November 1350 to the same date the following year, the hostiller's account ran from 29 September 1350 to 30 May 1351 and the sacrist's account from 10 May 1350 to 30 May 1351. It was Beveridge's intention to calculate prices for Michaelmas to Michaelmas and yet he included prices from all these accounts in his 1350-1 calculation.¹⁴ Although unscientific, this method is the best possible given that individual grain transactions were seldom dated. Needless to say, the calculation of an

¹³ Piper, *Medieval accounting material*.

¹⁴ See note to Table A1.1.

average annual grain price for any year in the middle ages is a question of using the best information available.

In the majority of years, the Durham material contains a number of different prices paid or received for various types of grain. The average given in the table in box C8(ii) was calculated without distinguishing between grain bought or sold and was not weighted according to the quantity of grain transferred. The introduction to Beveridge's 1939 volume explains that this was done on the grounds that a small purchase could be just as representative of market conditions as a large one, following the method of Thorold Rogers in the late nineteenth century. Beveridge admitted, however, that discretion was used and this method was not adopted universally.¹⁵

Following the calculations which produced figures in the final table without superscript letters, ie. those taken only from the bursars' accounts, was simple. The inclusion of data from other obedientiaries and cells, however, caused problems in the sample cases tested. For example, the wheat price of 6.02s./q. from the harvest year of 1360 was obtained from the accounts of the bursar, hostiller, and Finchale prior, according to the table in box C8(ii). The data sheet for the Finchale account of 1360-1, however, did not list any wheat transactions from which a price could have been calculated. Similarly, the table gives an oats price for 1443 of 2.44s./q., apparently taken from the accounts of the sacrist and Finchale prior. However, an earlier table giving oats prices from various accounts, also in box C8(ii), suggests that a number of oats transactions were conducted by the cellarer in 1443-4. It is not clear why these

¹⁵ Beveridge, 'Mercantile era', xliii – xliv.

were not included in the final table. Clearly, it is not always possible to retrace the individual calculations made by Beveridge's team. Of the thirty or so price figures which were checked, however, the calculation process was transparent in the majority of cases. Only a thorough redoing of Beveridge's work could improve on the final table in box C8(ii).

More confusion was created by the use of the long hundred in the Durham material. There is evidence in the correspondence between Miss Scroggs, presumably an assistant working on the Durham material, and Beveridge of the difficulties created by varying practice in the accounts and, in particular, the use of both 'c' and 'v^{xx}'.¹⁶ This seems to have been resolved at an early stage, however, since F. J. Nicholas wrote the following in an untitled summary description of the obedientiary rolls.

The long 100 has been assumed throughout except in a few cases where comparison with surrounding prices in the same roll shows that the short 100 was undoubtedly intended ... Apparently 'c' at Durham indicates the Long Hundred and v^{xx} the Short Hundred.¹⁷

Nicholas included in his description a list of obedientiary accounts in which 'c' represented the long hundred and those in which it represented the short hundred.

It seems, however, that the assumption that 'c' represented the long hundred was only made only at the interpretation stage and not during data collection. Although

¹⁶ Box C8(i).

¹⁷ Box C8(i).

Arabic numerals were used in the data collection sheets, the calculated average prices (written in a different hand on the data collection sheets themselves) show that '226q.' was interpreted as '266q.'.¹⁸ This practice seems rather arbitrary: again it would be better to redo the work of Beveridge's assistants. For the purpose of this project, however, it was deemed sufficient that Beveridge's team were aware of the potential difficulties and that the majority of their work was accurate.

The data collection by Beveridge's assistants was not always done with a full understanding of the complex technique used in the bursars' accounts for recording grain receipts (this is explained in Chapter 3). For example, the wheat price for the harvest year of 1362 is given as 5.36s./q. in the final table in box C8(ii) and was taken only from the bursar's account. An examination of the data collection sheet in box C1 for the bursar's account of 1362-3 reveals that this price was calculated on the basis of four wheat purchase entries. The first is for 180q. 4b. 3pc *ad diversa precia* for £56 13s. 4d. Assuming that the '180' actually meant 200, Beveridge's team calculated an average price of 5.65s./q. The second purchase was apparently made at Jarrow and was for 20q. at 6s./q. and the final one at 'Mid Merington' (ie. Kirk Merrington) for 10q. at 5s./q. The final wheat purchase was 13q. bought *ad diversa precia* for £3 1s. 11½d.; an average price of 4.77s./q. was calculated. The 5.36s./q. entered in the final table is simply the mean of the four different prices given in, or calculated from, the account. However, it is highly probable that the 30q. 'bought' from Jarrow and Kirk Merrington were actually rents, or tithes, received in kind and valued by the bursar for the administrative convenience of recording their receipt in a cash account. Taking

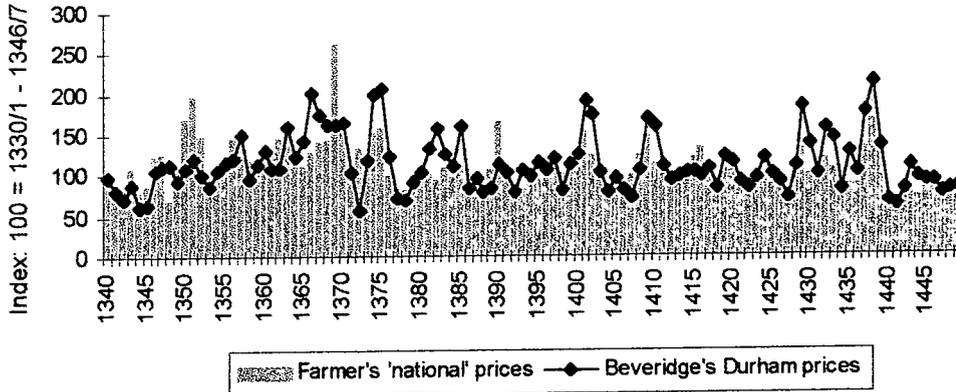
¹⁸ This example is taken from the data sheet referring to the 1365-6 bursar's account in box C1.

6s./q. and 5s./q. as representative wheat prices for 1362-3 assumes that the bursar's valuation was based on market conditions. This is a dangerous assumption because the means by which the Durham obedientiaries valued grain is at present unknown. Again, this method is unlikely to lead to wild inaccuracies in the final price figure but would not be desirable were the data to be collected and analysed again.

There seems little reason to doubt the precision and thoroughness with which the data were collected by Beveridge's assistants. Subsequent annotation of the data collection sheets shows that initial figures were checked. There are more problems, however, in accepting the interpretation of these figures: even the small number of tests performed on the final table figures suggest a certain amount of inconsistency and, perhaps, some unjustified assumptions. Notwithstanding these doubts, however, Beveridge's overall method seems to be sound enough. It is difficult to quantify the impact of the minor errors and so it was decided to examine the Beveridge price series in comparison with Farmer's published figures largely drawn from southern England.

Testing Beveridge's price series

Figure A1.1: Mean grain price index (100 = Farmer's average 1330/1 - 1346/7)



Broadly similar weather patterns in northern and southern England suggest prices should have changed in similar ways in the two regions. If Beveridge's work can be relied upon then we should expect comparability between southern prices and his Durham prices although there will be some differences caused by varying regional conditions.

Figure A1.1 shows the two price series for wheat, barley, oats and peas.¹⁹ Each price was converted into a percentage of the average price of that grain in Farmer's series from 1330 to 1346 and each point or bar in the graph represents the mean of these four percentages. There is some slight overlap between the two series because Farmer incorporated prices collected by the Beveridge team in his calculations.²⁰ Given

¹⁹ Farmer's prices are taken from Farmer, 'Prices and wages', in *Agrarian history II*, 790-1; Farmer, 'Prices and wages, 1350-1500', 502-4. Beveridge's prices are shown in Table A1.1.

²⁰ *Ibid.*, 495, 499.

that the northern prices only form a tiny proportion of Farmer's dataset, the overlap does not distort the value of the comparison.

The movement of prices in northern and southern England was broadly similar between 1340 and 1449. Both series show a gradual increase from the beginning of the 1340s until the end of the 1360s. After a period of sharp fluctuations in the early and mid-1370s, both series fail to recover for any sustained length of time to their 1360s levels. Certain common peaks can be identified. There were high prices soon after the turn of the century and then again at the end of the first decade of the fifteenth century. There were also a number of years of high prices in the 1430s in both northern and southern England. Figure A1.1 suggests Beveridge's price series at least accurately reflects long term trends.

A shorter term comparison reveals differences between the two price series. Particularly apparent is the lack of very high prices in the early 1350s in Beveridge's series: Farmer's series produces an index of 200 for 1352 whereas Beveridge's highest index for the decade was 150 in 1357. By the end of the 1360s the northern prices seem to have risen to a higher level than the southern ones: between 1366 and 1371 all Beveridge's Durham average price indices were above 150 whilst only Farmer's exceptionally high 1369 index reached this level. Both series fluctuate during the 1370s although Beveridge's does so much more sharply: the standard deviation for the northern series in this decade is 54 but for the southern one is only 30. Similarly, whilst prices in the south reached stable low levels by the end of the 1370s, those in the north continued to fluctuate until the mid-1380s. Again, the standard deviations quantify the difference: that for Farmer's series is 15 whilst that for Beveridge's is as high as 30.

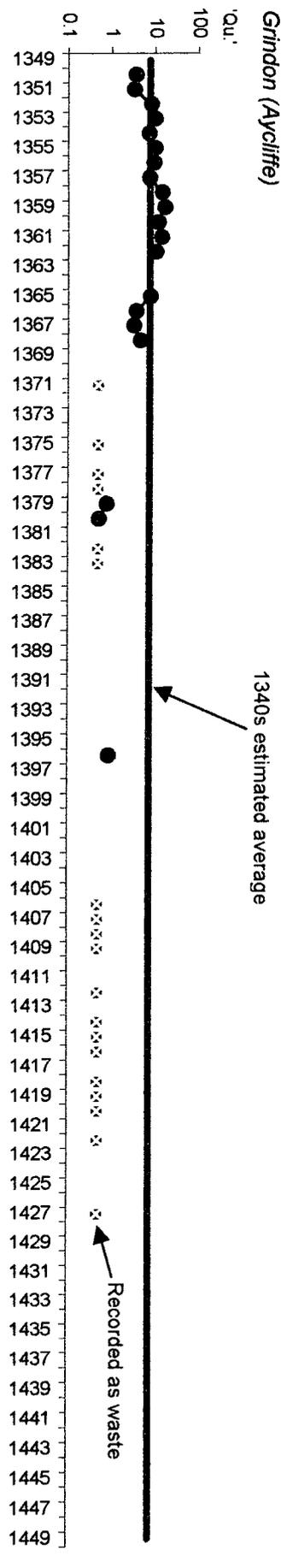
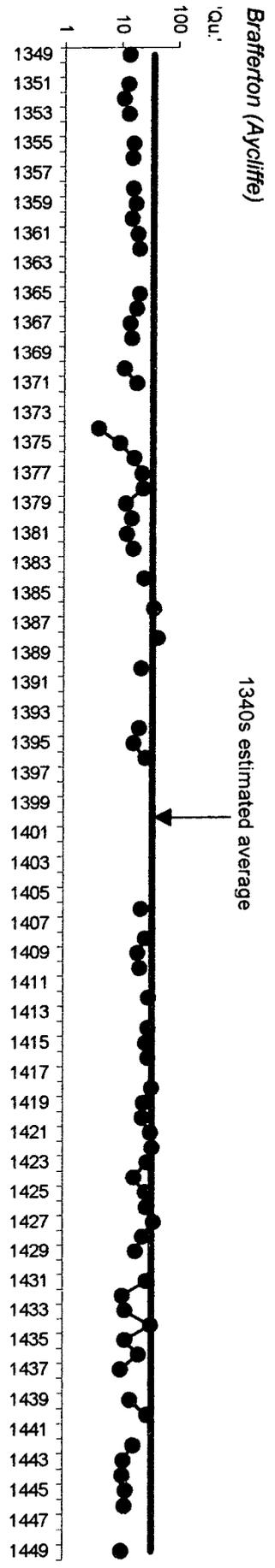
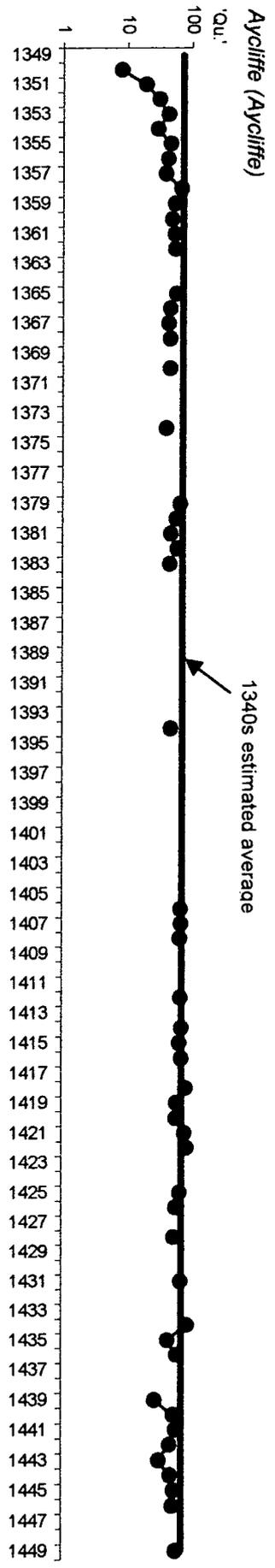
The peaks and troughs in price levels around the turn of the century occur at the same time in the north and south. Particularly striking is the sharp rise and then fall in prices from both series between 1398 and 1404.

Statistical analysis of the two series produces a correlation coefficient of 0.64, which indicates a population correlation coefficient of between 0.47 and 0.77 at a 99% confidence level. This suggests a highly significant linear relationship between the two price series: this much is intuitively obvious in Figure A1.1. This does not prove very much since there is no work on the relationship between northern and southern price levels in the middle ages; on the other hand, it boosts instinctive confidence in Beveridge's figures. The northern series is evidently not ridiculous. The differences between the two series may be due to regional variation in price level or inaccuracies in Beveridge's series (or, for that matter, inaccuracies in Farmer's series). The only way to really have confidence in Beveridge's figures would be to redo his research. Given that this is not possible, this study has relied on the transparency, and common sense, of Beveridge's method and the plausibility of the series he produced.

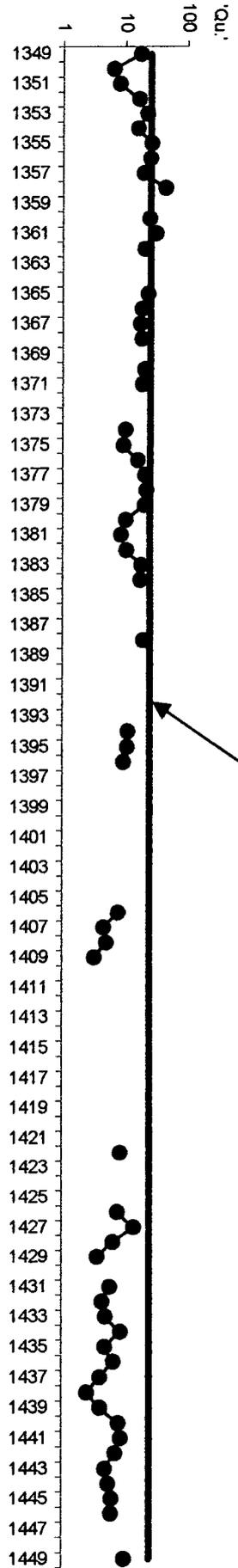
Appendix 2

Individual vill estimated output graphs

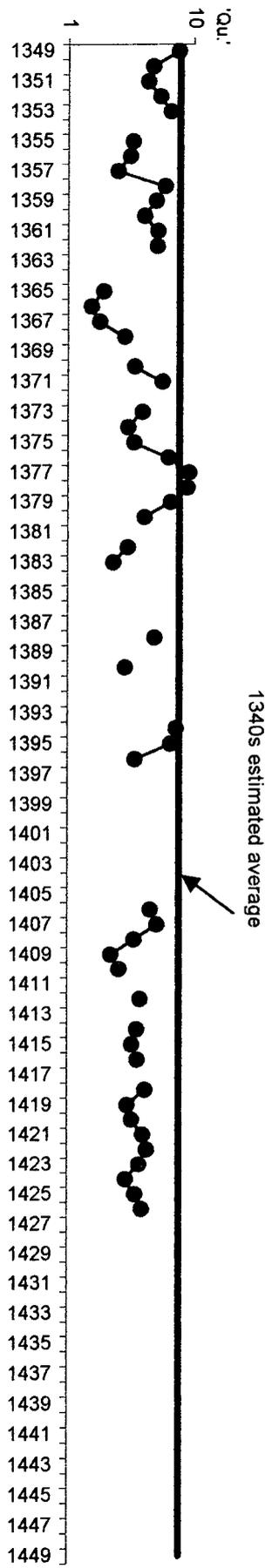
The fifty-seven vills for which individual estimated output graphs were plotted are presented here in alphabetical order of parish and then vill.



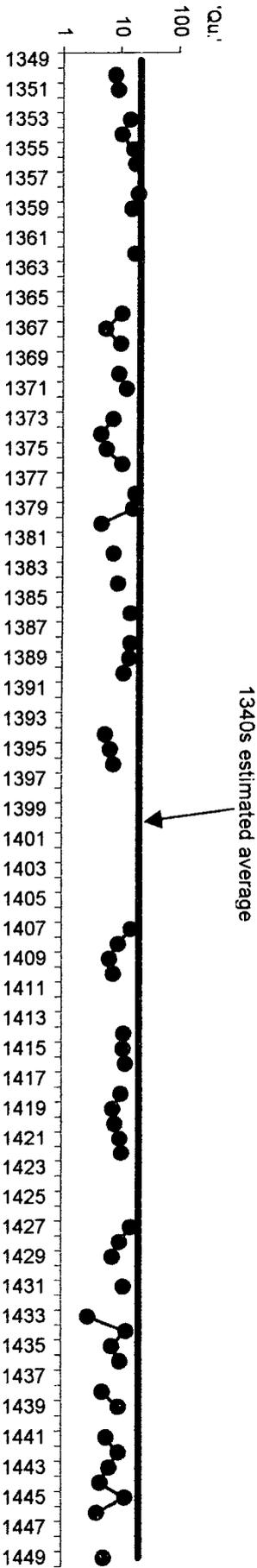
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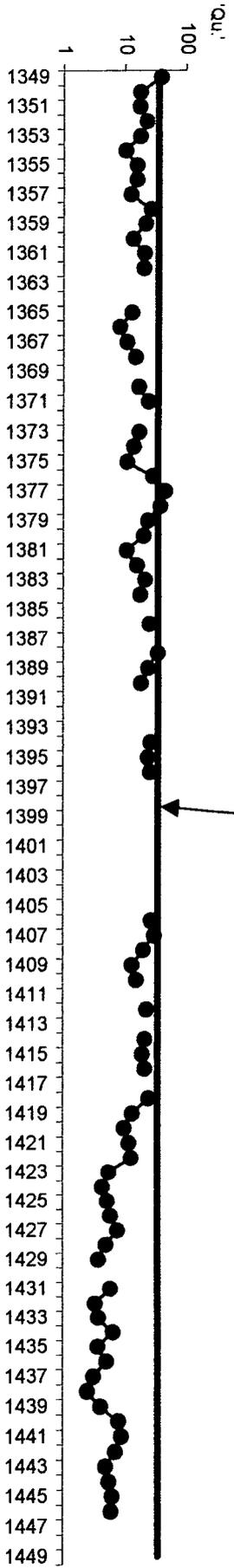
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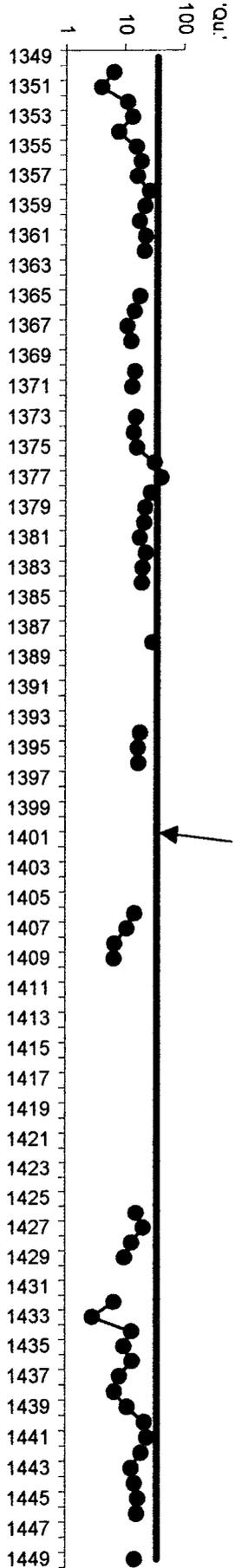
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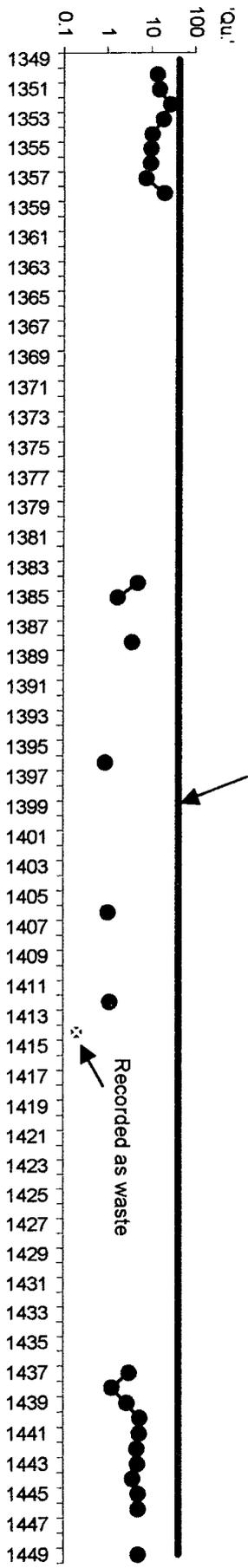
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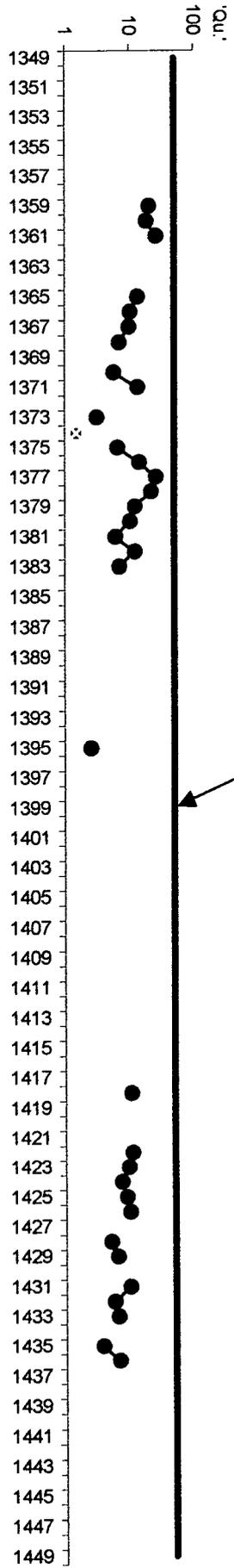
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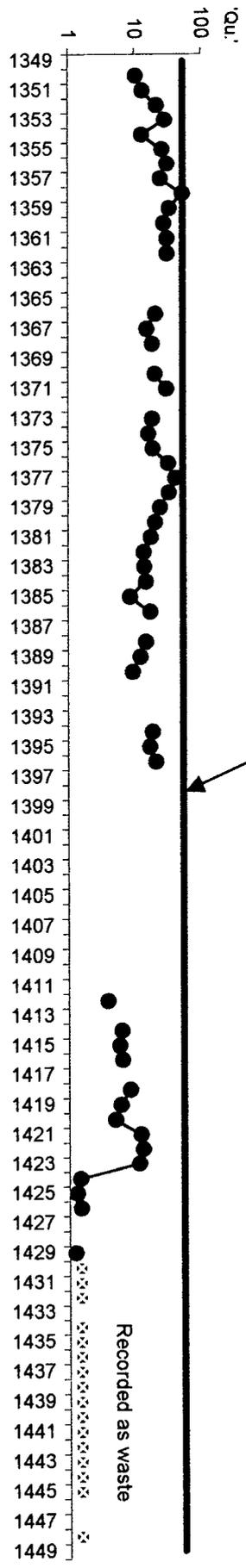
Ricknall (Aycliffe)



Ricknall, Ricknall Grange (Aycliffe)

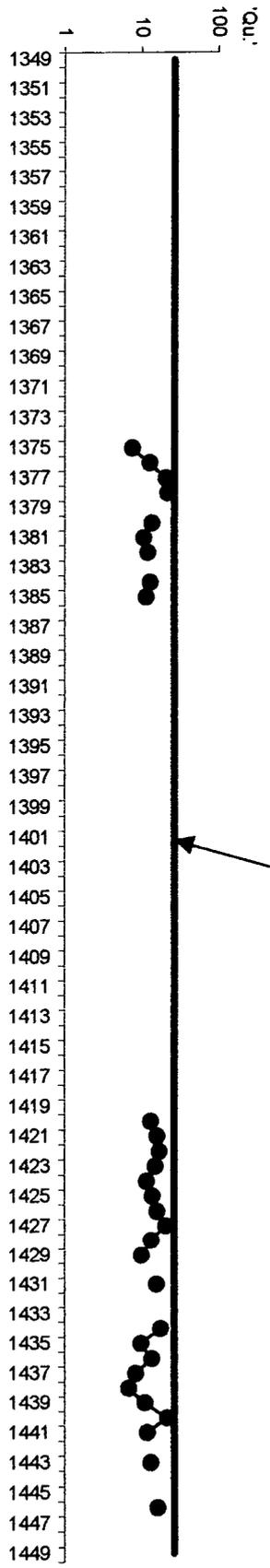


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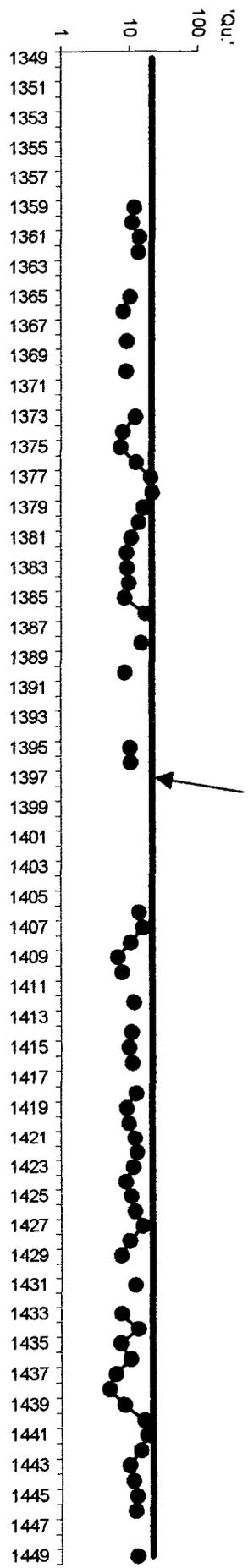


Recorded as waste

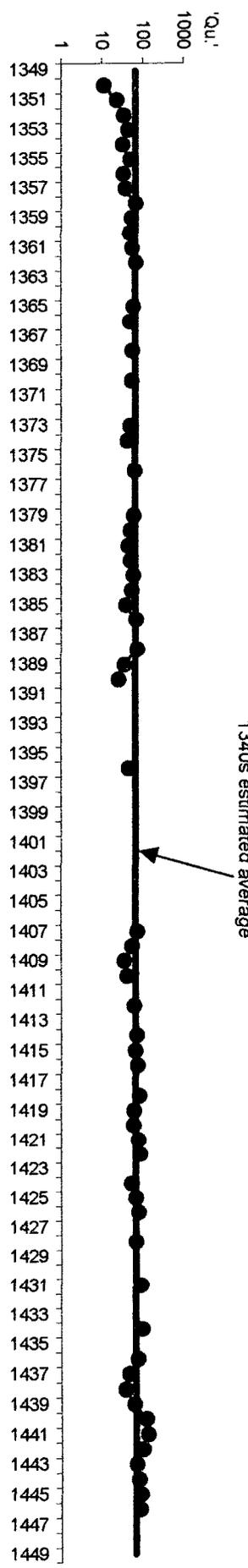
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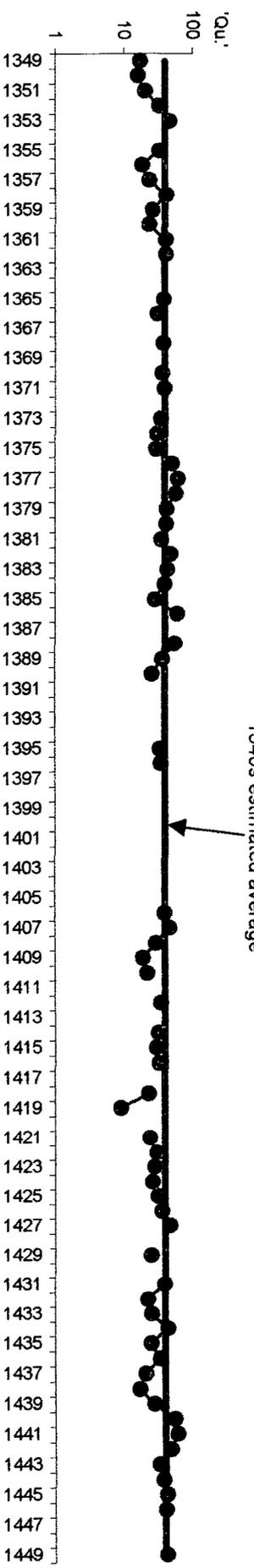
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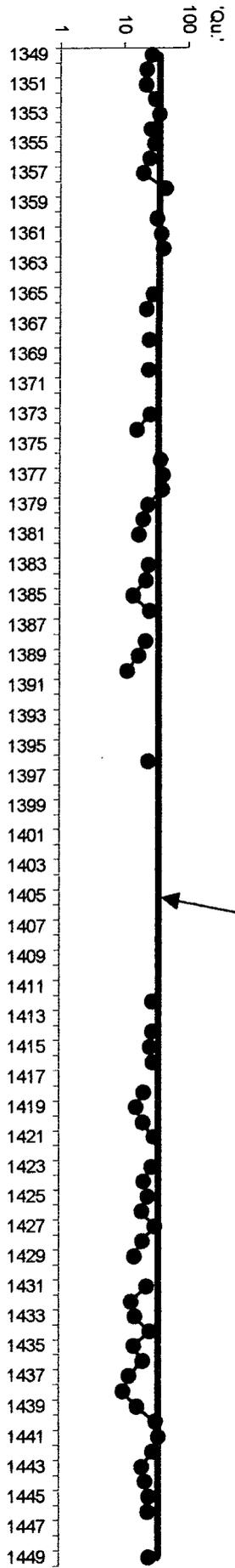
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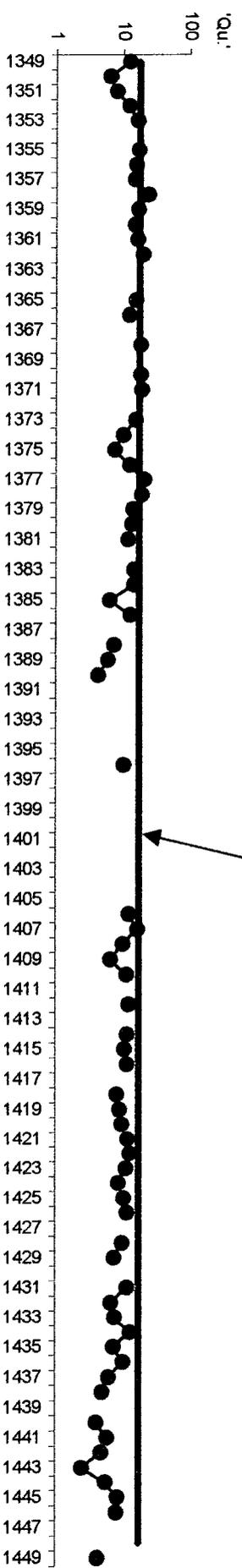
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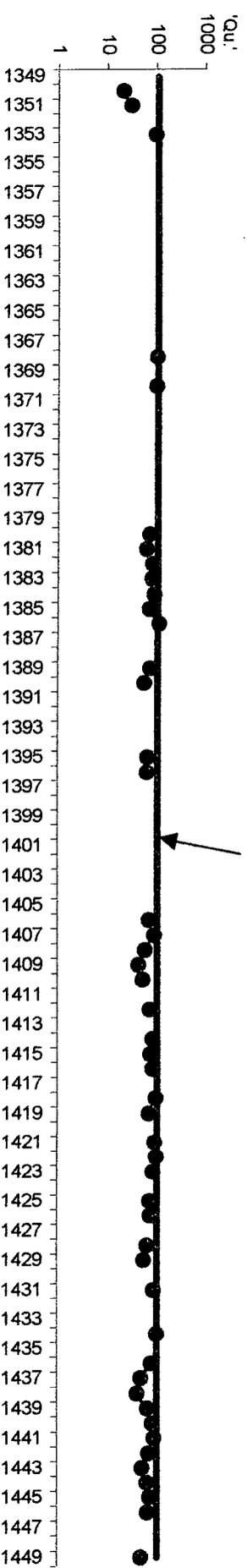
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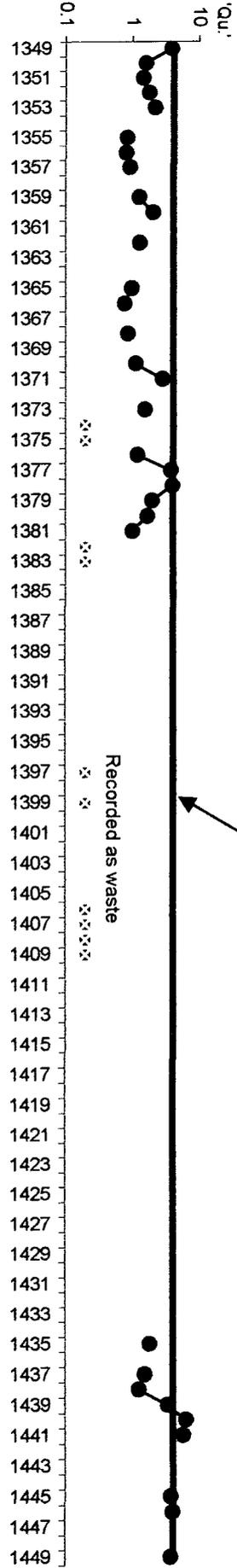
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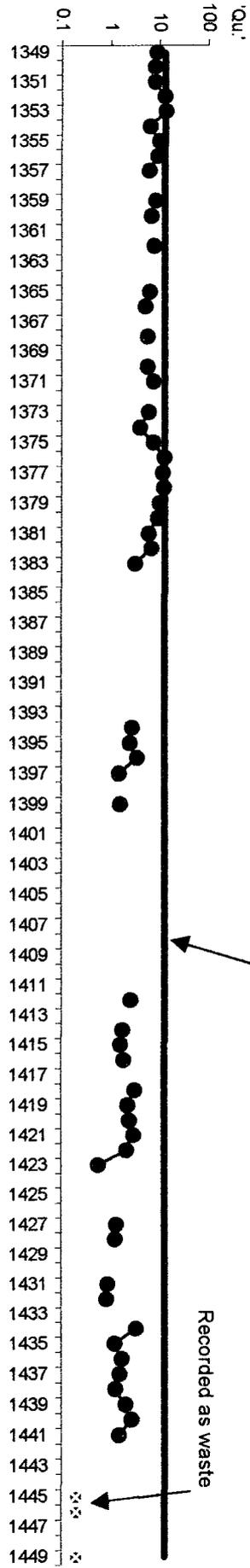
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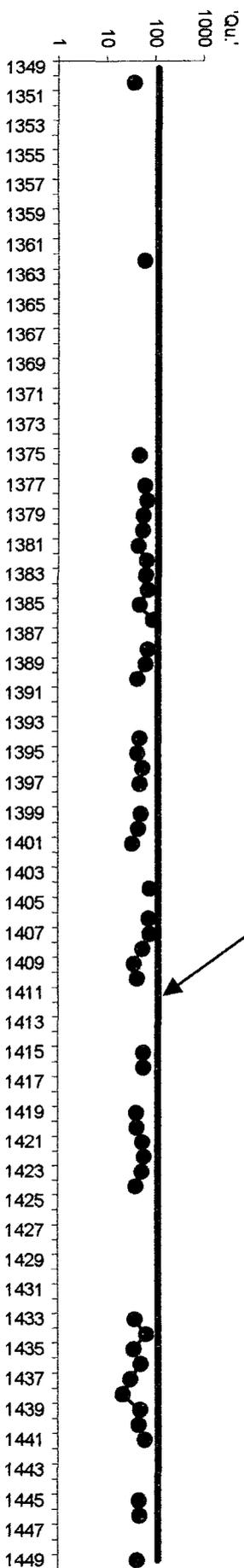
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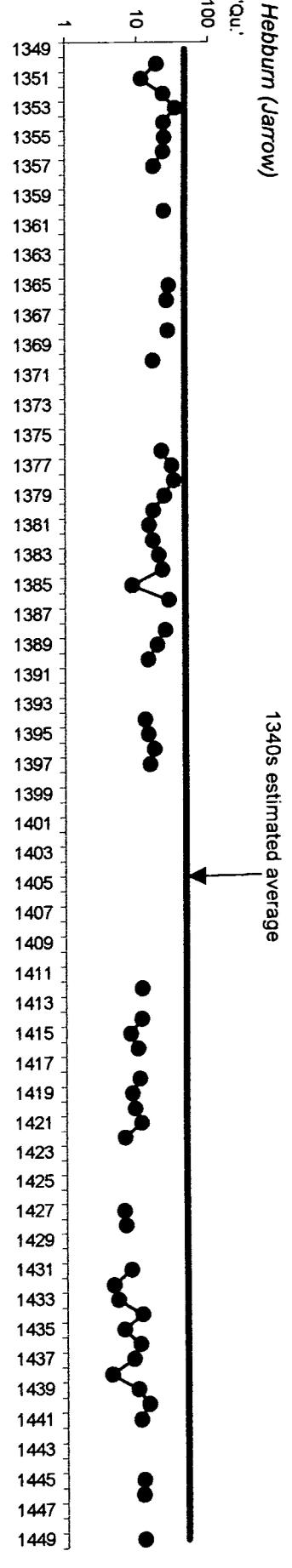
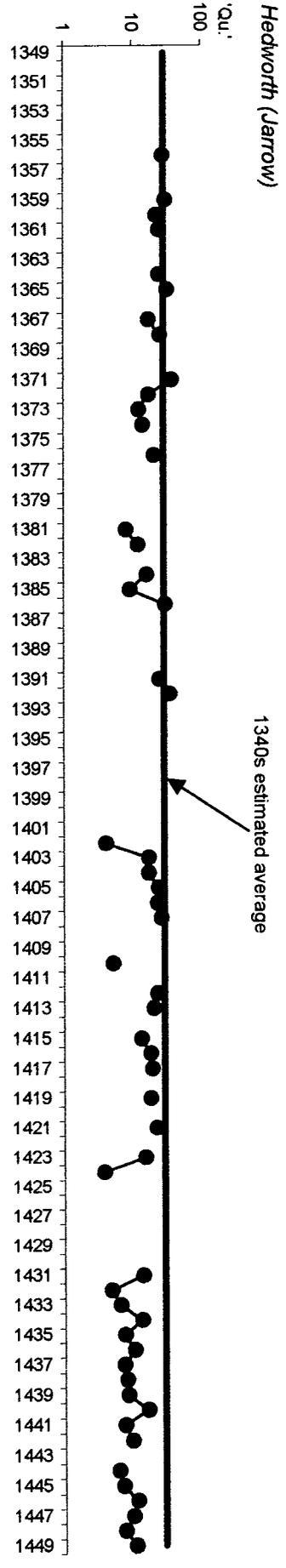
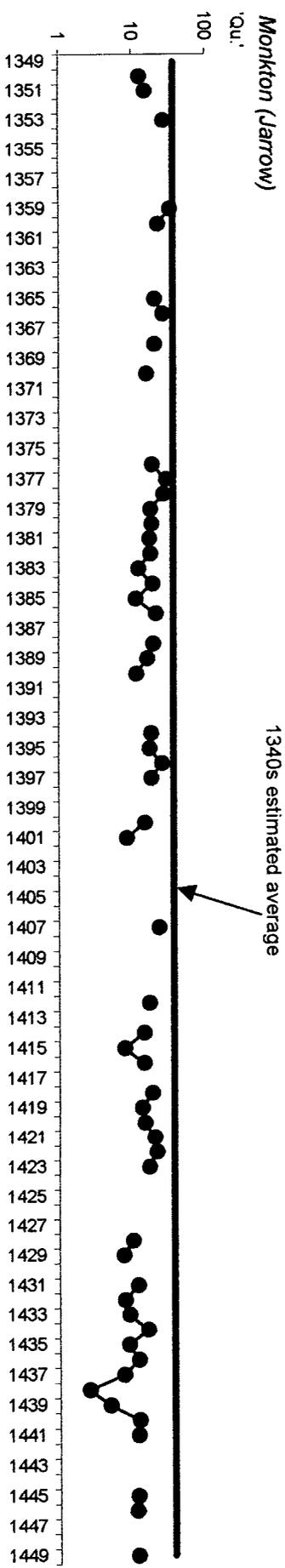


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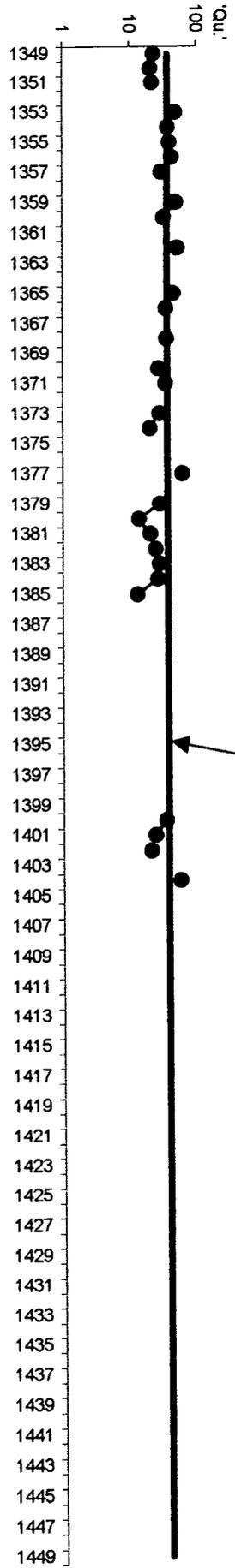


Harton (Jarrow)

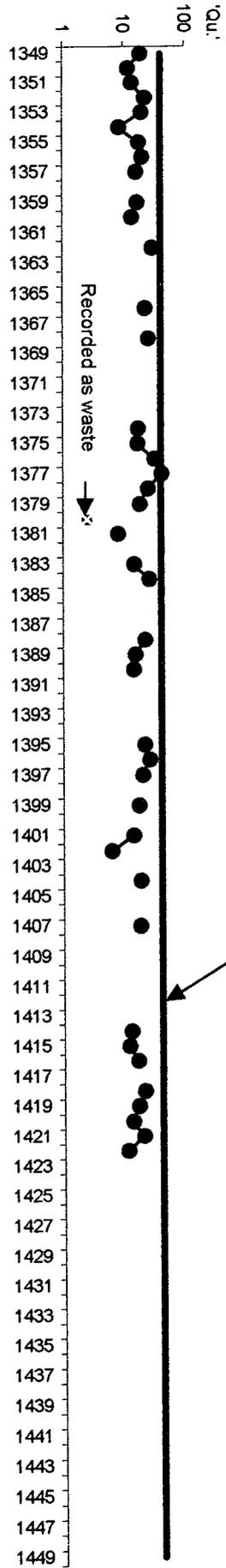




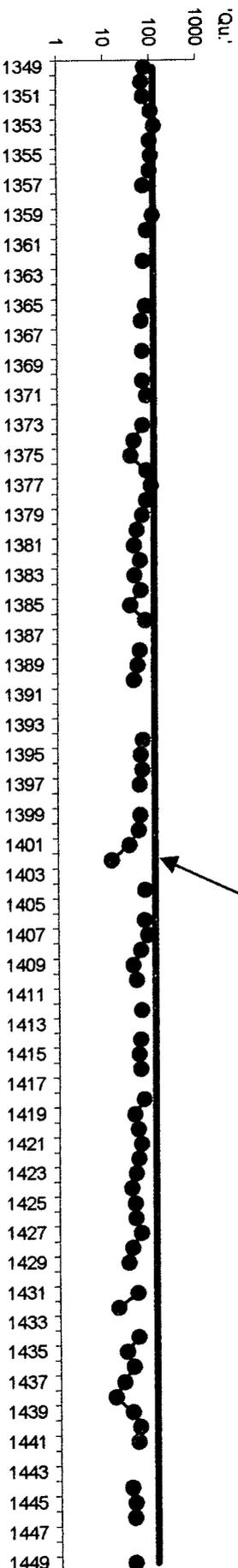
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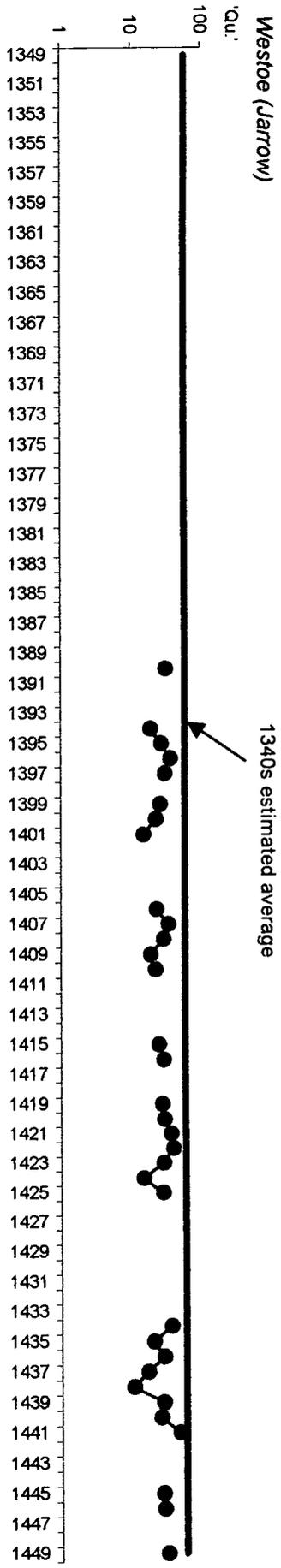


Preston, Simonside (Jarrow)

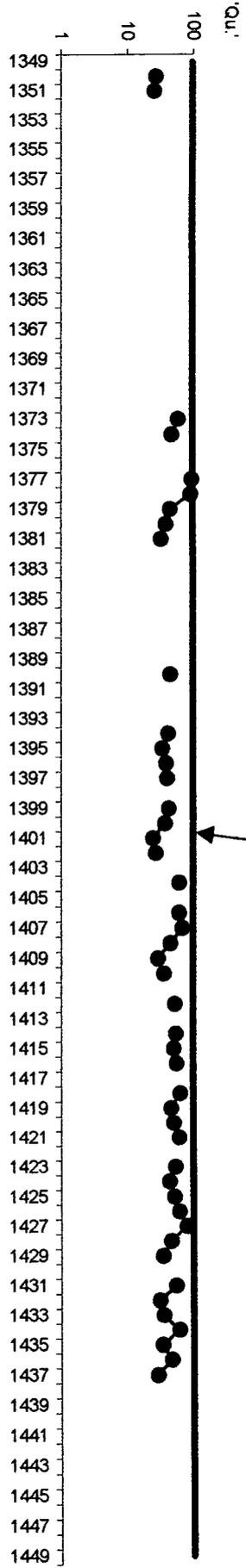


Wallsend, Willington (Jarrow)



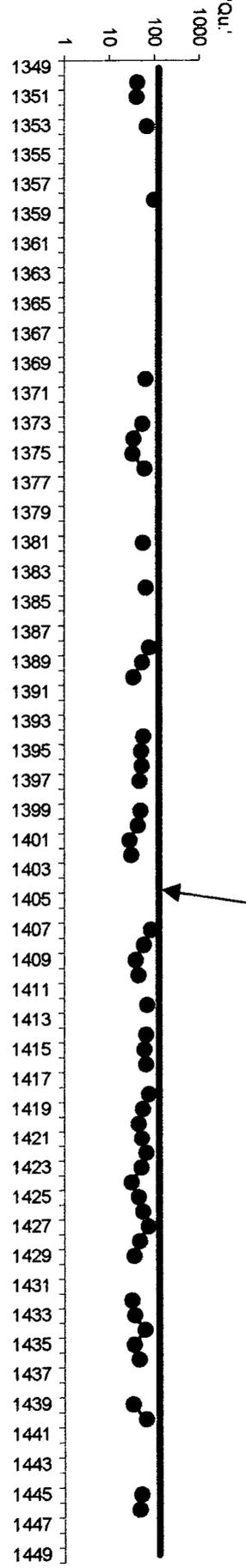


Ferryhill (Kirk Merrington)



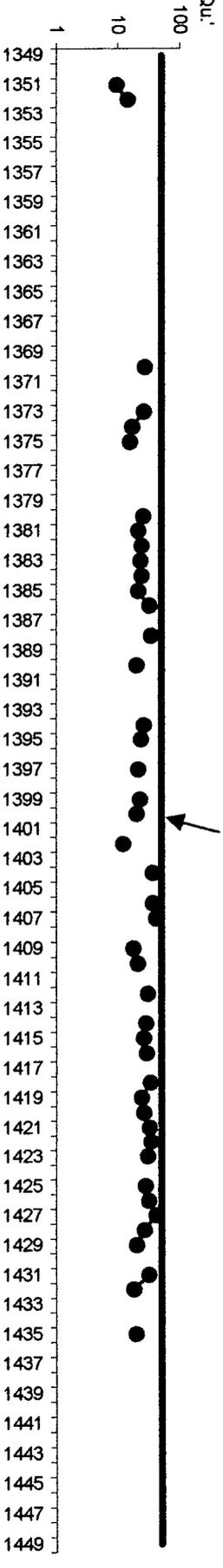
1340s estimated average

Great Chilton, Little Chilton (Kirk Merrington)



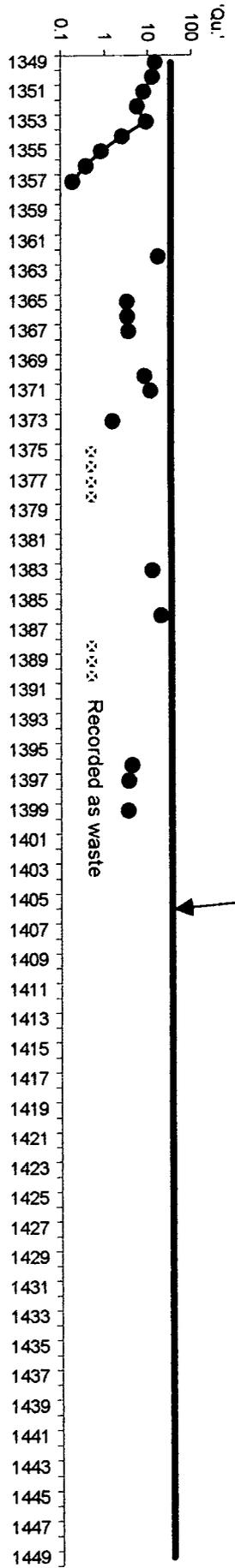
1340s estimated average

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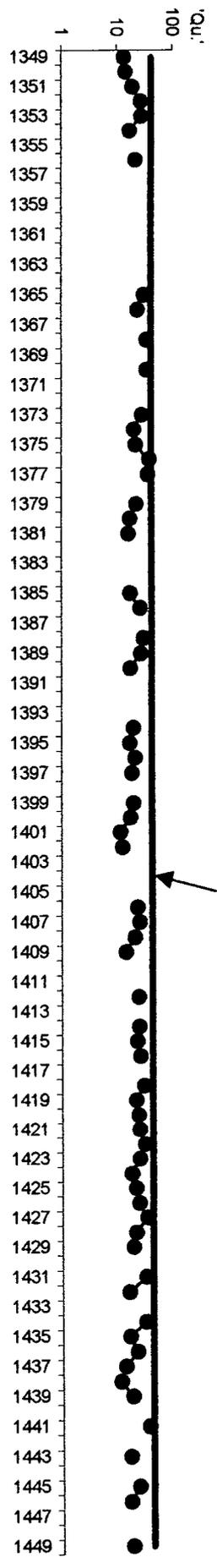


1340s estimated average

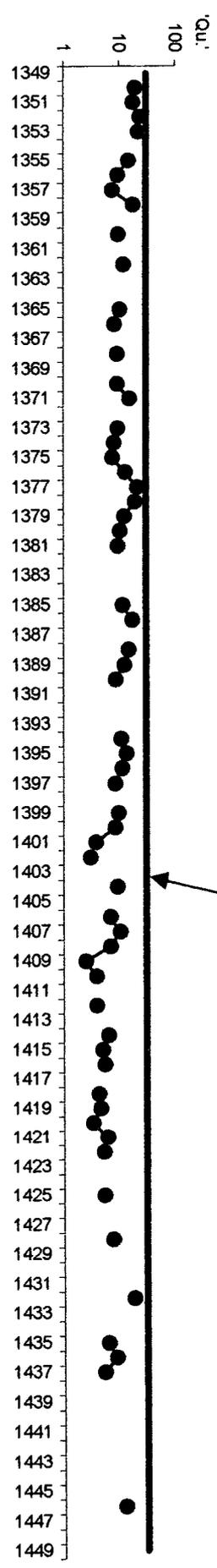
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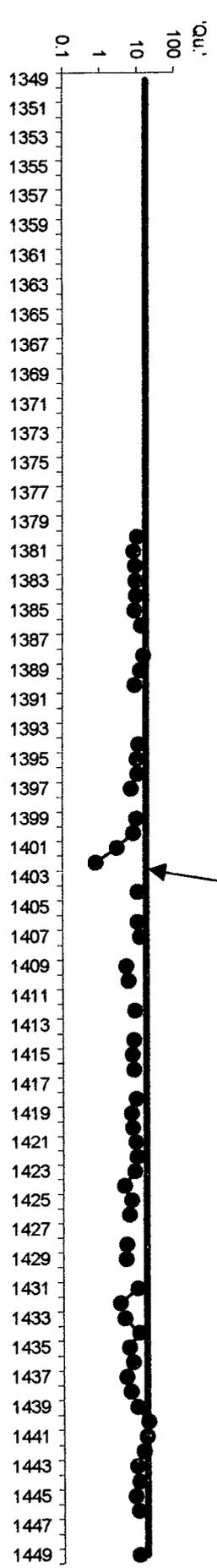
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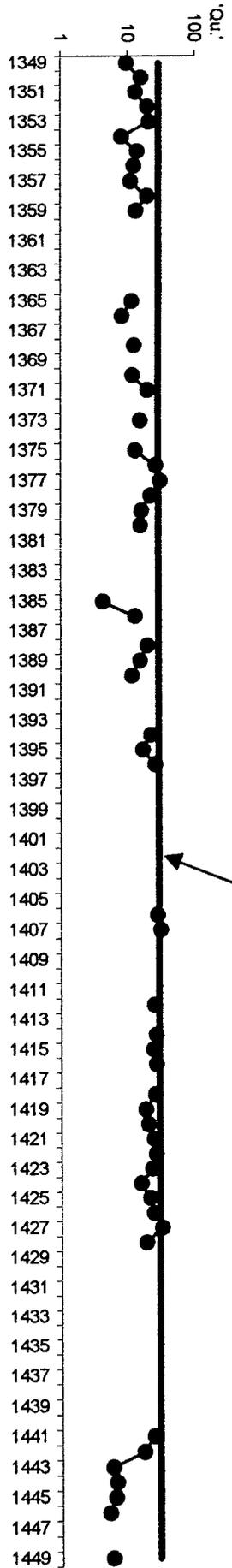
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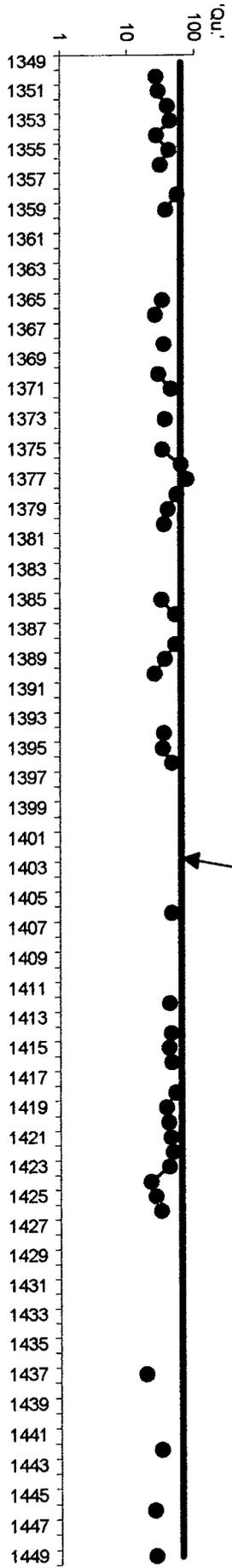
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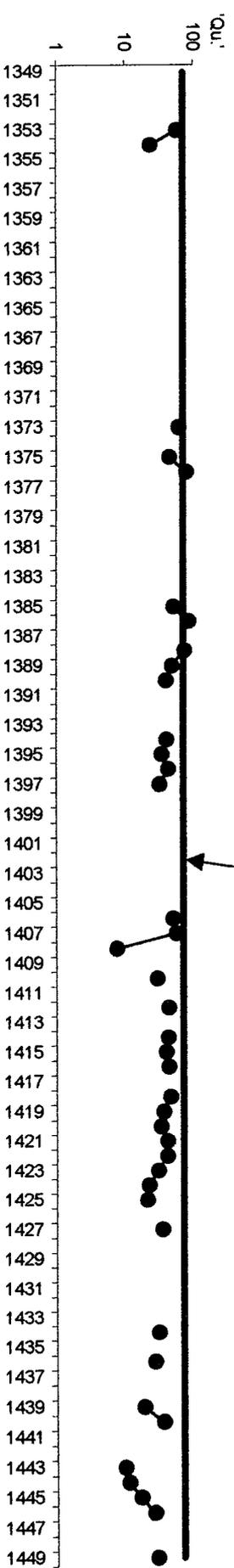
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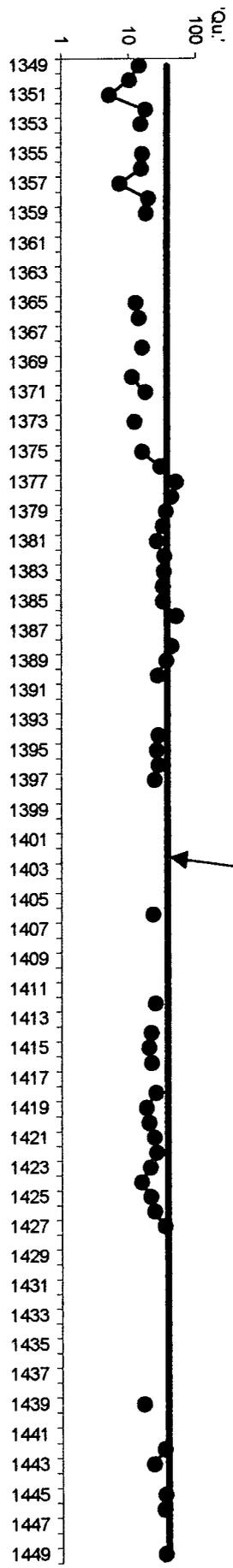
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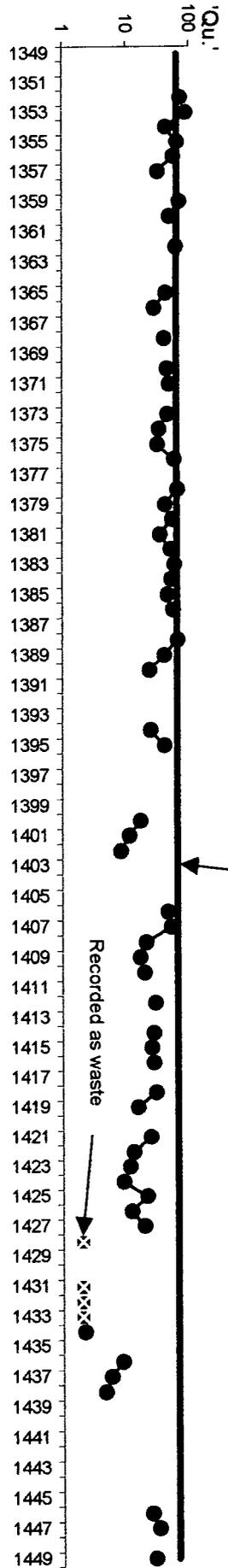
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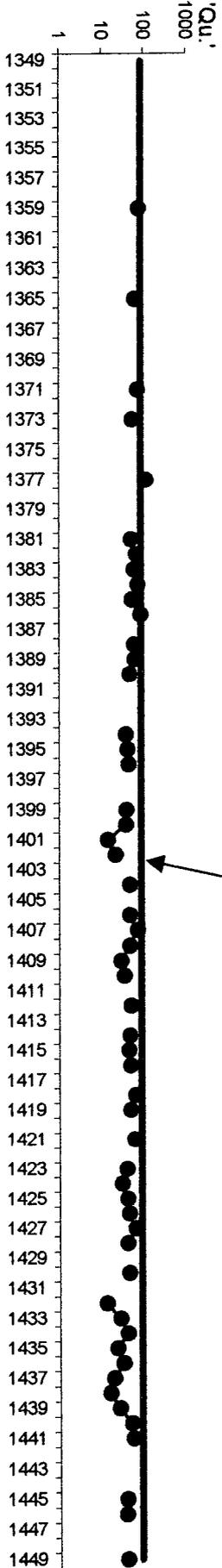
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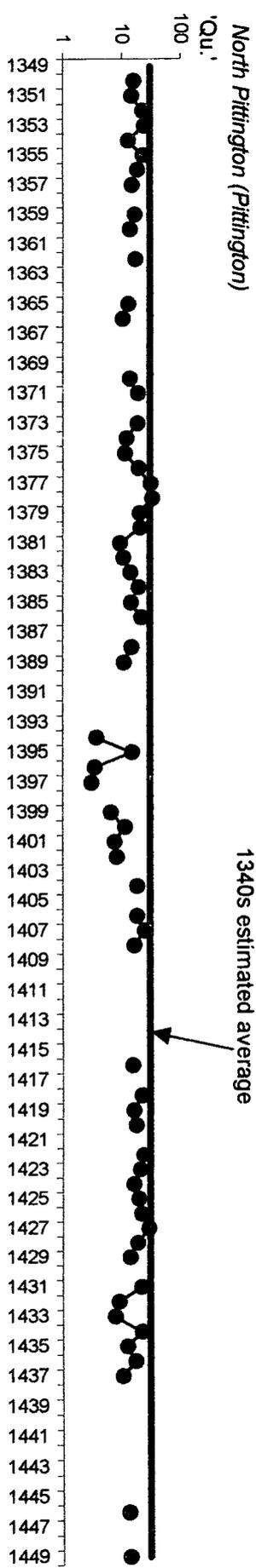
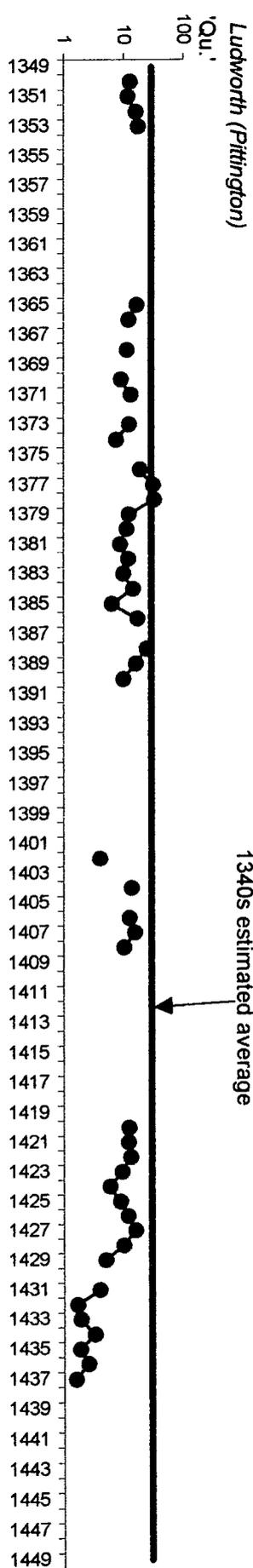
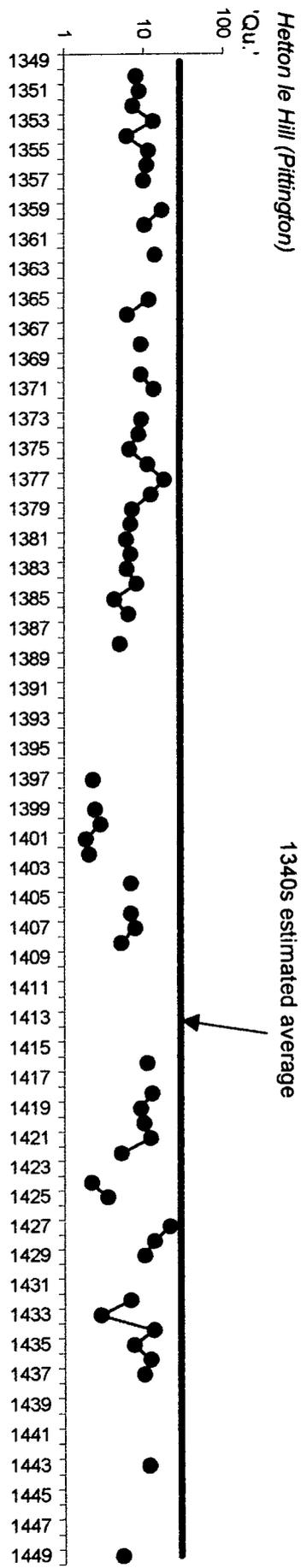


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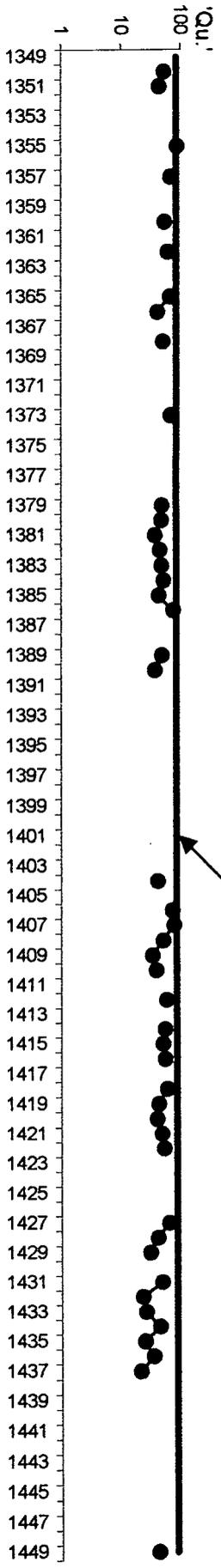


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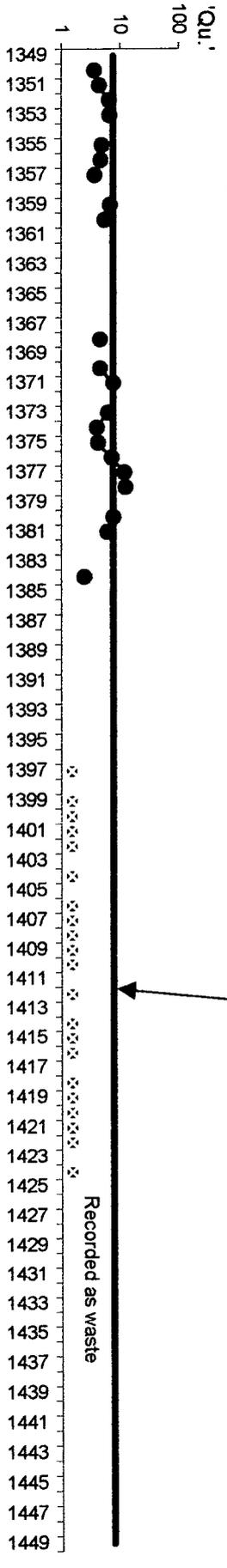




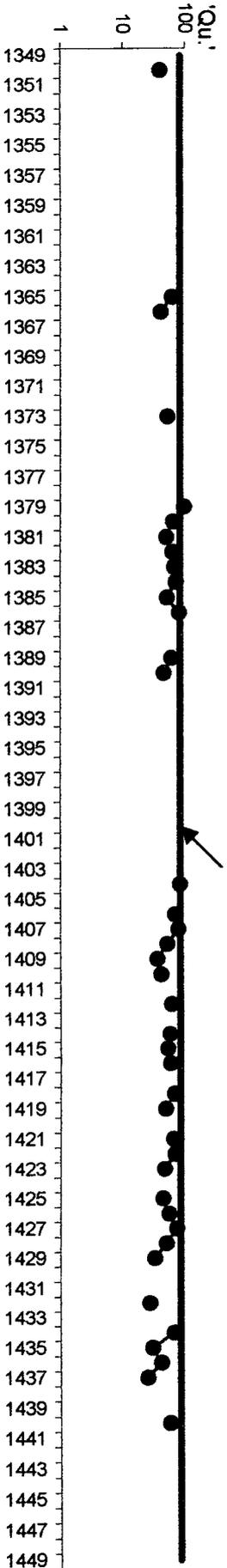
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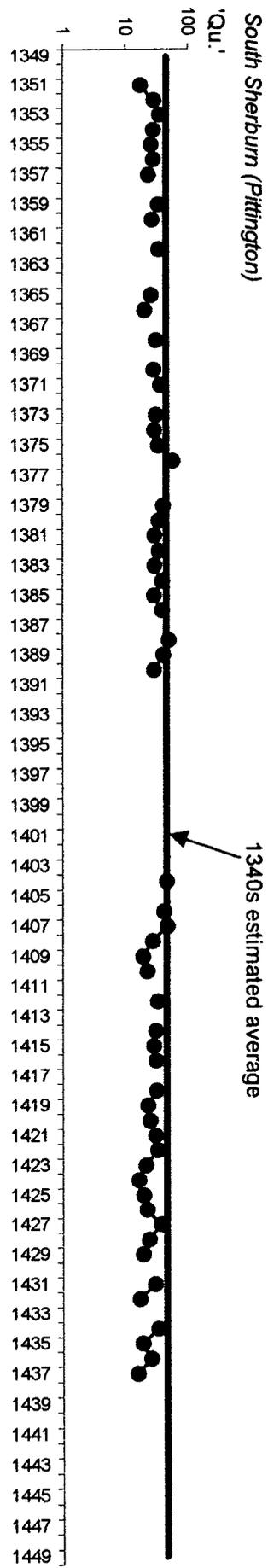
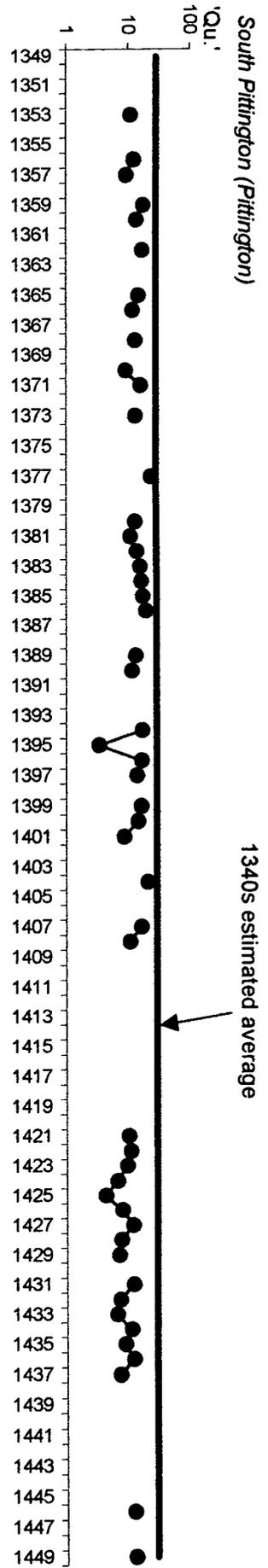


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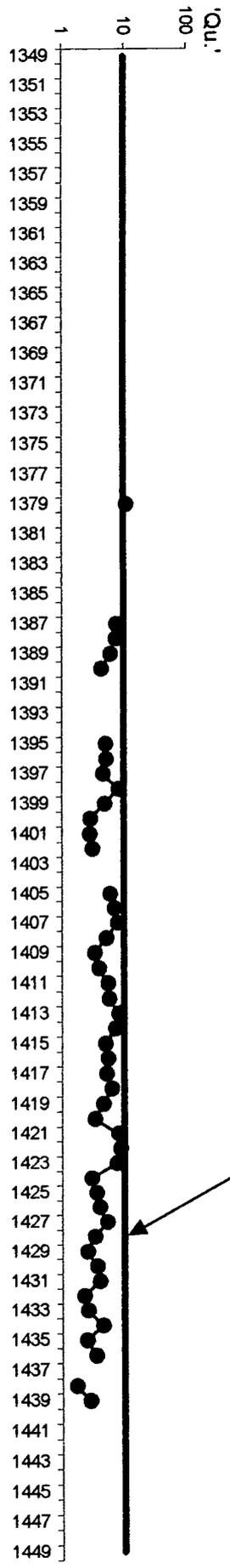


Shadforth (Pittington)

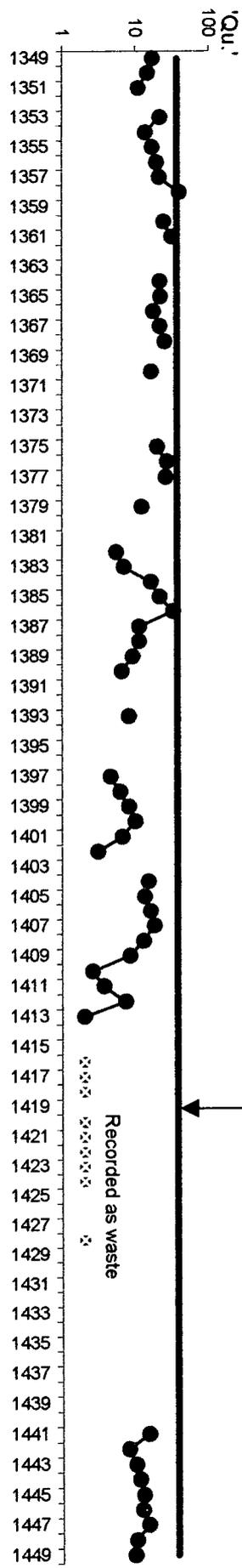




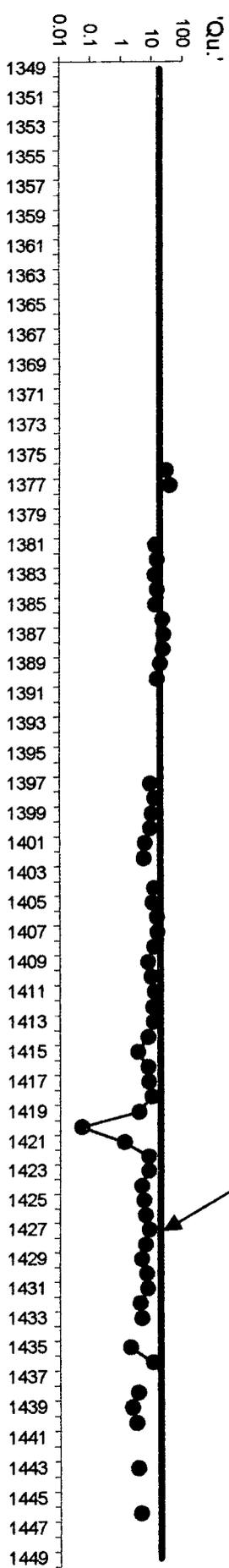
Broom, Relley (St Oswald)



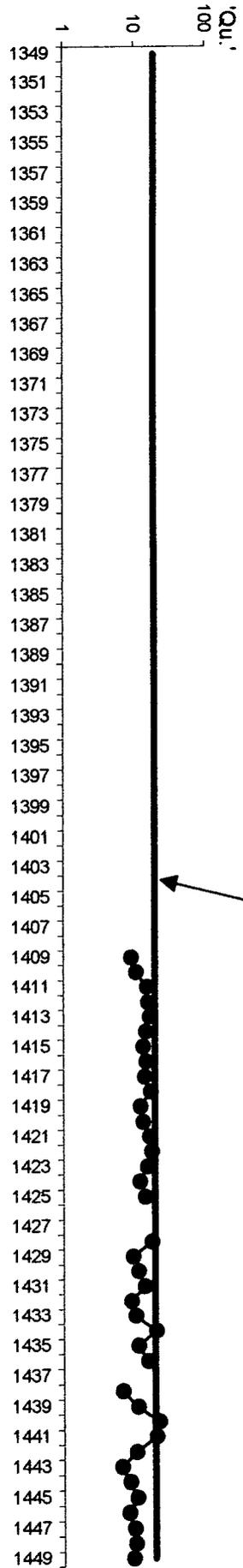
Burn Hall (St Oswald)



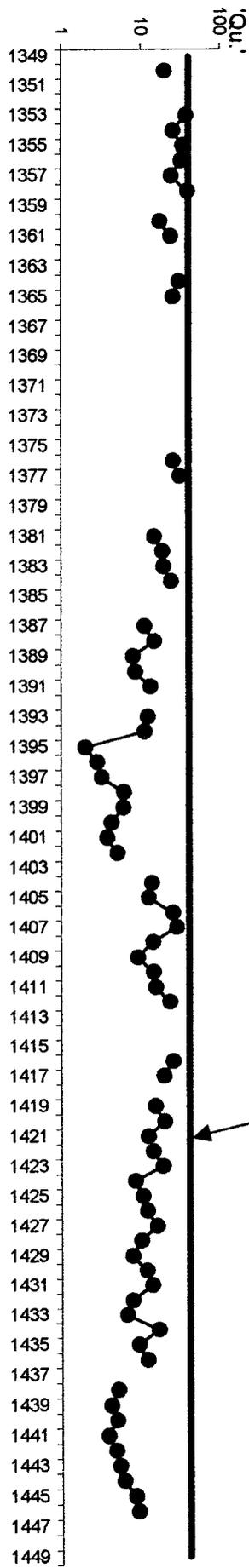
Crook Hall (St Oswald)



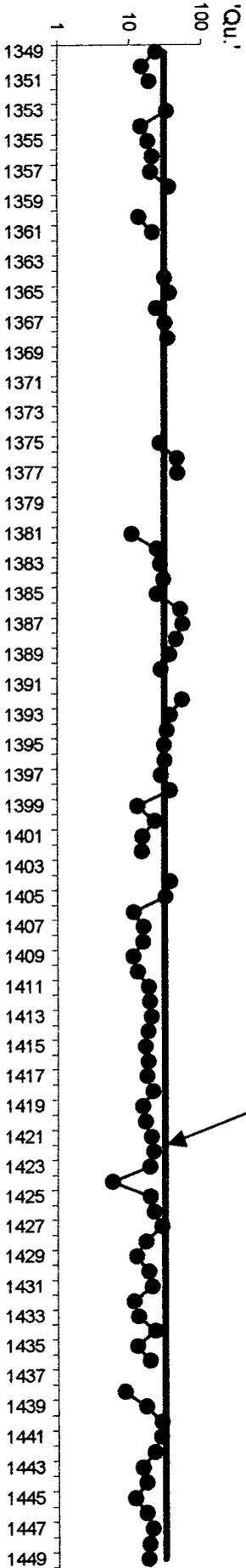
Houghall (St Oswald)

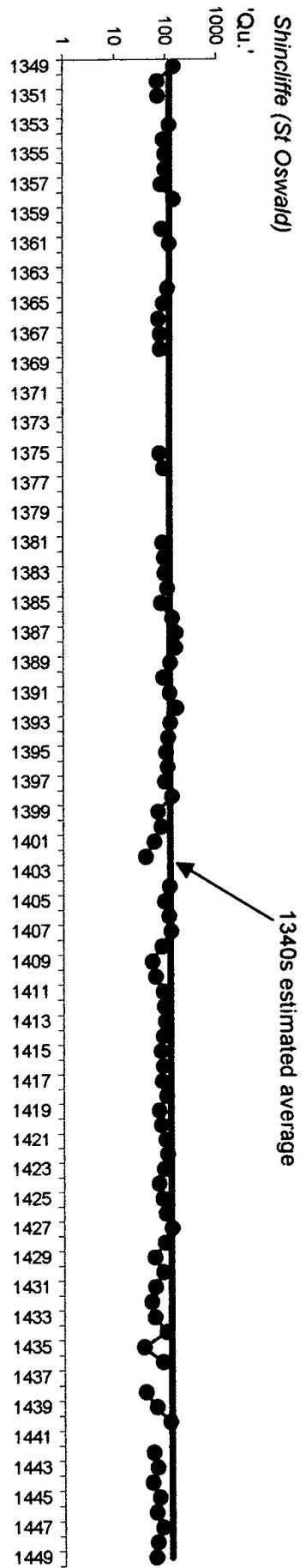
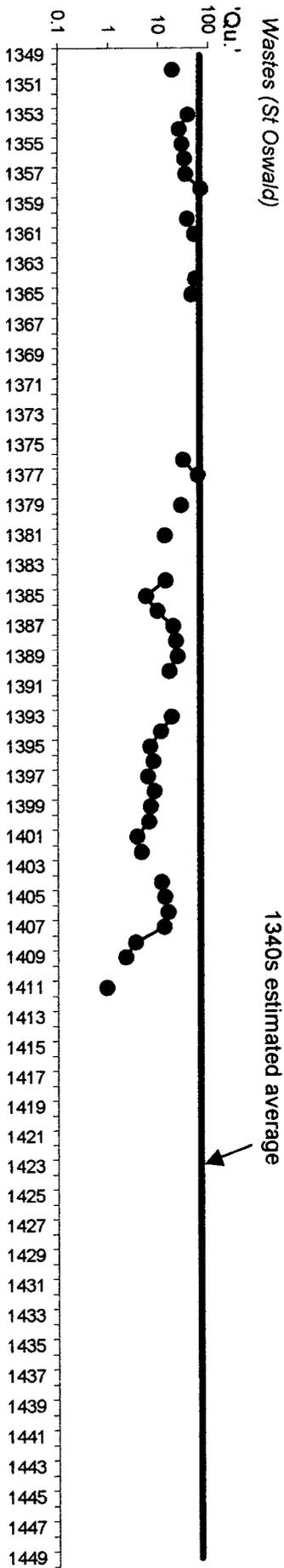


Newton (St Oswald)



Old Durham (St Oswald)





Appendix 3

Post-Black Death plague outbreaks in northern England

Year	Source
1360-1	12 <i>d.</i> paid 'a tempore pestilencie' to a shepherd by Durham Priory hostiller. ¹
1369-70	High turnover of tenants in the Durham Priory halmote court records. ²
1379-80	Petition to parliament made by northern counties. ³
1390s	Higden's chronicle mentions plague in northern England 1390-1. ⁴ Walsingham reports that 'eleven thousand' buried at York 1391. ⁵ Prior and convent of Brinkburn (Northum.) complain to bishop of Durham about diminishment of possessions because of frequent plagues. ⁶ Widespread election of reeves in bishop and priory halmotes in early years of decade. ⁷ Reduced income from meadow sales at Durham Priory cell at Lytham (Lancs.) as a result of plague 1396-7. ⁸
1416	2 April a ward referred to as having died of the pestilence in Durham bishopric halmote books. In the following summer and autumn high rate of land transfer. ⁹
1421	Petition to parliament from border areas. ¹⁰
1438	Gregory's Chronicle mentions 'grete pestylaunce, and namely in the northe contraye'. ¹¹ The Brut mentions plague 'throughout the realm and principally at York and in the North Country'. ¹² An exceptional number of wills proved in York during the summer and autumn. ¹³
1439	Petition to parliament 'a sickness called the Pestilence universally through this your realm more commonly reigneth than hath been usual'. ¹⁴

¹ DCM, hostiller's account 1360-1, *Expense minute*.

² Lomas, 'Black Death', 136.

³ Quoted in Creighton, *Epidemics*, 218.

⁴ *Ranulphi Higden*, ed. Rawson Lumby, 237-8, 259.

⁵ Creighton, *Epidemics*, 220.

⁶ *The chartulary of Brinkburn*, ed. W. Page, *Surtees Society*, 90 (Durham, 1892), xi.

⁷ I am grateful to Mr. Peter Larson for supplying me with this information.

⁸ DCM, Lytham account 1396-7(A).

⁹ PRO DURH 3/14 391v. I am indebted to Mr Peter Larson for providing me with this reference.

¹⁰ Creighton, *Epidemics*, 221.

¹¹ Pollard, 'Agrarian crisis', 93.

¹² Pollard, 'Agrarian crisis', 93.

¹³ P. J. P. Goldberg, 'Mortality and economic change in the diocese of York, 1390-1514', *Northern History*, 24 (1988), p. 45.

¹⁴ Creighton, *Epidemics*, 225.

Bibliography

Manuscript primary sources

Durham obedientiary and cell accounts (including proctor of Norham)

DCM almoner's accounts: 1340-1, 1340 status, 1341 status, 1343 status, 1342-3, 1343-4, 1344 status, 1345 status, 1344-5, 1345, 1347-8, 1351-2, 1352-3, 1353-4, 1354, 1354-5, 1367-8, 1368-9, 1369-70, 1370-1, 1371-2, 1372-3, 1373, 1373 status, 1373-4, 1375, 1375-6, 1376-7, 1377-8, 1378-9, 1380-1, 1390-1, 1391-2, 1392-3, 1393-4, 1394-5, 1395-6, 1397, 1397-8, 1398-9, 1399-1400, 1420-1, 1421-2, 1422-3, 1423-4, 1428-9, 1429-30, 1430-1, 1431-2, 1432-3, 1433-4, 1434-5, 1435-6, 1436-7, 1437-8, 1438-9, 1439-40, 1440-1, 1441-2, 1442-3, 1443-4, 1444-5, 1445-6, 1447-8, 1448-9, 1449-50

DCM bursars' accounts: 1340-1, 1341, 1341-2, 1342-3, 1343-4, 1344-5, 1346 sale of tithes (B.Bk.A. ff.126v-127r), 1347-8, 1347 sale of tithes (B.Bk.A. f.140rv), 1349, 1348-9, 1349-50, 1350-1, 1351-2, 1352-3, 1353-4, 1354-5, 1355-6, 1356-7, 1357-8, 1358-9, 1359-60, 1360-1, 1361-2, 1362-3, 1363, 1363-4, 1365-6, 1366-7, 1367-8, 1368-9, 1370-1, 1371-3, 1373-4, 1374-5, 1375-6, 1376, 1376-7, 1377-8, 1378-9, 1379-80, 1380-1, 1381-2, 1383 sale of tithes (B.Bk.D ff.19v-20r), 1383-4, 1384-5, 1386 sale of tithes (B.Bk.D f.21r), 1386-7, 1388-9, 1389-90, 1390-1, 1391, 1394-5, 1395-6, 1396-7, 1397-8, 1399-1400, 1400-1, 1401-2, 1402-3, 1404-5, 1406-7, 1407-8, 1408-9, 1409-10, 1410-11, 1412-3, 1414-5, 1415-6, 1416-7, 1418-9, 1419-20, 1420-1, 1421-2, 1422-3, 1423-4,

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DCM cellarer's accounts: 1438-9, 1439-40, 1440-1, 1441-2, 1443-4, 1444-5,

DCM chamberlain's accounts: 1342-3, 1344-5, 1345-6, 1346-7, 1347-8, 1348-9, 1349-50, 1350-1, 1351-2, 1352-3, 1353-4, 1354-5, 1356-7, 1357-8, 1358-9, 1362-3, 1363-4, 1364-5, 1365-6, 1366-7, 1367-8, 1370-1, 1372-3, 1374-5, 1376-7, 1377-8, 1378-9, 1379, 1402-3, 1404-5, 1406-7, 1408-9, 1409-10, 1410-11, 1412-3, 1414, 1439-40, 1440-1, 1441-2, 1442, 1442-3, 1443-4, 1444-5, 1447-8, 1448-9, 1449-50, 1450-1

DCM communar's accounts: 1416-7, 1430-1, 1438-9, 1439-40, 1440-1, 1441-2, 1445-6

DCM granator's accounts: 1328-9, 1341-2, 1346-7, c. 1355 – 1360, c. 1370, 1376-7, 1405-6, 1406, 1411-2, 1413-4, 1415-6, 1417-8, 1438-9, 1439-40, 1440-1, 1441-2, 1442, 1442-3, 1443-4, 1444-5

DCM hostiller's accounts: 1340 status, 1341 status, 1342 status, 1343 status, 1344 status, 1344-5, 1345-6, 1346-7, 1347-8, 1348-9, 1349-50, 1350-1, 1351-2, 1353-4, 1354-5, 1355-6, 1356-7, 1357-8, 1358, 1358 status, 1358-9, 1360, 1360-1, 1361-2, 1362-3, 1363-4, 1364-5, 1365 status, 1365-6, 1366-7, 1367-8, 1368-9, 1369-70, 1370-1, 1371 status,

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DCM proctor of Norham's accounts: 1341-2, 1344-5, 1348-9, 1360-1, 1361 arrears, 1366-7, 1401-2, 1402-3, 1404-5, 1405-6, 1406-7, 1407-8, 1408-9, 1419-20, 1420-1, 1423-4, 1428-9, 1446-7, 1457-8,

DCM sacrist's accounts: 1341, 1342-3, 1343-4, 1344-5, 1344-5, 1345-6, 1346-7, 1347-8, 1348-9, 1349-50, 1350-1, 1351-2, 1352-3, 1353-4, 1355-6, 1356-7, 1358-9, 1359-60, 1360-1, 1361-2, 1362-3, 1363, 1367, 1370 sale of Bywell St Peter tithes (4.3.Sacr.33/3 face), 1371 sale of Bywell St Peter tithes (4.3.Sacr.33/3 dorse), 1376-7, 1377-8, 1378-9, 1379-80, 1380-1, 1381-2, 1382-3, 1383-4, 1384, 1385-6, 1386-7, 1388-9, 1390-1, 1393-4, 1395-6, 1396-7, 1397-8, 1401-2, 1402-3, 1403-4, 1404-5, 1405-6, 1406-7, 1407, 1407-8, 1408-9, 1409, 1409-10, 1411-2, 1412-3, 1413-4, 1414-5, 1415-6, 1416-7, 1419-20,

DCM prior of Coldingham accounts: 1355-6, 1356-7, 1357-8, 1358-9, 1359-60, 1360-1, 1361-2, 1362-3, 1363-4, 1364-5, 1365-6, 1366-7, 1367-8, 1368-9, 1369-70

DCM sacrist of Coldingham accounts: 1358-9, 1359 status, 1362-3, 1363-4, 1364-5, 1365-6, 1366-7, 1367-8, 1368-9, 1369-70

DCM warden and bursar of Durham College accounts: 1389-90, 1390-1, 1391-2, 1392-3, 1394-5, 1395-6, 1396-7, 1398-9, 1399-1400, 1400-1, 1401-2, 1402-3, 1403-4, 1404-5, 1405-6, 1406-7, 1407-8, 1408-9, 1409-10, 1410, 1410-11, 1411-2, 1412-3, 1413-4, 1414-5, 1415-6, 1416-7, 1417-8, 1418-9, 1419-20, 1420-1, 1421-2, 1422-3, 1423-4, 1424-5, 1425-6, 1426-7, 1427-8, 1428 status, 1428-9, 1429-30, 1430-1, 1431-2, 1432-3, 1434-5, 1435-6, 1436-7, 1437-8, 1438-9, 1439-40, 1442-3, 1443-4, 1444-5, 1446-7, 1447-8, 1448-9, 1449-50, 1450 status

Termly 1422, termly 1422-3, termly 1423 (I), termly 1423 (II), termly 1423 (III), termly 1423-4, termly 1424 (I), termly 1424 (II), termly 1424 (III), termly 1424-5, termly 1425 (I), termly 1425 (II), termly 1425 (III), termly 1431, termly 1431-2, termly 1432 (I), termly 1432 (II), termly 1432-3, termly 1433 (I), termly 1433 (II), termly 1433-4, termly 1434 (I), termly 1434 (II), termly 1434-5, termly 1435 (I), termly 1435-6, termly 1436 (I), termly 1436 (II), termly 1436 (III), termly 1436-7, termly 1437 (I), termly 1437 (II), termly 1438 (I), termly 1438 (II), termly 1438-9, termly 1439 (I), termly 1439 (II), termly 1439 (III)

DCM master of Farne accounts: 1390-1, 1391-2, 1392-3, 1393-4, c. 1395, 1397-8, 1398-9, 1399-1400

DCM prior of Finchale's accounts (SS6 used for accounts not listed): 1355-6, 1357-8, 1360-1, 1361-2, 1364-5, 1367 status, 1378-9, 1382-3, 1383, 1386-7, 1387-8, 1389-90, 1429-30, 1438-9, 1440 status, 1441-2, 1449-50

DCM prior of Holy Island accounts: 1358-9, 1360-1, 1362 status, 1362-3, 1363, 1363-4, 1364-5, 1365-6, 1366-7, 1367, 1367 status, 1367-8, 1368-9, 1369-70, 1390-1, 1391-2, 1392-3, 1393-4, 1394-5, 1395-6, 1396-7, 1397-8, 1398-9, 1401-2, 1402-3, 1403-4, 1404-5, 1405-6, 1406-7, 1407-8, 1408-9, 1409-10, 1410-11, 1411-2, 1412-3, 1413-4, 1414-5, 1415-6, 1416-7, 1417-8, 1418-9, 1419-20

DCM master of Jarrow accounts (SS29 used for accounts not listed): 1345-6, 1350-1, 1351-2, 1355 status, 1355-6, 1356-7, 1357, 1357-8, 1358, 1358-9, 1359-60, 1360-1, 1361-2, 1362-3, 1363, 1363-4, 1364-5, 1365-6, 1367-8, 1368-9, 1369-70, 1370, 1370 status, 1370-1, 1371-2, 1372-3, 1373, 1373-4, 1374-5, 1376-7, 1378-9, 1379, 1381-2, 1382-3, 1384-5, 1391-2, 1392-3, 1397-8, 1402-3, 1403-4, 1404-5, 1405-6, 1406-7, 1407-8, 1408, 1408-9, 1409-10, 1410-11, 1412-3, 1413, 1413-4, 1415-6, 1416-7, 1417-8, 1419-20, 1420-1, 1421-2, 1422-3, 1423-4, 1424-5, 1425, 1431-2, 1432-3, 1433-4, 1434-5, 1435-6, 1436-7, 1437-8, 1438-9, 1439-40, 1440-1, 1441-2, 1442-3, 1444-5, 1445-6, 1446-7, 1447-8, 1448-9, 1449-50

DCM prior of Lytham accounts: 1342-3, 1343-4, 1344-5, 1345-6, 1346-7, 1347-8, 1348-9, 1351-2, 1352-3, 1353-4, 1354-5, 1355-6, 1356-7, 1358-9, 1359-60, 1360-1, 1361-2, 1362 status, 1373-4, 1374-5, 1375-6, 1376-7, 1377-8, 1378-9, 1379, 1379-80, 1381-2,

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DCM master of Wearmouth accounts (SS29 used for accounts not listed): 1343-4, 1344-5, 1346-7, 1360 status, 1360-1, 1361-2, 1362, 1362 status, 1367-8, 1368-9, 1369-70, 1370-1, 1371-2, 1372-3, 1373-4, 1374-5, 1375-6, 1376-7, 1377-8, 1378-9, 1379-80, 1380-1, 1381-2, 1382-3, 1383-4, 1385-6, 1386-7, 1387-8, 1388-9, 1390-1, 1391-2, 1393-4, 1395-6, 1396-7, 1397-8, 1398, 1398-9, 1400-1, 1402-3, 1403-4, 1404-5, 1405-6, 1406-7, 1407-8, 1408-9, 1413-4, 1414-5, 1415-6, 1416-7, 1417, 1417-8, 1420-1, 1421-2, 1422-3, 1424-5, 1425-6, 1426-7, 1427-8, 1428-9, 1429-30, 1430-1, 1431-2, 1432-3, 1433-4, 1434 status, 1434-5, 1437-8, 1438-9, 1447-8, 1448-9, 1449-50

Durham manor accounts

DCM enrolled livestock accounts: 1340, 1342-3, 1343-4, 1344-5, 1349-50, 13501-, 1351-2, 1371-2, 1380-1, 1383-4, 1385-6, 1387-8, 1399-1400, 1416-7, 1420-1

DCM Holme livestock accounts: 1415-6, 1418-9, 1419-20, 1420-1, 1426-7, 1427-8, 1428-9, 1429-30, 1430-1, 1431-2, 1432-3, 1433-4, 1434-5, 1435-6, 1436-7, 1437-8, 1439-40, 1443-4, 1444 -5, 1445-6, 1447-8, 1448-9

DCM Muggleswick livestock accounts: 1421-2, 1426-7, 1430-1

DCM Pittington accounts: 1376-7, 1377-8, 1378-9, 1379-80, 1380, 1380-1, 1382, 1382-3, 1383-4, 1384-5, 1388-9, 1389-90, 1390-1, 1392-3, 1393-4, 1394-5, 1395-6, 1396-7, 1397-8, 1398-9, 1399-1400, 1405-6, 1406-7, 1407-8, 1408-9, 1409-10, 1412-3, 1413-4, 1419-20, 1420-1, 1422-3, 1423-4, 1424-5, 1427-8, 1428-9, 1429-30, 1433-4, 1446-7, 1449-50, 1450-1, 1451-2

Other Durham manuscript sources

DCM locellus XXI number 20; locellus XXVII number 1

DCM Miscellaneous Charters: 3957, 5627b, 7111(f), 7111(g)

DCM prior's register II.

DCM calendar by Dr Charles Kelham of prior's registers II and IV (Durham University Archives and Special Collections Searchroom, Number 5 The College).

Canterbury accounts

Canterbury Cathedral Archives and Library, Almoner's account 24.

Canterbury Cathedral Archives and Library, Beadle's rolls, Eastry 73.

Beveridge price history archive

Boxes C1, C2, C3, C4, C5, C6, C7, C8(i) and C8(ii), The Beveridge Price History Archive (British Library of Political and Economic Science).

Printed primary sources

The account book of Beaulieu Abbey, ed. S. F. Hockey, Camden Society, 4th ser., 16 (London, 1975).

'Account rolls of Dewsbury rectory 1348/9 - 1355/6', ed. S. J. Chadwick, *Yorkshire Archaeological Journal*, 21 (1911), pp. 352-92.

Account rolls of the obedientiaries of Peterborough, ed. J. Greatrex, Northamptonshire Record Society, 33 (1984).

Accounts of the obedientiars of Abingdon Abbey, ed. R. E. F. Kirk, Camden Society New Series, 51 (London, 1892).

The Anglo-Saxon Chronicle, trans. and ed. M. Swanton (London; Dent, 1996).

- Bede: the ecclesiastical history of the English people; the greater chronicle; Bede's letter to Egbert*, eds. J. McClure and R. Collins, (Oxford; Oxford University Press, 1994).
- Bishop Hatfield's Survey*, ed. W. Greenwell, Surtees Society, 32 (Durham, 1857).
- The Bolton Priory compotus, 1286-1325: together with a priory account roll for 1377-78*, eds. I. Kershaw, D. M. Smith and T. N. Cooper, Yorkshire Archaeological Society Record Series, 154 (Woodbridge; Boydell, 2000).
- The book of William Morton almoner of Peterborough monastery 1448-1467*, eds. C. N. L. Brooke, P. I. King and E. T. Mellows, Northamptonshire Record Society, 16 (Oxford; Oxford University Press, 1954).
- Chapters of the English Black Monks, documents illustrating the activities of the General and Provincial volume I*, ed. W. A. Pantin, Camden Third Series, 45, (London, 1931).
- Chapters of the English Black Monks, documents illustrating the activities of the General and Provincial volume II*, ed. W. A. Pantin, Camden Third Series, 47 (London, 1933).
- Chapters of the English Black Monks, documents illustrating the activities of the General and Provincial volume III*, ed. W. A. Pantin, Camden Third Series, 54 (London, 1937).
- The chartulary of Brinkburn*, ed. W. Page, Surtees Society, 90 (Durham, 1892).
- Compotus rolls of the obedientiaries of St Swithun's Priory, Winchester*, ed. G. W. Kitchin, Hampshire Record Society, (London, 1892).

- Compotus rolls of the priory of Worcester of the fourteenth and fifteenth centuries*, ed. S. G. Hamilton, Worcestershire Historical Society (Oxford; James Parker and Co., 1910).
- Councils and ecclesiastical documents relating to Great Britain and Ireland*, ed. A. W. Haddan and W. Stubbs, 3 vols. (Oxford; Clarendon Press, 1869-73).
- Durham Cathedral Priory rentals volume 1 bursar's rentals*, eds. R. A. Lomas and A. J. Piper, Surtees Society, 198 (Newcastle, 1986).
- English historical documents c. 500-1042*, ed. D. Whitelock (2nd edn.; London; Eyre and Methuen, 1979).
- Extracts from the account rolls of the abbey of Durham from the original MSS volume I*, ed. J. T. Fowler, Surtees Society, 99 (Durham, 1898).
- Extracts from the account rolls of the abbey of Durham from the original MSS volume II*, ed. J. T. Fowler, Surtees Society, 100 (Durham, 1898).
- Farming and gardening in late medieval Norfolk; Norwich Cathedral Priory gardeners' accounts, 1329-1530; Skayman's book, 1516-1518*, eds. C. Noble, C. Moreton and P. Rutledge, Norfolk Record Society, 61 (1997).
- Gregory of Tours: the history of the Franks*, trans. and ed. L. Thorpe (Harmondsworth; Penguin, 1974).
- Halmota prioratus Dunelmensis*, eds. W. H. Longstaffe and J. Booth, Surtees Society, 82 (1886).
- Historiae Dunelmensis scriptores tres*, ed. J. Raine, Surtees Society, 9 (London, 1839).
- Historical papers and letters from the northern registers*, ed. J. Raine, Rerum britannicarum medii aevi scriptores, 61 (London; Longman, 1873).

- Household accounts from medieval England part 1; introduction, glossary, diet accounts (i)*, ed. C. M. Woolgar, British Academy Records of Social and Economic History, new series, 17 (Oxford, 1992).
- Household accounts from medieval England part 2; diet accounts (ii), cash, corn and stock accounts, wardrobe accounts, catalogue*, ed. C.M. Woolgar, British Academy Records of Social and Economic History, new series, 17 (Oxford, 1992).
- 'Instructions for parish priests' by John Myrc*, ed. E. Peacock, EETSOS, 31 (London, 1868).
- The inventories and account rolls of Jarrow and Monkwearmouth*, ed. J. Raine, Surtees Society, 29 (Durham, 1854).
- Jacob's Well part I*, ed. A. Brandeis, EETSOS, 115 (London, 1900).
- Medieval clerical accounts*, ed. P. Heath, St Anthony's Hall Publications, 26 (Borthwick Institute of Historical Research; 1964).
- Manorial records of Cuxham, Oxfordshire, c. 1200-1359*, ed. P. D. A. Harvey (London; H. M. S. O., 1976).
- Monumenta ecclesiastica Anglicana*, ed. B. Thorpe, appended to *Ancient laws and institutes of England*, ed. B. Thorpe (London; Record Commissioners, 1840).
- Nonarum inquisitiones in curia scaccarii*, ed. G. Vanderzee (London; Record Commissioners, 1807).
- The pipe roll of the bishopric of Winchester, 1409-10*, ed. M. Page, Hampshire Record Series, 16 (Winchester; Hampshire County Council, 1999).

Polychronicon Ranulphi Higden monachis cestrensis vol. IX, ed. J. Rawson Lumby,

Rerum britannicarum medii aevi scriptores (London; Longman, 1886).

The priory of Coldingham: the correspondence, inventories, account rolls, and law proceedings, of the priory of Coldingham, ed. J. Raine, Surtees Society, 12 (London, 1841).

The priory of Finchale. The charters of endowment, inventories and account rolls, ed. J. Raine, Surtees Society, 6 (Newcastle, 1837).

Rites of Durham, ed. J. T. Fowler, Surtees Society, 107 (Durham, 1902).

The Riverside Chaucer, ed. L. Benson (Oxford; Oxford University Press, 1987).

Robert de Brunne's 'Handlyng synne' part I, ed. F. J. Furnivall, EETSOS, 119 (London, 1901).

The sacrist rolls of Ely. Volume II. Transcripts, ed. F. R. Chapman (Cambridge; Cambridge University Press - printed for private circulation only, 1907).

Symeon of Durham: libellus de exordio atque procursu istius, hoc est Dunhelmensis, ecclesie: tracts on the origins and progress of this the church of Durham, ed. and trans. D. W. Rollason (Oxford; Clarendon Press, 2000).

Taxatio ecclesiastica Angliae et Walliae auctoritate papae Nicholai IV circa 1291, eds. J. Caley and S. Ayscough (London; Record Commissioners, 1802).

The Towneley Plays, ed. G. England and A. W. Pollard, EETSSES, 71 (London, 1897).

Secondary works

- R. Baehrel, *Une croissance: la Basse-Provence rurale (fin du XVIe siècle - 1789): essai d'économie historique statistique* (Paris; S.E.V.P.E.N., 1961).
- A. R. H. Baker, 'Evidence in the "Nonarum Inquisitiones" of contracting arable lands in England during the early fourteenth century' in A. R. H. Baker, J. D. Hamshere, J. Langton, eds., *Geographical interpretations of historical sources: readings in historical geography* (Newton Abbot; David and Charles, 1970), pp. 83-100.
- M. Bailey, *A marginal economy? East Anglian Breckland in the later middle ages* (Cambridge; Cambridge University Press, 1989)
- M. Bailey, 'The prior and convent of Ely and their management of the manor of Lakenheath', in M. J. Franklin and C. Harper-Bill, eds., *Medieval ecclesiastical studies in honour of Dorothy M. Owen* (Woodbridge; Boydell Press, 1995), pp. 1-19.
- G. Bannock, R. E. Baxter and E. Davis, *Dictionary of economics* (6th edition; Harmondsworth; Penguin, 1998).
- E. Bateson, *A history of Northumberland. Volume II. The parishes of Embleton, Ellingham, Howick, Long Houghton and Lesbury* (Newcastle; Andrew Reid and Co., 1895).
- G. Béaur, 'From the North Sea to Berry and Lorraine: land productivity in northern France, 13th - 19th centuries' in B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (middle ages - 20th century) elements for comparison*, Corn Publication Series 2 (Turnhout; Brepols, 1999), pp. 136-67.

- G. F. A. Best, *Temporal pillars: Queen Anne's Bounty, the Ecclesiastical Commissioners, and the Church of England* (Cambridge; Cambridge University Press, 1964).
- N. Belford, *An inventory of the Beveridge price history archive at the London School of Economics* (British Library of Political and Economic Science Unbound Searchroom Handlist, 1983).
- W. Beveridge, *Prices and wages in England from the twelfth to the nineteenth century volume 1 price tables: mercantile era*, Publications of the International Scientific Committee on Price History (London; Longmans, Green and Co. Ltd., 1939).
- G. Bois, *The crisis of feudalism: economy and society in eastern Normandy c. 1300-1550* (Cambridge; Cambridge University Press; Paris; Editions de la Maison des Sciences de l'Homme, 1984).
- G. Bois, 'Against the neo-Malthusian orthodoxy', in T. H. Aston and C. H. E. Philpin, eds., *The Brenner debate: agrarian class structure and economic developments in pre-industrial Europe* (Cambridge; Cambridge University Press, 1985), pp. 107-18.
- J. L. Bolton, *The medieval English economy, 1150-1500* (London; Dent, 1980).
- F. Bradshaw, 'Social and economic history', in W. Page, ed., *The Victoria county history of the county of Durham volume II* (London; Archibald Constable and Co. Ltd., 1907), pp. 175-260.
- R. Brenner, 'Agrarian class structure and economic development in pre-industrial Europe', in T. H. Aston and C. H. E. Philpin, eds., *The Brenner debate: agrarian class structure and economic developments in pre-industrial Europe* (Cambridge; Cambridge University Press, 1985), pp. 10-63.

- A. R. Bridbury, 'The Black Death', *Economic History Review*, 2nd ser., 26 (1973), pp. 577-92.
- R. H. Britnell, 'The economic function of the parish church' (unpublished paper, 1966).
- R. H. Britnell, 'Feudal reaction after the Black Death in the palatinate of Durham', *Past and Present*, 128 (1990), pp. 28-75.
- R. H. Britnell, *The commercialisation of English society 1000-1500* (2nd edn.; Manchester; Manchester University Press, 1996).
- R. H. Britnell, 'Between Durham and the sea, 1100 - 1300', Durham University Inaugural Lecture, 25 October 2000.
- L. Brown, ed., *The new shorter Oxford English dictionary on historical principles* (Oxford; Clarendon Press, 1973).
- G. F. Browne, *Alcuin of York* (London; Society for Promoting Christian Knowledge, 1908).
- R. W. Brunskill, *Traditional farm buildings of Britain* (revised edition; London; Victor Gollancz, 1987).
- B. M. S. Campbell, 'Measuring the commercialisation of seigneurial agriculture c. 1300' in R. H. Britnell and B. M. S. Campbell, eds., *A commercialising economy: England 1086 to c. 1300* (Manchester; Manchester University Press, 1995), pp. 132-93.
- B. M. S. Campbell, *English seigniorial agriculture 1250-1450* (Cambridge; Cambridge University Press, 2000).
- J. Carrasco Perez, *La población de Navarra en el siglo XIV*, Colección Histórica de la Universidad de Navarra, 29 (Pamplona, 1973).

- J. H. Clapham, 'Tithe surveys as a source of agrarian history', *Cambridge Historical Journal*, vol. 1 no. 2 (London; Cambridge University Press, 1924), pp. 201-208.
- G. Constable, *Monastic tithes from their origins to the twelfth century* (Cambridge; Cambridge University Press, 1964).
- G. C. Coulton, *Five centuries of religion volume II: the friars and the dead weight of tradition, 1200-1400 A.D.* (Cambridge; Cambridge University Press, 1927).
- E. A. Cox and B. R. Dittmer, 'The tithe files of the mid-nineteenth century', *Agricultural History Review*, 13 (1965), pp. 1-16.
- J. Crawford Hodgson, *A history of Northumberland. Volume VII. The parish of Edlingham with the chapelry of Bolton; the parish of Felton with the chapelry of Framlington; the chapelry or parish of Brinkburn* (Newcastle; Andrew Reid and Co., 1904).
- C. Creighton, *A history of epidemics in Britain from A.D. 664 to the extinction of the plague volume I* (Cambridge; Cambridge University Press, 1891).
- F. L. Cross and E. A. Livingstone, eds., *The Oxford dictionary of the Christian Church* (3rd edn.; Oxford; Oxford University Press, 1997).
- J. Day, *The medieval market economy* (Oxford; Blackwell, 1987).
- G. Dejongh and E. Thoen, 'Arable productivity in Flanders and the former territory of Belgium in a long-term perspective (from the middle ages to the end of the *ancien régime*)' in B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (middle ages - 20th century) elements for comparison*, Corn Publication Series 2 (Turnhout; Brepols, 1999), pp. 30-64.

- A. Derville, 'Dîmes, rendements du blé et "révolution agricole" dans le nord de la France au Moyen Age', *Annales Économies. Sociétés. Civilisations*, 42 no. 6 (1987), pp. 1411-32.
- R. F. Dickinson, 'Tithing customs in west Cumberland in the eighteenth century', *Transactions of the Cumberland and Westmoreland Antiquarian and Archaeological Society*, new series, 60 (1960), pp. 130-4.
- R. B. Dobson, *Durham Priory 1400-1450* (Cambridge; Cambridge University Press, 1973).
- B. Dodds, 'An analysis of the accounts and inventories of the priory of Finchale, a cell of Durham Cathedral Priory, 1347-99' (unpublished University of Durham undergraduate dissertation, 1998).
- B. Dodds, '*In manu domini* Pittington demesne and its workforce, 1376-1452' (unpublished University of Durham M.A. dissertation, 1999).
- B. Dodds, 'Workers on the Pittington demesne in the late middle ages', *Archaeologia Aeliana*, 5th ser., 28 (2000), pp. 147-61.
- B. Dodds, 'Durham Priory tithes and the Black Death between Tyne and Tees', *Northern History*, 39 (2002), pp. 5-24.
- H. Dunsford and S. Harris, 'Colonization of the wasteland in County Durham, 1100-1400' (forthcoming).
- C. Dyer, *Lords and peasants in a changing society: the estates of the bishopric of Worcester, 680-1540* (Cambridge; Cambridge University Press, 1980).
- C. Dyer, *Standards of living in the later middle ages* (revised edn.; Cambridge; Cambridge University Press, 1998).

- C. Dyer, *Making a living in the middle ages: the people of Britain 850-1520* (New Haven and London; Yale University Press, 2002).
- ‘Andersen: countdown’, *The Economist*, March 16th-22nd 2002, pp. 92-3.
- E. J. Evans, *The contentious tithe: the tithe system and English agriculture, 1750-1850* (London; Routledge and Kegan Pau, 1976).
- T. F., ‘Tithe barns in Durham’, *N. W. Chronicle*, June 29 1895.
- D. L. Farmer, ‘Prices and wages’, in H. E. Hallam, ed., *The agrarian history of England and Wales, II: 1042-1350* (Cambridge; Cambridge University Press, 1988), pp. 716-817.
- D. L. Farmer, ‘Prices and wages, 1350-1500’, in E. Miller, ed., *The agrarian history of England and Wales, III: 1348-1500* (Cambridge; Cambridge University Press, 1991), pp. 431-525.
- D. L. Farmer, ‘The famuli in the later middle ages’ in R. H. Britnell and J. Hatcher, eds., *Progress and problems in medieval England: essays in honour of Edward Miller* (Cambridge; Cambridge University Press, 1996), pp. 207-36.
- E. Fernández de Pinedo, *Crecimiento economico y transformaciones sociales del Pais Vasco, 1150-1850* (Madrid; Siglo XXI de España Editores, 1974).
- H. P. R. Finberg, *Tavistock Abbey: a study in the social and economic history of Devon* (Cambridge; Cambridge University Press, 1951).
- F. A. Gasquet, *The Black Death of 1348 and 1349* (2nd edn.; London; George Bell and Sons, 1908).
- F. A. Gasquet, *Parish life in medieval England* (3rd edn.; London; Methuen, 1909).

- E. C. S. Gibson, 'John Cassian' in H. Wace and P. Schaff, eds., *A select library of Nicene and post-Nicene fathers of the Christian church vol. XI* (Oxford; John Parker and Co., 1894), pp. 183-621.
- P. Glennie, 'Introduction to Part I' in B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (middle ages - 20th century) elements for comparison*, Corn Publication Series 2 (Turnhout; Brepols, 1999), pp. 22-9.
- P. J. P. Goldberg, 'Mortality and economic change in the diocese of York, 1390-1514', *Northern History*, 24 (1988), p. 38-55.
- J. Goy and E. Le Roy Ladurie, eds., *Les fluctuations du produit de la dime. Conjoncture décimale et domaniale de la fin du Moyen-Age au XVIIIe siècle* (Paris; Mouton & Co., 1972).
- J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982).
- N. S. B. Gras, *The economic and social history of an English village* (Cambridge, Mass.; Harvard University Press, 1930).
- J. R. Green, *A short history of the English people* (re-issued; London; J. M. Dent and Sons Ltd., 1934).
- R. N. Hadcock, 'A map of mediaeval Northumberland and Durham', *Archaeologia Aeliana*, 4th series, 16 (1939), pp. 159-207.
- E. M. Halcrow, 'Administration and agrarian policy of the manors of Durham Cathedral Priory' (unpublished University of Oxford B. Litt thesis, 1949).

- H. E. Hallam, *Settlement and society: a study of the early agrarian history of south Lincolnshire* (Cambridge; Cambridge University Press, 1965).
- A. Hamilton Thompson, 'The pestilences of the fourteenth century in the diocese of York', *Archaeological Journal*, 71 (1914), pp. 97-154.
- B. Harbottle, 'Bishop Hatfield's visitation of Durham Priory in 1354', *Archaeologia Aeliana*, 4th ser., 36 (1958), pp. 81-100.
- R. A. R. Hartridge, *A history of vicarages in the middle ages* (Cambridge; Cambridge University Press, 1930).
- B. Harvey, *Westminster Abbey and its estates in the middle ages* (Oxford; Oxford University Press, 1977).
- P. D. A. Harvey, *A medieval Oxfordshire village: Cuxham 1240-1400* (London; Oxford University Press, 1965).
- P. D. A. Harvey, *Manorial records* (Gloucester; Sutton for the British Records Association, 1984).
- P. D. A. Harvey, 'Occupation of the land: home counties' in E. Miller, ed., *The agrarian history of England and Wales, III: 1348-1500* (Cambridge; Cambridge University Press, 1991), pp. 106-119.
- P. D. A. Harvey, 'Tenant farming and farmers: home counties', in E. Miller, ed., *The agrarian history of England and Wales, III: 1348-1500* (Cambridge; Cambridge University Press, 1991), pp. 662-79.
- J. Hatcher, *Rural economy and society in the duchy of Cornwall* (Cambridge; Cambridge University Press, 1970).

- J. Hatcher, 'England in the aftermath of the Black Death', *Past and Present*, 144 (1994), pp. 1-35.
- J. Hatcher, 'The great slump of the mid-fifteenth century', in R. H. Britnell and J. Hatcher, eds., *Progress and problems in medieval England: essays in honour of Edward Miller* (Cambridge; Cambridge University Press, 1996), pp. 237-72.
- J. Hatcher and M. Bailey, *Modelling the middle ages : the history and theory of England's economic development* (Oxford; Oxford University Press, 2001).
- A.-L. Head-König, 'Les fluctuations des redements et du produit decimale cerealiers dans quelques régions du plateau Suisse 1500-1800', in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 259-81.
- D. Herlihy, *Medieval and renaissance Pistoia: the social history of an Italian town 1207-1430* (New Haven and London; Yale University Press, 1967).
- D. Herlihy and C. Klapisch-Zuber, *Tuscans and their families: a study of the Florentine Catasto of 1427* (New Haven, Conn.; Yale University Press, 1985).
- C. Hill, *Economic problems of the church from Archbishop Whitgift to the Long Parliament* (Oxford; Clarendon Press, 1956).
- R. H. Hilton, *The economic development of some Leicestershire estates in the fourteenth and fifteenth centuries* (London; Oxford University Press, 1947).
- G. A. Holmes, *The estates of the higher nobility in fourteenth century England* (Cambridge; Cambridge University Press, 1957).

- G. C. Homans, *English villagers of the thirteenth century* (New York; Russel and Russel, reissue 1960).
- W. Horn, 'The potential and limitations of radiocarbon dating in the middle ages: the art historian's view', in R. Berger, ed., *Scientific methods in medieval archaeology* (Berkeley; University of California Press, 1970), pp. 23-88.
- C. Howell, *Land, family and inheritance in transition: Kibworth Harcourt, 1280-1700* (Cambridge; Cambridge University Press, 1983).
- J. E. A. Jolliffe, 'Northumbrian institutions', *English Historical Review*, 161 (1926), p. 1-42.
- R. Kain, 'Les dîmes, les relevés de dîmes et la mesure de la production agricole dans la Grande-Bretagne préindustrielle', in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 713-32.
- R. J. P. Kain and H. C. Prince, *The tithe surveys of England and Wales* (Cambridge; Cambridge University Press, 1985).
- M. H. Keen, *England in the later middle ages: a political history* (London; Methuen, 1973).
- D. Knowles, *The religious orders in England. Volume II. The end of the middle ages* (Cambridge; Cambridge University Press, 1955).
- M. A. Ladero Quesada and M. González Jimenez, *Diezmo eclesiástico y producción de cereales en el reino de Sevilla, (1408-1503)* (Seville; Universidad de Sevilla Departamento de Historia Medieval, 1979).

- M. A. Ladero Quesada, *La España de los Reyes Catolicos* (Madrid; Alianza Editorial, 1999).
- E. Le Roy Ladurie, *Les paysans de Languedoc* (Paris; S.E.V.P.E.N., 1966).
- E. Le Roy Ladurie, *The peasants of Languedoc* (Urbana; University of Illinois Press, 1974).
- E. Le Roy Ladurie, 'Report. Part II', in M. Flinn, ed., *Proceedings of the Seventh International Economic History Congress* (Edinburgh; Edinburgh University Press, 1978), p. 117-26.
- E. Le Roy Ladurie, translated B. and S. Reynolds, 'Tithes and net agricultural output (fifteenth to eighteenth century)', in E. Le Roy Ladurie, *The territory of the historian* (Hassocks, Sussex; The Harvester Press, 1979), pp. 193-202.
- E. Le Roy Ladurie and J. Goy, *Tithe and agrarian history from the fourteenth to the nineteenth centuries: an essay in comparative history* (Cambridge; Cambridge University Press, 1982).
- E. Le Roy Ladurie, 'A reply to Robert Brenner', in T. H. Aston and C. H. E. Philpin, eds., *The Brenner debate: agrarian class structure and economic developments in pre-industrial Europe* (Cambridge; Cambridge University Press, 1985), pp. 101-6.
- R. Lennard, 'Peasant tithe-collectors in Norman England', *English Historical Review*, 69 (1954), pp. 580-96.
- R. Lennard, *Rural England, 1086-1135* (Oxford; Clarendon Press, 1959).
- R. Lock, 'The Black Death in Walsham-le-Willows', *Proceedings of the Suffolk Institutes of Archaeology and History*, 37 (1992), pp. 316-37.

- R. A. Lomas, 'Durham Cathedral Priory as a landowner and a landlord, 1290-1540' (unpublished University of Durham Ph.D. thesis, 1973).
- R. A. Lomas, 'The priory of Durham and its demesnes in the fourteenth and fifteenth centuries', *Economic History Review*, 2nd ser., 31 (1978), p. 339-53.
- R. A. Lomas, 'A northern farm at the end of the middle ages: Elvethall Manor, Durham, 1443/4 - 1513/4', *Northern History*, 18 (1982), pp. 26-53.
- R. A. Lomas, 'The Black Death in County Durham', *Journal of Medieval History*, 15 (1989), pp. 127-140.
- R. A. Lomas, *North-east England in the middle ages* (Edinburgh; John Donald, 1992).
- R. A. Lomas, 'The impact of border warfare: the Scots and South Tweedside, c. 1290 - c. 1520', *Scottish History Review*, 75 (1996), pp. 143-67.
- M. -T. Lorcin, 'La fraude des décimables: mouvement court ou mouvement long?', in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 599-606.
- L. Makkai and V. Zimányi (avec la participation de P. Bán et Z. Ujváry), 'Les registres de dîme, sources de l'histoire de la production agricole en Hongrie, 1500-1848', in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 93-119.
- K. Marx, 'Preface to "A contribution to the critique of political economy"', in *Karl Marx and Frederick Engels selected works in two volumes* (Moscow; Foreign Languages Publishing House, 1962).

- K. Marx and F. Engels, *The German Ideology Part 1*, ed. C. J. Arthur (London; Lawrence and Wishart, 1970).
- M. K. McIntosh, *Autonomy and community: the royal manor of Havering, 1200-1500* (Cambridge; Cambridge University Press, 1986).
- E. Miller, ed., *The agrarian history of England and Wales, III: 1348-1500* (Cambridge; Cambridge University Press, 1991).
- E. Miller, 'Occupation of land: the southern counties', in E. Miller, ed., *The agrarian history of England and Wales, III: 1350 - 1500* (Cambridge; Cambridge University Press, 1991), pp. 136-151.
- E. Miller, 'Tenant farming and farmers: southern counties', in E. Miller, ed., *The Agrarian History of England and Wales, III: 1348-1500* (Cambridge; Cambridge University Press, 1991), pp. 703-22.
- J. B. Mitchell, *Historical geography* (London; English Universities Press, 1954).
- P. K. Mitchell, 'West Cleveland land use, (circa) 1550-1850' (unpublished University of Durham Ph.D. thesis, 1965).
- C. Morin, 'Le mouvement du produit décimal et l'évolution des rapports fonciers au Mexique, XVIIe-XIX siècles', in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 479-87.
- M. Morineau, 'Cambrésis et Hainaut: des frères ennemis?' in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la*

production agricole à l'époque préindustrielle (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 625-43.

W. Naphy and A. Spicer, *The Black Death and the history of plagues 1345-1730* (Stroud; Tempus, 2000).

H. Neveux, 'La production céréalière dans une région frontalière: le Cambrésis du X^e au XVIII^e siècle: bilan provisoire', in J. Goy and E. Le Roy Ladurie, eds., *Les fluctuations du produit de la dime. Conjoncture décimale et domaniale de la fin du Moyen-Age au XVIII^e siècle* (Paris; Mouton & Co., 1972), pp. 58-66.

H. Neveux, *Les grains du Cambrésis (fin du XIV^e-début du XVII^e siècles). Vie et déclin d'une structure économique* (Paris; École des Hautes Études en Science Sociales, 1980).

P. Nightingale, 'England and the European depression of the mid-fifteenth century', *Journal of European Economic History*, 26 (1997), pp. 631-56.

C. Oman, *The great revolt of 1381* (new edn.; Oxford; Clarendon Press, 1969).

F. M. Page, *The estates of Crowland Abbey* (Cambridge; Cambridge University Press, 1934).

G. Paquet and J.-P. Wallot, 'Rentés foncières, dîmes et revenus paysans. Le cas canadien.' in J. Goy and E. Le Roy Ladurie, eds., *Prestations paysannes dîmes, rente foncière et mouvement de la production agricole à l'époque préindustrielle* (Paris; Éditions de l'École des Hautes Études en Sciences Sociales, 1982), pp. 749-61.

R. A. Pelham, 'Studies in the historical geography of medieval Sussex', *Sussex Archaeological Collections*, 72 (1931), pp. 156-84.

- A. J. Piper, 'Evidence of accounting and local estate services at Durham, c. 1240', *Archives*, 20 no. 87 (April, 1992), pp. 36-9.
- A. J. Piper, *Muniments of the Dean and Chapter of Durham: medieval accounting material* (Durham University Library Archives and Special Collections Searchroom Handlist, 1995).
- A. J. Piper, 'Dr Thomas Swalwell, monk of Durham, archivist and bibliophile (d. 1539)' in J. P. Carley and C. G. C. Tite, eds., *Books and collectors 1200-1700: essays presented to Andrew Watson* (London; The British Library, 1997), pp. 71-100.
- N. Plack, 'Viticulture and wine trade in 18th century Languedoc', paper presented to the Economic History Society Conference, April 2002.
- A. J. Pollard, 'The north-eastern economy and the agrarian crisis of 1438-40', *Northern History*, 25 (1989), pp. 89-105.
- A. J. Pollard, *North-eastern England during the Wars of the Roses: lay society, war and politics 1450-1500* (Oxford; Clarendon Press, 1990).
- L. R. Poos, *A rural society after the Black Death: Essex 1350-1525* (Cambridge; Cambridge University Press, 1991).
- M. M. Postan, *The medieval economy and society: an economic history of Britain in the middle ages* (London; Weidenfeld and Nicolson, 1972).
- M. M. Postan, 'Some agrarian evidence of declining population in the later middle ages', in M. M. Postan, *Essays on medieval agriculture and general problems of the medieval economy* (Cambridge; Cambridge University Press, 1973), pp. 186-213.
- D. Postles, 'Demographic change in Kibworth Harcourt, Leicestershire, in the later middle ages', *Local Population Studies*, 48 (1992), pp. 41-8.

- N. J. G. Pounds, *A history of the English parish: the culture of religion from Augustine to Victoria* (Cambridge; Cambridge University Press, 2000).
- R. D. Price, 'Labrousse', in J. Cannon, R. H. C. Davis, W. Doyle and J. P. Greene, eds., *The Blackwell dictionary of historians* (Oxford; Basil Blackwell, 1988), p. 231.
- H. C. Prince, 'The tithe surveys of the mid-nineteenth century', *Agricultural History Review*, 7 (1959), p. 14-26.
- J. Raine, *The history and antiquities of north Durham* (London; John Bowyer Nichols and Son, 1852).
- Z. Razi, *Life, marriage and death in medieval society: economy, society and demography in Halesowen, 1270-1400* (Cambridge; Cambridge University Press, 1980).
- S. S. Rigold, 'Some major Kentish timber barns', *Archaeologia Cantiana*, 81 (1966), pp. 1-30.
- J. A. Raftis, *The estates of Ramsey Abbey* (Toronto; Pontifical Institute of Medieval Studies, 1957).
- M. Roberts, R. Laxton, R. Howard and C. Litton, 'The buildings of the religious estates in medieval Durham: a tree-ring dating project', *Durham Archaeological Journal*, 14-15 (1999), pp. 141-60.
- M. Saaler, 'The manor of Tillingdown: the changing economy of the demesne 1325-71', *Surrey Archaeological Collections*, 81 (1991-2), pp. 19-40.
- E. Searle, *Lordship and community: Battle Abbey and its banlieu 1066-1538* (Toronto; Pontifical Institute of Medieval Studies, 1974).
- J. Selden, *The historie of tithes* (London, 1618).

- J. Sharpe, 'Tithes' in W. Smith and S. Cheetham, *Dictionary of Christian antiquities*, vol. 2 (London; John Murray, Albemarle Street, 1880), pp. 1963-6.
- V. M. Shillington, 'Social and economic history', in W. Page, ed., *The Victoria county history of Hampshire and the Isle of Wight volume V* (London; Archibald Constable and Co. Ltd., 1912), pp. 409-34.
- J. F. D. Shrewsbury, *A history of bubonic plague in the British Isles* (Cambridge; Cambridge University Press, 1971).
- R. A. L. Smith, *Canterbury Cathedral Priory: a study in monastic administration* (Cambridge; Cambridge University Press, 1943).
- F. M. Stenton, *Anglo-Saxon England* (3rd edn.; Oxford; Oxford University Press, 1971).
- D. V. Stern and C. Thornton, *A Hertfordshire demesne of Westminster Abbey: profits, productivity and weather* (Hatfield; University of Hertfordshire Press, 2000).
- E. Stone, 'Profit-and-loss accountancy at Norwich Cathedral Priory', *Transactions of the Royal Historical Society*, 5th ser., 12 (1962), pp. 25-48.
- D. Stone, 'The management of resources on the demesne farm of Wisbech Barton, 1314-1430' (unpublished University of Cambridge Ph.D. thesis, 1998).
- D. Stone, 'Medieval farm management and technological mentalities: Hinderclay before the Black Death', *Economic History Review*, 54 (2001), pp. 612-38.
- R. N. Swanson, *Church and society in late medieval England* (Oxford; Basil Blackwell Ltd., 1989).
- A. H. Thompson, *The English clergy and their organization in the later middle ages* (Oxford; Clarendon Press, 1947).

- J. E. Thorold Rogers, *Six centuries of work and wages: the history of English labour* (5th edn.; London; Swan Sonnenschein and Co., 1901).
- M. Threlfall-Holmes, 'Monks and markets: Durham Cathedral Priory, 1460-1520' (unpublished University of Durham Ph.D. thesis, 2000).
- J. Z. Titow, 'Le climat à travers les rôles de comptabilité de l'évêché de Winchester (1350-1450)', *Annales Économies Sociétés Civilisations*, 25 (1970), pp. 312-50.
- G. Twigg, *The Black Death: a biological reappraisal* (London; Batsford, 1984).
- H. Van der Wee, 'Agrarian development in the Low Countries as reflected in tithe and rent statistics, 1250-1800', in M. Flinn, ed., *Proceedings of the Seventh International Economic History Congress* (Edinburgh; Edinburgh University Press, 1978), pp. 130-136.
- B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (middle ages - 20th century) elements for comparison*, Corn Publication Series 2 (Turnhout; Brepols, 1999).
- B. J. P. van Bavel, 'Arable yields and total arable output in the Netherlands from the late middle ages to the mid-19th century' in B. J. P. van Bavel and E. Thoen, eds., *Land productivity and agro-systems in the North Sea area (middle ages - 20th century) elements for comparison*, Corn Publication Series 2 (Turnhout; Brepols, 1999), pp. 85-112.
- K. H. Vickers, *A history of Northumberland. Volume XI. The parishes of Carham, Branxton, Kirknewton, Wooler and Ford* (Newcastle; Andrew Reid and co., 1922).
- A. Wharam, 'Tithes in country life', *History Today*, 22 no. 6 (June 1972), pp. 426-33.



P. Ziegler, *The Black Death* (Harmondsworth; Penguin, 1970).