

The medieval inventories of the Tower armouries 1320–1410

Roland Thomas Richardson

University of York

Department of History

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Abstract

This research project arose from the need to provide an edition of the manuscript inventories of the privy wardrobe at the Tower. Though these are an important source for the study of arms and armour during the first half of the Hundred Years War only small parts of them, mainly the sections connected with the development of the first firearms in England, have been edited and published. Core to the project is the edition of three examples of the documents, selected from the whole corpus: one early account, one late account, and an example of an indenture between keepers.

The arms and armour found in the edited texts are analysed in the main body of the work, which draws on the other privy wardrobe documents in The National Archives and the much wider study of arms and armour of the fourteenth century to place them in the context of the development both of arms and armour and of the role of the privy wardrobe during the period. The study resolves a recent debate by showing that an armoury in which stocks of weapons were kept on a long-term basis was established at the Tower in the later 1330s. It reveals a profusion of hitherto unnoticed detail about the armour and arms of the fourteenth century, resolving a number of debates and providing substantial evidence for the further study of others.

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12 Summary of ordnance in the armoury, from receipts and remains.

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14 Summary of packing materials in the armoury, from receipts and remains.

Abbreviations

BL	British Library
CLB	<i>Calendar of Letter Books of the City of London</i> , ed. R.R. Sharpe, 11 vols (London, 1899–1912)
CPMR	<i>Calendar of the Plea and Memoranda Rolls of the City of London</i> , ed. A.H. Thomas and P.E. Jones, 6 vols (Cambridge, 1926–61)
CCR	<i>Calendar of Close Rolls, Edward II–Henry IV</i> , 28 vols (London, 1892–1927)
CPR	<i>Calendar of Patent Rolls, Edward II–Henry IV</i> , 32 vols (London, 1894–1977)
EHR	<i>English Historical Review</i>
Foedera	<i>Foedera, Conventiones, Literae et Cujuscunq̄ue Generis Acta Publica</i> , ed. T. Rymer, 3 vols in 6 parts (London, 1816–30)
LPFD	<i>Letters and Papers, foreign and domestic, of the reign of Henry VIII, 1509–47</i> , ed. J. S. Brewer, J. Gairdner and R. H. Brodie, 28 vols (London, 1864–1920)
ODNB	<i>Oxford Dictionary of National Biography</i> , http://www.oxforddnb.com
TNA	The National Archives, Kew

Acknowledgements

This project grew from a research project into the documentary records of the Royal Armouries collection on which I have been engaged, latterly as keeper of armour, essentially the same office as that held by the keepers of the privy wardrobe who provided the primary sources on which this study is based, for the last quarter century. I am grateful to the Royal Armouries, who fully funded the project, especially to Graeme Rimer, former academic director, and Steve Burt, former museum director, who made the project possible, and to Peter Smithurst and Alison Watson, curatorial managers, who enabled me to find the time to complete the project. I am equally grateful to my supervisors at the University of York, Professor Mark Ormrod, Drs Philippa Hoskin, Craig Taylor and Paul Dryburgh, for their help in bringing the research to its written conclusion.

I would also like to thank the staff of various museums and archives who have been so helpful, especially The National Archives at Kew, the British Library and my colleagues at the Royal Armouries. Especial thanks are due to Professor Anne Curry, Drs Silke Ackermann and Ralph Moffat, Messrs Bob Woosnam-Savage and Guy Wilson, and Mrs Bridget Clifford.

Most of all I would like to thank my wife, Dr Paula Turner, for putting up with me throughout the entire project. This work is dedicated to her.

Author's declaration

I declare that, except where explicit reference has been made to the contribution of others, that this thesis is the result of my own work and has not been submitted for any other degree at the University of York or any other institution.

List of privy wardrobe documents

The surviving records which document the activities of the privy wardrobe at the Tower are listed below:

E 101/36/7

Indenture from John Cromwell to John Hakton, 1330

1m.

In French, records the transfer of arms from the constable to his lieutenant in the Tower.

BL Add MS 60584

Account of John Fleet, 1325–44

64 ff

Records the receipt of the king's arms and armour, and the procurement and issue of arms and armour at the outbreak of the Hundred Years War. See note 27, p. 19, for the history of this document.

E 101/390/7

Indenture from William Langley to John Fleet, 1325

8 mm.

In French, records the receipt of the king's arms and armour by John Fleet. Badly water-damaged, only fragments legible.

E 101/386/15

Account of John Fleet, 1334

1 m.

Records purchases and maintenance of arms and armour, in Yorkshire and Northumberland.

E 101/387/10

Account of John Fleet, 1334–6

1 m.

Records purchases of arms and armour, mostly in Yorkshire.

E 101/387/20

Account of John Fleet, 1336–8

1 m.

Records purchases and issues of arms and armour. Badly damaged, only small parts legible.

E 101/388/1

Indenture from John Fleet to William Snetesham, 1337

7 mm.

Issue of arms and armour to the fleet.

E 372/189 rot. 43

Account of John Fleet, 1343

1 m.

Records some purchases and maintenance of arms and armour at the Tower.

E 372/198 rots 34–5

Account of Robert Mildenhall, 1344–51

5 mm.

Enrolled, full account of the operation of the privy wardrobe at the Tower.

E 372/198 rot. 36

Account of Robert Mildenhall, 1352–3

2 mm.

Enrolled, full account of the privy wardrobe at the Tower.

E 101/392/14

Account of William Rothwell, 1353–60

8 mm.

Records purchases and receipts only. Issues are included in the enrolled version, E 372/206, rot. 53.

E 101/393/10

Indenture from Richard Carswell to William Rothwell, 1359

1 m.

In French. Records one of the receipt of arms included in Rothwell's account.

E 101/394/2

Account of Henry Snaith, 1360–2

4 mm.

Full account, enrolled version E 361/4, rot. 5.

E 101/394/14

Account of Henry de Snaith, 1362–5

2 mm.

Rather sketchy account, illegible in places and somewhat damaged, enrolled version E 361/4, rot. 9d.

E 101/395/1

Account of John Sleaford, 1365–69

5 mm.

Full account, enrolled version E 361/4, rot. 19d.

E 101/396/14

Account of John Sleaford, 1369–73

2 mm.

Full account, very badly damaged, scarcely legible, enrolled version E 361/4, rot. 20.

E 101/397/10

Account of John Sleaford, 1373–5

5 mm.

Full account.

E 101/397/19

Account of John Sleaford, 1375–7

8 ms

Full account, includes receipt of the armour workshop of the king's helmer and its issue to the king's armourer, enrolled version E 361/4, rot. 27.

E 101/398/1

Account of John Sleaford, 1374–8

3 mm.

Account or receipts and issues only.

E 101/400/5

Indenture from John Sleaford to John Hatfield, 1378

1 m.

E 101/400/10

Account of John Hatfield, 1378–81

3 mm.

Full account, damaged and illegible in places, enrolled version E 364/20, rot. 7.

E 101/400/14

Indenture from John Hatfield to John Hermesthorp, 1381

1 m.

E 101/400/16

Indenture from John Hermesthorp to Ranulph Hatton, 1382

2 mm.

Somewhat damaged, but legible.

E 101/400/22

Account of Ranulph Hatton, 1382–88

5 mm.

Full account.

E 101/402/14

Account of Ranulph Hatton, 1392–6

8 mm.

Full account, enrolled version E 364/30, rot. 29d.

E 101/403/8

Indenture from the executors of Ranulph Hatton to John Lowick, 1396

1 m.

E 101/403/20

Account of John Lowick, 1396–9

5 mm.

Full account, badly damaged at the start, illegible in places, enrolled version E 364/34, rot. 34.

E 101/404/4

Indenture, disposal of defective arms by John Norbury, 1399

1 m.

E 101/404/6

Account of John Norbury, 1399–1402

4 mm.

Full account, enrolled version E 364/35, rot. 7.

E 101/404/17

Account of John Norbury, 1402–3

1 m.

Full account, badly foxed and scarcely legible, enrolled version E 364/36, rots. 7d., 8.

E 101/404/25

Account of John Norbury, 1403–5

4 mm.

Full account badly damaged and scarcely legible, enrolled version E 364/40, rot. 1.

E 101/405/4

Indenture from John Norbury to Henry Somer, 1405

1 m.

E 101/405/10

Account of Henry Somer, 1405-7

1 file

Full account somewhat damaged and illegible, enrolled version E 364/43, rot. 6, also somewhat damaged.

1 Introduction

The Citie of London hath in the East a verie great and a most strong Palatine Tower, whose turrets and walles doe rise from a deepe foundation, the mortar thereof being tempered with the bloud of beasts . . . This tower is a Citadell, to defend or commaund the Citie: a royall place for assemblies, and treaties. A prison of estate, for the most daungerous offenders: the onely place of coynage for all England at this time: the armorie for warlike provision: the Treasurie of the ornaments and Jewels of the crown, and generall conserver of the most Recordes of the kinges Courts of Justice at Westminster.¹

John Stow's description of the Tower of London at the turn of the seventeenth century lists the numerous roles it has served, as castle, place, prison, mint, armoury, jewel house and record office. Until recently it was usually said that arms and armour were housed in the Tower from the time of its construction in the eleventh century.² Certainly that was true from the middle of the sixteenth century, when the arsenal there is listed in the great inventory drawn up on the death of Henry VIII in 1547.³

The armoury in the Tower continued to serve as the national arsenal until the middle of the nineteenth century, when the last workshops making firearms were moved out to Enfield. Diplomatic visitors to the armoury are recorded as early as 1489 when a German knight, Wilwolt von Schaumberg, was given a tour to see the royal ordnance, and it is clear by this time that there was a great deal in the armoury to see.⁴ By 1600 visitors could pay for a tour of the Tower, and the first museum display, the 'Line of Kings', was installed following the restoration of Charles II in

¹ *A Survey of London, by John Stow, Reprinted from the Text of 1603*, ed. C.L. Kingsford (London, 1908), 41, 59.

² For example A.V.B. Norman and G. Wilson, *Treasures from the Tower of London* (Norwich, 1982), 1.

³ *The Inventory of Henry VIII, i: the Transcript*, ed. D. Starkey (London, 1998).

⁴ J. Charlton, *The Tower of London: Its Buildings and Institutions* (London, 1978), 69.

1660.⁵ The armoury evolved into the national museum of arms and armour, since 1983 entitled the Royal Armouries, with its headquarters since 1996 in Leeds.⁶

Recent research by Randal Storey challenged the established view. Storey demonstrated that in the thirteenth and early fourteenth centuries the Tower contained no greater store of armour and arms than any other castle in England, and was one of a number of distribution centres for armour and arms.⁷ His thesis drew mainly on exchequer documents. In the extrapolation of his conclusions for the later fourteenth and fifteenth centuries, he drew mainly on secondary publications.⁸ Principal among these was the work of the great historian of medieval English administration, T.F. Tout.⁹ The privy wardrobe is covered in volume 4 of Tout's magisterial study, and Tout found the details of arms and armour in the privy wardrobe documents so fascinating that he produced one complete study, on early firearms, as well as summarising the contents of the documents to give a good indication of the activities of the armoury.¹⁰ So excellent was Tout's work that few writers have felt the need to go beyond it, to the documents themselves, ever since.¹¹

⁵ G. Parnell, 'The early history of the Tower Armouries', *Royal Armouries Yearbook*, 1 (1996), 45–52.

⁶ The armoury of the Tower has been the subject of extensive publication. It formed the principal source for the first scholarly study of armour in English, F. Grose, *A Treatise on Ancient Armour and Weapons* (London, 1786), and has a number of published catalogues, each with extensive studies of the history of the armoury: J. Hewitt, *Official Catalogue of the Tower Armouries* (London, 1859); H.A. Dillon, *Illustrated Guide to the Armouries* (London, 1910); C.J. ffoulkes, *Inventory and Survey of the Armouries of the Tower of London* (London, 1916). For the general history of the Tower and its institutions, see G. Parnell, *The Book of the Tower of London* (London, 1993).

⁷ R. Storey, 'Technology and military policy in medieval England, c.1250–1350', (unpublished PhD thesis, University of Reading, 2003).

⁸ R. Storey, 'The Tower of London and the *garderobae armorum*', *Royal Armouries Yearbook*, 3 (1998), 177–83.

⁹ T.F. Tout, *Chapters in the Administrative History of Medieval England*, 6 vols (Manchester, 1920–33).

¹⁰ T.F. Tout, 'Firearms in England in the fourteenth century', *EHR*, 26 (1911), 666–702.

¹¹ Compare H.J. Hewitt, *The Organization of War under Edward III, 1338–62* (Manchester, 1966), 72; even Hewitt relied on Tout for the identification, incorrect as it turns out, of the 100 'ribalds' sent to France in 1346. See below, pp. 111–2.

Little is certainly known to survive of the medieval arsenal that was housed in the Tower, though a very few objects that probably did are identified in chapter 2 below. The records of the Tower armoury, largely preserved in The National Archives at Kew, are rather patchy. Those for the privy wardrobe, however, are preserved almost complete, though one of the most important early accounts escaped in the early nineteenth century, only to be recovered by the British Library in 1981. With the transition to the office of ordnance in the early fifteenth century the records disappear completely, and there are only two inventories for the whole of the sixteenth century. The seventeenth-century records are very complete, but those for the eighteenth and first half of the nineteenth century are lost.¹²

The inventories include a wealth of information about arms and armour in England in the fourteenth century, only very small parts of which have been published, and they record the evolution of the armoury at the Tower from a relatively minor armoury to the national arsenal it was to become in the sixteenth to the nineteenth centuries. The records of the armoury were kept by keepers, who were personally responsible for the arms and armour in their care. In their accounts they therefore described the material for which they were responsible, and from these descriptions and lists we are able to understand a great deal about the nature of the arms and armour involved.

The pattern identified by Storey for the thirteenth and early fourteenth centuries, where arms for a particular campaign were taken to the Tower or other convenient centre for redistribution then shipped out, obtained during the 1320s and 30s. In 1325 responsibility for the king's armour was transferred from the receiver of the chamber, William Langley, to another chamber clerk, John Fleet, who retained it

¹² See ffoulkes, *Inventory and Survey*, for a full summary.

until his death in 1344.¹³ He was concurrently receiver of the chamber for a short while, as were four of his successors as keeper of the privy wardrobe, Robert Mildenhall, William Rothwell, John Hermesthorp and John Lowick.¹⁴

By 1325 the administration of the kingdom was divided between three offices, the exchequer (*scaccarium*), chamber (*camera*) and wardrobe (*garderoba*). These had different, but overlapping, responsibilities. The exchequer dealt with the finances of the kingdom, and was divided into two parts. The lower exchequer, or ‘receipt’, was responsible for the receipt of money. The upper exchequer or *scaccarium* was a court which sat twice a year to audit accounts, and was responsible for the audited records of accounts. Both parts generally had their headquarters in Westminster.¹⁵ The chamber under Edward III came to be responsible for the administration of lands and estates, largely those which came into the king’s hands through forfeiture, escheats and through crown wards, but remained responsible for the personal possessions of the king, including jewels, plate, clothes, arms and armour. It, like the king’s wardrobe, was itinerant.¹⁶

The king’s wardrobe had by the middle of the thirteenth century developed into a third treasury which acted as the principal domestic financial office, running many aspects of the king’s household and receiving money from the exchequer of receipt for the purpose, and, when the king went on campaign, acting as a

¹³ See Appendix for both; we found the best way to deal with the many people found repeatedly in the edited accounts and noted in the analysis was to identify and describe them in an Appendix of names, which is cross-referenced throughout the text. Langley was receiver of the chamber from 4 October 1322 to 31 October 1326; Fleet was first appointed ‘keeper of the part of the king’s wardrobe in the Tower of London’ in 1323, and also acted as receiver of the chamber from 25 January to 31 July 1334, see Tout, *Chapters*, iv, 445–51; vi, 55.

¹⁴ See Appendix of names for these and all the other keepers of the privy wardrobe discussed in this chapter.

¹⁵ Though established in Westminster by the middle of the twelfth century, the exchequer was frequently itinerant, moving to York under Edward I in the early years of the fourteenth century, again under Edward II in 1322–3, and again, along with the common bench, under Edward III in 1327–8 and 1333–8, Tout, *Chapters*, ii, 47, 58, 258–9; iii, 15, 20, 58–9, 80, 82–3.

¹⁶ Tout, *Chapters*, i, 67–71 and *passim*.

paymaster's office in the field. After 1324 it accounted to the exchequer. It was itinerant, following the king on his travels. In terms of sums of money it was by far the most important of the three wardrobes.¹⁷ By the middle of the thirteenth century the great wardrobe had developed as a separate department, responsible for the supply of horses, food, drink, clothing and other textiles to the household and to the army during times of war.¹⁸ It was peripatetic, but retained a London base, which settled at Baynard's Castle, in the south-west corner of the city, after 1361 and remained there until the great fire in 1666.¹⁹ It too generally accounted to the exchequer.²⁰

The privy wardrobe developed from the chamber, with a fixed office at the Tower, and responsibility for the provision of arms for the king's wars. At first it was administered by auditors from the chamber including one of the chamber knights, and its keepers had a dual role as receivers of the chamber based in London, while the core of the chamber travelled with the king.²¹

In 1348 the arrangement changed. Nicholas Buckland, the chamber auditor, who had previously been in charge of its records, was instructed to pass all its records to the exchequer for safe-keeping. The chamber, meanwhile, was given a fixed office at Westminster. In 1356 the administration of the chamber lands reverted to the exchequer, the chamber receiving a block grant for the king's privy purse expenses.²² With the next appointment to the privy wardrobe, in 1361, the roles of keeper of the privy wardrobe and receiver of the chamber were separated, and the

¹⁷ Tout, *Chapters*, iv, 69–226; vi, 73–109 provides a tabulated summary of the money handled by the three wardrobes.

¹⁸ Tout, *Chapters*, iv, 349–407.

¹⁹ Tout, *Chapters*, iii, 178–9; iv, 394–407 describes the movements of the great wardrobe to York, Lincoln and back to London in 1327–9, to Newcastle and York 1333–7, to Antwerp 1338–9, its return to London by 1340 and establishment at Lombard Street and its move to Baynard's Castle.

²⁰ Except during 1351–60, when it accounted to the wardrobe; Tout, *Chapters*, iv, 364, 426–34.

²¹ Tout, *Chapters*, iv, 445–51.

²² See W.M. Ormrod, *Edward III* (New Haven and London, 2011), 313–14 for a brief summary.

keepership of the privy wardrobe merged with that of the great wardrobe. At the same time accountability of the great wardrobe reverted to the exchequer. The keeperships remained conjoined until 1378. The records of the privy wardrobe have survived to the present day because of its practice of accounting to the exchequer, whose records were retained when those of other departments were lost.²³

From 1325–38 the privy wardrobe was itinerant, and Fleet's accounts for that period list his travels along with the king.²⁴ His title during this period, however, was 'clerk and keeper of the king's privy wardrobe in the Tower' at 100s. per annum, so there was some perceived connection between the armoury and the Tower.²⁵ Tout lists the references to a 'parva garderobera' in the thirteenth and early fourteenth centuries, but this is the earliest reference to the privy wardrobe by name. Fleet was paid not by the chamber but by the wardrobe, both for his wages and expenses, and a payment by William Norwell of 1337 describes him as 'clerico camere' administrating the material 'privatam garderoberam ipsius domini regis contingencium'.²⁶

The situation changed in 1338. On 18 May Fleet was appointed keeper of the mint and exchange as well as the 'jewels, armour and other things' at 12d. a day, which fixed him firmly in the Tower.²⁷ At the same time the provision of arms and armour for the war with France elevated his role to supplying the army with

²³ Tout, *Chapters*, i, 13–14.

²⁴ TNA, E 101/387/10 records the purchase and repair of arms in York on 24 October 1334, Newcastle on 2–13 November, Roxburgh on 17 December, Newcastle on 13 February 1335, Clipstone on 14 April, Doncaster while based in Hatfield on 5 May, Cowick on 9 May, Knaresborough on 16 May, York on 5 June, following the recorded itinerary of the king, see Ormrod, *Edward III*, 615–6, and Tout, *Chapters*, iv, 449. For his title, see for example *CCR 1327–30*, 321.

²⁵ BL, Add. MS 60584, f. 1r.

²⁶ Tout, *Chapters*, iv, 441.

²⁷ See below, *passim*, from his account, BL, Add. MS 60584, the account which was removed from the archives, cut up and bound, probably by Craven Ord, who sold it 25 June 1829, lot 545, passed into the collection of Sir Thomas Phillips, sold Sotheby's, 24 June 1935, lot 109, purchased by the BL from Quaritch, 1979.

weapons. He was appointed with two auditors, the auditor of the chamber Nicholas Buckland and a household knight, Sir John Molyns.²⁸ Molyns seems to have regarded his office as providing him with *carte blanche* to issue items from the armoury to himself and his friends, usually accompanied by a letter to Fleet but occasionally by a verbal instruction, until his disgrace in 1340.²⁹ Fleet's keepership spanned the opening years of the Hundred Years War, including the land campaign from Cambrai to La Capelle in 1339 and the naval action at Sluys in 1340.³⁰

Fleet died in office in 1344, and his place was taken by another chamber clerk, Robert Mildenhall, who ran the privy wardrobe until 1353 at the same rate of pay. His accounts were completed and enrolled, and provide the first full picture of the operation of the privy wardrobe.³¹ The running of the armoury was only a part of the function of the office, dealing as it did with the fittings of the chapel, the king's jewels and vessels of gold and silver, including the library of books, all of which are relatively well published and fall beyond the remit of this study, except for a small number of items which remained in the armoury beyond Mildenhall's keepership, which are discussed below.³² Like Fleet, Mildenhall simultaneously held the office of receiver of the chamber.³³

Mildenhall's accounts conformed to the standard pattern seen in all the enrolled accounts for the period: a statement of the period of the account and nature

²⁸ See Appendix for both.

²⁹ See chapter 2, below.

³⁰ See J. Sumption, *The Hundred Years War, i: Trial by Battle* (London, 1990), 239–410.

³¹ TNA, E 372/198, rots 34–6.

³² 'Inventory of crown jewels, 3 Edw. III, from a record in the Exchequer', ed. C. Ord, *Archaeologia*, 10 (1792), 241–69; *Liber Quotidianus Contrarotulatoris Garderobae Anno Regni Regis Edwardi Primi Vicesimo Octavo*, ed. J. Topham (London, 1789), 332–53; F. Palgrave, *The Antient Calendars and Inventories of the Treasury of His Majesty's Exchequer*, 3 vols (London, 1836); *The Wardrobe Book of William de Norwell, 12 July 1338–27 May 1340*, ed. M. and B. Lyon and H.S. Lucas (Brussels, 1983); K. Brush, 'The *recepta jocalium* in the wardrobe book of William de Norwell, 12 July 1338 to 27 May 1340', *Journal of Medieval History*, 10 (1984), 249–70.

³³ Tout, *Chapters*, vi, 55.

of the office, followed by an account of receipt and expenses of money, then receipts and ‘expenses’ (in the sense of issues, gifts, loans and other forms of disposals) of the various categories of material, followed by the ‘remain’, the list of material remaining in the office at the end of the account. The material is divided in the case of Mildenhall’s accounts into sections, on the ornaments of the chapel, the jewels, vessels of gold and silver, armour, tents and artillery. Each subvention of funds or disposal was usually for a particular and often extremely detailed purpose, and the text of the letter or other authorisation for it was frequently cited in the account. Likewise each acquisition and expense was accompanied by a statement of authority, and a statement of responsibility for issued items, with a cross-reference to the matching account in which the particular objects could be found. The personal hand of the king in every aspect of the process is striking: a number of the instructions are verbal, the remainder in the form of letters under the privy, secret or griffin seals of the king.³⁴ Accompanying each transaction, in normal circumstances, was an indenture, and a few examples of the indentures transferring the contents of the privy wardrobe from one keeper to another survive.³⁵ Mildenhall’s keepership spanned the Crécy campaign of 1346 and the siege of Calais of 1346–7.³⁶

Rothwell, keeper from 1353–60, was an exchequer clerk who became Beauchamp chamberlain in the exchequer of receipt and worked during Mildenhall’s keepership in the mint. Like Mildenhall, he combined his keepership of the privy wardrobe with that of the mint and exchange, for which he accounted separately, and was also one of the receivers of the chamber for the first two years of his

³⁴ Tout, *Chapters*, v, 1–54, 161–81 and 181–92 respectively.

³⁵ Such as the transfer from John Hermesthorp to Ranulph Hatton in 1382, edited in Chapter 3.2 below.

³⁶ See Sumption, *Trial by Battle*, 512–86.

keepership.³⁷ The period of his keepership included the Poitiers campaign of 1356 and the campaign against Reims and Paris which concluded in the Treaties of Brétigny and Calais in 1359–60.³⁸ Rothwell died almost immediately after retiring from his office, and is the first keeper of whom a portrait survives, in the form of his monumental brass of 1361, in Holy Trinity Church, Rothwell in Northamptonshire.³⁹

He was succeeded by Henry Snaith, a privy wardrobe clerk who was promoted keeper of the privy wardrobe in 1360, and was then promoted to the great wardrobe in 1365 and became chancellor of the exchequer in 1371.⁴⁰ Though the period of Snaith's keepership was one of peace, it encompassed the defeat of the Anglo-Navarrese by the French at La Cocherel in 1364, and the defeat of the French by the Anglo-Bretons at Auray in the same year.⁴¹

Snaith was succeeded by John Sleaford, a clerk of the great wardrobe, who acted as keeper of the privy wardrobe from 1365–78, and from 1371–8 was also keeper of the great wardrobe. Like Henry Snaith, Sleaford was rector of Holy Trinity Church, Balsham in Cambridgeshire, to which he retired following the accession of Richard II. He is the second keeper of the privy wardrobe to have left behind a portrait, in the form of his memorial brass.⁴² The period of Sleaford's keepership included the victory of the English over the Franco-Castilian army at Nájera in 1367,⁴³ the campaigns in Quercy, Rouergue and Poitou of 1369, the defeat of the English at Pontvallain in 1370 and in Poitou in 1372 and John of Gaunt's

³⁷ Tout, *Chapters*, iv, 456; vi, 55, and Appendix of names.

³⁸ See J. Sumption, *The Hundred Years War, ii: Trial by Fire* (London, 1999), 195–249, 405–54.

³⁹ H. Haines, *A Manual of Monumental Brasses* (repr. Bath, 1970), 160.

⁴⁰ Tout, *Chapters*, vi, 163; vi, 36–7.

⁴¹ Sumption, *Trial by Fire*, 504–11, 517–21.

⁴² M. Clayton, *Victoria and Albert Museum Catalogue of Rubbings of Brasses and Incised Slabs* (London, 1929), 28, 126, pl. 55.

⁴³ Sumption, *Trial by Fire*, 540–57.

chevauchées of 1373–4, as well as Edward III's failed naval expedition to relieve La Rochelle in 1372.⁴⁴

Sleaford's successor, John Hatfield, was previously clerk of the king's ships. His keepership only lasted from 1378 to 1381, and he died shortly thereafter. It encompassed the start of Richard II's strategy of acquiring a chain of fortresses along the coast of France, and in consequence a major upsurge in the need for gunpowder artillery, as well as the Breton campaign of 1379–81 and the unsuccessful expedition of Edmund of Langley to Portugal of 1381–2.⁴⁵

Hatfield's successor, John Hermesthorp, was keeper only briefly during 1381–2, and suffered the embarrassment of the robbery of arms from the privy wardrobe in the Tower during the Peasants' Revolt of 1381.⁴⁶ Like Rothwell, he was also Warwick or 'Beauchamp' chamberlain in the receipt of the exchequer, an office he held from 1376 to 1396.

Hermesthorp's successor, Ranulph Hatton, was keeper from 1382 to 1396 and, like Fleet before him, died in office. His keepership began with the brief Anglo-Portuguese campaign of 1382, the Anglo-Flemish siege of Ypres and the retreat from Gravelines in 1383 involving English artillery, support for the Portuguese during the siege of Lisbon in 1384–5, and the rather larger campaign of 1385 against the Scots and French.⁴⁷ The Anglo-Portuguese campaign of 1386–7 was a relatively small expedition, while the defeat by the Scots at Otterburn in 1388 involved a much larger force.⁴⁸ The truce of Leulinghen brought an end to hostilities with France in 1389, and lasted until the end of Hatton's tenure in 1396, but did not signal the end of

⁴⁴ J. Sumption, *The Hundred Years War, iii: Divided Houses* (London, 2009), 18–48, 84–94, 115–52 and 171–211 respectively. For the naval expedition, see Ormrod, *Edward III*, 511–14.

⁴⁵ Sumption, *Divided Houses*, 304–30, 362–412, 431–7.

⁴⁶ Sumption, *Divided Houses*, 418–30.

⁴⁷ Sumption, *Divided Houses*, 462–9, 493–510, 532–3 and 546–51 respectively.

⁴⁸ Sumption, *Divided Houses*, 582–622, 656–9.

English military activity: the expedition of Richard II to Ireland in 1394 involved an army of at least 5,000, and smaller forces were sent to Gascony in the same year.⁴⁹

Hatton's successor, John Lowick, keeper 1396–9, was the first non-clerical appointment to the keepership, and was formerly yeoman of the robes.⁵⁰ Like Rothwell and Mildenhall he was concurrently receiver of the chamber. His keepership included the last expedition of Richard II to Ireland, and the abdication of the king in 1399.⁵¹

Lowick's successor, Sir John Norbury, was a soldier, a close confidant of Henry IV, and treasurer of the exchequer before serving as keeper of the privy wardrobe from 1399–1405. His tenure included the king's campaigns to re-establish control over Wales, and the growth of a new threat to English possessions in France.⁵² The last keeper of the privy wardrobe was Henry Somer, another long-time servant of Henry IV, formerly collector of customs at Southampton, who served as keeper from 1405–10 and baron of the exchequer 1407–10. He was promoted to chancellor of the exchequer in 1410 and also served as keeper of the mint and exchange from 1411.⁵³

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The continuous documentary narrative of these posts shows what material was carried over from one keeper to another, and thus identifies material in the armoury beyond one keepership, which does not, therefore, correspond with Storey's model in

⁴⁹ Sumption, *Divided Houses*, 674–7, 815–6.

⁵⁰ See R.L. Storey, 'Gentlemen bureaucrats', *Profession, Vocation and Culture in Late Medieval England: Essays Dedicated to the Memory of A.R. Myers*, ed. C.H. Clough (Liverpool, 1982), 102–9 for the start of this change from beneficed clergy to lay administrators early in the fifteenth century. For Lowick's background, Tout, *Chapters*, iii, 336; Appendix of names.

⁵¹ Sumption, *Divided Houses*, 858–62.

⁵² See M. Barber, 'John Norbury (c. 1350–1414): an esquire of Henry IV', *EHR*, 68 (1953), 66–76; *ODNB*, xli, 2.

⁵³ See Tout, *Chapters*, iv, 477, 480; v, 109; *ODNB*, li, 558–9.

which the Tower was used as a brief staging post for arms going abroad. The detail in the accounts furthermore often allows identification of individual items or groups of material which were passed through a whole series of keepers, whose offices, as we have seen, often spanned decades.

A characteristic of the Tower armoury from the mid-sixteenth century onwards was the retention of redundant material, and evidence of that practice in the period of the privy wardrobe would also be strongly indicative of a standing armoury of the sort seen in later centuries. Likewise the provision of storage facilities such as shelves and wall-hooks would also suggest that material was to be kept for a long time, as would the purchase of materials for preserving the arms and armour, and the employment of staff to keep them clean and fit for issue. Evidence for any or all of these things in the inventories of the privy wardrobe would show that from 1338 there was what could only be seen in any material sense as a standing armoury in the Tower of London.

The aim of this study is to demonstrate from the evidence of the accounts that a significant and permanent armoury became established in the Tower during the period of the privy wardrobe, and to see what information the accounts of the armoury furnish about arms and armour in England during the period. The approach has been to break the arms and armour recorded in the inventories of the privy wardrobe down into sub-sections by types of armour and weapons, and follow each of these stories through in a chronological sequence from about 1325 to 1410. A brief summary of the history of the type in question is given at the beginning, and we attempt to identify from the Latin and occasional French and English what was meant by each term in the inventory. Where possible the types of arms and armour identified in the inventories have been related to surviving examples, or to

representations in contemporary art and to other documentary references where appropriate. From that it should be possible to deduce, despite often changing terms for the same objects, whether pieces can be shown to have remained on a long-term basis in an armoury, and to find evidence for how stock levels for objects kept in large quantities were maintained.

Additionally there should be a wealth of information about the subject in the inventories. Tout's study of the records of firearms in the privy wardrobe has provided us with almost everything we know of firearms in England in the fourteenth century.⁵⁴ Few studies have looked at other aspects of arms and armour of the period from the privy wardrobe accounts, and it seemed likely that these would provide insights of a similar magnitude into the arms and armour of the period. Such insights are noted along the chronological discussion of each section as they occur, and are summarised in Chapter 4 at the end of the study.

Arms and armour, as we have seen, were not the only thing for which the keepers of the privy wardrobe were responsible. Mildenhall's accounts record the gradual transfer of most of the jewels, vessels and books away from the Tower to Westminster. There were, however, a few items which became fixtures in the Tower, indicating that material became established there on a long-term basis. A lambrequin, or decorative textile mantling for a great helm 'of white velvet embroidered with silk and tiny pearls', for example, remained in the Tower for the entire period of the privy wardrobe, as did the little strongbox of nut wood bound with gilt copper.⁵⁵ Likewise a set of seven horns remain during the entire period, one of ivory with silver bands and jewels, another of ivory garnished with silk and silver gilt and enamelled, and

⁵⁴ Tout, 'Firearms in England', 666–702.

⁵⁵ TNA, E 372/198, rot. 34, m. 2, 'j parvo forserio de muge garnito de cupro deaurato de jocalibus regis'.

five of horn and leather. Three such horns survive, the ‘Savernake horn’ preserved in the British Museum, a twelfth-century horn with two fourteenth-century silver and enamelled bands at the bell decorated with a king and forester with hunting dogs and forest animals, the horn with silver gilt mounts presented to Corpus Christi College Cambridge before 1347, and the silver gilt mounted ‘Wassall horn’ of Queens College Oxford, probably given before 1349.⁵⁶

Another feature which survived the century was a chess set, a board of rock crystal and jasper with pieces of rock crystal and jasper, specifically only fifteen a side.⁵⁷ Two chess sets originally belonging to Queen Margaret can be traced back to Edward I’s inventories of jewels, this one, of jasper and rock crystal, and another of ivory.⁵⁸ Both can be found in the great indenture from William of Langley to John Fleet of 1325 and in Mildenhall’s first account; the ivory set was issued in 1347 to Hugh Lengynour.⁵⁹

Under Fleet and Mildenhall a substantial number of books were housed at the Tower, and these have been the subject of considerable scholarly interest.⁶⁰ Mildenhall’s accounts record their issue, ten romances to John Padbury in 1345, two romances to Sir John Levedale and one to Thomas Colley.⁶¹ The thirty-six remaining books comprised five romances, five other books and twenty-six liturgies. These

⁵⁶ The first British Museum P&E 1975.04 01.1, all three in *The Age of Chivalry*, ed. J. Alexander and P. Binski (London, 1987), 437–9.

⁵⁷ This was one of Queen Margaret’s chess sets, valued at £40, see M.G.A. Vale, *The Princely Court: Medieval Courts and Culture in North-West Europe, 1270–1380* (Oxford, 2001), 177, and M. Prestwich, *Edward I* (New Haven and London, 1988), 111–15. Chess sets usually had sixteen pieces a side at this time. Compare a set of rock crystal chess set with emeralds and rubies in gold settings, in the Topkapi Saray, Istanbul, no. 2/1372–1373, in D.J. Roxburgh, *Turks: a Journey of a Thousand Years, 600–1600* (London, 2005), 467, no. 359.

⁵⁸ ‘Una familia pro scaccario de jaspide et cristallo in uno coffro’ and ‘una familia de ebore pro ludendo ad scaccarium’, *Liber Quotidianus*, 350–1.

⁵⁹ TNA, E 101/390/7, ‘j eschequer de ... et dyvoyre ... Item j eschequer de jaspre et de cristal bon et riche od xxiiij de la meisnee ... et xiiij de crystal’; E 372/198, rot. 34, m. 2, ‘j scaccario de cristallo et jaspidi cum familia videlicet xv de cristallo et xv de jaspidi, j scaccario de cornu albo et nigro cum familia de setta’. For Hugh, see Appendix of names.

⁶⁰ *Liber quotidianus*, 349; J. Vale, *Edward III and Chivalry* (Woodbridge, 1982), 44, 170.

⁶¹ TNA, E 372/198, rot. 34, m. 1d; see Appendix of names for these three.

remained in the privy wardrobe during William Rothwell's keepership, listed along with four bags of rolls and memoranda of accounts, but disappeared along with the 'large lute in a leather case' before 1360.⁶²

The king's secret seal, a rectangular water sapphire (iolite) stone carved with a knight, bordered by fleurs-de-lys and the inscription *SIGNETUM REGIS ANGLIE ET FRANCIE*, set on a golden signet ring and kept in its own case of wood bound with iron, was returned to the Tower in 1354.⁶³ It was passed to Rothwell from Mildenhall and associated with their activities as receivers of the chamber rather than as keepers of the privy wardrobe. Its permanent departure from the Tower in 1361 is recorded by Snaith, indicating the end of the concurrent roles of keeper of the privy wardrobe and receiver of the chamber which had been undertaken by Fleet, Mildenhall and Rothwell.⁶⁴

The dishes for feasts included one of jasper decorated with enamelled silver gilt and set with stones, including a 'crapaudin' or toadstone,⁶⁵ with a base also of

⁶² TNA, E 101/392/14, edited in chapter 3.1 below.

⁶³ It was there in an earlier form by 1344, 'j petro quadrato de sapphiro aquatico cum j chivalrotto et j tuello auri pro eadem,' TNA, E 372/198, rot. 34, m. 2. It was issued for modification to the king's goldsmith, Richard of Grimsby, in 1351, 'une pierre quarre dun sapphire ewage ove un chualrot ove un toret dor por ycel, lequel estoit nostre secre seal,' and adopted as the king's personal seal from 1354, *CPR 1350-4*, 129; Ormrod, *Edward III*, 607. For a full discussion see Tout, *Chapters*, v, 175-6; H.C. Maxwell-Lyte, *Historical Notes on the Use of the Great Seal of England* (London, 1926), 105-6; J. Blair and N. Ramsay, *English Medieval Industries* (London, 1991), fig. 72, an impression dated September 1357 showing the rectangular shape of the sapphire intaglio and circular gold surround.

⁶⁴ TNA, E 101/394/2, 'domino nostro regi ad manus proprias in cameram suam per breve de privato sigillo datum apud Westm' x^{mo} die Julii dicto anno xxxiiiij^{to}', see M. Prestwich, *Plantagenet England 1225-1360* (Oxford, 2005), 58; Tout, *Chapters*, 261-3. It is possible that Helming Leget as one of the receivers of the chamber from 1362 undertook its custody, see Appendix of names.

⁶⁵ Thought to be an antidote to poison. Edward Topsell described the stone and its extraction from the toad: 'there be many late writers, which doe affirme that there is a precious stone in the head of a toade, whose opinions (because they attribute much to the vertue of this stone) it is good to examine in this place, that so the reader may be satisfied whether to hold it as a fable or as a true matter, exemplifying the powerfull working of almightie god in nature, for there be many that weare these stones in ringes, being verily perswaded that they keepe them from all manner of grypings and paines of the belly and the small guttes. but the art (as they terme it) is in taking of it out, for they say it must be taken out of the head alive, before the toad be dead, with a peece of cloth of the colour of red skarlet, where-withall they are much delighted, so that they stretch out themselves as it were in sport upon that cloth, they cast out the stone of their head, but instantly they sup it up againe, unlesse

enamelled silver gilt and set with stones. This was almost certainly in the royal service by 1329 as it is recorded as a ‘plate of jasper for feasts with a foot and border of silver, with stones and pearls 60s.’⁶⁶ Two other large dishes for feasts were also of silver gilt and enamelled, and might be identified with the ‘two large silver plates for feasts enamelled in the base with the arms of England’ or the ‘silver plate for feasts with a border engraved and gilt with hunting scenes’ in the inventory of 1329. The character of these large silver dishes can be seen in the surviving silver gilt and originally enamelled Bermondsey dish of about 1335–45, preserved in the church of St Mary Magdelene, Bermondsey.⁶⁷ There were two crowns and a piece of another crown, all of silver gilt, which Mildenhall’s account notes were for wear with the king’s helms, which also remained in the Tower until the early 1360s, last appearing in Snaith’s remain of 1362. Also possibly traceable to earlier inventories are the ‘three pairs of old knives called trenchers’ received by Rothwell in 1353 and written off during the period of his account, one pair of which might be identified with the ‘par cultellorum magnorum de Ibano et eburno cum virollis argenti aimellatis’ given to the king by Margaret of France in 1298.⁶⁸

The survival from one keepership to another of this small group of items from the king’s jewels demonstrate that the practice of retaining things in the Tower on a long-term basis certainly occurred from the middle of the fourteenth century. The extent to which it occurred in the core function of the armoury, the provision of

it be taken from them through some secrete hole in the said cloth, whereby it falleth into a cestern or vessell of water, into which the toade dareth not enter, by reason of the coldnes of the water.’ See E. Topsell, *The Historie of Serpents* (London, 1608), 88–9. A ring of the late fourteenth century from the Thame hoard in the Ashmolean Museum, Oxford, is set with a toadstone, see J. Evans, E.T. Leeds and A. Thompson, ‘A hoard of gold rings and silver groats found near Thame, Oxfordshire’, *Antiquity*, 21 (1942), 197–202.

⁶⁶ ‘Inventory of crown jewels’, 246–7.

⁶⁷ Alexander and Binski, *The Age of Chivalry*, 257–8.

⁶⁸ The write-off is recorded in TNA, E 372/206, rot. 54, m. 1. For the earlier reference, see *Liber Quotidianus*, 344.

arms and armour, will be examined in the next chapter. Such evidently was the quantity of redundant material in the privy wardrobe by 1399 that a commission of expert bowyers, fletchers and artillerers was appointed to inspect the arms and remove ‘such as may be unfit for spear-play or other feats of arms or warlike acts.’⁶⁹

Storey’s research challenged the assertion that arms and armour was kept in the Tower of London from the time of its construction. His conclusions for the thirteenth and early fourteenth century are certainly correct. This study is intended to examine whether they are true for the succeeding period, from 1325 to 1410. From the inventories kept by the keepers of the privy wardrobe it can be demonstrated that some of the king’s jewels and plate remained in the privy wardrobe in the Tower for decades. The next chapter will look at the records of the arms and armour in the privy wardrobe to see if evidence of the same long-term retention of material can be found.

⁶⁹ *CPR 1399–1401*, 214.

2 Arms and armour and related material in the privy wardrobe

2.1 Armour⁷⁰

The period of the privy wardrobe's responsibility for the armoury in the Tower of London covers one of the most interesting periods in the development of defensive armour in medieval Europe. Although records of defences of plate are known from the thirteenth century and even earlier, it is not until the second quarter of the fourteenth century that these become commonplace. Very few of the actual objects survive, and they are best understood from artistic representations, in particular the series of monumental brasses and effigies of the fourteenth century.

2.1.1 Mail

The principal type of metal armour used by well-equipped warriors in Europe from about the third century BC to the mid-fourteenth century AD was mail. Mail is a flexible form of armour constructed of interlocking rings or links of iron wire, in which each link is usually joined to four others, two on the row above and two on the row below. The ends of the links are fastened closed either by rivets or by forge welding (or, very occasionally, with the ends simply butted together or of links stamped from sheet metal). Though there is archaeological evidence for mail from Celtic, Roman and early medieval Europe,⁷¹ only one complete mail garment survives from before about 1300, the mail shirt, preserved in the Cathedral Treasury at Prague and supposed to have belonged to King Wenceslas. We are left with artistic representations of armour and documents in our search for understanding.

⁷⁰ A summary of this section was given as a paper at the conference on 'England's wars, 1272–1399', University of Reading, 2009, and published as T. Richardson, 'Armour in England, 1325–99', *Journal of Medieval History*, 37 (2011), 304–20.

⁷¹ Brian Gilmour, 'Iron Age mail in Britain', *Royal Armouries Yearbook*, 2 (1997), 26–35.

One of the main problems associated with an understanding of the history of mail is that it is very difficult to depict. Thus the representations of mail in the Bayeux Tapestry are capable of a number of interpretations, and the shorthand versions used by sculptors and manuscript illuminators gave rise in the nineteenth century to ideas of ‘banded mail’, ‘mascléd mail’ and so forth. Scholars are now convinced that no such things existed, and that they arose from the attempt to reconstruct literally artistic conventions.⁷² The scientific study of mail began with Burges and de Cosson’s exhibition of helmets and mail in 1880,⁷³ and was moved forwards significantly by the work of Martin Burgess in the 1950s.⁷⁴ In recent times the easy availability of portable equipment which could acquire digital photomicrographs has led to an surge in detailed study of the construction of the individual links or rings from which the mail is made.⁷⁵

No mail is listed in the inventory of 1324 at the Tower,⁷⁶ but some pieces appear in the now fragmentary ‘great indenture’ of receipt by John Fleet of the arms and armour from the chamber under William of Langley in 1325, ‘one mail shirt . . . for the tourney’ and ‘two long mail shirts’.⁷⁷ Much more can be found in Fleet’s own account.⁷⁸ In the receipt of the armoury of Edward II we find a relatively small collection of mail ‘eleven mail shirts, fourteen pairs of mail leg defences or chausses, six mail coifs (*tenis pro guerra*),⁷⁹ ‘seven hauberks, one for a child, seven pairs of

⁷² C. Blair, *European Armour circa 1066 to circa 1700* (London, 1958), 20–24.

⁷³ Baron de Cosson and W. Burges, ‘Catalogue of the exhibition of ancient helmets and examples of mail’, *The Archaeological Journal*, 37 (1881), 455–597.

⁷⁴ E.M. Burgess, ‘The mail-maker’s technique’, *Antiquaries Journal*, 33 (1953), 48–55, and, ‘Further research into the construction of mail garments’, *Antiquaries Journal*, 33 (1953), 193–202.

⁷⁵ E.D. Schmidt, ‘Link details from articles of mail in the Wallace Collection’, *Journal of the Mail Research Society*, 1 (2003), 2–20.

⁷⁶ TNA, E 101/17/6.

⁷⁷ ‘i haubergoun de . . . maille pour tournoy; ij haubergouns long’; TNA, E 101/390/7, which is identified here as the ‘great indenture’ which forms the first part of Fleet’s own account.

⁷⁸ BL, Add. MS 60584.

⁷⁹ BL, Add. MS 60584, f. 10v.

mail chausses, five mail coifs, five pairs of mail cuisses, and a mail collar',⁸⁰ and in the dregs at the end of the receipt a unique reference to practical butted mail, 'one habergeon of coarse mail without rivets, old and rusty, one double gorget of coarse mail without rivets, old and rusty . . . one aventail worn out and rusty, a habergeon for the tournament of the same mail . . . two habergeons worth 3s. 6d., four habergeons worth 13s. 4d., and a pair of chausses worth 15d.'⁸¹ In another receipt from Langley there are three mail shirts, one riveted in steel, two habergeons, four pairs of mail chausses, three pairs of mail sleeves and a pair of mail gussets, two pairs of mail sleeves, one *de alta clavatura*, the other for the joust; one mail shirt, hauberk and pair of chausses were of north Italian mail, the habergeon and chausses part of the same set.⁸²

From 1338, with the assumption of responsibility for military supply for the war with France, Fleet handled a large quantity of armour. Included in the mail were 208 pairs of mail sleeves and skirts, ten paunces without sleeves and two sleeves without skirts, 348 hauberks, 897 mail collars with 614 covers, 678 aventails, twelve pairs of musekins, two pairs of gussets, nine mail coifs, ten mail corsets and one pair of mail chausses.⁸³ The detailed records of the purchase of some of this armour give a fascinating insight into its origin. Much of it was German, from Cologne, by otherwise unrecorded mail makers Godestall, John Bertold and Gerard, who supplied:

116 habergeons,
226 collars,
21 pairs of sleeves and paunces,
22 paunces,

⁸⁰ BL, Add. MS 60584, f. 12r.

⁸¹ BL, Add. MS 60584, f. 13r.

⁸² BL, Add. MS 60584, f. 16r–17r.

⁸³ BL, Add. MS 60584, f. 41v.

102 aventails.

Makers from Maastricht, John, Gerard, Courand and Reginald supplied:

20 habergeons,
36 collars,
9 pairs of sleeves and paunces,
1 pair of short sleeves,
1 pair of musekins,
47 aventails.

Another Flemish maker, Terence of Middelburgh, supplied

2 habergeons,
41 collars,
5 pairs of musekins,
26 aventails.

Twenty-one pairs of sleeves and paunces and one aventail were Italian, from Blas the Lombard, and a small quantity was English: William Hales supplied ten pairs of sleeves and paunces, four habergeons and six aventails; William Skelton supplied two pairs of sleeves and paunces, three collars and twelve aventails; Geoffrey of Winchcombe supplied two pairs of sleeves and paunces, twenty-seven collars and twenty-three aventails.⁸⁴

The indenture for issues to the fleet in 1337 includes 262 aventails, 257 pisanes, and 157 mail shirts together with other armour.⁸⁵ This indenture includes more detail than Fleet's own account, and explains a poorly understood aspect of mail construction, 'item 120 aventails of good German and Lombard mail, half-riveted [*demi enclous*] and fully riveted [*tut enclous*].⁸⁶ This term, also found in French as *de haute clouere*, has mystified scholars for over a century.⁸⁷ From the

⁸⁴ BL, Add. MS 60584, ff. 43r–44r.

⁸⁵ TNA, E 101/388/1.

⁸⁶ TNA, E 101/388/1, the same formula repeated for mail throughout the document. The same issue can be found in BL, Add. MS 60584, ff. 41v–42v, divided up into a number of smaller issues.

⁸⁷ First raised by A. Way, 'The will of Sir John de Foxle of Apuldrefeld, Kent, dated November 5 1378', *Archaeological Journal*, 15 (1858), 273, 'the precise import of the term high as applied to the

details in Fleet's account and indenture, it is clear that the word *haute* (or *alta*) evidently refers to the proportion of riveted links in the garments.

The rivets with which the links are closed are usually wedge-shaped, and fit into wedge-shaped holes punched through the overlapped section of the link from the inside out. The overlapped sections of the links themselves are formed with a swage and hammer with a flat section on the inside of the link and a wave-shaped 'watershed' on the outside of the link, so that when the link has been joined to its neighbours and the rivet inserted and hammered closed, with the wide end of the rivet completely flush with the inside of the link, and the pointed end riveted down on the outside, on top of the wave-shaped overlapping section. This in turn means that the mail garment when worn has its smooth side inside, so the rivets do not catch on the padded garments worn underneath.

The evidence in the Tower accounts shows that the traditional date of 1400 before which European mail was made of half-riveted, half solid links, needs to be revised to about 1340. The accounts of Fleet's successors as keeper of the privy wardrobe, Robert Mildenhall and William Rothwell, also distinguish mail 'with high nails' (*de alta clavatura*), These accounts also show that earlier shirts (made before 1344) had no collars and the newer types did. An example of such a mail shirt, offered for sale at auction in 2006, is a short-sleeved, collarless shirt which was extended with a collar and sleeve extensions of all-riveted mail.⁸⁸ Very few European mail shirts of this early, half-riveted, construction are known. Perhaps the best-known example formed of alternate rows of riveted and solid links is the shirt

riveting of mail has not been ascertained, it doubtless might designate workmanship of high class . . . but . . . may very probably have denoted some peculiarity of the rivets . . . which we have sought in vain to explain;' authors since have followed Way, such as J. Hewitt, *Ancient Armour and Weapons in Europe* (Oxford, 1860), ii, 317, and Blair, *European Armour*, 2.

⁸⁸ Christie's, *Antique Arms and Armour from the Collection of Dr. & Mrs. Jerome Zwanger* (London, 12 December 2006), lot 208.

traditionally associated with Rudolph IV of Hapsburg, duke of Austria, Carinthia and Ferette (1339–65) in the Royal Armouries, Leeds.⁸⁹ A section, the neck defence, from a mail bard of the same construction in the Royal Armouries, is illustrated here (figure 1).⁹⁰



Figure 1 Detail of the inside of an example of mail horse armour of the fourteenth century, showing the inner ends of the wedge-shaped rivets. Royal Armouries no. VI.566.

Most of the mail which passed through the Tower under Fleet was issued during his keepership. In addition to the issues to the fleet, very numerous issues in the form of gifts or loans were made to a large number of knights and household staff. Henry of Grosmont was given an aventail and habergeon, both of good quality and half-riveted (*semi clavatum*) on 28 August 1337.⁹¹ Sir Guy Brian, Sir Robert Mauley and a group of other knights were each given habergeons on 12 March

⁸⁹ No. III.1279; the associated mail aventail for a bacinet, no. III.1280 is of all-riveted construction.

⁹⁰ No. VI.566.

⁹¹ BL, Add. MS 60584, f. 42v; at this time earl of Derby, see Appendix of names, s.v. Grosmont.

1338.⁹² Alternatively a mail collar, aventail, pair of paunces and sleeves could be issued as a set, as Richard Fitzalan was given on 9 May 1338, and most of the mail issues were combined with a pair of plates and other plate armour.⁹³ Sir John Molyns was given two habergeons and a pair of mail paunces and sleeves ‘of steel, worth 100s.’⁹⁴ In total Fleet issued 148 pairs of paunces and sleeves, 344 habergeons, 873 collars, 664 aventails, four pairs of musekins, two mail corsets, fourteen corsets ‘pro pantiis et brachiis’, two pairs of gussets and one pair of chausses between 1337 and 1344.

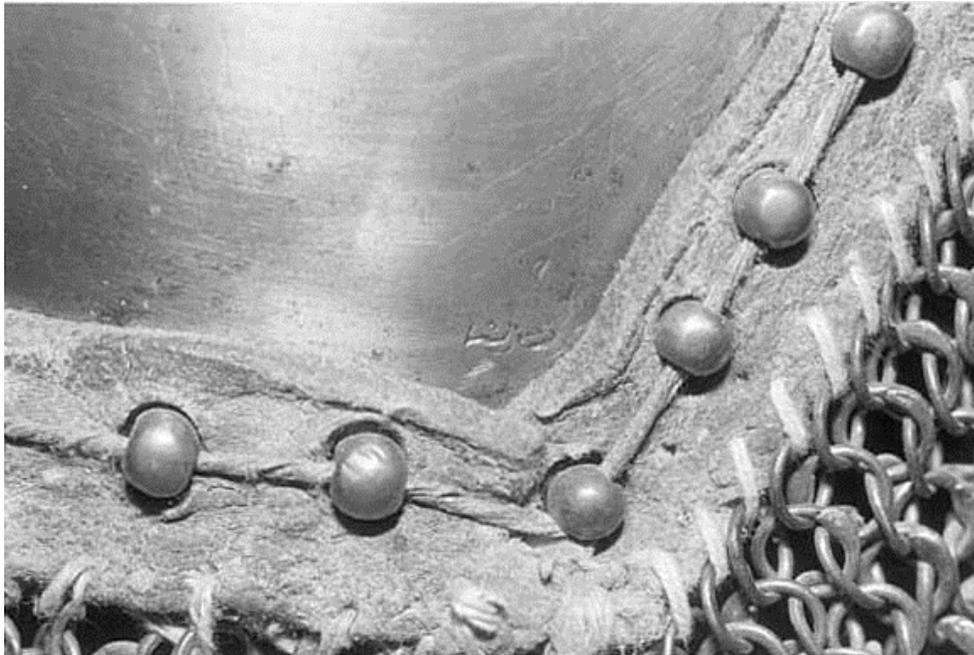


Figure 2 Detail showing the attachment of a mail aventail to a plate bacinet by vervelles. Churburg, no. 13.

The aventails were mail neck defences attached around the main edge of the plate bacinet by a broad leather band sewn to the mail and slotted to fit over pierced copper-alloy studs or vervelles riveted to the bacinet skull (figure 2). Holes in the

⁹² BL, Add. MS 60584, f. 43v; see Appendix of names s.v. Brian, Mauley for these important knights.

⁹³ BL, Add. MS 60584, f. 42v; earl of Arundel, see Appendix of names s.v. Fitzalan.

⁹⁴ BL, Add. MS 6054, f. 43v. As one of the auditors of the privy wardrobe, it is clear from Fleet's account that Molyns abused his office, and issued gear, often of high value, to himself and his circle on his own authority; see Appendix of names s.v. Molyns.

vervelles allowed a string to be passed through to secure the aventails in position, but allowing for its easy removal for cleaning and storage. It is for this reason that the aventails are listed with mail, rather than separately, in the inventories. Original examples of aventails with their leather bands survive at the Trapp family armoury of Churburg in the Italian Tirol.⁹⁵

Despite the use of mail sleeves, paunce and collars, complete mail shirts or habergeons (*lorice*) continued to be made, and seem largely to have been issued to lower-grade troops such as the crews of ships, but also to men-at-arms. Mail corsets appear in Fleet's account, and nowhere else. It is likely that they were sleeveless mail shirts, and some of them are described as going with mail sleeves and paunces.

Only one form of mail collar is found Fleet's account, the pisane. A surviving example of this type of defence datable to the fourteenth century from London is the mail collar in the British Museum, from the Roach Smith collection (figure 3),⁹⁶



Figure 3 Mail collar, probably a pisane. British Museum no, 1856.07-01.2244.

⁹⁵ Count O. Trapp, and J.G. Mann, *The Armoury of the Castle of Churburg* (London, 1929), nos 13 and 15, and Royal Armouries, Leeds, no. IV.470.

⁹⁶ No. 1856.07-01.2244.

which was found on London Wall, Moorgate, and could conceivably therefore be one of the collars of mail originally from the Tower. This exhibits numerous interesting features, having alternate rows of riveted and solid links, a border of riveted links of latten, pendant dags of butted links of latten (which are mostly lost due to the fragility of this construction), and a most unusual collar section formed of riveted and solid links connected to three links above and below, making a remarkably dense form of mail. The decorative dags of latten links clearly show that this collar was intended to be worn on top of any other garments, whereas in artistic representations of the period generally only the section worn round the neck is visible, the rest hidden under the coat of plate or the surcoat. In modern times the term *pisane* has come to represent a mail cape rather than a collar, of the type sometimes called a ‘Bishop’s mantle’ in the terminology used by collectors of armour.⁹⁷

Mail sleeves, *braces* or *bracia de maille*, have been regarded as an invention of the fifteenth century, when complete plate armour had become the normal garb of the man-at-arms. The privy wardrobe accounts, however, show that these were in common use at the time of the introduction of the earliest plate armour. A small group of early mail sleeves survives in the Royal Armouries collection, one of which has the alternate rows of riveted and solid construction which securely dates them to the first half of the fourteenth century.⁹⁸

The paunces were most probably either mail skirts or mail trunks. Like the mail sleeves and mail standards these are visible at the periphery of the coat of plate on contemporary brasses. The etymology of the term is unclear; it appears at about the same time as ‘paunch’ for the belly, but it is seductively close to the German term *Panzer* used throughout the Middle Ages and later for mail armour.

⁹⁷ Blair, *European Armour*, 139.

⁹⁸ Royal Armouries no. III.17; III.18 is of the same type, but of all-riveted construction.

Gussets of mail in later armour terminology refer to small sections of mail sewn into arming doublets or similar garments worn under armour, and it is uncertain what these mid-fourteenth-century gussets represent. The pairs of chausions or chausses are leggings of mail, and it is interesting to note how very few there were.⁹⁹ Only the musekins remain unidentifiable; they always appear in pairs, and were issued as an addition to the usual set of mail aventail, pair of sleeves and paunces, and pisane, along with a pair of plates.¹⁰⁰

The mail coifs, called *tene* or *thene* in the early part of Fleet's account, were complete head defences of mail with face openings. They are recorded with tournament armour elements, and there are a few surviving examples of such defences, including one from the old Tower collection in the Royal Armouries (conceivably one of the very defences described in the account),¹⁰¹ and one in the National Museum of Scotland, Edinburgh,¹⁰² both of which are constructed of alternate rows of riveted and solid links. Robinson makes a coherent argument from contemporary art for the dating of these defences to 1300–50, without being aware of the documentary evidence for the inventory reference cited here for the first time.

⁹⁹ D.J. La Rocca, 'Notes on the mail chausse', *Journal of the Arms and Armour Society*, 15 (September 1995), 69–84.

¹⁰⁰ Though the identity of musekins is unknown, they are attested elsewhere. A fourteenth-century French verse lists 'musekins, genouilleres, gardebras, greves et coiffrains', cited in S.M. Taylor, 'In defence of larceny: a fourteenth-century French ironic encomium', *Neophilologus*, 15 (1981), 358–65. The regulations for the arming of men-at-arms in Hainault in 1336 require either a hauberk and chausses of mail, or a habergeon, mail coif or bevor, gauntlets (*wans de maille*) and chausses, or mail paunces (*pans*), sleeves (*maunches*), bevor, musekins, chausses and gauntlets, see *Premier registre aux plaids de la cour féodale du comté de Hainaut 1333 à 1405*, ed. F. Cattier (Brussels, 1893), 1–2. This is interesting also as it suggests that the difference between a hauberk and a habergeon in the early–mid-fourteenth century might be that the hauberk had an integral coif for the head and mufflers for the hands, as the habergeon requires these defences separately. For issues of musekins, see BL, Add. MS 60584, ff. 42v, 43v, in the former instance to Richard Fitzalan, earl of Arundel.

¹⁰¹ No. III.28.

¹⁰² E.M. Burgess and H.R. Robinson, 'A 14th-century mail hood in the Royal Scottish Museum, Edinburgh', *Journal of the Arms and Armour Society*, 2 (1956), 59–65.

John Fleet died in office on 17 October 1344, and was replaced by Robert Mildenhall, who had worked for Fleet collecting up arms in Brittany in 1343. At the end of his account is a ‘remain’, the list of the material remaining in his charge at the end of his account, in which the mail comprised:

9 pairs of paunces and sleeves,
 6 pairs of paunces without sleeves,
 3 habergeons,
 a corset,
 24 collars,
 14 aventails,
 8 pairs of musekins.

However, the receipt of mail in Mildenhall’s account comprised:

84 pairs of mail paunces and sleeves, 12 for the tournament, 4 pairs of paunces without sleeves,
 9 pisanes, 5 of mail and 4 of plate,
 8 pairs of musekins,
 49 aventails, 7 old and worn out,
 4 mail shirts, one of latten,
 2 pairs of mail leg defences (*calige*).¹⁰³

The disparity between the remain and receipt is probably indicative of the confused state of the armoury at Fleet’s untimely death. During Mildenhall’s keepership Thomas Hatfield of the chamber deposited 206 pisanes, fifty-seven aventails, forty-four pairs of paunces and mail sleeves, 100 mail gussets, all returned from Caen. Four pairs of paunces and sleeves, ninety-one pisanes with seventy-five covers¹⁰⁴ and seventeen aventails were also returned from the chamber.

Mildenhall’s account also includes issues. Individual knights or ships’ masters were issued with sets of armour, just as in Fleet’s account, a typical set

¹⁰³ TNA, E 372/198, rot. 34.

¹⁰⁴ ‘Pavillonis pro pisanis’, a term unexplored in the study of armour, but common in this and adjacent accounts, presumably meaning a lining or covering for the mail pisane.

comprising pairs of vambraces, rerebraces, plates, mail sleeves and paunces, aventail, bacinet and helm. Letters from the king instructing the issue to Thomas Rolleston, newly promoted pavilioner, of all the bows, crossbows and related archery equipment, and of specific quantities of armour, as well as lances, and dated June 1345 and April 1346 respectively, authorised the issue of forty pairs of mail sleeves and paunces, 156 pisanes with ninety-seven covers and forty aventails for service in France. A letter of February 1346 authorised issue of twenty-two mail shirts, eight pairs of mail sleeves and paunces, forty aventails, to one of the king's armour valets. Large issues of armour were also made to ships, including 115 pisanes to the cog *John*, authorised in June 1345. The remain from his first account comprises:

72 pairs of mail sleeves and paunces,
28 pisanes,
8 pairs of musekins,
70 aventails,
47 mail shirts, 16 with collars.¹⁰⁵

In Mildenhall's second account, Thomas Petersfield¹⁰⁶ returned a parcel of armour including thirteen pairs of mail paunces, two pairs of gussets, three pairs of chausses, four pairs of musekins, forty-one mail shirts, seven 'privy tunics' lined with mail, five covered with white fustian, the other two with russet cloth, and a mail coif. Robert Colston¹⁰⁷ deposited thirty-three pairs of paunces, seventy-three pairs of sleeves and a single sleeve, ninety-seven pisanes, ninety aventails, fifty-seven mail shirts on 3 November 1351. John of Cologne¹⁰⁸ deposited forty pisanes and forty mail shirts. Issues were few and miscellaneous: Richard Carswell was issued with thirteen mail shirts, twelve new, one half-riveted (*de dimidia clavatura*) and the

¹⁰⁵ TNA, E 372/198, rot. 35, m. 2d, rot. 36, m. 2.

¹⁰⁶ Chamber clerk, see Appendix of names.

¹⁰⁷ Another chamber clerk, see Appendix of names.

¹⁰⁸ King's armourer, see Appendix of names.

jazerant shirt. Thomas Rolleston was issued with six pairs of paunces and mail sleeves, sixteen pisanes, twelve aventails and sixteen mail shirts, and Thomas Colley was issued with a mail shirt with collar and a pisane.

The receipt of William Rothwell from Robert Mildenhall in 1353,¹⁰⁹ which contains more information about the categories than subsequent accounts, records the considerable quantity of mail harness in the armoury by that year, largely due to the deliveries recorded in Mildenhall's second account.

	1353 ¹¹⁰	1360 ¹¹¹	1362 ¹¹²	1369 ¹¹³	1374 ¹¹⁴	1377 ¹¹⁵	1381 ¹¹⁶	1388 ¹¹⁷	1396 ¹¹⁸	1399 ¹¹⁹	1405 ¹²⁰
lorice	173	186	365	1,956	440	166	1,469	1,457	1,492	628	308
aventails	186	162	162	914	1,139	866	786	774	760	858	536
pisanes	148	201	201	206	206	202	197	197	197	197	97
standards				144							
pairs sleeves	138 + 1	194	193	190+ 1	163+ 1	163	163	163	160	160	28
pairs paunces	104	90	90	90+1	86+1	86	81	81	79	79	17
gussets	2	2	2	3	3	3	3	3	3	3	
pairs chausses	3	3	3	3	3						
pairs bracce				1	1	1	1	1	1	1	1
pairs musekins	12										
coifs	3										
horse armour		7	7	9	9	9	9	9	9	9	9
pairs calige							3	3	3	1	3

Table 1 Summary of mail in the armoury, from receipts and remains, showing how mail for the ordinary soldier grew into a major holding in the second half of the century.

Rothwell received from Mildenhall:

¹⁰⁹ TNA, E 101/392/14, transcribed in chapter 3.2.

¹¹⁰ TNA, E 101/392/14 receipt.

¹¹¹ TNA, E 101/392/14 remain.

¹¹² TNA, E 101/394/2.

¹¹³ TNA, E 101/395/1.

¹¹⁴ TNA, E 101/397/10.

¹¹⁵ TNA, E 101/397/19.

¹¹⁶ TNA, E 101/400/16.

¹¹⁷ TNA, E 101/400/22.

¹¹⁸ TNA, E 101/403/8.

¹¹⁹ TNA, E 101/403/20.

¹²⁰ TNA, E 101/404/25.

104 pairs of mail paunces, 50 of them of ‘diverse riveting’ (that is, some half-riveted and some all-riveted, as discussed above, pp. 34–6), and 44 worn out,
 138 pairs of mail sleeves plus one, 77 long, 45 short, 2 pairs for the tournament,
 2 pairs of gussets,
 3 pairs of chausses,
 148 pisanes, 4 of plates of iron the other 144 of mail,
 12 pairs of musekins,
 186 mail aventails for bacinets,
 173 mail shirts, 88 older examples without collars, 76 newer ones with collars, 4 all-riveted,
 3 for the tournament and worn out, one of jazerant mail and one of latten.

We are unable today to differentiate mail for tournament from mail for the field, but clearly the privy wardrobe saw a distinction. Mail of latten is well known, but not for entire garments, as it is much less tough than mail of iron and provides little defence. However, it was common in the fourteenth to sixteenth centuries to apply a decorative border of latten links to a mail shirt, the yellow metal of the border contrasting with the white metal of the iron, and the mail horse armour issued to Henry of Grosmont was bordered in just this fashion.¹²¹

Jazerant mail, the term derived from the Persian *khazagand*, refers to mail covered inside and out with fabric.¹²² Because of the conservation problems associated with such garments, very few survive, and none of these are European. Two are Turkish and possibly sixteenth-century,¹²³ and one Indian, possibly seventeenth-century, from the arsenal at Bikaner in Rajasthan.¹²⁴ Another such jazerant mail shirt as well as an aventail of the same construction (*i gazerant & i camail de maisme*) is recorded in the inventory of Raoul de Nesle of 1302.¹²⁵

¹²¹ See chapter 2.3 on equestrian equipment.

¹²² See H.T. Norris, ‘The hauberk, the *kazaghand* and the ‘Antar romance’, *Journal of the Arms and Armour Society*, 9 (1978), 93–101, and A.S. Melikian-Chirvani, ‘The westward journey of the *kazhagand*’, *Journal of the Arms and Armour Society*, 11 (1983), 8–35.

¹²³ One in the Askeri Müze, Istanbul, the other Royal Armouries, Leeds, no. XXVIA.322.

¹²⁴ Royal Armouries, no. XXVIA.304.

¹²⁵ ‘A knight’s armour of the early XIV century being the inventory of Raoul de Nesle’, ed. F.M. Kelly, *Burlington Magazine*, 6 (1905), 468.

A further twenty-two mail shirts, of which twelve were of steel mail, and twenty-eight aventails were purchased in 1359, the steel mail shirts at 73s. 4d., the remaining ten of iron at 40s., along with twenty-eight aventails at 13s. 4d. each.

Recorded outside the main group of mail, in a group of tournament armour was a mail coif, along with two further coifs specifically for the tournament, which the summary list show to have been of plates.

No further mail was purchased during the period of Rothwell's account, but four mail makers (*haubergiers*), were paid 6d. per day to work on mending and making mail in the Tower over 226 days at a cost of £22 12s. Four furbishers were employed at the same rate for 105 days mending mail and other armour, and four valets at 4d. per day for 203 days trundling barrels in order to clean the mail.

Considerable quantities of mail were, however, returned to the Tower from the wardrobe at Calais in 1353, including the king's own harness, which included two mail aventails, a pisane, two pairs of paunces, one pair each of mail sleeves and chausses, and a pair of mail gussets. Munition armour in the same return from Calais included thirty-seven mail shirts with collars, eighty mail aventails, seventy-eight pisanes, eighty-three pairs of mail sleeves, long and short, and thirty belts for paunces, demonstrating again the identity of these poorly understood defences. In May 1356 Richard Carswell returned sixteen mail shirts (relatively new ones, with collars), and another of the king's armour valets, John of London, returned seven pairs of paunces, seven pisanes and seven aventails which had been issued to him in June 1355. In 1359 Richard Carswell returned three aventails, one pisane, a pair of mail sleeves and twenty mail shirts, seven of them of steel mail, and a group of armourers including Carswell himself and the king's trumpeter, Ralph Bampton, returned nine mail shirts with collars and pisanes.

In Henry Snaith's account of 1362¹²⁶ the receipt of mail comprised:

186 mail shirts, 29 with pisane collars, 112 with collars of new manufacture, 4 highly riveted (*de alta clavatura*), 3 for the tournament, worn out, 1 of jazerant mail, 1 of latten, 18 of steel and 18 ordinary (*communes*),

90 pairs of paunces, 40 pairs of various riveting, 48 pairs worn out and 2 pairs of mail of Lombardy,

194 pairs of mail sleeves,

201 pisanes,

162 aventails, 28 of steel,

2 pairs of gussets,

3 pairs of chausses,

3½ (7 pieces of) bards of mail, worn out, for horses, of which 1 bard of mail of Lombardy.

No new mail was purchased, but there are interesting records of its maintenance and modification. For the cleaning of the mail, wages were paid to four workmen each at 6d. per day for forty-five days rolling barrels with various mail armour.¹²⁷ Twenty-six mail shirts of various sorts were written off for enlargement and repair of others, including the jazerant also recorded in the account of William Rothwell.¹²⁸

Details of the provenance of mail shirts appears in Snaith's second account of 1364, when payment was made to John Payn armourer of London for thirty mail shirts at 24s., four at 20s. and three at 17s.¹²⁹ The one mail shirt 'de maille iasserainto', written off in 1362, reappears in the account of John Sleaford of 1369,¹³⁰ and the mail collars are differentiated into pisanes and standards.

Sleaford was responsible for very substantial purchases for the armoury, the mail section gaining 1,743 mail shirts, 732 aventails, five pisanes, 154 'standards pro

¹²⁶ TNA, E 101/394/2.

¹²⁷ 'iiij valletorum quolibet eorum ad vj d per diem per xlv dies vertentas barellos cum diversis harnesis de maile'.

¹²⁸ 'xxvj loricas unde iij de alta clavatura iij pro torniamento debiles, j de maille iasrant', j de latone et xvij communes'.

¹²⁹ TNA, E 101/394/14.

¹³⁰ TNA, E 101/395/1.

loricis', and a pair each of presumably matching 'braaz' and 'bracce de mayll'. The prices of all these were recorded. Most were purchased from the merchant John Salman of London, who supplied no fewer than 1,542 mail shirts, at prices ranging from 16s. 1d. to £4, at a total price of £1,870 12s. 6d., together with quantities of other mail garments:

		<i>price each</i>
8	mail shirts of steel	£4
3	mail shirts of steel	66s. 8d.
30	mail shirts of iron	46s. 8d.
8	mail shirts of iron	40s.
7	mail shirts of iron	27s. 6d.
231	mail shirts of iron	26s. 8d.
556	mail shirts of iron (1 from Peter Vanbergh)	25s.
12	mail shirts of iron	24s. 9d.
302	mail shirts of iron	24s.
34	mail shirts of iron (from Peter Vanbergh)	23s. 4d.
49	mail shirts of iron	22s. 8d.
26	mail shirts of iron	22s. 4d.
50	mail shirts of iron	22s.
23	mail shirts of iron	21s. 8d
72	mail shirts of iron	21s. 3d
47	mail shirts of iron	20s. 7d
53	mail shirts of iron	19s. 3d
40	mail shirts of iron	17s. 6d
26	mail shirts of iron	16s. 1d
1	pair mail chausses	6s
1	pair mail sleeves	3s. 4d
73	aventails for bacinets (see also under bacinets)	3s. 4d
5	pisanes	3s. 4d
40	standards of iron for mail shirts	3s.
30	standards of iron for mail shirts	18d
74	standards of iron for mail shirts	14d

Table 2. Mail purchased by the privy wardrobe, 1364–9, ordered by type and price.

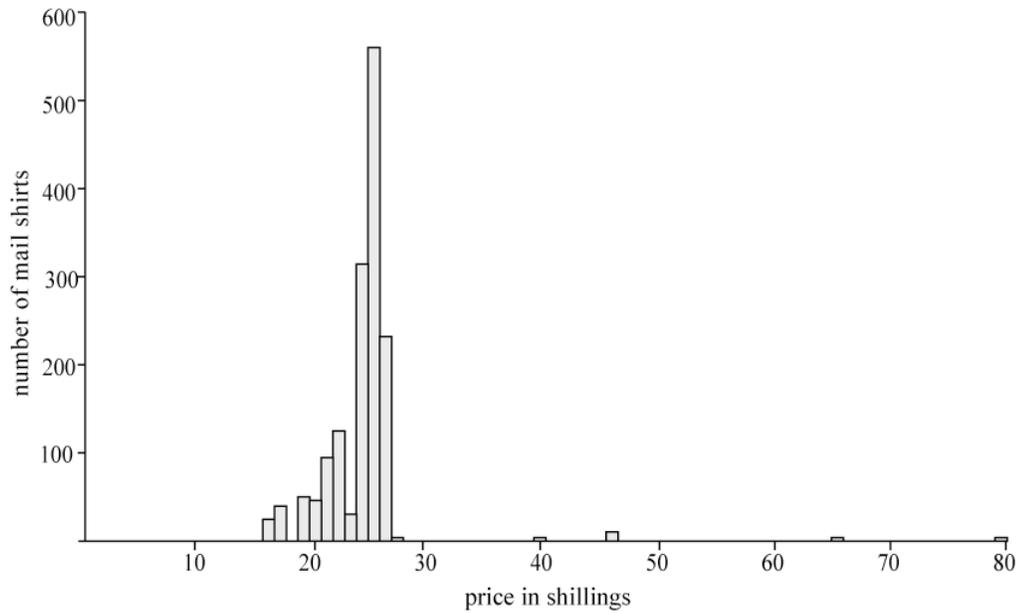


Table 3. Prices of mail shirts purchased by the privy wardrobe, 1364–9.

Substantial quantities of these new mail shirts were issued during the term of Sleaford's second account, in which the wardrobe was handed over to his successor John Hatfield in 1378,¹³¹ and these are itemised in the account. The figures from the remain section of this account, after all the issues, are given in table 1 above. Even higher figures are found in the remain section of the account of John Hatfield and the indenture from him to John Hermesthorp of 1381.¹³² Almost no change occurred under Hermesthorp as the receipt in the account of Ranulph Hatton shows,¹³³ and little change under Hatton as the indenture of John Lowick of 1396 reveals.¹³⁴ The receipt in the account of John Norbury in 1399 shows a great reduction in mail shirts, partly explained by the issue of the 500 mail shirts for Richard II's expedition to Ireland, and the expenditure of twenty-two habergeons in mending and enlarging 500 mail shirts, an operation done in the Tower by twenty workmen at 12d. per day for

¹³¹ TNA, E 101/397/19.

¹³² TNA, E 101/400/10, E 101/400/14.

¹³³ TNA, E 101/400/22.

¹³⁴ TNA, E 101/403/8.

twenty-four days at a cost of £24. All the rest of the mail remained in store during the period of Lowick's account.¹³⁵ The release of the wardrobe by John Norbury to Henry Somer in 1406¹³⁶ shows a continued diminution in stock levels, and no new additions.

Analysis of the mail holdings of the Tower armoury during the period of the privy wardrobe shows a transition from immediate receipt and issue to a continuous holding of stocks. Some older types, such as the mail coif and musekins found in the 1330s and 1340s, disappeared, while some types, including the set of mail horse armour elements, remained on the books for the whole period. A stock of mail sleeves and paunces, popular for a brief period in the 1330s and 1340s, remained in stock for most of the century, rising in the 1350s to nearly 200 pairs of sleeves and just under 100 paunces, and dwindling gradually to 160 sleeves and seventy-eight paunces by the end of the fourteenth century. The continuity of the numbers from one inventory to another, and the lack of acquisitions or issues of the same types shows that these are the same pieces of mail, carried from account to account.

The mail shirts returned to the Tower in the 1340s, many of them old-fashioned or worn out, remained in stock through and probably beyond the 1350s. The pattern of purchase and immediate issue of large quantities is seen again in the 1360s, when mail shirts reached their highest stock level of just under 2,000 and fell again by issue to 166 in the late 1370s. By the early 1380s stock had returned to a high level, and remained so until the end of the century. Because none of the later accounts describe the holdings in enough detail it is impossible to know how many survived from the middle of the century. Aventails for bacinets also rose in quantity,

¹³⁵ TNA, E 101/403/20.

¹³⁶ TNA, E 101/405/4.

very much in parallel with mail shirts, from a rump of returns of the 1350s to over 1,000 in the mid-1370s, and never fell below 500 for the remainder of the century.

From the early 1360s there is also evidence of employment of workmen to maintain the stocks of mail and, later in the century, to repair and modify it within the Tower armoury. Certainly from the late 1360s there seems a definite policy of retaining stocks of mail armour within the Tower, a policy which continues into the fifteenth century.

2.1.2 Defences of plate

That mail remained the defence of choice for the well-equipped man-at-arms throughout the earlier Middle Ages was clearly from choice, not from the inability of the armour makers to do better. Defences of plate for the head, principally the helmets, were made by the various helmeters' guilds and these became increasingly sophisticated. From the conical, multi-plate *Spangenhelme*, band helmets and segment helmets of the migration period, still used in the eleventh century, we find helmets of the same form made from a single piece of iron, such as the conical helmet in the Hofjagd- und Rüstkammer of the Kunsthistorisches Museum, Vienna,¹³⁷ and it is certain that the manufacture of such a helmet in one piece is the most difficult exercise in the shaping of plate armour of any type.

Though there are numerous references to plate defences in the late thirteenth century, it is in the second quarter of the fourteenth century that plate armour moves from being a rarity to being the norm. The story is well illustrated by the English series of monumental brasses. The traditional dates for the English brasses found in earlier literature have been radically altered, mostly forward by a generation, by

¹³⁷ B. Thomas and O. Gamber *Katalog der Leibbrüstammer, i: der Zeitraum von 500 bis 1530* (Vienna, 1976), 36, no. A 41, pl. 4.

recent scholarship.¹³⁸ Sir William Setvans, about 1323, at Chartham, Kent, has a mail hauberk with integral coif and mufflers, worn over an aketon, mail chausses with poleyns, and ailettes; it is impossible to know whether Setvans wore plate body armour underneath his long surcoat.¹³⁹ This depiction corresponds closely with the inventory of Humphrey de Bohun, earl of Hereford, compiled 1319–22, ‘1 mail shirt called Bolioun, 1 pair of plates covered with green velvet, 2 jupons, 2 coats with the arms of the earl, three pairs of ailettes with the arms of the earl of Hereford’, and ‘2 bacinets, 1 covered with leather, the other bright’, and represents the norm of equipment for the man-at-arms for the field in the first quarter of the fourteenth century.¹⁴⁰

About 1326 Sir Roger Trumpington from Trumpington, Cambridgeshire,¹⁴¹ has the same but with plate poleyns, the earliest reference to which is 1315.¹⁴² Sir Robert de Bures, about 1331, from Acton, Suffolk, has the same with gamboised cuisses and poleyns of tooled leather.¹⁴³ The lack of evidence for a pair of plates on these brasses can be taken literally; William, the youngest son of Fulk Pembridge, in his will of 1325 received, ‘2 mail shirts, 1 helm, 1 bacinet, 1 aventail, 1 collar, 1 palet, 1 pair of spaudlers, 1 pair of gauntlets of plate, cuisses and greaves’ though his

¹³⁸ M. Norris, *Monumental Brasses: the Memorials* (London, 1975), 10–12.

¹³⁹ J. Coales, *The Earliest English Brasses* (London, 1987), fig. 74.

¹⁴⁰ T. H. Turner, ‘The will of Humphrey de Bohun earl of Hereford and Essex, with extracts from the inventory of his effects 1319–1322’, *Archaeological Journal*, 2 (1846), 349. ‘j Haberjoun qe est apele Bolioun et j peire de plates couvertes de vert velvet ij Gipeaux ij cotes darmes le Counte iij peires de ailettes des armes le Counte de Hereford’ and ‘ij bacynettes lun covert de cuir lautre bourni’. ‘Bright’ is the standard term used in armour scholarship for a polished steel surface, as opposed to a russet, blued or blackened one (which might still be polished).

¹⁴¹ Coales, *The Earliest English Brasses*, fig. 86.

¹⁴² V. Gay, *Glossaire archéologique*, 2 vols (Paris, 1887–1928), ii, 271.

¹⁴³ Coales, *The Earliest English Brasses*, fig. 88.

eldest son received ‘un peire de ces meilours plates’ together with a host of other harness.¹⁴⁴

The most important type of body armour in fourteenth-century Europe was a pair of plates, defences of iron plates riveted inside fabric coats. Almost all the surviving examples of pairs of plates come from a single source, the mass graves from the battle of Wisby in 1361,¹⁴⁵ but literary and artistic evidence illustrates their arrival and development. As early as 1266 the inventory of Eudes, Comte de Nevers, mentions ‘paires de cuiraces’,¹⁴⁶ and this is joined by a raft of evidence for plate body defences in the second half of the thirteenth century. The artistic evidence includes the famous figure of a sleeping guard from Wienhausen Monastery, now in the Provincial Museum, Hanover,¹⁴⁷ and an anonymous effigy of about 1280 at Pershore Abbey, where the straps fastening some form of fabric and plate body defence worn over the hauberk can be seen.¹⁴⁸

After 1330 plate defences proliferate on the brasses. Sir William Fitzralph, about 1331–8, has plate arm defences strapped over his hauberk, and plate greaves and sabatons,¹⁴⁹ as does Sir John Creke at Westley Waterless, Cambridgeshire.¹⁵⁰ The pair of plates can clearly be seen on the brass of Sir John III d’Abernon, about 1340–5, and he has plate arm defences, the rerebrace strapped over the hauberk, the vambrace underneath it, and poleyns, greaves and sabatons.¹⁵¹ The brass of Sir Hugh Hastings at Elsing, Norfolk, about 1347, has the same arrangement, but with a plate

¹⁴⁴ M. Prestwich, *Armies and Warfare in the Middle Ages: the English Experience* (New Haven and London, 1996), 26–7. ‘deux haberiouns, un healme, un bacinet, un aventail e un colret, un palet, un peire de espaudlers, un peire de gans de plate, quisseux e greves’.

¹⁴⁵ B. Thordemann, *Armour from the Battle of Wisby 1361*, 2 vols (Uppsala, 1939–40), i, 201–29.

¹⁴⁶ Gay, *Glossaire archéologique*, i, 519.

¹⁴⁷ Blair, *European Armour*, pl. 18.

¹⁴⁸ Blair, *European Armour*, pl. 17.

¹⁴⁹ Coales, *The Earliest English Brasses*, fig. 91.

¹⁵⁰ Blair, *European Armour*, fig. 14.

¹⁵¹ Coales, *The Earliest English Brasses*, fig. 103.

collar worn at the neck.¹⁵² This is probably the ‘gorgeret de plates’ valued at 20s. each in the de Nesle inventory of 1302,¹⁵³ the ‘collret’, one of which was associated with a bacinet in the will of Fulk Pembridge of 1325 and the ‘colletin’ found in the purchases of the Counts of Hainault and Holland for the expeditions to Prussia and Cyprus of 1343–5.¹⁵⁴ The main figure of Hastings and several of those in the aedicules, including that of King Edward III, wear bacinets with pivoted visors, the earliest English depiction of this feature.

The only plate defences listed in the inventory of 1324 at the Tower were forty-three bacinets covered in white leather, purchased for £4 15s. 3d.¹⁵⁵ A few more pieces appear in the fragmentary indenture of 1325.¹⁵⁶ Much more detail can be found in Fleet’s own account. In the receipt of the armoury of Edward II we find a relatively small collection of plate armour, from the great indenture from the chamber clerk William of Langley¹⁵⁷ and a series of other indentures:

33 pairs of cuisses,
 36 pairs of gauntlets (*cerotecorum*),
 34 pairs of cuisses and poleyns,
 21 pairs of poleyns,
 29 pairs of greaves (*skinbaux*),
 1 pair of greaves,
 1 pair of vambraces (*antebracchiis*),
 6 pairs of plates (*anteplatis*),
 38 helms,
 42 kettle hats,

¹⁵² Coales, *The Earliest English Brasses*, fig. 120. Compare also the plate collar of the effigy of Ermengol X, count of Urgell, of about 1300–50 in the Metropolitan Museum of Art, New York, no. 48.140.2 a–d.

¹⁵³ ‘A knight’s armour of the early XIV century’, ed. Kelly, 468.

¹⁵⁴ C. Gaier, *Armes et combats dans l’univers médiévale* (Brussels, 1995), 236.

¹⁵⁵ ‘xliii bacinettis de albo corio coopertis’, TNA, E 101/17/6.

¹⁵⁶ TNA, E 101/390/7: ‘j bacinet ronnd covert; ij bacinetz, j aventaille . . . j gorget double . . . j peire de quisses couvertz . . . j peire des chauntcouns de plates couvert de velvet vermail . . . ij peire de poleins. . . ij peire de skinbaud . . . j peire de sabatons’.

¹⁵⁷ See Appendix of names.

136 bacinets,
 40 palets,
 4 gauntlets (*waynpaynis*),
 1 quirre for the tournament,
 7 pairs of sabatons,
 2 manifers.¹⁵⁸

Like the mail armour, much of this harness was old and damaged or rusty; there were three rusty helms for the joust (*hastiludo*), two pairs of cuisses covered in white silk with crosses in black, old and torn, eleven iron kettle hats and helms, of which only four helms were complete, the rest broken and of little value, one pair of vambraces of baleen, of little value, one pair of sabatons old and of little value.¹⁵⁹ Some of it was clearly of royal quality and in good condition, such as the pairs of plate, one covered in red velvet riveted in silver, one with the arms of England, one covered in red leather with an inescutcheon of the arms of England, one pair of vambraces and a matching pair of cuisses embroidered with leopards, decorated with the arms of England.¹⁶⁰

From 1338, with the assumption of responsibility for military supply for the war with France, Fleet handled a massive quantity of armour:

800 pairs of plates,
 1,943 bacinets,
 100 great helms,
 146 kettle hats,
 516 pairs of cuisses,
 130 pairs of lower leg defences (*tibiis*) and one singleton,
 14 pairs of lower leg defences (*skinbaux*),
 8 pairs of sabatons,
 424 pairs of rerebraces and vambraces (*antebraciis* and *retrobraciis*), 314 rerebraces,
 563 plate gauntlets (*cerotecis de plate*),

¹⁵⁸ BL, Add. MS 60584, ff. 10v–11v in a summary table.

¹⁵⁹ BL, Add. MS 60584, ff. 12r–14r.

¹⁶⁰ BL, Add. MS 60584, f. 16r.

a pair of greaves for the lower legs.¹⁶¹

The records of purchases include the same armourers (or merchants) as those who supplied the mail, showing that most English plate armour was imported from Germany and the Low Countries at the very beginning of plate armour. Makers of Cologne, Godestall, John Bertold and Gerard supplied:

93 pairs of plates,
 197 pairs of cuisses,
 75 pairs of lower leg defences (*tibiarum*),
 178 pairs of vambraces and rerebraces,
 6 pairs of rerebraces
 84 pairs of gauntlets.
 181 bacinets,
 4 kettle hats,
 10 helms.

Makers from Maastricht, John, Gerard, Courand and Tilman supplied:

53 pairs of plates,
 13 pairs of cuisses,
 15 pairs of lower leg defences,
 20 pairs of vambraces and rerebraces,
 20 pairs of rerebraces,
 49 pairs of gauntlets.
 237 bacinets,
 43 helms.

Terence of Middelburg supplied:

136 bacinets,
 10 palets.

Forty pairs of plates were Italian, from Blas the Lombard. A relatively small quantity of armour was English: William Hales, William Skelton, John Quartermain,

¹⁶¹ BL, Add. MS 60584, ff. 43v, 44v. Fleet accounted for pairs of plates under mail, the remaining plate harness together with shields and textile garments worn with armour.

Geoffrey of Winchcombe, Richard Sutherland and William Wilford supplied:

28 pairs of plates,
 38 pairs of cuisses,
 38 pairs of lower leg defences (*tibiarum*),
 43 pairs of vambraces and rerebraces,
 66 pairs of rerebraces,
 22 pairs of gauntlets.
 159 bacinets,
 2 kettle hats,
 2 helms,
 1 pair of greaves and sabatons.¹⁶²

In addition, a large quantity of rivets for making and mending armour at the Tower were purchased, 4,000 gilded rivets, 1,000 white metal rivets, 2,000 rivets for gauntlets 200 buckles of pairs of plates and twelve ‘charners’.¹⁶³

The indenture for issues to Thomas Snetesham for the fleet in 1337 included 325 bacinets (for which there were 262 aventails, as mentioned above under mail, p. 34), 167 pairs of plates, thirteen aketons of plates, 120 pairs of rerebraces of tooled black leather and 127 pairs of gauntlets of plate.¹⁶⁴ The pairs of plates had various different coverings: black and green, and white leather, fustian and twill, striped (*reye*) silk, red taffeta. Another issue of munition armour was to Carisbrooke Castle, which received nineteen helms, thirty bacinets, thirty pairs each of cuisses and poleyns, lower leg defences (*de tibiis*), rerebraces and gauntlets, as well as coat armours and shields.¹⁶⁵ Many of the smaller issues were of complete sets of plate armour to new knights, such as Sir Thomas le Brut, probably knighted in 1334, who was given a helm, bacinet, aventail, collar, pairs of plates, cuisses, lower leg

¹⁶² BL, Add. MS 60584, ff. 43r–45r.

¹⁶³ BL, Add. MS 60584, f. 45r. Strangely the pieces of armour delivered to the Tower by the king’s helmer, Gerard of Tournai, TNA E 101/388/11, are not identifiable in Fleet’s account; see H. Dillon, ‘An armourer’s bill, temp. Edward III’, *Antiquary*, 20 (1890), 148–50.

¹⁶⁴ TNA, E 101/388/1.

¹⁶⁵ BL, Add. MS 60584, f. 44v.

defences, vambraces, rerebraces and gauntlets, mail paunces and sleeves, as well as a sword.¹⁶⁶ Others were loaned a few extra pieces, such as the keeper of the great wardrobe, Edmund Beche, who was issued with a pair of vambraces and rerebraces.¹⁶⁷ A set of armour possibly for the king, comprising a helm, bacinet, pairs of cuisses, lower leg and foot defences (*skinbaux* and *sabatones*), vambraces, rerebraces and gauntlets was issued to a chamber clerk. In total the armoury under John Fleet issued:

1,642 bacinets,
 93 helms,
 123 kettle hats,
 26 palets,
 800 pairs of plates,
 366 pairs of cuisses and poleyns,
 202 pairs of lower leg defences (*de tibiis*), the one pair of skinbaux and sabatons,
 394 pairs of rerebraces and vambraces,
 305 pairs of rerebraces,
 539 pairs of gauntlets.

A group of three helms for war survive, all with English provenances, of Edward the Black Prince at Canterbury Cathedral, of Sir Richard Pembridge from Hereford cathedral now in the National Museum of Scotland, Edinburgh, no. 1905.489, and a third from an unknown English church, now at the Royal Armouries (figure 4).¹⁶⁸ All three of these are for the field, being of relatively light construction and with divided sights. They have been called English owing to their provenance, but the evidence for supply of helms to the privy wardrobe during Fleet's keepership suggests they are much more likely to be of Flemish or German manufacture.

¹⁶⁶ BL, Add. MS 60584, ff. 42v, 45v; see Appendix of names, s.v. Brut.

¹⁶⁷ BL, Add. MS 60584, f. 46v; see Appendix of names s.v. Beche.

¹⁶⁸ No. IV.600, see D. Spaulding, 'An unrecorded English helm of c. 1370', *Journal of the Arms and Armour Society*, 9 (1977), 6–9, and Leslie Southwick, 'The great helm in England', *Arms and Armour*, 3 (2006), 26–31, figs 26–28.



Figure 4 Great helm for war, Royal Armouries no. IV.600.

The kettle hats were brimmed helmets, worn both by ordinary soldiers and, less commonly, by men-at-arms. Only one example of a kettle hat of this period is known from an English provenance. It is preserved in the British Museum (figure 5),¹⁶⁹ from the Roach Smith collection, was found on the site of London Bridge station, and converted during its working lifetime into a kettle or cooking pot by the addition of a handle.

¹⁶⁹ No. 1856.07-01.2243.



Figure 5 Kettle hat from London converted into a cooking pot, probably English, fourteenth century. British Museum, no. 1856.07-01.2243.

The bacinets are rounded head defences fitted with mail aventails, as this and subsequent accounts make clear. It is probable that these early bacinets were comparable with the two preserved in the Poldi Pezzoli Museum, Milan, the earlier one dated to 1330–40, the later to about 1350–60.¹⁷⁰ Certainly the earlier examples seem to have the rounded skulls seen on monumental brasses of the middle of the century rather than the later bacinets which have pointed skulls (figure 6, but see Scalini, who dates the early pointed skull bacinets from Churburg to 1366).¹⁷¹ It is noteworthy that only one example early on in the accounts has a visor; almost all the surviving fourteenth-century bacinets have visors, either of the *Klappvisier* type, with a visor attached by a single pivot at the centre of the brow, or of the hounskull type, with a visor attached by pivots at either temple (or with the attachment holes

¹⁷⁰ D. Collura, *Cataloghi del Museo Poldi Pezzoli, ii: armi e armature* (Milan, 1980), 26, nos 28–9.

¹⁷¹ M. Scalini, *L'armeria Trapp di Castel Coira* (Udine, 1996), 44–6.

for these types of visors where the visors are lost), and certainly the evidence of artistic representation of the period suggests that these were developed as bacinets become the helmet of choice for war as the great helm was discarded in the years following 1350. That there were bacinets for the tournament at this time (as opposed to the great bacinets made for the foot combat in the fifteenth and sixteenth centuries) is unrecorded in the literature of armour, and what difference there was between them and war bacinets is now unknown.



Figure 6 The Lyle bacinet from Churburg with its mail aventail, Italian, about 1370. Royal Armouries, no. IV.470.

The identity of the palets at this time is unclear. They seem from the context and later usage to be head defences of some form, but how they differ from bacinets is as yet unclear. It is conceivable that they are the simple skull-caps known as *cervellières*, worn over or perhaps even under the mail coifs that were worn beneath the great helms, and some were issued for wear with kettle hats.¹⁷² It may be that the usage of the term changed as the century progressed, as they became a more numerous form of head defence, much cheaper than the bacinet, in the later accounts.

The pairs of plates were cuirasses formed of iron plates riveted inside textile coats (figure 7). Evidence from brigandines of the fifteenth and sixteenth centuries, where the fabrics survive, suggest that all coats of plate and brigandines had an inner layer of coarse hemp cloth as a foundation for attachment of the iron plates inside, with a second layer of higher-quality cloth outside where it would be seen.¹⁷³ The cheapest form listed in Rothwell's account therefore most probably had two layers of the usual lining fabric, while the more expensive types had inner layers of hemp but outer layers as described.

¹⁷² Blair, *European Armour*, 51, and 'The wooden knight at Abergavenny', *Church Monuments*, 9 (1994), 37–8; T. Richardson and D. Starley, 'The helmet from Stratton village, Bedfordshire' *Royal Armouries Yearbook*, 7 (2002), 15–21.

¹⁷³ I. Eaves, 'On the remains of a jack of plate excavated from Beeston Castle in Cheshire', *Journal of the Arms and Armour Society*, 13 (1989), 81–154, and compare fifteenth-century examples such as Royal Armouries, nos III.1663–5.



Figure 7 Pair of plates excavated from the site of the battle of Wisby, after Thordemann, *Wisby*.

Another form of body armour mentioned in Fleet's account is the *quirre* (*cuirrie*, *cuirace*, the origin of the word cuirass).¹⁷⁴ These may have been quite old, as they recall the first record of plate armour made specifically for the tournament in England, recorded in the roll of payments for a tournament at Windsor in 1278, when Milon le Cuireur was commissioned for thirty-eight leather 'quirit', as well as pairs of ailettes, and head defences for horses. Arm defences were also made, but of

¹⁷⁴ Blair, *European Armour*, 38.

buckram.¹⁷⁵ The swords for this tournament were made of baleen (whalebone) and parchment, then silvered, the hilts and pommels gilt, and for defence against such weapons armour of leather would be adequate. In fact we cannot be sure that the men-at-arms competing at Windsor would have worn any defences other than those specified; the tradition of the *behourde*, a tournament fought wearing light or no armour and using non-metallic weapons, which developed into the *Kolbenturnier* of the fifteenth century, is first heard of at about this time.¹⁷⁶ Body armour specifically for the joust is recorded by 1358, when we find in the inventory of William III, count of Hainault, ‘six breastplates, eight pairs of iron arm defences, one pair of plates and six helms, all for the joust, cuisses for the tourney and helms for war.’¹⁷⁷ Certainly the quantity of early plate armour specifically for the tournament suggests that the sport was at least one of the impulses towards the development of plate armour for war.¹⁷⁸

The limb defences can be considered together, as there are striking similarities between them. These comprise pairs of lower arm defences or vambraces (*antebracchia* or *aventbraces*), upper arm defences or rerebraces (*retrobracchia* or *rerebraces*), shoulder defences or spaudlers, thigh defences or cuisses, knee defences or poleyns, and lower leg defences. Many of the arm defences were of leather, and an example of a tooled leather defence for the upper right arm of this period survives in

¹⁷⁵ ‘Copy of a roll of purchases made for the tournament of Windsor Park in the sixth year of King Edward the first’, ed. S. Lysons, *Archaeologia*, 16 (1814), 297–310: ‘xvij quirrez pro torniamento’; ‘par alect’; ‘capita cor de similitud capit equoz’; ‘pro factura et pictura xxxvij parium brachiorum de bokeran’.

¹⁷⁶ See T. Richardson, ‘The introduction of plate armour in medieval Europe’, *Royal Armouries Yearbook*, 2 (1997), 41.

¹⁷⁷ ‘L’inventaire de l’armurerie de Guillaume III comte de Hainaut en 1358’, ed. E. de Puelle de la Nieppe, *Annales de la société archéologique de l’arrondissement de Nivelles*, 7 (1900), 1–10: ‘vj poitrines a jouter’, ‘vij paires de bras de fier a jouter’ ‘une paire de plates a jouter’ and ‘vi hiames a jouter’ contrasted with ‘kauchons de tournoy’ and ‘hyames de wiere’.

¹⁷⁸ Richardson, ‘The introduction of plate armour’, 40–5.

the British Museum (figure 8).¹⁷⁹ It came from the Roach Smith collection, and was found in London. The decoration, a diaper design of foliage inhabited by birds and mythical two-legged beasts, is very similar to that shown on the Bures brass. Fleet's account distinguished between three types of lower leg defences, *tibia*, *skinbaux* and *greves*. Two types are illustrated on contemporary brasses such as those of Sir John Creke at Westley Waterless, Cambridgeshire and Sir John III d'Abernon at Stoke d'Abernon, Surrey,¹⁸⁰ formed of splinted plates running the length of the tibia, often fitted with plate defences for the feet, the *sabatons*. No internal evidence currently allows us to differentiate between Fleet's types here, though we can be sure that the fully formed plate greaves are the type that comes to be standard later in the century.



Figure 8 Rerebrace of tooled leather, probably English, mid-fourteenth century. British Museum, no. 1856.07-01.1665.

¹⁷⁹ No. 1856.07-01.1665, A.V.B. Norman, 'Notes on a newly discovered piece of fourteenth-century armour', *Journal of the Arms and Armour Society*, 8 (1975), 229–33.

¹⁸⁰ Coales, *The Earliest English Brasses*, figs 102–3.

The sabatons, plate defences for the feet, appear on the series of English brasses about 1330, for example on the brass of Sir William Fitzralph at Pebmarsh, Essex.¹⁸¹ These are depicted as uncovered plate defences, but a pair of sabaton plates with external rivets for attachment to fabric excavated at Wisby¹⁸² show that they were made in this way too, like the plate gauntlets.

Gauntlets are of three types, *waynpains*, *manifers* and *cerotheres* or *cerotheca* (the term is derived from the Greek, *cheir*), the latter of plates.¹⁸³ The number and location of the waynpains suggests these are part of the tournament group. The earliest reference to plate gauntlets is found in a tournament context in 1285, as ‘wans de balainne’ and also as ‘wagnepains’ in *Les tournois de Chauvency*, the latter term clearly referring to gauntlets of a sort, ‘un gantelet apellé gagne-pain’ in 1411.¹⁸⁴ The *cerotheres* or *cerotheca* were gauntlets forming part of early plate harness for war. The multi-plate examples excavated from Wisby¹⁸⁵ probably illustrate the type represented in Fleet’s account. Only four fragments of these defences are known to survive, one certainly from London and another, illustrated here, probably from an English provenance (figure 9).¹⁸⁶ The word *cerotheres* is usually contracted to ‘*cothes de platis*’, and the incorrect reading of this may be the origin of the modern term ‘coat of plates’ for what is invariably called a ‘pair of plates’ in the documents.¹⁸⁷ The *manifers* (derived from the French *main de fer*) are for the joust, and tend to be

¹⁸¹ Blair, *European Armour*, fig. 15; Coales, *The Earliest English Brasses*, figs 91–2.

¹⁸² Thordemann, *Wisby*, i, 115–7, fig. 111.

¹⁸³ See for example Thordemann, *Wisby*, i, 285–328.

¹⁸⁴ Gay, *Glossaire archéologique*, i, 752. Note however the ‘wans de maille’ in the Hainault regulations of 1336, *Premier registre aux plaids*, 1–2.

¹⁸⁵ Thordemann, *Wisby*, 413–434.

¹⁸⁶ The Brick Lane gauntlet, Royal Armouries no. III.773, the gauntlet III.4790 shown here, the Kugelsburg plate in the British Museum, no. 1896.0517.1 and the Boringholm Castle fragments in Copenhagen, see T. Richardson, ‘Royal Armouries acquisitions 2011’, *Arms and Armour*, 9 (2012), 89.

¹⁸⁷ For example Blair, *European Armour*, 55–6.

associated with vamplates, shield-like guards which fit in front of the grip of a lance, and other now unidentifiable tournament defences such as lamers.



Figure 9 Gauntlet cuff of iron, originally within a textile covering, probably English, about 1350. Royal Armouries no. III.4790.

Robert Mildenhall received from John Fleet in 1344:

124 pairs of cuisses and poleyns with lower leg defences,
 62 pairs of cuisses and poleyns, one pair covered in cloth of gold and decorated with orichalcum, one pair covered in red silk with the arms of England,
 20 pairs of lower leg defences,
 82 pairs of vambraces of leather,
 40 pairs of rerebraces, one pair of orichalcum, one of iron with an elbow defence and 'lunette' painted with the arms of England, 38 pairs covered with cloth in various colours,
 22 pairs of vambraces and rerebraces, 6 of iron, 16 of leather,
 342 pairs of plates, one covered in red velvet and riveted in silver, 22 pairs with various coverings, 301 from Flanders,
 63 helms, 55 of them for war, one painted with the old arms of England,
 38 kettle hats, one of hardened leather for the tournament, one of iron with a border of silver, embossed with gilded animals, and 36 of iron,
 43 bacinets, one with a visor,

10 pairs of plate gauntlets of which two decorated with orichalcum,
 1 palet of iron,
 17 quirres for the tournament, 12 with spaudlers (shoulder defences),
 2 coifs (of plates, as they are described in more detail later),
 12 pairs of waynpains,
 3 'lamers' tournament defences of uncertain form, one decorated with orichalcum,
 2 manifers,
 3 vamplates,
 2 pairs of sabatons of which one covered in red velvet,
 1 pair of aillettes of red velvet with silver gilt leopards, for the tournament.¹⁸⁸

Mildenhall appears to use the term 'geambers' where Fleet used 'tibiis' and 'skinbaux' for lower leg defences. 172 pairs of plates, sixty-nine 'corsets of plates for archers', three kettle hats, twenty-two pairs vambraces and twelve of rerebraces, all of leather, eighty pairs of cuisses, seventy-nine pairs of poleyns and nineteen pairs of lower leg defences were returned by the receiver of the chamber, Thomas Hatfield,¹⁸⁹ from Caen. Though corsets of mail are also encountered, this reference to corsets of plates for archers appears unique to this and Fleet's account. Clearly these are pairs of plates of some form, but how they differed from conventional pairs of plates is unknown. Another few items, nineteen pairs of plates, two pairs of vambraces and rerebraces, eighteen pairs of gauntlets of plates and 168 bacinets were returned from Wales.

¹⁸⁸ TNA, E 372/198, rot. 34, m. 1d, 'cxxxiiij paribus de quisseux poleyn' et geambers, lxiij paribus de quisseux et poleyn' quorum j par coopertum de panno ad aurum garnitato de auricalco et j par coopertum de rubio samyt de armis Anglie et xx paribus de geambers, iiiij^{xx}ij paribus de vantbracis de corio, xl paribus de rerebracis quorum j par de auricalco, j pare de ferro cum cuteris et lunettis de armis Anglie depictis et xxxviiij paribus de ferro cooperto de panno diversis coloribus, xxij paribus de vantbracis et rerebracis quorum vj paribus de ferro et xvj paribus de corio . . . cccxliij paribus platarum quorum j par clavatum de argento et coopertum de velvetto rubio, xviiij paria cooperta de velvetto diversis coloribus, xxij paria de diversis cooperturis et cccj paria de platis de Flandrie, lxiij galeis quarum lv pro guerra et j galea de veteribus armis Anglie depicta, xxxviiij capella quorum j corboill' pro torniamento, j de ferro deaurato cum bordura de argento allevato cum bestiis deauratis et xxxvj de ferro, xliij bacinettis quorum j cum visera, x paribus cirotecarum de platis quarum ij garnitis de auricalco, j paletto ferri . . . xvij quirres pro torniamento, quorum xij cum espoulers, ij coifes, xij paribus de waynpaynes, iiiij lamers quorum j de auricalco, iij mayndeferres, iij vantplates, ij paribus de sabatonis de platis garnittis de auricalco, et j pari de alettis coopertis de velvetto rubio cum leopardis argenti deauratis pro torniamento.'

¹⁸⁹ See Appendix of names.

Sir John Darcy, who would fight alongside the king at Crécy in the following year, was given one of the helms in June 1345.¹⁹⁰ Other knights and ship's masters were given a full set of armour, as noted above under mail. These sets are called 'complete armours' (*hernesia integra*) in Mildenhall's account, such a complete armour comprising a helm, bacinet and aventail, pisane, pairs of plates, rerebraces, vambraces, mail sleeves and paunces. This shows that although the components of these complete armours were supplied independently, they were considered to form sets on issue, evidence at odds with the conventional idea that the complete armour did not evolve until the early fifteenth century.¹⁹¹

Thomas Rolleston was issued with nine pairs of vambraces and rerebraces, twelve pairs of vambraces, six pairs of rerebraces, 327 pairs of plates including the sixty-nine corsets of plates for archers, one helm, 276 bacinets, nine pairs of plate gauntlets, nineteen pairs of cuisses, poleyns and lower leg defences and sixty pairs of cuisses and poleyns without lower leg defences, for service in France. The two plate coifs for the tournament were issued to William le Hauberger together with some pieces of mail.¹⁹² Issues of armour to ships comprised 120 pairs of plates and bacinets to the cog *John* (along with mail pisanes, mentioned above, p. 42), seventy pairs of plates and bacinets to the cog *Ward*, thirty pairs of plates and twelve bacinets to the *Marie de la Toure*, and twelve pairs of plates and bacinets to the *Isabel* and *Welfare*. A small number of knights including Sir Giles Beauchamp were given kettle hats with pallets, an unusual combination showing such defences were worn together. From Mildenhall's first account,

¹⁹⁰ See Appendix of names.

¹⁹¹ TNA, E 372/198, rot. 34, m. 1d. For the evolution of complete armour of plate in the fifteenth century, see Blair, *European Armour*, 80; H. Nickel, S.W. Pyhrr and L. Tarassuk, *The Art of Chivalry* (New York, 1982), 18; C.H. Ashdown, *British and Foreign Arms and Armour* (London, 1909), 194.

¹⁹² See Appendix of names.

15 pairs of vambraces and rerebraces,
 91 pairs of vambraces,
 53 pairs of rerebraces,
 41 pairs of plates,
 55 helms,
 37 kettle hats,
 56 bacinets,
 18 pairs of gauntlets,
 17 quirres,
 12 pairs of waynpains,
 3 lamers,
 3 manifers,
 3 vamplates,
 2 pairs of sabatons,
 105 pairs of cuisses, poleyns and lower leg defences,
 2 pairs of cuisses and poleyns,
 2 pairs of cuisses and lower leg defences,

remained in the armoury.¹⁹³

In Mildenhall's second account, a number of batches of armour, some probably returned from service in France, some new, were deposited in the Tower, apparently with the intention of establishing a standing armoury there. Robert Colston¹⁹⁴ deposited 103 pairs of plates and 156 bacinets on 3 November 1351. Thomas Petersfield¹⁹⁵ returned a diverse parcel of armour including two helms, forty-nine bacinets, the pair of sabatons covered in red velvet first mentioned by Fleet, fifty-one pairs of cuisses and poleyns plus one of each and thirteen pairs of spaudlers, nine of them worn out. Only one issue of plate armour was made: Thomas Rolleston, the king's pavilioner, was issued with two kettle hats and twelve bacinets, and Thomas Colley was issued with a mail shirt with collar and a pisane.

¹⁹³ TNA, E 372/198, rot. 35, m. 2d, rot. 36, m. 2.

¹⁹⁴ Another chamber clerk, see Appendix of names.

¹⁹⁵ Chamber clerk, see Appendix of names.

From the 1350s onwards there is a detailed record of plate armour at the Tower, starting again with the detailed receipt of William Rothwell from Robert Mildenhall in 1353.¹⁹⁶ The numbers and types are summarised in table 4.

	1353	1360	1362	1369	1374	1378	1381	1388	1396	1399	1406
great helms	62	174	6	8	8	6	6	6	6	11 (?)	
kettle hats	112	281	217	118	10	8	125	125	125	126	2
bacinets	249	380	87	1009	381	120	790	828	797	785	235
pallets	3	4		587	25	17	546	546	516	393	180
pairs of plate	144	511	48	61	93	89	97	97	97	99	11
pairs ailettes	1	1	1	1	1	1					
pairs spaudlers	13	13									
pairs rerebraces		308	1	3	5	3	1	1		16	
pairs vambraces	106	358	1	4	121	83	66	66	64	72	2
pairs gauntlets	18	407		526	604		188	177	177	116	
pairs waynpayns		12									
manifers	3	3				1	1	1			
vamplates	3	3									
pairs cuisses	240	240	2	3		5	9	9	9	9	
pairs poleyns	228	228	2	3		2	2	2	2	2	
pairs greaves	146	209	1	3		4					
quires		17	17	16							
pairs sabatons	3	3									
pairs splints						11	11	9	8	8	8

Table 4 Summary of plate armour in the armoury, from receipts and remains, illustrating the change in emphasis from full plate armour for men-at-arms to armour for the ordinary soldier in the second half of the century.

In Rothwell's receipt there are sixty-two great helms, divided into fifty-three for war, six for the tourney, three for the joust and a single example painted with the arms of England. The distinction between helms for war and those for the tournament or, with wrappers, for the joust is interesting. The earliest surviving great helms designed specifically for the joust are those from the tombs of Sir Richard

¹⁹⁶ TNA, E 101/392/14.

Braybrook and Sir Nicholas Hawberk from Cobham church, Kent (figure 10),¹⁹⁷ and these both have very thick upper and lower front plates, but no separate reinforces.



Figure 10 Helm for the joust, from Cobham church, Kent, probably English, mid-fourteenth century. Royal Armouries AL.30 1.

These helms are conventionally dated to the late fourteenth century, but this dating is based on the assumption that great helms were undifferentiated until that period, when they had ceased to be used on the battlefield. The privy wardrobe inventories distinguish consistently between armour for the tournament and joust, and that for war, confounding the conventional wisdom that armour for these purposes was identical until the end of the fourteenth century. The inventory of Roger Mortimer of 1322 also contrasts the ‘galea pro guerra’ with the ‘galeis pro

¹⁹⁷ Royal Armouries, Leeds, no. AL.30 1–2, Southwick, ‘Great Helm’, 39, figs 34–5.

torniamētis’,¹⁹⁸ and Southwick points out that the *Romance of Alexander* of 1338–44 in the Bodleian Library, Oxford, illustrates two different types of helm, with a bar separating the sights for war, and with a wrapper and a slight step in front of an undivided sight for the joust.¹⁹⁹ By the end of the account they had all gone except six, which remained in the Tower until the end of the century. The record of eleven helms in the inventory of 1399 is clearly a scribal error, as the number returns to six in the following inventory of 1403–6, and all had gone by 1406.²⁰⁰

The description of the kettle hats is likewise interesting. There were 112, 110 of which were of iron, one of leather for the tournament and one of gilt iron with a border of silver embossed with gilded animals. The highly decorated kettle hat described in detail in the account is closely paralleled by the kettle hat excavated in the 1980s from the Musée du Louvre, Paris, which is likewise gilt and embossed with floral ornament, as well as being fitted with a crown of gilt latten fleurs-de-lis (figure 11).²⁰¹

¹⁹⁸ ‘Inventory of the Effects of Roger de Mortimer at Wigmore Castle and Abbey Herefordshire dated 15 Edward II, AD 1322’, ed. A. Way, *Archaeological Journal*, 15 (1858), 359.

¹⁹⁹ Oxford, Bodleian Library, MS 264; Southwick, ‘Great Helm’, 33–34, figs 24, 33, 63.

²⁰⁰ TNA, E 101/403/20, E 101/404/65 and E 101/405/4.

²⁰¹ M. Fleury, ‘La resurrection du casque brisé de Charles VI’, *Connaissance des Arts*, 439 (1988), 150–5.



Figure 11 Kettle hat with embossed and applied decoration excavated from the Louvre, Paris.

There were 249 bacinets, of which one had a visor, twenty-two for the tournament and 226 for war. Most bacinets in 1369 were 20s. without aventails, though the cheapest, allowing 3s. 4d. for an aventail would have been 13s. 11d., while the most expensive palets were 10s. and the majority 3s. 4d.²⁰²

In 1353 the Tower armoury contained 144 pairs of plates, in total, one riveted with silver rivets on red velvet, 18 covered in velvet, the rest with a variety of unspecified coverings. In the period of the same account, 1353–60, 156 more pairs of plates were made by the king's armourer, John of London, and other workmen within the Tower, at a total cost of £230. Thirty were covered in velvet and other silk cloths (samaka and tartaryn) of various colours with gilt rivets holding in the plates, at a price of 40s., while 114 were less expensively covered in white or black fustian at 26s. 8d, and twelve pairs were covered very cheaply with a double layer of hemp,

²⁰² TNA, E 101/395/1.

and had white (metal) rivets, at 13s. 4d each. The cheapest form listed in Rothwell's account therefore most probably had two layers of the usual lining fabric, while the more expensive types had inner layers of hemp but outer layers as described. These are the only additions to the plate armour at the Tower by purchase or manufacture during the period of the account. The seventeen quirres remained from Mildenhall's account.

In 1353 Rothwell received:

106 pairs of vambraces, 2 of iron with latten couters, 4 covered in cloth of Cologne, 6 of iron and 93 of leather,

57 pairs of rerebraces, 47 were of iron covered with cloth of various colours, 5 of uncovered iron, 7 of leather, 2 for the joust, one pair with couters and lunets painted with the old arms of England,

13 pairs of shoulder defences or spaudlers, 10 of them worn out,

240 pairs and a single cuisse, 13 of which were of iron, 2 covered in cloth of Cologne, 103 pairs and the single cuisse of leather and small plates covered in red leather, 12 pairs for the tournament of which 10 were worn out, one pair covered in cloth of gold and decorated with latten, one pair covered in red silk with the old arms of England,

228 pairs of poleyns and a singleton, 13 of iron, 2 covered in cloth of Cologne, 103 pairs and the single poleyn of leather and small plates covered in red leather, 12 pairs of leather for the tournament of which 9 were worn out, one pair covered in cloth of gold and decorated with latten, one pair covered in red silk with the old arms of England,

146 pairs of lower leg defences, 32 of iron, 2 covered in cloth of Cologne, 100 of leather and 12 pairs for the tournament, all worn out.

Of these one group was presumably personal harness of the king, comprising the rerebraces with couters, a pair of cuisses and poleyns covered in red samite with what Rothwell called the 'old' arms of England, gules, three lions passant guardant (or 'leopards') or, which from 1340 was quartered with the arms of France.²⁰³

²⁰³ The quartered arms were used by Queen Isabella from at least 1329, see M. Michael, 'The little land of England is preferred before the great kingdom of France: the quartering of the royal arms by Edward III', *Studies in Medieval Art and Architecture Presented to Peter Lasko*, ed. D. Buckton and T.A. Heslop (Stroud, 1994), 114–26; A. Ailes, 'Heraldry in medieval England: symbols of politics and propaganda', *History, Pageantry and Social Display in Medieval England*, ed. P.R. Coss and M.H. Keen (Woodbridge, 2003), 89–91.

Another distinct group was covered with cloth of Cologne, comprising four pairs of vambraces and two pairs of cuisses, poleyns and greaves, might have been covered by John of Cologne, the king's armourer, though they could also have been German imports.

A small group for the tournament comprised two pairs of rerebraces, the thirteen pairs of spaudlers (compare the spaudler of whalebone for the tourney in the de Nesle inventory of 1302), twelve pairs of cuisses, poleyns (all of leather)²⁰⁴ and lower leg defences, all worn out. The twelve pairs of waynpains are grouped with the other pieces of tournament armour, along with the three manifers. The former are gauntlets of some form, and the latter reinforcing gauntlets for the left hand for the joust. The gauntlets for war harness, *cerotheres*, were completely out of stock in 1353.

Substantial quantities of armour were returned to the Tower, in 1353 and 1359. The earlier return, from Hugh Lengynour²⁰⁵ at Calais on 26 July 1353, starts off with the king's personal armour, some parts decorated with the king's arms and accompanied by 'three armour boxes for packing the king's armour'. It comprised a bacinet with two visors, a great helm, two kettle hats, a pair of vambraces and rerebraces of iron, a pair of vambraces of leather with gilded couters, one pair of cuisses and poleyns of plates covered in green silk, another of mail covered in blue satin, a pair of greaves of black leather, and a pair of plates covered with the king's arms, together with a mail aventail, pisaine, pairs of paunces and sleeves and a pair of mail chausses.

Lengynour's return goes on to list substantial quantities of munition armour sent back to the Tower, including eighty bacinets, 105 great helms, old and damaged, fifty old kettle hats, eighty ordinary pairs of plates, three pairs of vambraces and

²⁰⁴ T. Richardson, 'An early poleyn', *Royal Armouries Yearbook*, 7 (2002), 9–10.

²⁰⁵ Keeper of the wardrobe at Calais, see Appendix of names s.v. Lengynour.

rerebraces of steel, 123 pairs of cuisses and poleyns, old and of no value, 300 pairs of gauntlets of plate, also old and of no value, sixty-two pairs of greaves of iron and leather, old and damaged, and 157 pairs of vambraces and rerebraces, old and of no value.

Further large quantities of armour were returned by Richard Carswell,²⁰⁶ on 27 August 1359. The indenture for one of these returns survives, and it is interesting to note the form of words in the introduction, ‘borrowed from William Rothwell clerk of the privy wardrobe of our lord the king in the Tower’.²⁰⁷ These included 123 ordinary pairs of plates, 123 bacinets and kettle hats of iron (forty-three bacinets, eighty kettle hats), eighty-nine pairs of gauntlets (*cerotheres*) of plate, and eighty-nine pairs of vambraces and rerebraces. It is particularly interesting to note the numbers associated with this return, which suggests sets of armours for a group of men-at-arms which at least belonged together even if they were not originally manufactured as armours.

The substantial purchases of armour recorded in the account of John Sleaford of 1369²⁰⁸ included large purchases of plate harness. 200 whole armours, each armour comprising a mail shirt, bacinet, aventail and pair of gauntlets (*cerotheres de plate*) were bought for 46s. 8d., 200 bacinets without mail aventails for 20s., 362 bacinets with aventails at 30s., and four lots of twenty-four bacinets with aventails were purchased for 24s., 22s., 19s. 11d. and 17s. 3d. Sixty-seven palets were bought for 10s. and 140 more for 3s. 4d., and 100 pairs of gauntlets at 5s. 6d. from Richard Glover,²⁰⁹ 140 pairs for 3s. 4d. and eighty-six pairs from John Salman²¹⁰ at 2s. 3d.

²⁰⁶ The king’s armourer, see Appendix of names.

²⁰⁷ ‘Avoir lieue a Willelmo de Rothwell clerico eisdem de la prive Garderobe de nostre seignor le Roi deinz la Tour’, TNA, E 101/393/9.

²⁰⁸ Keeper of the privy wardrobe 1365–70, see Appendix of names; TNA, E 101/395/1.

²⁰⁹ Armourer at the Tower, later king’s helmet maker, see Appendix of names.

Sleaford's third account²¹¹ of 1372–4 offers details of the manufacture of fine quality and highly expensive armour in England, and by named London armourers. John Crous²¹² was paid for three pairs of plate decorated with the arms of the king and of Thomas of Woodstock at £4 13s. 8d. each.²¹³ William Swynley the *galeator regis*²¹⁴ was paid for seven bacinets 'ordered by the king at his first visit to the Tower and remaining in store there' at 41s. 6d. each,²¹⁵ for a pair of leg harness and a bacinet for Thomas of Woodstock and another bacinet for Sir John Holland for a total of £6, for two pairs of plate gauntlets at 20s. each and a pair of vambraces and rerebraces at 46s.²¹⁶ Richard Stow, another London armourer, was paid for two pairs of leg harness 'bordered with bands of gilt latten' at £10 5s. each, for a pair of vambraces rerebraces with couters 'worked with bands of gilt latten' for the king at 53s. 4d., another set of arm defences of steel at 40s., with a pair of gauntlets of plate 'with gilt knuckles' at 26s. 8d., and for a bacinet for 40s. all for Thomas of Woodstock.²¹⁷

This group of pieces immediately call to mind the sets of plate harness preserved at Churburg with inscribed latten borders including the elements of armour

²¹⁰ Merchant, see Appendix of names.

²¹¹ TNA, E 101/397/10.

²¹² Armourer, otherwise unrecorded, see Appendix of names.

²¹³ Thomas of Woodstock was seventh son of Edward III, born in 1355 so aged between 16 and 18 when this armour was made for him, possibly for his marriage to Eleanor, daughter of Humphrey IX de Bohun, earl of Hereford and Essex, which is thought to have taken place in 1374. See *ODNB*, liv, 277–84, and for his emergence into the military elite at this time, Ormrod, *Edward III*, 563–4, 573–5; and Appendix of names.

²¹⁴ See Appendix of names.

²¹⁵ Edward's visit to the Tower in October 1369 appears to be his first under Sleaford's keepership of the privy wardrobe, and is presumably when these helmets were ordered. See Ormrod, *Edward III*, 627–9.

²¹⁶ Sir John Holland, first earl of Huntingdon and half brother of Richard II, was at this time a chamber knight in his early twenties. See Appendix of names.

²¹⁷ The legharness 'plumetez cum swages de latone deaurato', the couters 'operatis cum swages de latone', the gauntlets 'cum knokels deauratis'. See Appendix of names for further details on Edward III's seventh son.

no. 13 there (figure 12)²¹⁸ and, originally from the same collection, the Lyle bacinet in the Royal Armouries Leeds (figure 6),²¹⁹ perhaps the finest example of a bacinet to survive. These pieces have traditionally been dated about 1390.²²⁰ Other Italian writers have favoured earlier dates in the 1370s,²²¹ or even suggested they might have been commissioned in 1361 and 1366, the latter being the occasion of his marriage and assumption of the title count of Kirchberg.²²² The hitherto unknown details of royal armour with latten borders in England in the 1370s do lend support to Mario Scalini's earlier dating (though I have previously not supported it).²²³



Figure 12 Vambrace with latten borders, Italian, mid-late fourteenth century. Churburg, no. 13.

²¹⁸ Trapp and Mann, *Churburg*, no. 13.

²¹⁹ No. iv.470, given by Sir Archibald Lyle in memory of his two sons who were both killed at el Alamein in 1942.

²²⁰ Trapp and Mann, *Churburg*, no. 13; Blair, *European Armour*, 60–1; C. Paggiarino, *The Churburg Armoury* (Milan, 2006), 33–49, 280–1.

²²¹ L. Boccia, *Le armature di S. Maria delle Grazie di Curtatone di Mantova e l'armatura Lombarda del '400* (Busto Arsizio, 1982), 17, tav. 1.

²²² Scalini, *L'armeria Trapp*, 44–6.

²²³ Richardson, 'The introduction of plate armour', 41–2.

Sleaford's account of 1371–3 includes a list of the tools of the king's helmet maker at the Tower.²²⁴ These comprise two large anvils, a bicorn, a small stake with a 'corner', a 'steryngbicorn', a pair of tongs (*forcipium*), two pairs of bellows, a former (*furum*) of lead, a tonyrne, two pairs of pincers (*tenellorum*), and three large hammers.²²⁵

Sleaford's final account covering 1374–8 includes complete details of the equipping of the workshop of the king's armourer, in which office William Snell was appointed at the accession of Richard II in 1377, by order dated 17 July.²²⁶ Clearly the tools of the helmer's old office were included. The tools comprised two large and three small anvils, a small forge 'with two corners', two bickirons (*bicornes*, *bygornes*), a 'persyngforch' or 'parsyngstich', a 'steryngbigorne', two pairs of tongs (*paria forcipium*), a small grindstone (*molar*), two pairs of bellows, a block of lead (*furum de plumbo*), two 'tonyrones', two 'fourbyngformers' or 'folyngformers', five stakes of iron, twelve pairs of pincers (*tenellorum*), seven large or sledge hammers (*martellos*), four small hammers and one set of end cutters (*nayltol*) for riveting. Most of these were new, having formed part of a series of purchases from Adam Hackett of London and others.

This list augments two near contemporary published lists of tools in an armourer's workshop, both from Dover Castle, one of 1344 in Latin, the second of 1361 in French, and is extremely similar to the list of tools provided for Henry VIII's new armour workshop at the Palace at Greenwich in 1511.²²⁷

²²⁴ TNA, E 101/397/19.

²²⁵ For these armourers' tools, see T. Richardson, 'Armourers' tools in England', *Arms and Armour*, 9 (2012), 25–39, the paper given at the IMC, University of Leeds, in 2011.

²²⁶ TNA, E 101/398/1; see Appendix of names.

²²⁷ Richardson, 'Armourers' Tools', and T. Richardson, 'The Royal Armour Workshops at Greenwich', in G. Rimer, T. Richardson and J.P.D. Cooper, *Henry VIII: Arms and the Man 1509–2009* (Leeds, 2009), 148–54.

The account also lists very numerous issues, mainly of small numbers of items, to individuals, but no purchases or other acquisitions of armour. The receipt, however, for the first time lists greaves of leather²²⁸ as well as *tibiales* for lower leg defences, indicating that there was a difference between the two forms. No such leather greaves survive from the period, however, for comparison, but the form of the limb defences is fully illustrated in the brasses of the period, such as that of Ralph Knyveton from Aveley, Essex, about 1370. The issues, though many, do not form a standard pattern of issue to different types of soldier. One set of harness for the king released to the chamber in 1374 comprised two bacinets, two helms, three pallets, one aventail of steel mail, three pairs of leg harness, two pairs of vambraces and rerebraces and one pair of mail paunces and sleeves. The remainder are of odd pieces of harness, a bacinet and aventail, mail shirt and a pair of gauntlets, sometimes a fabric jack and a pair of gauntlets, often issued with a 'hachett' (pollaxe).

Throughout the remainder of the record, plate armour is scarcely mentioned. Clearly, however, the store continued to be maintained. In 1399 we find payment of 'wages of four workmen at 8d. per day for ten days' work mending and lining various bacinets, 26s. 8d. And for buckram, thistledown (*carde*) and thread purchased for the said lining, 10s.²²⁹ At least one such lining survives from the fourteenth century, in the armoury of Churburg (figure 13). The main work of the armoury moved on, into the provision of massive quantities of bows and quivers of arrows, which had from the very beginning been its main concern, and increasingly into the provision of more and more firearms, their accoutrements, ammunition and tools for their manufacture.

²²⁸ 'j pari greves de corio'.

²²⁹ TNA, E 101/403/20.



Figure 13 Bacinet with original lining and aventail from the armoury of Churburg, no. 13.

The holdings of plate armour at the Tower under the privy wardrobe follow very much the same pattern as those of mail. The types of knightly plate armour worn with the mail sleeves, paunces, aventails and pisanes are much in evidence in the 1330s and 40s, with pairs of plates, cuisses and poleyns, rerebraces, vambraces and gauntlets being passed from Fleet to Mildenhall in 1344 in large quantities, together with great helms, kettle hats and bacinets, smaller numbers of lower leg defences and sabatons, and other specialised elements of tournament armour. Much of this material, including all the tournament armour, remained in stock in the early 1350s, though there were considerable issues of armour throughout this period. Holdings of this type of armour reached a peak in 1360 following massive returns after the Poitiers campaign. Small numbers of pieces, such as the six great helms and

a few pairs of cuisses and poleyns remained in the armoury until the end of the fourteenth century.

From the 1360s onward all this type of armour gradually disappeared from the armoury, though it continued to procure knightly armour of high quality and price during the 1370s for members of the royal household. Emphasis in procurement and stock was transferred to plate defences for the ordinary soldier, and these follow the pattern of the mail shirts and aventails: bacinets reached a peak just over 1,000 in the late 1360s, fell to just over 100 in the late 1370s, and were restocked into the 800s in the 1380s, remaining at a substantial level until the end of the century. Palets and plate gauntlets followed essentially the same pattern, as did pairs of plates: the set of over 500 in the armoury by 1360 was rapidly reduced to just under fifty, restocked to just under 100 by the 1370s, and remained at that level, with just a little fluctuation for small issues and acquisitions, for the remainder of the century.

The continued retention of older plate armour in stock in the Tower armoury can be demonstrated by the consistent numbers in the receipts and remains recorded in the accounts, taken together with the evidence in the accounts for acquisitions and disposals, and show that many pieces of armour entered the armoury in the middle of the fourteenth century and remained in stock for the remainder of the century, finally to be disposed of early in the fifteenth century.

2.2 Shields

The inventories of the armoury at the Tower shed a considerable light on the kinds of shields used in England during the fourteenth century. The records from the 1340s onwards describe them in considerable detail. Three terms are found for shields in

the inventories: *scutum*, target or targe and pavise (spelt in various ways, usually *pavis* or *pavys*), all representing different types of shield. The *scuta* were the traditional knightly ‘flat-iron’ or ‘heater’ shaped shields.²³⁰ The targes or targets were circular shields or bucklers, usually associated with infantry. The pavises were large, rectangular shields, often stood on the ground and supported with a prop fitted to a leather loop inside the upper centre, and also associated with infantry.

	1353	1360	1362	1369	1374	1378	1381	1388	1396	1399	1406
shields	12	12	12	12	12	0	4	4	4	4	4
targets	52	114	149	109	101	92	82	82	82	82	82
pavises	1040	1308	1	1	53	54	1228	1228	868	1012	982

Table 5 Summary of shields in the armoury, from receipts and remains, illustrating a dip in holdings during the Peace of Brétigny.

Fleet’s account of the armoury of Edward II, received from the chamber clerk William of Langley in 1325, includes eleven knightly shields, as well as one old and broken circular targe, and among a parcel of the better armour are found four shields, one covered in red velvet with silver gilt leopards, another decorated with the arms of England in pearls, and a targe decorated with the arms of England.²³¹ This reference demonstrates that circular targes could, in fourteenth century, be used by men-at-arms and be decorated like knightly shields with their owners’ heraldry.

From 1338, with the assumption of responsibility for military supply for the war with France, Fleet handled a relatively small quantity of shields, thirty in total, and supplied no details about them other than that they were all issued.²³²

²³⁰ H. Nickel, *Der mittelalterliche Reiterschild des Abendlands*, (PhD thesis, Freie Universität Berlin, 1958); Blair, *European Armour*, 181–3.

²³¹ BL, Add. MS 60584, ff. 10v, 16r.

²³² BL, Add. MS 60584, ff. 43v, 44v, 46v.

Among the arms Robert Mildenhall inherited from John Fleet in 1344 were twelve of these shields: three of steel, one of orichalcum, three covered with iron plates with gilded leopards, one with gilded copper leopards on red velvet, and four of iron plates.²³³ All these remained in the armoury in 1351, and were passed on with the addition of one targe of steel painted with the king's arms quarterly and a large quantity of pavises, to William Rothwell in 1353. In the remain they are described in slightly more detail:

12 shields, 1 of steel with an inescutcheon of the arms of England, a border of silver, in its own case, 1 of copper with the old arms of England and red velvet, 3 with the same arms with gilded leopards, 2 of steel, 1 of latten plates and 3 covered with iron plates.²³⁴

At least five of these appear to be the personal shields of the king, all decorated with the arms of England, one of steel, one of copper and three with gilt leopards. No additional knightly shields were acquired in subsequent accounts. This is supportive of the idea that once plate armour was generally worn by men-at-arms fighting on foot on the battlefield, the knightly shield was no longer used, an idea supported by the disappearance of shields from monumental effigies and brasses after about 1340.²³⁵

The rump of the shields, four in number, survived into the early fifteenth century, though they were presumably thrown out in the fifteenth or early sixteenth

²³³ TNA, E 372/198, rot. 34, m. 1d, 'xij scutis quorum iij de astere, j de auricalco, iij coopertis de platis ferri cum leopardis deauratis, j cum leopardis de cupro deaurato de velveto rubeo et iiij de platis ferri, li targettis depictis de armis Regis'.

²³⁴ TNA, E 379/198, rot. 36, m. 1, 'xij scuta quorum j de astere cum uno scochone de armis Anglie in medio cum j bordura argenta de eisdem armis in uno coffro, j de cupro de veteribus armis Anglie et de velveto rubro, iij de eisdem armis cum leopardis deauratis, ij de astere, j de platis de latone et iij cooperta de platis ferreis.'

²³⁵ Compare Clayton, *Catalogue of Rubbings*, pl. 1–5.1, all before 1345, with pl. 5.2–7, all after 1345. For the idea that plate armour made the shield redundant, see C. Gravett, *Tewkesbury 1471: the Last Yorkist Victory* (London, 2003), 26; see Nickel et al., *The Art of Chivalry*, 18 for an alternative explanation, that plate arm defences impeded the holding of the shield.

century, as no trace of them appears on any of the post-medieval inventories of the Tower.

Only two examples of these shields survive from medieval England, that of Edward the Black Prince at Canterbury Cathedral and the rather later one of Henry V at Westminster Abbey.²³⁶ The only large group of these defences, sixteen in number ranging in date from the late thirteenth to the late fourteenth century, is from the Church of St Elizabeth in Marburg.²³⁷

The targes (or targets) were most probably circular shields in the fourteenth century, and certainly were such in the sixteenth and seventeenth centuries. In the inventory of 1324 sixty 'large targes painted with the king's arms, £24' (8s. each) were purchased for the Bordeaux campaign, and shipped to Gascony on *la Godyer*.²³⁸ Included in the indenture recording delivery of military supplies by John Fleet to Thomas Snetesham, clerk of the king's ships and barges, in 1337 were twelve targets newly painted with the king's arms.²³⁹ Fleet's account for this period records 457 targes, all issued.²⁴⁰

In 1344 Robert Mildenhall inherited from John Fleet fifty-one targes painted with the king's arms.²⁴¹ One more, also with the king's arms, was deposited by Sir Thomas Rokeby.²⁴² All fifty-two appear in the remain of the armoury under Mildenhall in 1353 and in Rothwell's receipt. Rothwell also received from Calais on 26 July 1353 two of the king's personal shields, both called targes, one of steel, the

²³⁶ D. Mills and J.G. Mann. *Edward, the Black Prince: a Short History and the Funeral Achievements* (Canterbury, 1975).

²³⁷ Nickel, *Reiterschild*; J. Kohlmorgen, *Der mittelalterliche Reiterschild, historische Entwicklung von 975–1350* (Alzey, 2002); http://wappenschild.com/html/original_engl.html.

²³⁸ TNA, E 101/17/6, 'lx magnis targiis de armis Regis depictis xxiiij li.'

²³⁹ TNA, E 101/388/1, 'xij targes qe sont depein de novel des arms le Roi'; BL, Add. MS 60584, f. 44v. For Snetesham, see Appendix of names.

²⁴⁰ BL, Add. MS 60584, ff. 43–4v, 47v.

²⁴¹ TNA, E 379/198, rot. 36, m. 1, 'lj targettas de armis Regis quartellatis, j targettam de astere eisdem armis.'

²⁴² See Appendix of names.

other with the king's arms, as well as 113 old targets and *taluas* or *talnas*, a term unknown, but evidently cognate with target in the 1350s. An additional 155 targets were deposited by Richard Carswell, the king's armourer,²⁴³ on 27 August 1360, but we have no detailed information about them. By 1362, in Henry Snaith's receipt, there were 149 targets, one of steel, two painted with the arms of the king quarterly. John Sleaford in 1365 received only forty-nine targets, the rest having evidently been issued or written off.

Until recently it was thought that pavises were scarcely used in medieval England, but the evidence of the Tower inventories, as well as other sources, suggests that they were in fact used extensively.²⁴⁴ In 1338–44 Fleet's issues of shields included sixty pavises, the earliest record of this type of shield in England.²⁴⁵ Though Robert Mildenhall inherited no pavises from Fleet in 1344, he received in 1351–3 from John of Cologne, the king's armourer, 1,040 pavises painted white with an inescutcheon of the king's arms surrounded by a garter in blue, and 100 large pavises of burnished silver gilt, with the king's arms in the centre of each under a garter, and one pavise with the king's arms quarterly from Sir Thomas Rokeby.²⁴⁶ A second group of these pavises which never came to the Tower but was issued directly to the fleet is described in Cologne's account, '1,358 pavises of board, covered in

²⁴³ See Appendix of names.

²⁴⁴ G. Wilson, 'Pavises in England', *Royal Armouries Yearbook* 2 (1997), 53–4 (I have subsequently shown that the pavises can be traced back to Mildenhall's account in the early 1350s); K. De Vries, 'The introduction and use of the pavise in the Hundred Years War', *Arms and Armour*, 4 (2007), 93–100.

²⁴⁵ BL, Add. MS 60584, ff. 43v, 44v.

²⁴⁶ TNA, E 379/198, rot. 36, m. 1, 'j pavis depictum de armis regis . . . nuper data regi per Thomam de Rokeby militem . . . m^lxl pavis alba cum j scochono de armis Regis quartellatis et in medio unum garterum ynde circa scuchono, et c pavis larga burnitta de argento deaurato cum uno scuchono de armis regis in medio cuiuslibet pavis infra unum garterum, recepta de Johanne de Colonia armatore regis'. For Rokeby see Appendix of names.

bronze, painted blue with an escutcheon of the arms of St George in the centre of each pavise,' issued to William Clewer, clerk of the king's ships.²⁴⁷

The presence of the symbol of the Order of the Garter on this group of pavises adds to our understanding of the role of the order in its earliest days. Juliet Vale has suggested that the garter could have been adopted as a symbol by Edward III as early as 1346, prior to the actual foundation of the order in 1348.²⁴⁸ The pavises in the privy wardrobe accounts show that the presence of garters on a ship's streamer, made by John of Cologne, was not a lone use of the order's symbol in that context, but that by the mid-1350s the king's ships were intended to be covered in the symbols of Edward III's new order of chivalry, as was the army, if the pavises were also intended for siege use.

All 1,040 of the white pavises were received by Rothwell, who provides further details about the special group of 100, which were 'large, with leaves of silver gilt and with an escutcheon with the arms of the king within a garter'. Only a few fourteenth-century pavises are known to survive, but on the many fifteenth-century examples the use of leaf motifs to form the ground is quite common.²⁴⁹ Rothwell also received from Calais in 1353 140 large pavises, old and worn out. There is no evidence in Rothwell's account for issues, but it is most probable that they were made for the fleet as a similar large number, 1,225, 'worn out pavises and

²⁴⁷ TNA, E 372/207, rot. 51, 'et in m^occlviiij pavisis de tabulis enniatis depictis colore ynde cum uno scuto de armis sancti Georgii in medio cuiuslibet paviso, liberatis Willelmo Clevare, clerico navium regis;' for Clevare, see Appendix of names. See Ormrod, *Edward III*, 329 for the issue of 367 streamers, in blue with the arms of St George, to William Clewer.

²⁴⁸ Vale, *Edward III and Chivalry*, 76–90, but Ormrod, *Edward III*, 303–4 suggests that the context might better refer to 1347.

²⁴⁹ V. Denkstein, 'Pavises of the Bohemian Type' *Sbornik Narodniko Muzea u Praze Acta*, 18 (1964), 104–97; recent unpublished research by P. de Gryse of the Koninklijk Museum van het Leger, Brussels, has identified a group of large pavises of the fourteenth century in the collections there.

targets for use on ships' appeared in the Tower in 1381.²⁵⁰ Clearly they were all issued, as only one was recorded in the receipt by Henry Snaith in 1360.²⁵¹

By the account of John Sleaford of 1372–4 only the twelve *scuta* remained, but sixty-six new targes of horn, at 13s. 4d. each, were bought from Godefrid Sadeler of London, and from Robert Joigner 113 long pavises painted with the arms of St George at 3s. 4d. each.²⁵² Most of these were evidently issued, as the second account of John Sleaford of 1372–4 lists only three pavises and ninety-two of the targets of horn. In 1377 Sleaford's third account records fifty-four more targets, bought at 10d. each from Peter Joigner.²⁵³ The large number of pavises recorded earlier in the accounts reappeared in 1381, where in addition to the three pavises and now eighty-two horn targets.²⁵⁴ These remained in the armoury until the end of Hatton's administration, and many remained on the books in 1396.²⁵⁵

The account of John Lowick of 1399 provides fascinating detail about the manufacture of 500 pavises in the Tower.²⁵⁶ Twenty workmen were employed at 6d. a day for sixty days, sixteen for forty days and ten for twenty days, a total of 2,040 man-days and cost of £51 (just over 2s. per pavise). Timber for the pavises cost £34 (about 1s. 5d. per pavise), and wages of Thomas Littleton, the king's painter,²⁵⁷ for painting them with designs of deer and suns cost a further £83 6s. 8d. (exactly 3s. 4d. per shield), a total of £168 6s. 8d., or 6s. 9d. per pavise.

The figures given above record the remain at the end of the account, but vastly more passed through the Tower during the year. At the start there were 1,448

²⁵⁰ TNA, E 101/400/14, E 101/400/16 and E 101/400/22.

²⁵¹ TNA, E 101/394/2.

²⁵² TNA, E 101/397/10. See Appendix of names for these makers.

²⁵³ TNA, E 101/397/19.

²⁵⁴ TNA, E 101/400/14, E 101/400/16, and E 101/400/22.

²⁵⁵ TNA, E 101/403/8.

²⁵⁶ TNA, E 101/403/20.

²⁵⁷ See Appendix of names.

of the pavises and targets, including the 500 newly made ones. Of the former, thirty-six were disposed of as ‘rotten and of no value’, and of the latter 200 went with Richard II to Ireland and 300 to Dublin Castle. In 1404 the small group of steel shields, four in number, which reached the Tower before 1381, are still present, along with the bulk of the pavises and targets for ships and the fixed group of horn targets.²⁵⁸

The account of John Norbury for 1404–6 provides more details about the movement of these shields, and reinforces the impression that they were all connected with ships; thirty-six pavises were returned to the Tower by William atte Wood, master of the *Holy Ghost*.²⁵⁹

The accounts reinforce the conventional understanding that the manufacture and use of military knightly shields had virtually ceased by the middle of the century, but show that circular shields for the field, the targes, were made and issued in small numbers throughout the period of the privy wardrobe, and that pavises, unexpectedly, were made and issued in very large quantities from 1351 onwards.

The holdings of shields in the Tower armoury show a similar pattern to that of mail and plate armour; a group of twelve knightly shields including at least one personal shield of Edward III was deposited in 1344 in the armoury, and remained there unissued until the 1370s, when their number reduced to four. This set of four remained in the armoury for the remainder of the administration of the privy wardrobe. The targets of the ordinary soldier reached a maximum holding of 149 in the early 1360s, fell gradually until the mid 1370s when they were restocked, but

²⁵⁸ Account of John Norbury, 1404–6, TNA, E 101/404/25.

²⁵⁹ TNA, E 101/404/25 ‘Recepta diversarum rerum de Willelmo atte Wode magistro cuiusdam navis regis vocate Le Holygost’ and E 101/405/4, indenture from John Norbury to Henry Somer, 1406. See Appendix of names for atte Wood.

never substantially issued, so stocks remained at the same level for the remainder of the period of the privy wardrobe. Pavises, by contrast, show a much more active role: huge quantities returned after the Poitiers campaign were disposed of in the early 1360s, brought back up to a high level of stock by the late 1370s, then retained at a high level, just below 1,000, for the remainder of the period of the privy wardrobe, with substantial issues and acquisitions during the period.

2.3 Equestrian equipment

The period of the privy wardrobe in the Tower saw a decline in the importance of the warhorse to the English men-at-arms, on the battlefield at least. The tactics of the English armies that fought in the wars against Scotland and France changed in the fourteenth century from conventional knightly forces, relying on the shock of impact of the charge by mounted knights with infantry in a supporting role, to a new system in which men-at-arms fought on foot in support of infantry longbowmen.²⁶⁰ Men-at-

²⁶⁰ The 'English system' established by the English armies in the 1330s and used throughout the Hundred Years War, in which the men-at-arms fought dismounted alongside the infantry longbowmen, is well discussed in the literature of the military history of the period, in J.E. Morris, 'Mounted infantry in medieval warfare', *Transactions of the Royal Historical Society*, 8 (1914), 791–2; C. Oman, *A History of the Art of War in the Middle Ages*, 2 vols (London, 1924), ii, 103–7; F. Lot, *L'art militaire et les armées au moyen âge en Europe et dans le Proche-Orient*, 2 vols (Paris, 1946), i, 328–9; J.F. Verbruggen, *The Art of Warfare in Western Europe during the Middle Ages, from the Eighth Century to 1340* (2nd ed., Woodbridge, 1997), 107–8; K. De Vries, *Infantry Warfare in the Early Fourteenth Century* (Woodbridge, 1996), 113–15, 121–5, 142, 163; Prestwich, *Armies and Warfare*, 317–20; C.J. Rogers, 'The age of the Hundred Years War', *Medieval Warfare: A History*, ed. M. Keen (Oxford, 1999), 136–60; A. Ayton, 'Arms, armour and horses', *ibid.*, 186–208; M. Bennett, J. Bradbury, K. De Vries, I. Dickie and P. Jestice, *Fighting Techniques of the Medieval World AD 500–AD 1500* (Staplehurst, 2005), 123–4.

Most of these writers take the transition as absolute: the English armies learned from the defeat at Bannockburn in 1314 to fight with their men-at-arms dismounted in combination with archers, and the armies triumphed in this way at Dupplin Moor and Halidon Hill over the Scots in 1332–3, and at Crécy, Poitiers and Agincourt over the French. Prestwich, however, is the only one to note a significant early variant: in 1327, for Edward III's campaign against the Scots, the English cavalry were instructed to come prepared to fight on foot, but for the battle (which the Scots refused) 'the initial plan, indeed, was for the order of battle to consist of three large divisions or battles on foot, each with two wings of mounted troops' (Prestwich, *Armies and Warfare*, 318).

The retention of a mounted reserve in an otherwise dismounted army, appears again in 1339, when the French army refused battle at Buirenofosse near Cambrai. As Prestwich records, 'our lord the king got off his charger and made all his men dismount, and he arrayed his army, the archers to the

arms still rode to battle and were still capable of fighting on horseback. They continued to practise these skills, especially in the tournament, in which mounted single combats with lances, called jousts, and mock battles on horseback, called tournaments or tourneys, were the main events.²⁶¹ Evidence for military equestrian equipment of this period, either in published documentary sources or the survival of artefacts, is scant, but the privy wardrobe accounts provide an important source of information about it.

The assemblage of munitions for the expedition to Gascony at the Tower in 1324 contained little in the way of equestrian equipment. Robert Pippishull's account included 9,300 horseshoes, purchased for a total of £43 13s. 4d. (just over 1d. each), and 101,500 horseshoe nails to go with them, at £14 3s. 2d. (about 3½d. per hundred).²⁶² Horseshoes of the period are well recorded in the archaeology of London and in the collection of the London Museum. A small group of horseshoes, all found together in East Watergate, bear stamped marks of a cross of St George, and it has been suggested that these may represent shoes supplied by the wardrobe.²⁶³ The type to which these belong appeared about 1330, and became the predominant

side of the men-at-arms' (*Armies and Warfare*, 319, translating *Oeuvres de Froissart*, ed. K. de Lettenhove, 25 vols (Brussels, 1867–77), xviii, 90). Froissart, however, provides in his detailed description of the English deployment that they were organised into three battles, all on foot, had sent their horses and their harness to a small wood at their rear, but brought the baggage carts out in front of their line to strengthen it. There were about 6,000 men-at-arms and 6,000 archers. Additionally there was another battle under the earl of Warwick, which remained mounted in order to reinforce the battles when they were under pressure, and comprised about 3,000 men-at-arms (*Chroniques de Froissart*, ed. S. Luce, 15 vols (Paris, 1869–1975), i, 177–9).

At least in the early phase of the Hundred Years War there is, therefore, evidence of an intention of the English army to use some of its men-at arms on horseback, which may account for the strong presence of horse armour in the Tower armoury in the early period of the War.

²⁶¹ C. Gravett, 'Tournament courses', *Ridderlek och tornerspel*, ed. L. Rangstrom (Stockholm, 1992), 334–6; R. Barber and J. Barker, *Tournaments* (Woodbridge, 1989), 32–7.

²⁶² TNA, E 101/17/6. For a summary of the brief campaign, see Sumption, *Trial by Battle*, 91–6.

Pippishull was surveyor of works at York, the Palace of Westminster and the Tower of London, see Appendix of names.

²⁶³ J. Clark, *The Medieval Horse and its Equipment* (London, 1995), 75–123, which includes a discussion of the East Watergate group on p. 91; the site is part of Baynard's Castle, on Lower Thames Street near Blackfriars.

type for the rest of the fourteenth century. An earlier type of shoe is more likely to correspond from the ceramic dating to the period of Pippishull's account. These were pierced with seven or eight nail holes, and the proportions of nails to shoes in Pippishull's account suggests a supply of 30 per cent over the minimum requirement of nails.

In 1330 John Haddon's receipt of the Tower armoury from Sir John Cromwell included no equestrian equipment at all,²⁶⁴ and none was included in the delivery of arms and armour by John Fleet to Thomas Snetesham in 1340, unsurprisingly as this issue was for the fleet.²⁶⁵

Fleet's full account records a small amount of horse armour, probably for the king and court's use in tourney, in the receipt from William Langley at the start of his administration of royal arms and armour in 1325, comprising sixteen horse trappers or mantlets and head stalls, six head defences of plate or shaffrons, and one pair of plate defences for the side of the horse called flanchards.²⁶⁶

Fleet's account for 1338–43 records an extensive issue of horse trappings and other equestrian equipment. Alongside fifty-nine shaffrons, seven head stalls, eighty-eight trappers, fourteen trappers of a different form called 'treppes', a pair of eye defences, fifty-four saddles and seventy-three crests, and sets of complete horse trappings, of which twenty-four were received into the armoury and issued.²⁶⁷ Each of these complete horse 'hernesia' were issued with a shaffron and crest to members

²⁶⁴ TNA, E 101/36/7. Sir John Cromwell was constable of the Tower 1327–32, John Haddon his lieutenant. See Appendix of names for both.

²⁶⁵ TNA, E 101/388/1. Fleet was keeper of the privy wardrobe at the Tower 1338–43, Snetesham clerk of the king's ships and barges. The issues were witnessed by Sir John Molyns and Nicholas Buckland, auditors of the privy wardrobe. See Appendix of names for all four.

²⁶⁶ BL, Add. MS 60584, f. 13r, 'de mantelettis xvj, de testeris xvj . . . de chenfrenis vj. de flanchers j par'.

²⁶⁷ BL, Add. MS 60584, ff. 48v–51v, the issues comprising 'de chanfreynis xxxj, de hernisiis intergris pro equis xxiiij, de cooperturis pro equis iii^{xx} viij, de treppes pro equis xij, de crestis pro equis xxvj, de sellis l'. The 'ocularis' we know from a later account to have been made of gilt copper.

of the nobility such as the earls of Warwick, Arundel and Suffolk as well as the auditor, Sir John Molyns.²⁶⁸ Details of these ‘hernesia’ are lacking, and as they were received and issued within the period of the account amplifying details cannot be found later. The issue to Henry of Grosmont included a pair of horse ‘coverings’ and a shaffron of steel plate, the only detail in this issue on the materials from which the armour was constructed, and the only certainly identifiable piece of horse armour in the group.²⁶⁹ A detail in Mildenhall’s second account for 1351–3 suggests this may actually have been a horse armour of mail with a steel shaffron (see below, p. 97).

²⁶⁸ Thomas Beauchamp, Richard Fitzalan and Robert Ufford respectively, see Appendix of names.

²⁶⁹ BL, Add. MS 60584, f. 50v, ‘Henrico comiti Derby j par cooperturum pro equis cum j chanfreyne de plate de astere’.

	1344	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
saddles	14	24	34								8	
saddle trees	3	3	3									
trappers			1									
breast bands	1	1	1									
cruppers	42	57	57	57	57	57	57	57	57	57	57	
testers	20	21	21	22	25	24	25	25	25	25	33	
mantlets	1	1			1	1	1	1	1	1	1	
shaffrons	28	35	35	3	3	3	3	3	3	3	4	
picers	60	66	66	66	66	66	66	66	66	66	74	8
haunchers	21	49	49	49	49	47	47	48	49	49	49	
flanchards		6	6	6	6	6	6	6	6	6	6	
glasners	30	30	32	30		30	16	16	14	8?	8	
pairs oculars		4	4									
pairs auriculars		1	1									
crinals		4	4									
mail pieces					9	9	9	9	9	9	9	9

Table 6 Summary of equestrian equipment in the armoury from the remains and receipts, showing the retention of redundant material associated with the equipping of men-at-arms during the first phase of the war.

The account of Robert Mildenhall for 1344–51 includes in the armoury after the death of John Fleet in 1344 a significant collection of equestrian equipment, this time described in detail.²⁷⁰ This comprised:

- 2 highly decorated saddles decorated with the arms of France and other ornament,
- 12 saddles for the tournament,
- 3 wooden saddle trees from Brussels,
- 1 set of reins,

²⁷⁰ TNA, E 372/198, rot. 34, m. 1d: 'ij sellis operatis de ymageris de armis Francie et aliis diversis operacionibus et xij sellis pro torniamento, iij lignis pro sellis de Brussell', j freno, j pattrello ponderato de camprenollis de auricalco, ij peciis de fretcorde pro cooperturis equorum, xxxiiij cproparis de fret de corde coopertis de panno rubio, xx testaris de fret corde quorum j testar et j cpropar coopertum de velveto et residuum de fustano albo, j testar et j mantelletto de platis de cornu coopertis de cindone viridi poudratis de armis Johannis de Moleyns, xxviiij chanfrefreyns quorum j cum picero et cproparo de platis de corio, ij de corio depicto cum consimilis picero et cproparo de corio de setta, j cooperto de velveto rubio et j de velveto viridi garnitato de cupro deaurato et aymellato, j de corio depicto cum j capite domicelle, j de corio nigro ligato cum cupro deaurato, j de velveto rubio cooperto garnitato cum capite leopardis de cupro deaurato, et xij de vastone de una setta, iij cum cropero et crinero et iij sine cropero et crinero, xxxiiij piceris coopertis de panno rubio, ij hanchers, xv piceris de quirboillo, xiiij glasneris, viij paribus de piceris hancheris et glasneris de armis predicti Johannis de Moleyns depictis, j picero et j hanchero de velveto rubio de armis Angl' broditis cum ij parvis peciis de eadem setta et j picero et ij hancheris de velveto rubio et glauco'. Mildenhall was keeper of the privy wardrobe 1344–53, see Appendix of names.

1 breast band covered with ornaments of orichalcum,
 2 pieces of 'fretted cord' for a caparison or trapper,
 34 cruppers (coverings for the hind quarters of the horse), of fretted cord covered in red fabric,
 20 testers (or head stalls), 1 with a matching crupper covered in velvet, the rest with white fabric,
 1 head stall and a 'mantlet' of horn plates covered in green velvet powdered with the arms of Sir John Molyns,²⁷¹
 28 shaffrons or head defences for a horse, 1 with a peytral and crupper of leather plates, 2 of painted leather with a matching peytral and crupper in a set, 1 covered with red velvet, 1 covered with green velvet decorated with enamelled and gilded copper, 1 of leather painted with the head of a young lady, 1 of black leather bound with gilded copper, 1 of red velvet decorated with a gilt copper leopard's head,²⁷² and 12 from Gascony in a set, 4 with crinets and cruppers,
 34 peytrals covered with red fabric,
 2 'haunchers',
 15 peytrals of hardened leather,
 14 'glasners',
 8 pairs of peytrals, haunchers and glasners painted with the Molyns arms,
 1 peytral and hauncher of red velvet embroidered with the old arms of England²⁷³ with 2 small pieces from the same set,
 1 peytral and 2 haunchers of red and blue velvet.

More was received from Caen: two horse trappings, one of silk powdered with escutcheons of the Molyns arms, the other of jazerant mail with two pieces of mail for its repair.²⁷⁴

The two highly decorated saddles were issued in 1345, and described in the particulars of the issue in further detail. One, worked with images and the arms of

²⁷¹ Paly wavy of six, or and gules, illustrated on the memorial brass of Sir William Molyns of 1425 in the church of St Giles, Stoke Poges, Buckinghamshire. For Sir John Molyns see Appendix of names.

²⁷² See C. Shenton, 'Edward III and the symbol of the leopard' in P.R. Cross (ed.), *Heraldry, Pageantry and Social Display in Medieval England* (Woodbridge, 2002), 70–1 for the introduction of the leopard as a badge of the armies of Edward I and for their use by Edward III from the 1340s.

²⁷³ Gules, three lions passant or; the quartering with the French royal arms began in 1340.

²⁷⁴ 'ij cooperturis pro equis quorum j de cindone viridi poudrata de scuchonis de armis Johannis de Molyns et alterum de maille iasserant cum iij peciis de maille pro emandatione eiusdem'. Jazerant, a form of mail enclosed in textile, is discussed in detail under mail armour in chapter 2.1.

France, was given to John de Montfort.²⁷⁵ The other, covered with fretted silver gilt with the arms of France, was given to Bartholomew Burghersh.²⁷⁶ The reins were given to Sir Guy Brian,²⁷⁷ and one of the saddle trees to Walter Whithors²⁷⁸ also in 1345. The two pieces of fretted cord forming a horse trapper together with a peytral and hauncher of hardened leather and a shaffron of plates ‘in the Gascon style’ were given to Sir Nigel Loring also in 1345.²⁷⁹ All these gifts, given in the year before the Crécy campaign, were to significant soldiers, either of the king’s own army or, in the case of de Montfort, to a political ally.

The horse trapper of green silk powdered with the arms of Molyns was issued to the king’s armourer, John of Cologne, possibly for its original owner to use again in the Crécy campaign.²⁸⁰ The remain comprised:

- 12 saddles,
- 3 saddle trees,
- a breast band,
- 34 cruppers,
- 21 head stalls with cruppers and one plate mantlet,
- 26 shaffrons,
- 34 peytrals,
- 14 picers of hardened leather,
- a hauncher,
- 8 pairs of peytrals, haunchers and glasners painted with the Molyns arms,
- a peytral and hauncher of red velvet with the arms of England,
- 14 glasners,
- a peytral and hauncher of red and blue velvet.

²⁷⁵ Duke of Brittany, see Appendix of names.

²⁷⁶ Senior, brother of Henry, Bishop of Lincoln, master of the Black Prince’s household 1341–7, fought at Crécy in 1346 in the king’s division, see Appendix of names.

²⁷⁷ The king’s standard bearer at Crécy in 1346 see Appendix of names.

²⁷⁸ King’s yeoman and later esquire, keeper of the waters of Foss at York 1343–57, see Appendix of names s. v. Whithors.

²⁷⁹ Nigel or Neil Loring, was not at Crécy in 1346, but was in the King’s retinue at Calais 1347 and was one of the founder knights of the Order of the Garter in 1348, see Appendix of names.

²⁸⁰ King’s armourer 1329–54, see Appendix of names.

Almost the same list is reiterated at the start of the armour section of Mildenhall's account of 1351–3.²⁸¹ The peytrals are now listed as a group totalling 66, including the fourteen of hardened leather, one of red velvet with the arms of England, sixteen (eight pairs) with the Molyns' arms, the one covered in red and blue velvet and thirty-four 'of various makes' which were described as covered in red fabric in 1344. From Thomas Petersfield,²⁸² was transferred a batch of miscellaneous armour, mostly for the tournament, including twelve saddles for the tournament, two cruppers, nine shaffrons, one of them of steel (*de astere*), a peytral of Italian mail (*j pectoral de maille de Lumbard*) and a matching mantlet of mail with a border of copper links, sixteen pairs of haunchers, six flanchers of red velvet embroidered with the old arms of England, nine pieces of worn out mail from horse bards (*coopertura equorum*). The shaffron of steel, peytral of Italian mail and mail mantlet were issued to Henry of Grosmont, via John of Cologne on 1 July 1352, authorised by writ of 3 November 1353, between the duke's return from the Prussian Crusade in April 1352 and his departure for Paris in September.²⁸³ One detail of this issue, the steel shaffron, is identical to the issue of a horse armour to Henry of Grosmont in 1338, and it may be that this describes the same horse armour, returned to the Tower then reissued to the same nobleman.

In understanding this fascinating group of harness we are handicapped by an almost complete lack of knowledge. Almost no other account of equestrian equipment survives in this detail for the period, and though the identification of some of the pieces such as the shaffrons, testers, picers and flanchers is clear from a later

²⁸¹ TNA, E 372/198, rot. 36, m. 1.

²⁸² Valet of the king's arms at the Tower under John Fleet, see Appendix of names.

²⁸³ Duke of Lancaster, see Appendix of names s.v. Grosmont.

period when the same terminology was in use, that of the others, such as the haunchers and glasners, is quite obscure.

The ‘testers’, translated here as ‘head stalls’, were textile coverings for the horses’ heads, illustrated in many manuscripts from the middle of the thirteenth century, and found in other inventories, such as that of Eudes, count of Nevers, dated 1266, ‘ij testières de cheval’.²⁸⁴

The shaffrons, from the later usage of the word, and from the fact that three are of leather and one of steel, were evidently pieces of armour for the horse’s head.²⁸⁵ Evidence for head defences for horses goes back to the thirteenth century. Illustrations start to appear in manuscripts, such as the *Roman arthurien* in the Bibliothèque Nationale, Paris.²⁸⁶ They also appear in inventories, first in the context of the tournament: thirty-eight leather head defences for horses were made for the Windsor tournament of 1278, along with the same number of leather defences which have been read as cruppers, but which I suspect were in fact peytrals.²⁸⁷ As seventeen of the leather breastplates or *quirres* most probably made for the same tournament appear in the Tower, it seems perfectly possible that the hardened leather peytrals and some of the leather shaffrons preserved in the Tower in the fourteenth century might date back to the same event.

The earliest illustrations of plate defences for horses, mostly in leather but also, as far as one can tell from the depictions, in iron and latten, are in the *Romance of Alexander* of 1338–44 in the Bodleian Library, Oxford. Here plate shaffrons in

²⁸⁴ ‘Inventaire et compte de la succession d’Eudes, comte de Nevers’, ed. M. Chazand, *Mémoires de la Société Nationale des Antiquaires de France*, 4th series, 2 (1871), 192. See Appendix of names s.v. Eudes.

²⁸⁵ For armour of hardened leather, see M. Beabey and T. Richardson, ‘Hardened leather armour’, *Royal Armouries Yearbook*, 2 (1997), 64–71.

²⁸⁶ Bibliothèque Nationale, Paris, MS Français 95, ff. 230v, 235r, 239r.

²⁸⁷ ‘Copy of a roll of purchases’, ed. Lyons, 297–310.

various colours, with cut-outs for the eyes and ears, and short crinets protecting the neck, are often paired with similar moulded plate peytrals, worn with or without fabric trappers over the top.²⁸⁸ One shaffron of iron or steel survives from this period, probably from the very late fourteenth century, the shaffron from Warwick Castle, now in the collection of the Royal Armouries (no. VI.446).²⁸⁹ A plate shaffron of just this type is depicted with a mail horse armour on an ivory figure of a knight from a chess set, probably of about 1370 judging by the rider's armour, and this also gives a good impression of the mail mantlet and trapper described in the inventories.²⁹⁰ Indeed the trappings for the rear of the horse are divided into three, one at either side and one beneath the tail at the rear, rather than the single component normally illustrated, perhaps reflecting the *glasner* and *haunchers* of the accounts.

Mail trappers are illustrated rarely, but several were illustrated in the frescoes of about 1267 in the Painted Chamber at Westminster, recorded by Stothard prior to their destruction by fire.²⁹¹ A mail horse armour appears in the de Nesle inventory of 1302, 'unes couverture de fer a cheval' valued at £5.²⁹² The inventory of William III, count of Hainault, of 1358 shows that mail horse armours were still current, and that bards of plates were also available, 'item ij paires de couvertures de chevas de fier de mailles de une paire de couvertures de fier de plates'.²⁹³ Indeed, as the count was

²⁸⁸ Oxford, Bodleian Library, MS Bodl. 264, f. 43v, in iron and red leather; f. 59r, in red leather and iron; f. 60r, in leather (presumably) painted with the rider's heraldry; f. 67v, one in red, one in pink, with heraldic trappers over; f. 78r in iron and pink leather; f. 82r, in pink and red leather and in iron; f. 84v, in iron and red leather; f. 101v, in four jousting scenes, in pink and red leather and in iron and latten.

²⁸⁹ I. Eaves and T. Richardson, 'The Warwick shaffron', *Journal of the Arms and Armour Society*, 14 (September 1987), 217–22.

²⁹⁰ Eaves and Richardson, 'Warwick shaffron', pl. 76; S.W. Pyhrr, D.J. LaRocca and D.H. Breiding, *The Armoured Horse in Europe 1480–1620* (New York, 2005), 30–31, no. 1.

²⁹¹ J.G. Rokewode, *An Account of the Painted Chamber in the Royal Palace at Westminster* (London, 1842), pl. xxxi, xxxvii, engraved from drawings by C.A. Stothard; P. Binski, *The Painted Chamber at Westminster* (London, 1986), 46.

²⁹² 'A knight's armour of the early XIV century', ed. Kelly, 457–69.

²⁹³ 'L'inventaire de Guillaume comte de Hainaut', ed. de Preme de la Nieppe.

the son-in-law of Henry of Grosmont, it is conceivable that these might include the mail bard given to the latter in 1352 (and perhaps in 1338) from the Tower armoury.

Other terms in the list that are relatively clear are ‘picers’, breast defences (French *picières*, peytrals in later armour terminology) or breast bands (but patteredell and pectoral appear to mean the same thing), and cruppers, in later horse armour the plate defences for the hind quarters of the horse, but here some form of harness around the horse’s tail. The terms that remain obscure in the accounts are glasners, haunchers and, to an extent, flanchers. The last appear cognate with the later term flanchard, which described a piece of armour designed to protect the side of the horse below the saddle. Haunchers were clearly for the haunches or hind portions of the horse. The crupper, a post-medieval term for the defence of the whole hindquarters of the horse, was certainly part of the harness for the rear of the horse, and though the word’s precise meaning in the mid-fourteenth century is uncertain where details are provided it is always used in these accounts of horse trappings rather than armour. No crupper is associated in the list with a glasner or hauncher, though cruppers are regularly associated with peytrals and shaffrons, also showing that the same part of the horse was covered by the glasners and haunchers as by the crupper. It is likely that the hauncher covered the top of the horse’s rump and the glasners the sides.

Most of this gear was horse harness, though some armour was included. The set of thirty-four cruppers and peytrals of cord net covered in red fabric, and the nineteen head stalls and cruppers covered in white fustian, along with the green velvet head stall and crupper embroidered with the English arms were clearly decorative harness.

The horse harness is organised in the inventories by type, which probably reflected the way in which it was stored, as like pieces tend to require the same type

of shelving. Separate sets can, however, be identified within the jumble. Of the group decorated with the Molyns arms, eight sets of peytral, hauncher and glasner can be found, and the peytrals and glasners from these sets are among the pieces that survive in the armoury until the end of the century.

Slightly less clear is a set and parts of several other sets which presumably belonged to the king, comprising the leather shaffron covered in red velvet with the gilded leopards' heads, the leather peytral also covered with red velvet and embroidered with the old English arms, as well as one hauncher, three more peytrals and six flanchards decorated in the same way. The character of this group is illustrated by the textile fragments preserved in the Musée National du Moyen Age in the Hotel de Cluny, Paris (no. CL20367), thought to have formed part of a horse-trapping of Edward III. Two pieces remain, of red velvet embroidered with silver, silver gilt and coloured silk thread, set with pearls and glass cabochons, each with the three leopards of England on a ground of scrolling vines. The fragments were preserved at the convent of Altenberg on the Lahne as the robe of Saint Elizabeth of Thuringia until 1802, and it has been speculated that the caparison could have been deposited there following the visit of Edward III to the Emperor Ludwig, at Coblenz in 1338.²⁹⁴ Indeed the Cluny fragments could easily be part of the group recorded at the Tower, separated before or after 1338.

The shaffron belonging to this group is one of the three that survive to the end of the century; the flanchards from the group also survive. The other two fine shaffrons, again probably those of the king, are the two covered in red velvet and in green velvet with enamelled fittings, and these too survive to the end of the century.

²⁹⁴ Alexander and Binski, *The Age of Chivalry*, 202, no. 12.

No saddle of this exact period is known to survive. The closest in date to the saddles in the privy wardrobe accounts is that of Henry V, preserved at Westminster Abbey. Probably datable to the early fifteenth century, it takes the form of a wooden tree formed of two sides joined by iron brackets and nails to a wooden bow at the front and cantle at the rear. At either side are rectangular iron loops for the girth strap, and at the front and rear of either side pierced studs with or without their original loops for the attachment of breast bands and cruppers. Contemporary illustrations of saddles, such as the very many illustrated in the *Romance of Alexander* of 1338–44, show little difference from this form.²⁹⁵ The precise distinction, however, between saddles for the tournament and those for war, noted in the accounts, is now unknown. Certainly another form of saddle of the early fifteenth century is preserved in larger numbers. Highly decorated in carved bone or ivory set on to the wooden frame, and ornamented with imagery associated with the Hungarian Order of the Dragon, these saddles may be dated to the period of Sigismund, Holy Roman Emperor, and one of these, now in the Royal Armouries collection (no. VI.95), may have been presented to King Henry V and thus be contemporary with the Westminster saddle.²⁹⁶ If these saddles are correctly associated with jousts ‘of war’ in which the object was to unhorse the opponent and for which a saddle without a cantle (or arçon, the upstanding element behind the rider’s seat, corresponding with the bow, the upstanding element at the front) was required, as it certainly was in the fifteenth century, then the saddles for the joust at the Tower might have been of this type. That there was a difference between saddles

²⁹⁵ Oxford, Bodleian Library, MS Bodl. 264, f. 75v, on a riderless horse where King Porus has been unhorsed by Alexander, and *passim* with riders.

²⁹⁶ M. Vero, ‘Bemerkungen zu den Beinsätteln aus der Sigismundzeit’, in *Sigismundus Rex et Imperator* ed I. Takács (Budapest, 2006), 270–8, 356–63; K. Watts, ‘Une selle médiévale d’Europe centrale au Royal Armouries’, *Cahiers d’études et de recherches du Musée de l’Armée*, 6 (2005–6), 47–64.

for the joust, for the tourney and for war is attested by the inventory of William III, count of Hainault, of 1358.²⁹⁷

Mildenhall's transfer to William Rothwell on 9 May 1353 contains a few further amplifying details. The saddles transferred by Thomas Petersfield in 1351–2 in fact included eight for the joust (*pro hastiludo*), two for the tournament and two for war. The three saddle trees from Brussels were by now old and rotten. The single breast band was worn out, but it was hung with little bells.²⁹⁸ Nineteen cruppers had appeared, of fretted cord covered with white fustian, during Mildenhall's second account, without provenance. The velvet-covered crupper and tester of 1344 can be identified as those covered with green velvet and embroidered with the arms of England in Mildenhall's second remain. The mantlet covered in green silk with the Molyns arms is described as of leather plates rather than horn plates (a detail not obvious by observation alone, especially as the plates were covered in fabric). The twenty-seven shaffrons increased to thirty-five, with the addition of nine from Thomas Petersfield and the issue of one, the steel shaffron given to Henry of Grosmont. The iron one was by now worn out, as were the set of eighteen from Gascony; as this set was described in Mildenhall's receipt of 1344 as of twelve, presumably seven of those deposited by Thomas Petersfield formed part of it. The peytrals remained unchanged, but the haunchers increased to twenty-three pairs, by the sixteen pairs deposited by Thomas Petersfield in 1351–3, the account recording that these were of hardened leather, a detail not previously mentioned. Six additional flanchards, of red velvet bordered with the old arms of England, were also deposited

²⁹⁷ 'L'inventaire de Guillame Comte de Hainault' ed. Prella de la Nieppe; see Appendix of names s.v. William III.

²⁹⁸ In Mildenhall's account 'j pattrello ponderato de camprenollis de auricalco', in Rothwell's account 'j patterellum debile ponderatum cum parvis campanis'. For Rothwell, keeper of the privy wardrobe 1353–60, see Appendix of names.

by Thomas Petersfield and included in the remain of 1353. The eight pairs of glasners with the Molyns arms were included in the remain, along with the fourteen original glasners from 1344.²⁹⁹

Included in tournament gear received from Mildenhall were four pairs of eye defences (*ocularis*) for horses, of gilt copper, and one set of ear defences (*auricularis*), and in the group of (human) leg defences were included four crinets for the necks of horses, of fretted cord. The eye defences are probably the same as those recorded by Fleet in 1338 (see above, p. 92).

On 27 August 1359 Richard Carswell³⁰⁰ returned a bard of Italian mail and head stall of jazerant. Whether these were the same as the mail bard issued to Henry of Grosmont in 1352 or the jazerant bard received by Mildenhall from the town of Caen in the 1340s, or both, is debatable; the details do not match either exactly. The head stall of jazerant is crossed off the summary of receipt in the same account, presumably because it was immediately reissued. A complete horse-trapping of fretted cord covered in red fabric was found in the wardrobe formerly under the care of Thomas Petersfield, along with one peytral, one flanchard and two glasners.³⁰¹

There are no issues or remain in Rothwell's account, but the same essential list appears in Henry Snaith's receipt, with significant omissions.³⁰²

66 cruppers, 34 of them of fretted cord covered in red fabric, 19 of fretted cord covered with white fustian, 1 of fretted cord covered with green velvet (with no mention of the old arms of England embroidered in gold) and 3 of leather plates, for the first time described as painted with various designs,

22 head stalls, all but 1 of fretted cord covered in white fabric, the other covered in green velvet,

²⁹⁹ TNA, E 101/392/14, edited in chapter 3.2 below.

³⁰⁰ Valet of the king's armour 1353–60, see Appendix of names.

³⁰¹ Valet of the king's arms 1345–53, see Appendix of names.

³⁰² TNA, E 101/394/2. For Snaith, keeper of the privy wardrobe 1360–65, see Appendix of names.

3 shaffrons, 1 covered in red velvet, 1 in green velvet decorated with enamelled and gilt copper, the third covered in red velvet decorated with a leopard's head in gilt copper, 66 peytrals, 32 of fretted cord covered in red fabric, 18 of hardened leather, 8 decorated with the Molyns arms, 1 of leather covered in red velvet embroidered in gold with the old arms of England, 1 of red silk over leather plates, 24 and a half pairs of haunchers, 16 pairs of hardened leather, 8 pairs painted with the Molyns arms, 1 of leather covered in red velvet embroidered in gold with the old arms of England, with 2 small pieces of the same set, 6 flanchards of red velvet embroidered with the old arms of England, 8 glasners with the Molyns arms and 14 more.

The old saddles, saddle trees, complete trapper, breast band, almost all the shaffrons, the oculars and auriculars have all gone. No more pieces of equestrian equipment were received from elsewhere, and none were issued.

Snaith's second account of 1362–4 includes among a group of miscellaneous pieces of armour two head stalls and a mantlet and head stall for a horse of red ray skin (*j mantellete et unum tester pro uno equo de rubreo ray cordele*) together with two pieces of mail from a horse armour, and under the mail section, nine pieces for mail from horse armours.³⁰³ The latter became established in a set of pieces which remain together in the armoury for the rest of the century.

In John Sleaford's first account for 1364–9 we find:

57 cruppers,
24 head stalls,
the ray skin mantlet,
3 shaffrons,
66 peytrals,
24 and a half pairs of haunchers,
6 flanchards,
8 pairs and 14 single glasners ,
9 pieces of mail.³⁰⁴

³⁰³ TNA, E 101/394/14.

³⁰⁴ TNA, E 101/395/1. For John Sleaford, keeper of the privy wardrobe 1365–70, see Appendix of names.

In Sleaford's third account for 1373–5 we find the same list.³⁰⁵ In his accounts for 1375–8, however, though the same list appears, there are two subtle additions.³⁰⁶ The three shaffrons (here *channfreyns*) are of leather and by now of no value, and the peytrals are all specifically for the tournament. The same list is passed on to John Hatfield, received in his account of 1378–81.³⁰⁷ The head stalls disappear from the list of items issued to John Hermesthorp, but reappear in the indenture of his receipt.³⁰⁸ The same list features in the indenture to Ranulph Hatton of 1382.³⁰⁹

In the indenture to John Lowick of 1396 almost the same list survives, though the last fourteen single glasners disappear and the eight pairs of glasners become eight singletons.³¹⁰ In his account for 1399 various details are altered. The twenty-four head stalls become thirty-two, the three shaffrons become four and the peytrals become seventy-four.³¹¹ There is no evidence in the account that any additional pieces actually entered the Tower. It seems most probable that either the list became garbled owing to misreading, or that the objects themselves became confused. It is, for example, possible that the fourteen lost glasners were counted among the extra eight peytrals and eight head stalls. Despite the disposals of old and useless stores, almost all the horse equipment survived; the same list (including the changes) was issued to John Norbury. His account for 1403–5, however, records the final demise of the long-preserved equestrian collection.³¹² Only the nine pieces of mail horse

³⁰⁵ TNA, E 101/397/10.

³⁰⁶ TNA, E 101/397/19, E 101/398/1.

³⁰⁷ TNA, E 101/400/10. For Hatfield, keeper of the privy wardrobe 1378–81, see Appendix of names.

³⁰⁸ TNA, E 101/400/14. For Hermesthorp, keeper of the privy wardrobe 1381–2, see Appendix of names.

³⁰⁹ TNA, E 101/400/16. For Hatton, keeper of the privy wardrobe 1382–96, see Appendix of names.

³¹⁰ TNA, E 101/403/8. For Lowick, keeper of the privy wardrobe 1396–9, see Appendix of names.

³¹¹ TNA, E 101/403/20.

³¹² TNA, E 101/404/25. For Norbury, keeper of the privy wardrobe 1399–1405, see Appendix of names.

armour and eight peytrals for the tournament survived to be handed over to Henry Somer and the last privy wardrobe account.³¹³

Though the picture the accounts paint of equestrian equipment in the fourteenth century is by no means completely clear, it provides a unique insight an otherwise highly obscure area of study. The rarity of metallic horse armour is striking, and it is likely that such defences were always a considerable rarity. Only one complete horse armour of mail with a steel head defence is found in the accounts, that issued (possibly twice) to Henry of Grosmont. In addition a set of fragments of mail horse armour were returned in 1351, and remained in store through the entire period of the privy wardrobe. Another mail neck defence for horse had a brief stay in the armoury. More horse armour was made of hardened leather, and the accounts detail nearly eighteen sets of such peytrals and haunchers. The sets of textile horse trappings issued in the 1330s and the larger numbers of such trappings in the armour in the 1340s and 1350s indicate the more usual equipment of the noble warhorse in the early phase of the Hundred Years War.

The pattern of holdings of equestrian equipment in the armoury follows almost exactly that of knightly plate armour, but occurs a decade earlier. Most of the holdings of this material, the cruppers, testers, picers, haunchers and shaffrons, had been deposited in the armoury by 1344. A few additional pieces were deposited in the early 1350s, but after 1360 the armoury retained the horse armour and trappings it had, issued none, and gradually wrote off its stock, most probably as the material decayed with time and became useless. The simple fact that the armoury handled no more such gear is indicative not only of the changing role of the armoury but also of the role of the cavalry in the armies of Edward III, as armoured, close combat

³¹³ E 101/405/4. For Somer, keeper of the privy wardrobe 1405–7, see Appendix of names.

infantry who rode to battle rather than as mounted troops, and the evidence of the privy wardrobe indicates that this change had occurred by the outbreak of the Hundred Years War. Despite this, the armoury seems reluctant to dispose of such material: the relatively large and intact holdings of cruppers, picers and haunchers were kept complete until the end of the fourteenth century, perhaps in the hope of a return to warfare of a more chivalric kind.

2.4 Archery equipment and other non-gunpowder missile weapons

The longbow, the characteristic weapon of English armies of the period, and its accessories are the dominant feature of this section, it covers the full range of medieval missile weapons. The other weapons, as the inventories demonstrate, are connected with the siege and defence of ships and fortifications rather than battle in the open field. Great crossbows and their torsion cousins the springalds are present at the start, and continue to the very end despite the introduction of increasing numbers of firearms. Crossbows, scarcely regarded as an English weapon, also feature throughout the accounts.

2.4.1 Springalds and other large engines

Until the publication of Liebel's study springalds were a particularly obscure corner of arms and armour studies, but since then they have become moderately well understood, as bolt-shooting siege engines powered, like ancient Hellenistic and Roman bolt-shooters, with torsion skeins rather than flexible bows.³¹⁴ One of the clearest illustrations of a fourteenth-century springald is the frequently reproduced marginal illustration to a *Romance of Alexander* of 1338–44 in the Bodleian Library,

³¹⁴ J. Liebel, *Springalds and Great Crossbows* (Leeds, 1998); P. Purton, 'The myth of the mangonel: torsion artillery in the Middle Ages', *Arms and Armour*, 3 (2006), 79–90.

Oxford.³¹⁵

On 17 December 1324 an order was sent by Edward II to the sheriff of Nottingham for the provision of nine springalds, five for quarrels of the length of $\frac{3}{4}$ of a yard including heads (27 inches), four for quarrels of $\frac{5}{8}$ of a yard (22.5 inches), and 1,000 quarrels, half of 27 inches and half 22.5 inches in length, to be delivered at Hull. The same was sent to the sheriffs of York for nine springalds and 1,000 quarrels, Lincoln for six springalds, three of each size, and 1,000 quarrels. Warwick was ordered to deliver six springalds, three of each size, and 500 quarrels, to be delivered to the Tower of London, while London was to deliver twenty springalds, ten of each size, and 2,500 quarrels, likewise half and half, also delivered to the Tower. On 18 December an order was issued to Richard de la Pole at Hull³¹⁶ to receive the same springalds from York, Lincoln and Nottingham, as well as four springalds and 300 quarrels from Richard Moseley, constable of Conisbrough Castle, and six springalds and 700 quarrels from Thomas Deyville, constable of Pontefract Castle.³¹⁷ These were then shipped off to Bordeaux.³¹⁸ This is the first detailed reference to two springald sizes, for 27-inch and 22.5-inch quarrels.

The construction of the set of springalds at the Tower is recorded in the account of Robert Pippishull for 1324–6.³¹⁹ For their manufacture he purchased the necessary timbers, hemp and hair rope, forty-two nuts (*nucēs*) and 121 rollers (*tredella*) of bronze and copper, together with 500 quarrels (*garrota*) for them, 9,952

³¹⁵ Oxford, Bodleian Library, MS Bodl. 264, f. 201r, reproduced in Liebel, *Springalds*, 5, fig. 1 and front cover.

³¹⁶ Collector of customs at Hull, see Appendix of names.

³¹⁷ See Appendix of names for both.

³¹⁸ For the military context, see *The War of Saint-Sardos (1323–1325): Gascon Correspondence and Diplomatic Documents*, ed. P. Chaplais (Camden Society, 3rd series, lxxxvii, 1954); details about the springalds in *CCR 1323–7*, 246–8; *CPR 1324–7*, 60–1, 80; and discussed in T. Richardson, ‘Springald Sizes in 14th-Century England’, in *ICOMAM 50: Papers on Arms and Military History 1957–2007* ed. R.D. Smith, (Leeds, 2007), 326–31.

³¹⁹ TNA, E 101/17/6, and Richardson, ‘Springald sizes’. Pippishull was surveyor of works at the Tower, see Appendix of names.

quarrel shafts fletched with copper (*hasta garrotis cupro pennata*), 12,448 unfletched shafts, all without heads (*pennandis cum cupreis pennis*), and 1,295 heads for springald quarrels (*capita garrotis*). In 1324 out of forty-two springalds, twenty-five fully equipped and seventeen incomplete (*cum paratis* and *non in toto paratis*), twenty were issued from the Tower, two to John Columbus³²⁰ at Calais, the remaining eighteen to Bordeaux. In 1325 four springalds were issued to John Ordemer, keeper of Dover Castle, and sixteen springalds with 8,950 quarrels, 219 shafts and ninety-six quarrel heads were issued to John Weston, constable of the Tower, for its defence.³²¹

Of the four springalds sent to Dover in 1325, three were still there in 1344 (*ij springaldas magnas cum toto atilio preter cordas*), and their number had increased to nine in 1365 (*noefs espringales bonz et convenables dount ij groses*).³²²

In 1330 John Haddon's receipt of the Tower armoury from John Cromwell³²³ includes nine of the springalds, 'in various turrets of the castle', all provided with wooden covers (*covertures de borde*) and one old springald in the 'high Tower', presumably the White Tower, for all of which there were 301 quarrels fletched with latten for the 'larger sort', 1,439 quarrels of 'three sorts' with latten fletchings and 366 more having only fifty heads.³²⁴ The 'three sorts' presumably refer to sizes, and echo the division of the springalds ordered in 1324 into $\frac{3}{4}$ yard and $\frac{5}{8}$ yard types. In addition there were two stone throwing engines, supplied with eighteen 'iron apples' (*feres pommes*) for them to throw. One of them was a 'great' engine, with a large rope, while they shared five rope hawsers and two rope 'reins' (*frenis*).

³²⁰ See Appendix of names.

³²¹ See Appendix of names for both.

³²² 'Accounts of the constables of the castle of Dover', ed. A. Way, *Archaeological Journal*, 11 (1854), 31–8.

³²³ Lieutenant and constable of the Tower respectively, see Appendix of names.

³²⁴ TNA, E 101/36/7.

Fleet's account for 1338–44 records a total receipt of forty-eight springalds.³²⁵ Of these, only eleven are recorded as issued, five to the fleet and six to Southampton.³²⁶ According to the remain in Fleet's account thirty-seven were left in the armoury.³²⁷ Seven of the springalds were manufactured in the Tower, and Fleet includes a few details of their components, which included eight cartloads of wood, brought from Enfield Forest, 13 lb of hair, 2 lb of wax and seven nuts of latten.³²⁸

Remarkably, no springalds at all appear in the accounts of Robert Mildenhall, but two stone-throwing engines were delivered to the armoury by the receiver of the chamber, Thomas Hatfield in 1344;³²⁹ they were dismantled and taken in boats to be loaded onto ships in the pool of London for transport to Calais.³³⁰

Ordered early in 1345 were 100 small engines called ribalds (*centum minutis ingeniis vocatis ribaldis*).³³¹ For these, wooden boards and other timber, axles, wheels, nails, lances with steel heads, ropes and other components were assembled at the Tower. The engines cost £118 9s. 3d. in total, including the wages of carpenters for their construction, just over £1 3s. 8d. each.³³² Tout identified these ribalds as a form of organ gun, taken to France in time for the siege of Calais but probably not in time for the battle of Crécy, and considered that 'the copious details given by Mildenhall confirm the many other texts which prove that [these] *ribaudequins* were groups of small cannon or "bombards", of which each unit was capable of being fired

³²⁵ BL, Add. MS 60584, f. 48v.

³²⁶ BL, Add. MS 60584, f. 51v, issues ff. 48v–50v.

³²⁷ BL, Add. MS 60584, f. 48v.

³²⁸ BL, Add. MS 60584, f. 47r.

³²⁹ See Appendix of names.

³³⁰ TNA, E 372/198, rot. 34, m. 2.

³³¹ TNA, E 372/198, rot. 34, m. 2.

³³² The addition of the nine separate subventions from the exchequer for these gives a total of £138 19s. 7d.

all together or in rapid succession'.³³³ A.V.B. Norman correctly pointed out Tout's error in presuming that guns were mounted on these engines, producing evidence for similar *ribaudes* at Bruges as early as 1303, before the accepted date for the introduction of firearms into Europe, and demonstrating that such engines need not incorporate guns.³³⁴ The most recent accounts of the battle of Crécy continue erroneously to associate the guns and ribalds.³³⁵ Mildenhall's account furnishes an additional and previously unremarked detail, that there were a total of 1,000 lances incorporated into their construction (ten each): it is clear therefore that they were wheeled carts, made of wood and fitted with ten spears each lashed on with rope. The account does include details of guns, but these clearly did not form part of the ribalds.³³⁶

	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
springalds		12	4	4	11	7	5	7	5	5	2
springald quarrels			1000	600		500	325	635	244	243	
springald quarrel heads					120	120	100	800	800	565	560
springald shafts						460	309	409	407	408	
springald strings								2	2	2	2

Table 7 Summary of springalds in the armoury, from receipts and remains, showing the gradual diminution of the role of springalds during the second half of the century.

In Rothwell's account of 1353–60, twelve springalds appear, under repair, presumably from the sixteen issued to John Weston in 1325, or made new by the

³³³ T.F. Tout, 'Firearms in England in the fourteenth century', *EHR*, 26 (1911), 670–3, 688–91, also discussed in detail in 'Extracts from the Pipe Roll of the Exchequer, 27 Edw. III (AD 1353), relating to the early use of guns and gunpowder in the English army', ed. J. Burtt, *Archaeologia*, 19 (1862), 68–75. Tout calculated a total of £124 18s. 4d. for them.

³³⁴ A.V.B. Norman, 'Notes on some early representations of guns and on ribaudekins', *Journal of the Arms and Armour Society*, 8 (July 1975), 234–7; Nick was unaware that the details in Mildenhall's account shows that no guns were mounted on them.

³³⁵ Sumption, *Trial by Battle*, 528; A. Ayton and P. Preston, *The Battle of Crécy, 1346* (Woodbridge, 2005), 173.

³³⁶ See chapter 2.6 on firearms, below.

king's artillerer, John Byker.³³⁷ There were 4,650 quarrels for them fletched with bronze (*ere*) and plated with iron at 13s. 4d. a hundred, and 3,166 fletched with goose feathers at 3s. per hundred, made by a group of contractors who were also employed in the Tower to make crossbow quarrels, John Dabell, Peter Vanacre, Walter van de Lane and John Mountelbergh.³³⁸ For the torsion cords and strings of the springalds and crossbows Byker obtained 1 lb of hemp rope at 8d. per lb and 100 lb of horsehair at 3d. per lb. The garrison of Guernsey was issued with eight of the springalds, four of the larger size (27 in.), four of the smaller 22.5 in. size, in 1360.³³⁹

Snaith's first account of 1360–2 includes the remaining four springalds in its receipt, and two of these, strangely, are described as composite (*de cornu*). It is possible that the meaning of the term was changing with time, and was being applied by 1360 to great crossbows. Only 1,000 quarrels remained for them.³⁴⁰ In Sleaford's first account for 1364–9 the number of springalds remained at four (distinct in the receipt and remain from the seven great composite crossbows) and the quantity of heavy quarrels for them, fletched with copper and shod with iron, fell to 600.³⁴¹ The number of springalds increased to eleven in the early 1370s. Two springalds and one 'savage' crossbow were made in the Tower by the king's carpenter, William Herland,³⁴² for £4 16s. 7d., and five large springalds at 100s. and one small one at 53s. 4d. were purchased from Stephen Ward of London.³⁴³ Ribalds reappear in this

³³⁷ See Appendix of names.

³³⁸ See Appendix of names for all these quarrel makers (though none is recorded outside this account).

³³⁹ TNA, E 372/206, rot. 53.

³⁴⁰ TNA, E 101/394/2.

³⁴¹ TNA, E 101/395/1.

³⁴² See Appendix of names.

³⁴³ TNA, E 101/397/10; Ward is otherwise unrecorded, see Appendix of names.

account, where six pairs of large wheels for mantlets (*mantilettis*) and three pairs for ‘Rybaudes’ at a total of £11 were purchased for the king’s voyage to France.

Sleaford’s final account for 1374–8 includes the purchase of 1,460 springald quarrels, 1,000 with heads.³⁴⁴ Most of these came from John Patyn, a fletcher who also supplied arrows, with heads at 2d. each, as shafts only at 13s. 4d. per hundred.³⁴⁵ The large issue to Calais ordered on 18 December 1375 included four springalds (called ‘great’ springalds in the more detailed account) with 500 quarrels. At the end of Sleaford’s keepership seven worn out springalds, 460 quarrels for them, fletched with tin but without heads, 120 heads and 500 more quarrels with heads remained in the armoury.

Hatfield’s brief keepership from 1378–81 records the issue of two of the remaining springalds from the Tower to Sir Robert Ashton, keeper of Portchester Castle together with 150 quarrels for them.³⁴⁶ The theft of arms from the Tower in July 1381 included twenty-five quarrels for springalds and fifty-one fletched shafts for springald quarrels.³⁴⁷

Hatton’s keepership of 1381–8 records extensive acquisitions and issues from the armoury, though there was little further of springald interest, though 350 large springald quarrels were purchased and two new cords of horse hair for springalds were acquired.³⁴⁸ One of these ‘great springalds’ was sent to Berwick together with 400 springald shafts fletched with tin. The other was sent to Portchester Castle. Hatton’s third account for 1393–6 records the remaining five springalds from the

³⁴⁴ TNA, E 101/398/1, with more detail in E 101/397/19.

³⁴⁵ A well-recorded London fletcher, see Appendix of names.

³⁴⁶ The mutilated TNA, E 101/400/10. For Ashton, see Appendix of names.

³⁴⁷ Tout, *Chapters*, iv, 461; Tout incorrectly has ‘springaldshattes’.

³⁴⁸ TNA, E 101/400/22; the acquisition of two new springalds actually seems to be just for new strings.

previous account.³⁴⁹ The same five, together with 800 quarrel heads for springald shafts, 408 large springald quarrels, fletched with tin but without heads and the two new springald strings remained in the armoury after Hatton's death.³⁵⁰

The same five springalds and two strings remained after John Lowick's keepership. The springalds were by this time of little enough importance that 235 heads for springald quarrels could be used in the manufacture of short lances for the king's expedition to Ireland (*ob defectu capitorum lancearum*), showing the similarity in size between the heads fitted to short lances and those fitted to springald quarrels, a point otherwise unattested.

Norbury's account of 1404–6 records the receipt and remain of just two springalds, 408 headless quarrels and 560 springald quarrels heads (two of the latter were issued or otherwise expended, oddly, though no details are given).³⁵¹

Though there were many springalds in the Tower they did not come under the administration of the privy wardrobe until 1353. Their number was reduced early in the 1360s: there is every likelihood that they were over twenty years old in poor condition by that time. However, their number was then stabilised, and rose to eleven before dwindling to two by the end of the administration of the privy wardrobe. Unlike the old stocks of knightly armour, however, which merely remained on the books of the privy wardrobe, the springalds continued to be maintained in working order, and were continually supplied with new quarrels in large quantities. They could be issued for the defence of castles, too, as the issue to Portchester in the late 1370s demonstrates.

³⁴⁹ TNA, E 101/402/14.

³⁵⁰ Also listed in the indenture TNA, E 101/403/8.

³⁵¹ TNA, E 101/404/25.

2.4.2 Crossbows

	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
crossbows	152	329	231	231	289	137	77	245	125	101	150
crossbow bows			16								
crossbow staves			200	200	200						
crossbow stirrups		18	18	17	18						
baldricks	12		13		82	13	13	133	55	49	20
vices		11	3	2	1	1	1	1	1	1	1
hancepes		14			5	5	4	49	23	19	15
crossbow quarrels		8816	9600	1645	32244	4760	22100	39700	9300	9000	2100
quarrel shafts				2000	2000	13950					10000
quarrel heads								39928	25500	24600	9700
crossbow strings											164
crossbows, large	33		7	7							

Table 8 Summary of crossbows in the armoury, from receipts and remains, showing how crossbows remained of continuing importance throughout period of the privy wardrobe.

The only missile weapons of any note included in the armoury of Edward II, received by John Fleet from William Langley in 1325, were some crossbows and related equipment:

- 9 'one-foot' crossbows of one foot with 4 strings and one false string between them,
- 5 'two-foot' crossbows of two feet with 2 strings,
- 1,500 quarrels fletched with hawk feathers,
- 6 baldricks of which 4 old and damaged.³⁵²

These may have been deposited in the Tower, and added to, as in 1330 John Haddon's receipt of the Tower armoury from Cromwell includes:

- 11 'one-foot' composite crossbows,
- 7 'two-foot'³⁵³ crossbows of wood,
- 4 one-foot composite crossbows and one of wood with screw mechanisms (*a viz*)
- 40 one-foot crossbows of wood (one with a damaged bow),
- 71 baldricks, missing two hooks (*faillant deux crochetz*),
- 27,000 quarrels for one-foot crossbows in 27 buckets,
- 4,000 quarrels for two-foot crossbows in 8 buckets,
- 14,000 quarrels for two-foot crossbows in 23 buckets,
- 4,500 quarrels for one-foot crossbows in five buckets,

³⁵² BL, Add. MS 60584, f. 13r.

³⁵³ The meaning of these terms is discussed at length below.

3,300 quarrels for screw-crossbows ‘of various sets’ fletched with hawk feathers,
 one bow for a great crossbow, old and lacking bowstring and tiller,
 2 old screw winders for the crossbows *a viz.*³⁵⁴

The issue of arms by John Fleet to Thomas Snetesham, clerk of the king’s ships in 1340³⁵⁵ included in addition to the mixed quarrels for springalds and two-foot crossbows noted above:

6 composite crossbows of unspecified size,
 6 buckets of quarrels for one-foot crossbows,
 62 crossbows, two of two-foot size,
 32 crossbows in another batch, two of them screw crossbows, two of two-foot size, the remainder of one-foot size,
 16 crossbows in a third batch, two of two-foot size, the rest one-foot,
 5 further crossbows with composite bows, of one-foot size,
 120 baldricks of white leather,
 one *hancepes*.³⁵⁶

The armoury under John Fleet during the early years of the War handled many more crossbows than these, however. Fleet’s account records a total receipt of:

841 crossbows,
 513 baldricks,
 3 hancepes,
 30 crokets for hancepes,
 73,360 quarrels.³⁵⁷

Of these, a very substantial proportion were issued, mostly to Thomas Snetesham for the fleet:

687 crossbows,
 370 baldricks,
 2 hancepes,
 30 crokets for hancepes,
 72,448 quarrels.³⁵⁸

³⁵⁴ TNA, E 101/36/7.

³⁵⁵ TNA, E 101/388/1; Tout, *Chapters*, iv, 208, 446.

³⁵⁶ TNA, E 101/388/1. The possible identification of the *hancepes* is discussed below.

³⁵⁷ BL, Add. MS 60584, f. 48v.

According to the remain in Fleet's account there were left in the armoury only:

254 crossbows,
916 quarrels.³⁵⁹

The term *hancepes* is uncertain, as it is not found in any other account of fourteenth-century crossbows. It certainly represents one of the relatively new spanning mechanisms which allowed more powerful bows to be used in crossbows at this time, which may, in turn, have been the main factor in the introduction of plate armour to the battlefield.³⁶⁰ Previously belt hooks were used for spanning crossbows, and these are present as the 'baldricks' in Fleet's account. The newer mechanisms comprised the windlass, cranequin, goat's foot lever and screw-winder (or vice), all of which appear in the late thirteenth or fourteenth century, and continue throughout the history of the crossbow.³⁶¹ Fleet provided a brief gloss on the term, which was evidently so well known as to require no explanation: 'leather bought for making crokets, for securing the hancepes for spanning crossbows'.³⁶² Crokets are presumably hooks, though why they should be of leather is unclear; at any event, they do not reappear after this account. The hancepes cannot be screw-winders, which appear alongside them later in the accounts (as *vicz*, see below, p. 123). Of the other three, cranequins are not recorded before 1373, so seem unlikely here. Windlasses, cord and pulley mechanisms attached to the butt of the crossbow's tiller, with a hook attached to the bowstring, should be visible in the accounts as contemporary illustrations show them in general use by the middle of the fourteenth

³⁵⁸ BL, Add. MS 60584, f. 51v, issues ff. 48v–50v.

³⁵⁹ BL, Add. MS 60584, f. 48v.

³⁶⁰ Richardson, 'The introduction of plate armour', 42–3.

³⁶¹ See G. Wilson, *European Crossbows: a Survey by Joseph Alm* (London, 1994), 22; W.F. Patterson, *A Guide to the Crossbow* (London, 1990), 38; R. Payne Galway, *The Crossbow* (London, 1903), 60.

³⁶² BL, Add. MS 60584, f. 47r

century. The other type, the gaffle or goat's foot lever, exists in two forms, the push-lever and pull-lever. Of these the push-lever type seems to be the oldest. It comprises a lever with a hook at one end, which fits into the stirrup of the crossbow, and a second lever pivoted to it near its mid-point, ending in a double hook for the bowstring: pulling back the first lever pushed the bowstring back until it engages on the nut. The name hancepes may possibly suggest goat's hind leg and foot, and if this identification is correct, the privy wardrobe accounts give new evidence for the widespread use of the gaffle on English crossbows in the middle of the fourteenth century.

According to his account, Mildenhall inherited from Fleet only 24 composite crossbows and 40 wooden ones, helpfully described as of yew wood (*de taxo*), but unhelpfully not noting whether they were one- or two-foot. Indeed the distinction seems to fall into desuetude after 1344. From Thomas Hatfield he received a further:

95 crossbows,
 162 baldricks,
 10 hancepes,
 25,093 quarrels and 300 iron quarrel heads in 4 coffer.

Mildenhall's account records in great detail the manufacture of forty composite crossbows at the Tower, from:

40 bowstaves,
 40 staves for the tillers,
 12 lb of sinew for the composite bows,
 20 lb fish for glue,
 20 lb coarse twine,
 40 pairs of stirrups,
 50 nuts for the tillers,
 12 pairs of hooks, clasps and rings for the baldricks,
 120 nails called 'somernailes' for the tillers,
 4 lb varnish, one horse hide,
 100 horns for the composite bows,

4 lb wax,
 100 'botes' for the tillers,
 3 pieces of baleen,
 2 bronze pans for heating the fish for glue,
 1 skin,
 600 small tacks and nails,
 6 pairs of 'paces' of white cow horn for the tillers,
 2 dogfish-skins,
 bronze for the 'braels'³⁶³ of the tillers,
 parchment for covering the bows,
 2 chests.

All these materials cost £20 15s. 4d., just over 10s. 4d. per crossbow. They were ordered by the king on 10 June 1345. 12,000 steeled quarrel heads were purchased from Katherine, wife of Walter the king's painter at the Tower³⁶⁴ for £53 6s. 8d, and for these heads six pieces of ash wood were purchased for the quarrel shafts, 700 hawks' wings for the fletchings, 3 lb fish for glue, together with sixteen boards and 300 nails to make six coffers for the shafts, plus the wages of a carpenter and other workmen to make the shafts, polish the heads and glue them to the shafts, an additional £58 12s. 2d., a total of 2¼d. per quarrel.³⁶⁵

The same account also contains very full details of the issues of these weapons. Especially interesting is the series of gifts, each of a crossbow and baldrick, to a group of nobles and men-at-arms, Prince Edward, William de Bohun, Thomas Beauchamp, Sir John de Lisle, Robert lord Morley, Sir John Dymoke,³⁶⁶ and yeomen, including William de la Dale, keeper of Carisbrooke Castle, Thomas Colley, lieutenant at Hull, John Godfrey, keeper of Windsor Park, and William

³⁶³ The term is not found elsewhere, and presumably refers to metal bands fitted round the tillers to reinforce the wood where it was hollowed out for the release mechanism.

³⁶⁴ See Appendix of names s.v. Stockwell.

³⁶⁵ Expenses in TNA, E 372/198, rot. 34, m. 1.

³⁶⁶ See Appendix of names s.v. Edward of Woodstock, Bohun, de Lisle, Morley and Dymoke.

Husborne.³⁶⁷ These most probably were among the forty crossbows made new at the Tower during his keepership, as were the six crossbows and baldricks given to Sir John Darcy.³⁶⁸ The large set of crossbows was issued again to Thomas Rolleston, clerk of the chamber,³⁶⁹ of eighty-five crossbows with baldricks and the 25,093 quarrels in their coffers, by order dated 18 June 1345.

The distinction between one- and two-foot crossbows has been the subject of considerable debate, ably summarised by Guy Wilson.³⁷⁰ Howard Blackmore offered the ‘generally accepted explanation’ that one-foot crossbows were spanned with a stirrup, while two-foot crossbows were spanned without a stirrup, with a foot on each limb of the bow.³⁷¹ The problem with this hypothesis was that two-foot crossbows cost more than one-foot crossbows, and could not be of simpler construction. Joseph Alm, following Payne-Gallwey and numerous earlier crossbow historians, suggested that both types had stirrups, the one-foot type of the conventional sort, the two-foot with a stirrup large enough for both feet.³⁷² In this he was followed by most subsequent scholars, including Patterson and David Bachrach.³⁷³ Jean Liebel put forward a quite different view, that the one- and two-feet of the crossbows identified the size of their projectiles.³⁷⁴ Though his suggestion was based on later artistic representations and lacked contemporary documentary proof, it was appealing and Wilson gave it support, noting the evidence of the present author’s paper on the

³⁶⁷ See Appendix of names s.v. Dale, Colley, Godfrey and Husborne.

³⁶⁸ See Appendix of names; recorded in the account as Roger Darcy in error.

³⁶⁹ See Appendix of names.

³⁷⁰ G. Wilson, ‘What’s in a name? One foot and two-foot crossbows’, in *ICOMAM 50: Papers on Arms and Military History 1957–2007*, ed. R.D. Smith (Leeds, 2007), 300–25.

³⁷¹ H.L. Blackmore, *Hunting Weapons* (London, 1971), 175–8.

³⁷² Wilson, *European Crossbows*, 22.

³⁷³ Patterson, *Crossbow*, 38; Payne Galway, *Crossbow*, 60; D.S. Bachrach, ‘Crossbows for the king: the crossbow during the reigns of John and Henry III of England’, *Technology and Culture*, 45 (2004), 102–19.

³⁷⁴ Liebel, *Springalds*, 42.

subject which discussed the sizes of springald noted above.³⁷⁵ Wilson added a novel idea of his own, that the one- and two-foot could refer both to the size of the projectile and the span of each limb of the bow, which requires, for practical reasons, to be proportional.³⁷⁶ In support of this he noted the 48-inch span of the Berkhamstead bow, which would provide two two-foot limbs, and the similar size of a surviving medieval crossbow from the Scott collection.³⁷⁷ The accounts of the Tower Armoury add just one tiny piece of information to this, that quarrels for two-foot crossbows could be mixed with those for springalds. If the springald quarrels were using 27 and 22½ inches in length, and those for the two-foot crossbows 24 inches long, that would make sense. That the quarrels of springalds and crossbows were fletched differently, with copper alloy and hawk feather fletchings, has not been noted elsewhere.

Mildenhall's second account, for 1351–3,³⁷⁸ records fifty-six crossbows and forty-two baldricks remaining from his first account. Eighty-seven crossbows were received from a merchant, Herman Repelyn,³⁷⁹ on 1 August 1352, and ten more crossbows received from Thomas Petersfield on 7 September 1352.³⁸⁰ James Butler³⁸¹ was given a composite crossbow as a gift of the king in October 1352, again probably one of the forty new ones made at the Tower. William Husborne³⁸² received eighteen new baldricks for crossbows in March 1350. Mildenhall itemised a remain for his successor William Rothwell in 1353 which matched exactly

Rothwell's receipt:

³⁷⁵ Above, p. 109; Wilson, 'What's in a name?', 314–8; Richardson, 'Springald sizes'.

³⁷⁶ Wilson, 'What's in a name?', 318–24.

³⁷⁷ British Museum, no. 1931.0709.1 and Glasgow Museums and Art Galleries, no. E.1939.65.SN respectively.

³⁷⁸ TNA, E 372/198, rot. 36.

³⁷⁹ 'Reple' in the account, see Appendix of names.

³⁸⁰ Valet of the king's arms, see Appendix of names.

³⁸¹ Earl of Ormond, see Appendix of names.

³⁸² King's yeoman, see Appendix of names.

182 crossbows, 12 large with composite bows and 17 large of wood, all spanned with hancepes, 4 small crossbows with composite bows, worn out, 59 old and worn out wooden 'normal' crossbows, 4 of which were broken, 86 new ones with wooden bows, one for the king's personal use and 2 bastard painted crossbows, the bow of one separated from its tiller.

During Rothwell's keepership 200 bowstaves for crossbows were purchased from John Prentish,³⁸³ at 26s. 8d. per hundred (the same 3¼d. each as bowstaves for longbows in the same account). Sixteen of these were made up by John Byker and his colleagues in the Tower, nine composite bows at 20s. each, seven of wood at 6s. 8d. each. For great crossbows, Robin of York and other 'engineers' of London supplied eleven screw threaded spanning mechanisms at 13s. 4d. each, the *vicz* or vices of the accounts, and thirteen 'hancepeez for spanning crossbows' at 5s. each. John Sheen supplied twelve baldricks for crossbows, of white cow's leather at 2s. a piece. Eighteen stirrups for crossbows were purchased at 6d. each. A large batch of forty-nine good and thirty-one ordinary crossbows were returned to the armoury from Calais by Hugh Lengynour.³⁸⁴

In 1360 Snaith inherited from Rothwell:

215 crossbows, 18 of which were large crossbows with bows of wood, spanned with hancepes, 37 composite and of these five large, spanned with hancepes, 160 normal and of wood, seven screw crossbows and of these three large, with composite bows, three of wood and one 'savage',

16 bows for crossbows, nine composite, seven of wood,

200 bowstaves for crossbows,

3 screw winders for crossbows,

18 stirrups for crossbows,

13 baldricks.³⁸⁵

He purchased sixteen crossbows and 11,600 quarrels from John Cornwall, for £21

³⁸³ See Appendix of names.

³⁸⁴ Keeper of the king's wardrobe in Calais, see Appendix of names.

³⁸⁵ E 101/394/2.

18s. 10d.³⁸⁶

Snaith's second account for 1362–4 records the fletching of 3,000 quarrels at 13s. a thousand, for which 12 lb of fish (for glue) was purchased at 6d. per lb, and for payment of six craftsmen for ten days at 6d. a day mending the king's crossbows, with 7 lb of crossbow twine at 12d. per lb, 3 lb of red wax at 12d., 6 lb of wax polish at 7d. and a dog hide for 12d. for repairing and maintaining the crossbows.³⁸⁷ At the end of his keepership there remained in the armoury 131 crossbows, three spanning screws, the same eighteen stirrups, the same thirteen baldricks and 9,600 quarrels. The sixteen crossbow bows were expended in making perches for the king's falcons.

John Sleaford's receipt from Snaith in 1364 included:

195 crossbows,
7 screw crossbows and 3 additional screws for crossbows,
200 bows for crossbows,
18 stirrups,
4,645 quarrels.³⁸⁸

Maintenance of the equipment included the purchase of 5 stones (70 lb) of hemp at 2s. 6d. a stone, and 13 lb of cord at 2s. per lb, 3 lb of red wax at 16d. per lb, ordinary wax at 2d. per lb, 6 lb fish for glue at 7d. per lb, one dog hide at 10d. and four horse hides at 4d., all for repairing crossbows. Two new screws for spanning or stringing crossbows were purchased for 6s. 8d. in total. Eighty stirrups for the same set of crossbows were tinned for a total of 13s. His extensive purchases for the armoury in the 1360s included forty-two crossbows at 8s. each, from William Byker.³⁸⁹ Along with some ordnance, six large composite crossbows, 400 quarrels fletched with copper and plated with iron, and one spanning screw were issued to Sir

³⁸⁶ King's artillerer, see Appendix of names.

³⁸⁷ TNA, E 101/394/14.

³⁸⁸ TNA, E 101/395/1.

³⁸⁹ Artillerer of the king's crossbows, see Appendix of names.

John Foxley at Queenborough Castle³⁹⁰ by order dated 12 June 1365. In the same account 200 sheaves of ‘ancient arrows remaining in the Tower from the time of Henry Snaith’ were written off in the manufacture of 2,000 quarrels by Patrick and William Byker.³⁹¹ This use of 4,800 arrows is inexplicable. At the end of Sleaford’s first account seven screw crossbows, 200 staves for crossbows, two screw spanners, 600 quarrels fletched with copper and ‘plated’ with iron, 1,645 normal quarrels and 2,000 headless quarrel shafts remained in the armoury.

Sleaford’s third account, for 1373–5, includes further materials for maintaining the crossbows, one ‘Hungarian’ hide at 7s., a dog skin at 18d., two wings for fletching quarrels at 13s. 4d., three sheepskins at 18d., 6 lb of fish for glue for 2s., 6 lb of red and green wax and 2 lb of cobbler’s wax or ‘code’ at 3s. 4d.³⁹² The receipt in this account includes a group of crossbows and related weapons from John Byker:³⁹³

1 great composite screw crossbow with a length of 6 feet,
12 crossbows, 5 of two feet,
2 hancepes,
2 composite springalds, one with a savage bow.

This receipt confirms the impression that the term ‘springald’ was by the 1370s being used for great crossbows as well as torsion engines (though the distinction is not at all clear, as the same account includes *magna balista* and *springald*). It also includes issues from the armoury: for the fortification of Calais, forty wooden crossbows, each with a baldrick, and eight composite crossbows each with a hancepes, and one screw for spanning crossbows and 20,000 quarrels were issued.

³⁹⁰ On the Isle of Sheppey, Kent, the enlarged castle the destination of Edward III’s visits in 1366; Tout, *Chapters*, iii, 236, iv, 180. For Foxley see Appendix of names.

³⁹¹ The artillerer and his son at the Tower, see Appendix of names.

³⁹² TNA, E 101/397/10.

³⁹³ Former king’s artillerer, father of Patrick, see Appendix of names.

For the king's great barge for the voyage of 1372, 2,200 quarrels packed in sixteen small coffers were issued. Remaining in the armoury in 1374 were:

289 crossbows, including the six-foot great crossbow [mentioned above, p. 125],
 82 baldricks,
 200 crossbow staves,
 one screw for drawing crossbows,
 18 stirrups [purchased by Rothwell in the 1350s],
 32,244 quarrels,
 2,000 quarrel shafts.

Sleaford's final account for 1375–8, which was extended into the reign of Richard II, includes the purchase of 231 lb of Flanders cord for crossbows from a merchant, Paul Beek, 195 lb at 8d. per lb and 36 lb at 12d. per lb, and fifty-one baldricks from Tysell Pouchmaker at 3s. 4d. each. John Palshide supplied 44,000 quarrel shafts at 9s. 2d. per thousand, and 19,050 quarrel heads were purchased, 2,500 from Robert Pykebussh at 6s. a hundred, 2,000 from Gilbert Castra at 8s. a hundred, 7,000 from Edward Holborn at 7s. per hundred, 7,000 from Stephen 'smith' at 6s. 8d. per hundred and 184 cases ('coffins') for them from Thomas Cave at 5s. each.³⁹⁴

The large issue to Calais ordered on 18 December 1375 included eighty crossbows with wooden bows, forty baldricks and 30,000 quarrels in 127 coffins. An issue to the chamber of 1376 included 4,000 quarrels, and another of 1378 included 140 crossbows, 10,000 quarrels and forty baldricks. Windsor Castle was issued with 100 crossbows, 4,300 quarrels, twenty-seven baldricks and one screw for spanning crossbows in 1378. A smaller issue to Hadleigh Castle in Essex³⁹⁵ included ten crossbows, ten baldricks and 1,000 quarrels, and another to John Whisshale for

³⁹⁴ TNA, E 101/398/1, detailed in E 101/397/19. For these suppliers, see Appendix of names s.v. Beek, Pouchmaker, Palshide, Pykebussh, Castra, Holborn and Cave, though very little is known of them. Stephen 'smith' is identifiable as Stephen atte Mersh, king's smith in the Tower.

³⁹⁵ To the sergeant there, John Nief, see Appendix of names.

castles in Wales included 1,900 quarrels.³⁹⁶ On 4 May 1377, as one of his last acts, the king ordered a composite crossbow and a baldrick to be given to the young Richard of Bordeaux. The delivery of six new crossbows to Sir Alan Buxhull at Calais³⁹⁷ was ordered by Richard II on 21 September 1377. Another new crossbow was issued to Sir Simon Burley together with a mail shirt of steel.³⁹⁸ Sleaford's write-off of broken, worn out and unfit stores included 200 staves for wooden crossbows, 127 crossbows, 2,400 quarrels and fifty-six coffins for their packing, and the eighteen stirrups for crossbows purchased during Rothwell's tenure 1353–60 and never used or issued. Ten redundant baldricks were sold at 3s. 4d. (14d. each).

Sleaford's account includes one of the few detailed references to the location of the privy wardrobe within the Tower: a workman was paid 6d. a day for twelve days' work making great hooks for crossbows in a chamber of the 'private wardrobe suspended above the water', most probably the hall above 'Traitors' Gate'.³⁹⁹ The same account records the removal of stores from the hall of the Tower to the 'wardrobe over the water' prior to the arrival of Richard II in 1377.⁴⁰⁰

At the end of Sleaford's keepership in 1378 there remained:

10 hancepes,
 187 new crossbows,
 13 baldricks,
 1 screw for spanning crossbows,
 4,760 quarrels with heads,
 14,950 quarrels without heads.

³⁹⁶ See Appendix of names.

³⁹⁷ Former constable of the Tower, see Appendix of names.

³⁹⁸ Constable of Windsor Castle, see Appendix of names.

³⁹⁹ Tout, *Chapters*, iv, 476 n. 6 reads this section of TNA, E 101/397/19 as *magnorum harnesiorum pro balistis*, which makes no sense; read here as *magnorum hamorum pro balistis infra camera private garderobe super aquam pendente*.

⁴⁰⁰ The king set out for his coronation from the Tower in June 1377, and returned in September for a few days, see N. Saul, *Richard II* (London, 1997), 24; *CPR 1377–81*, 20–2.

John Hatfield's keepership from 1378–81 records the purchase of 3,000 quarrel heads, ten crossbows and six baldricks, part of a series of purchases from John Maire, Robert Dawe, Robert Foxle, Walter Aldersgate and others.⁴⁰¹ William Eremyn at Calais⁴⁰² was issued with forty wooden crossbows in 1379. Portchester Castle received 750 quarrels with heads and 1,000 headless but fletched quarrel shafts. Corfe Castle received ten new crossbows and 1,000 quarrels.⁴⁰³ The theft of arms from the Tower in July 1381 included 310 complete crossbow quarrels and 2,600 unfletched and headless quarrel shafts. There remained after Hatfield's death in office

77 crossbows,
13 worn out baldricks,
1 screw for spanning crossbows,
22,100 quarrels, 5,700 with heads.⁴⁰⁴

Hatton's keepership of 1381–8 records extensive acquisitions and equally extensive issues. 132 new crossbows, 120 baldricks, forty-five hancepes, 200 lb crossbow twine, 17,600 quarrels and 39,928 quarrel heads were purchased. Roxburgh Castle was issued with twelve crossbows, four baldricks, two hancepes and 3,000 quarrels in 1383. His majesty's barge the *George* of Dover⁴⁰⁵ was issued in 1384 with twenty-four crossbows, six baldricks, 6,000 quarrels and two hancepes for Berwick-upon-Tweed. Berwick subsequently received a further twelve crossbows, twelve baldricks, four hancepes, 100 lb of thick twine for crossbow strings and 4,000 quarrels. Dover Castle received six crossbows and 600 quarrels. The Cinque Ports received twenty-four crossbows, while Rye Castle separately

⁴⁰¹ Recorded in the mutilated TNA, E 101/400/10. For these suppliers, see Appendix of names s.v. Maire, Dawe, Foxle and Aldersgate, though little is known of them.

⁴⁰² Treasurer at Calais, see Appendix of names.

⁴⁰³ To Philip Walwayne, constable, see Appendix of names.

⁴⁰⁴ TNA, E 101/400/10, E 101/400/14 and E 101/400/16.

⁴⁰⁵ Master Simon Martin, see Appendix of names.

received six crossbows, six baldricks and 100 quarrels. The ‘tower gate’, most probably the Bargate, at Southampton was issued with six crossbows, six baldricks, two hancepes and 2,000 quarrels in addition to the gunpowder weapons that were sent there. Portchester Castle received twelve crossbows, twelve baldricks, four hancepes and 1,000 quarrels. Odiham Castle in Hampshire received just two crossbows, while Calais received twenty crossbows and Brest received thirty-two crossbows, 50 lb of twine for making crossbow strings, twenty-six baldricks, seven hancepes and 9,700 quarrels. In total 152 crossbows, sixty-eight baldricks, 23,400 quarrels and twenty-one hancepes were issued during Hatton’s first account for 1381–8.⁴⁰⁶

After this the use of crossbows is shown by the accounts of the armoury to be on the wane. Hatton’s third account for 1393–6 records the purchase of just thirty-two crossbows.⁴⁰⁷ Six old and worn-out baldricks and 14,428 quarrel heads were written off and disposed of, by order dated 27 June 1397; 125 crossbows, fifty-five baldricks, one screw for spanning crossbows, 11,300 quarrels and 25,500 quarrel heads remained in the armoury after Hatton’s death.⁴⁰⁸

The lack of interest in crossbows by the end of the century is reflected in the figures from John Lowick’s account of 1399;⁴⁰⁹ 101 crossbows, forty-nine baldricks, the one spanning screw, 9,000 quarrels and 27,200 quarrels heads were received, none were issued, and the same quantities, except for a change of the number of quarrel heads to 24,600, were issued to his successor John Norbury.

Norbury’s account of 1404–6 records the return of 180 crossbows, 164 crossbow strings, twenty-four baldricks, seventeen hancepes, the spanning screw,

⁴⁰⁶ TNA, E 101/400/22.

⁴⁰⁷ TNA, E 101/402/14.

⁴⁰⁸ Also listed in the indenture TNA, E 101/403/8.

⁴⁰⁹ TNA, E 101/403/20.

3,400 quarrels, 10,000 headless quarrels, and 13,200 quarrel heads. There were just a few issues. To Sandwich Castle were issued six crossbows and 300 quarrels.⁴¹⁰

Gerard Spronge was issued with twelve crossbows, 1,000 quarrels, 1,000 quarrel heads, four baldricks and two hancepes destined for Wales,⁴¹¹ and four crossbows were issued to Pontefract Castle. Twelve crossbows and 2,900 quarrels were recorded as expended in naval actions. There remained 150 crossbows, 164 crossbow strings, twenty hancepes and the spanning screw.⁴¹² Despite the archaic nature of the weapon, a few crossbows and their accessories were still being issued and retained in the Tower armoury in the fifteenth century, and continued to play a military role.

The crossbows in the privy wardrobe exhibit a pattern quite like that of the munition armour and pavises we have considered above. For a weapon hardly associated with English warfare of the fourteenth century their presence in the Tower armoury is a continuous and significant one. Their numbers do fall from the period of the outbreak of the Hundred Years War, when Fleet acquired and issued over 800 of them, but their numbers fluctuate between 150 and 350, rising in returns after Poitiers in the late 1350s, falling probably by disposal of old and defective items in the early 1360s, rising again in the early 1370s and falling again, from substantial issues, in the early 1380s, rising again in the late 1380s and falling again towards the early fifteenth century. The details of the accounts show how the crossbows were constantly being issued, purchased, disposed of (and occasionally reconstituted as perches for the king's hawks) very actively throughout the period. The numbers of crossbows are shadowed closely by the numbers of crossbow quarrels and their other appurtenances.

⁴¹⁰ To John Whitteneay, keeper of the meadow at Sandwich, see Appendix of names.

⁴¹¹ See Appendix of names.

⁴¹² TNA, E 101/404/25.

Most of these crossbows were clearly of munition type, but the detailed account of the manufacture of fine crossbows for gift by the king to members of the nobility during the 1340s suggests they may have been used by men-at-arms during sieges. Despite the introduction of firearms, the constant manufacture and maintenance of crossbow quarrels during the period of the privy wardrobe shows what an important role they played in English warfare in the period. It is evident from the accounts that a store of crossbows was intended to be kept at the Tower: the installation of permanent storage facilities, the wall hooks for crossbows in the wardrobe above Traitors' Gate, in the late 1370s indicates the permanence of their stock levels in the armoury.

2.4.3 Longbows

The English longbow is one of the most celebrated weapons of the Middle Ages. While all the histories of the Hundred Years War have discussed the archers and their tactics at length, relatively few studies deal with the weapon itself.⁴¹³ The weapon is a self bow, one made of a single stave of yew wood, the darker sap wood forming the belly or inner side of the curve when the bow is strung, the pale heart wood forming the back or outside of the curve. At either end the wood is shaped into nocks or tapered and fitted with horn nocks that hold the looped ends of the bowstring.

⁴¹³ See general accounts and bibliographies in R.E. Kaister, 'The medieval English longbow: characteristics and origin', *Journal of the Society of Archer Antiquaries*, 23 (1980), 21–8; R. Hardy, *The Longbow: a Social and Military History* (3rd ed., Sparkford, 1992); and M. Strickland and R. Hardy, *The Great Warbow* (Stroud, 2005); H.D.H. Soar, *The Crooked Stick: a History of the Longbow* (Yardley, Pa., 2005); A. Hildred, *Weapons of Warre: the Armaments of the Mary Rose* (Portsmouth, 2011), 528–702.

	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
bows, white	682	15,553	4,498	5,303	3,201	1,260	1,046	7,636	2,328	1,760	842
bows, painted	851	5,534	279	293	505	384					
bowstaves		4,000		3,053	2,053						
sheaves arrows	2,318	36,397	2,619	1,395	432	2,693	995	7,623	3,800	130	3,907
arrowshafts				10,500	8,500						
arrowheads	3,300				19,388	2,000	1,700	5,700	10,480		
bowstrings	3,720	53,751	3,048	2,364	1,552	1,872	504	24,624	6,348		1,800

Table 9 Summary of bows in the armoury, from receipts and remains, illustrating the very large holdings associated with the first phase of the war, but retention of reasonable stock levels until the end of the century.

The mass provision of archery equipment at the Tower begins during John Fleet's tenure as keeper. In 1343 Fleet purchased in London forty white bows at 11d. each, sixty sheaves of arrows at 10d. with steeled heads (*asteratis*) and 100 bowstrings, and issued them to William Walklate and William Miners for the king.⁴¹⁴ Robert Mildenhall brought back 7,000 arrows from Brittany, the heads of which had to be cleaned and which had to be bound in sheaves (Adam atte Kirk and nine of his colleagues were employed for six days to clean, oil and bind the arrowheads at 3d. a day), 3,200 bows which needed cleaning by Richard Bristowe and ten other workmen for five days at 3d. a day, for which three gallons of oil and a quarter of bran were consumed.⁴¹⁵

The armoury under John Fleet during the early years of the war handled a large quantity of bows. Fleet's account records a total receipt of:

3,705 bows,
5,424 (sheaves of) arrows (*sagittis et fletchis*).⁴¹⁶

Of these, 2,153 were purchased at an average cost of 17½d. from twelve named bowyers including Adam Hackett, Hugh Farningham, Henry Knight, John

⁴¹⁴ TNA, E 372/189, rot. 43, m. 1. Walklate commanded the garrison at Perth, Miners was sergeant at arms sent to keep the peace in Baldock, see Appendix of names.

⁴¹⁵ See Appendix of names for these workmen.

⁴¹⁶ BL, Add. MS 60584, f. 48v.

Chamberlain and Richard Corand.⁴¹⁷ The prices for white bows are not given, but for painted bows prices of 2s. 6d. and 2s. each are recorded.⁴¹⁸ Bowstrings were not included in Fleet's receipts or issues, but were included in the expenses, showing that 7,853 bowstrings were purchased at an average cost of 4d. a dozen.⁴¹⁹ Sheaves of arrows were purchased from a number of fletchers, including three women, Alice Flour, Alice Russel and Alice Drogman, who are otherwise unrecorded.

The issue numbers in Fleet's account show that every single one of the bows, arrows and presumably bowstrings was issued.⁴²⁰ According to the remain in the same account fifty-nine bows remained in the armoury, though only twelve were received by the next keeper.⁴²¹

During Mildenhall's own tenure, large quantities of archery equipment were procured for the privy wardrobe and shipped off to France.⁴²² The expenses section of his account of 1344–51 records:

7,525 painted bows,
6,690 white bows,
835 gross and a dozen bowstrings (120,252),
37,163 sheaves of arrows (891,912 arrows) purchased in London for £3,538 16s. 9d.

From the Tower armoury under John Fleet, on 17 October 1344, Mildenhall inherited just:

6 painted bows,
6 white bows,
31 dozen bowstrings,
92 sheaves of arrows.

From the chamber came:

⁴¹⁷ See Appendix of names for these bowyers, several of whom appear in the subsequent accounts.

⁴¹⁸ BL, Add. MS 60584, f. 47r.

⁴¹⁹ BL, Add. MS 60584, f. 46r.

⁴²⁰ BL, Add. MS 60584, f. 51v, issues ff. 48v–50v.

⁴²¹ BL, Add. MS 60584, f. 48v.

⁴²² TNA, E 372/198, rot. 35, m. 1.

2,852 bows,
65 gross 5 dozen and two bowstrings (9,422),
6,862 sheaves of arrows (164,688).

These were provided with their own packing in the form of pipes, doles, coffers and hutches. The largest quantity of bows, arrows and bowstrings were received in batches from the counties of England, summarised in table 10 below, which includes the privy wardrobe and chamber bows for completeness. The major deliveries were in 1345–6, with a smaller delivery in 1350–1.

County	painting bows	white bows	sheaves arrows	bowstrings
Tower	6	6	92	372
Chamber	36	2,816	6,862	9,422
Beds & Bucks			400	
Cambs & Hunts		80		
Essex			500	
Gloucs		230	600	
Lincs		1,000	300	
London	871	629	1,842	4,000
Northants	30	165		2,040
Oxon	72		35	
Salop		100	230	2,000
Soms & Dorset		120	456	
Staffs			295	1,000
Warwicks & Leics	60	159	651	2,000
Wilts		100	300	
Purchases	7,525	11,690	37,163	120,240
Total	8,600	17,095	49,726	141,074

Table 10 Summary of archery equipment acquired by the armoury, 1344–51.

Included in London's painted bows in 1345 are thirty-four green bows (*arcus virides*), and in the purchases three folding bows (*arcus plicabiles*) together with their bow-cases (*pharetris*). These figures can be compared with the orders for the

supply of arrows and bows sent out to the counties in 1341 and 1346, summarised by Hewitt.⁴²³

Mildenhall's account, unlike the later ones, also retains details of the issue of arms from the Tower. In 1344 the *Malyn* of Ipswich was issued with thirty bows, seventy-two bowstrings and 100 sheaves of arrows. Henry of Grosmont⁴²⁴ was issued with 1,000 bows (340 painted), 2,000 bowstrings and 2,000 sheaves of arrows, and William de Bohun with 1,000 bows (340 painted), 2,000 bowstrings (all 2,000 'finished' (*facta*) with loops for the nocks at one end) and 2,000 sheaves of arrows.⁴²⁵ Here and elsewhere the account itemises the bowstrings in duplicate, for clarity: 'm^lm^l cordas pro eisdem quas factas xiiij grossa, x duodena, x cordas'.

Thomas Rolleston⁴²⁶ took charge of the transport of much of the equipment for shipment to France. He took issue by indenture of several batches of arms; in one batch in 1345:

2,808 painted bows and 600 white bows in 40 coffers,
16,686 bowstrings (16,690 (*sic*) of them 'finished' with loops) in 3 pipes and a barrel,
7,406 sheaves of arrows in 6 coffers and 27 tuns or 'doles'.

A second batch in 1346 comprised:

1,376 painted bows,
734 white bows,
13,440 bowstrings (all finished),
3,800 sheaves of arrows.

A third batch for the siege of Calais in 1346 comprised:

1,110 bows (324 painted),
5,040 bowstrings all finished,
2,027 sheaves of arrows in 2 coffers, 4 doles and 7 pipes.

⁴²³ H.J. Hewitt, *The Organization of War under Edward III, 1338–62* (Manchester, 1966), 64–5, citing *Foedera*, ii, 157; iii, 8.

⁴²⁴ Earl of Derby, see Appendix of names.

⁴²⁵ Earl of Northampton, see Appendix of names.

⁴²⁶ Clerk at the Tower under Mildenhall, see Appendix of names.

The fourth batch also for Calais in 1347 comprised:

5,572 bows (1683 painted),
42,388 bowstrings,
9,316 sheaves of arrows in 69 coffers, six doles and four pipes.

There was also a fifth batch to be delivered via Rolleston to Adam Steern of sixty bows (forty-eight painted). William de la Dale⁴²⁷ was issued with 100 painted bows, six white bows, 480 bowstrings (all finished); Walter Weston⁴²⁸ with 105 painted bows, 342 white bows, 360 bowstrings (all finished) and 870 sheaves of arrows in eight coffers and eight doles. Thomas Copham⁴²⁹ was issued with 194 bows (twenty-five painted), 1,284 bowstrings and 870 sheaves of arrows in four doles for the *Plente Cristiene*, and for the *Mariot* with forty white bows, 180 bowstrings and 100 sheaves of arrows in a coffer. William Tamworth⁴³⁰ in 1350 received 1,220 bows (759 painted) in twenty-nine coffers (forty-two bows per coffer), 7,416 bowstrings in two coffers, and 4,183 sheaves of arrows in thirteen doles and six pipes, together with twenty hancepes for crossbows. In 1351 Sir Walter Bentley, lieutenant of Brittany,⁴³¹ received 100 bows, 300 bowstrings and 400 sheaves of arrows.

In total Mildenhall's armoury issued between 1344 and 1351:

20,417 bows (8,308 painted),
110,058 bowstrings,
38,134 sheaves of arrows,
103 crossbows,
120 baldricks,
30 hancepes,
37,093 quarrels.

⁴²⁷ Keeper at Carmarthen Castle, see Appendix of names.

⁴²⁸ Lieutenant in the Channel Islands, see Appendix of names.

⁴²⁹ King's clerk, see Appendix of names.

⁴³⁰ Chamber clerk, see Appendix of names.

⁴³¹ See Appendix of names.

For the period of Mildenhall's first account, including the Crécy campaign and siege of Calais, the armoury handled a total of 25,645 bows, 1,169,424 arrows and 141,074 bowstrings. These figures give an average of 45.6 arrows (just under two sheaves) and 5.5 bowstrings per bow. The individual issues also generally correspond to this proportion, suggesting that it was deliberate.

From this massive stock of bows a relatively small quantity remained in the Tower at the end of Mildenhall's tenure, 851 painted bows and 682 white bows, together with 1,719 sheaves of arrows, of which 599 sheaves were noted to have been made of ash wood (*de fraxino*, and therefore of high quality). This, however, is the first record of any quantity of bows being retained in the Tower armoury. Mildenhall's second account, for 1351–3,⁴³² records the remain from his previous account of:

120 painted bows including the 3 folding bows,
5,318 white bows,
12,239 sheaves of arrows of which 3 sheaves were fletched with peacock feathers (293,736 arrows),
213 gross, 11 dozen and 4 bowstrings (30,798),
820 arrowheads,
3 bowcases.

His receipt records 200 sheaves of arrows from each of Hertfordshire, Warwick and Leicester in October 1351. Six gross and nine dozen bowstrings were sent in from 'John' Wayte⁴³³ at Dover Castle in December 1351. 3,080 arrowheads came from Andrew the king's painter at the Tower in October 1352. Additional purchases during the period of the account comprised:

1,809 painted bows,
177 sheaves of arrows of ash wood fletched with peacock and swans' feathers,

⁴³² TNA, E 372/198, rot. 36.

⁴³³ Probably Alexander Wayte, king's clerk at the Maison Dieu, Dover, see Appendix of names.

649 sheaves of arrows with steeled heads (*cum capitibus asteratis*),
 136 sheaves and two shafts of arrows without heads but of ash and fletched with peacock and swans' feathers,
 649 sheaves of arrows of ash,
 4,426 sheaves of normal arrows,
 38 gross 5 dozen and 4 bowstrings (5,536).

Mildenhall's issues are again recorded in extensive and fascinating detail.

The three folding bows and their cases together with sixty-eight other painted bows, ten white bows, ten sheaves of arrows, three fletched with peacock, and 300 arrowheads were issued to William de la Dale by order of 3 November 1352. John Ram⁴³⁴ was issued with twenty white bows, sixty sheaves of arrows and six dozen bowstrings for the queen's ship the *Katherine* in October 1352. Reginald Ferrers and John Malyn⁴³⁵ were issued with 300 white bows, 1,000 sheaves of arrows, five gross of bowstrings, four coffers full of quarrels, twelve new baldricks of red leather, all packed in four tuns and a pipe, for the king's ship the *Michael*. Thomas Rolleston as clerk of the chamber was issued with twelve painted bows, 2,000 white bows packed in twenty coffers, and 5,012 sheaves of arrows and 130 gross of bowstrings in nineteen tuns on 18 October 1353.⁴³⁶ Thomas Copham⁴³⁷ presumably for the *Plente Cristiene*, was issued with twenty-six white bows, forty sheaves of arrows and eight dozen bowstrings in July 1353. William Clewer for the cog *Thomas* was issued with forty painted bows, 280 white bows, 1,080 sheaves of arrows, 10 gross of bowstrings by order of September 1352.⁴³⁸ Thomas atte Lee⁴³⁹ was issued with twelve painted bows, fifty sheaves of ash arrows and 4 dozen bowstrings by order of 18 September

⁴³⁴ See Appendix of names.

⁴³⁵ King's sergeant and ship's master respectively, see Appendix of names.

⁴³⁶ Actually recoded as *anno xxij^o* in a scribal error for *xxvij^o*, but the date of the letter authorising the issue makes this clear. See Appendix of names for Rolleston, now king's pavilioner.

⁴³⁷ King's clerk, see Appendix of names.

⁴³⁸ Ship's master, see Appendix of names. A previous cog *Thomas* was Edward III's flagship and sank at *les Espagnols sur mer* (Winchelsea) in 1350, Ormrod, *Edward III*, 327–9.

⁴³⁹ King's fletcher, see Appendix of names.

1352. Robert Colston⁴⁴⁰ was issued with 745 painted bows, 570 white bows, 6,958 sheaves of arrows and two shafts, and 75 gross and eleven dozen bowstrings, of which 178 sheaves of arrows of ash fletched with peacock and swan feathers with steeled heads, 136 sheaves the same but without heads together with 300 arrowheads, and six gross and ten dozen bowstrings were for the king's personal bows (*pro arcubus regis*). The whole batch was packed in eleven tuns, 119 barrels, two coffers and ten pairs of bowcases for shipment to France. William Warwick⁴⁴¹ was issued 100 painted and 400 white bows, 1,000 sheaves of arrows, 1,500 bowstrings packed in four tuns and four coffers to be transported to Walter Bentley in Brittany.

At the end of Mildenhall's keepership the following remained in the armoury:

951 painted bows,
 682 white bows,
 599 sheaves of arrows of ash,
 1,719 sheaves of ordinary arrows,
 25 gross 10 dozen bowstrings.⁴⁴²

Under Rothwell, between 1353 and 1360, the stock increased rapidly, by direct manufacture, purchase and by receipt from the counties. 4,012 painted bows at 2s. 6d. each and 2,105 white bows at 1s. 4d. each were purchased from a group of London and Lincoln bowyers including Adam Hackett, William Chamberlain and Hugh Farningham.⁴⁴³ Far more bows were manufactured in the Tower from existing bowstaves: 9,198 white bows were made from 10,000 bowstaves by a group of bowyers from London, Lincoln and York including William Bromley, John

⁴⁴⁰ Clerk of the chamber, see Appendix of names.

⁴⁴¹ Sergeant at arms, see Appendix of names.

⁴⁴² TNA, E 372/198, rot. 36, m. 2 and E 101/392/14, edited in chapter 3.2 below; the figures correspond precisely in both.

⁴⁴³ TNA, E 101/392/14, edited in chapter 3.2 below. Hackett was a well known London bowyer, the other two unknown, see Appendix of names.

Sprotborough, Thomas Mendham, John Bridgewater and John Bury.⁴⁴⁴ The price of this work was 8d. per bow; the bowstaves had been purchased under Mildenhall for £133 6s. 8d. from John Conisbrough⁴⁴⁵ (3¼ d. per bow, a total including manufacture of 11½d. per bow), and 4,000 more were purchased from the same supplier by Rothwell at £11 3s. a thousand, close to 2¾d. each.

Arrows were purchased from a group of London and Lincoln fletchers including Laurence Fletcher, John Patyn, John Bonett, William Stoke and Anselm Fletcher;⁴⁴⁶ 400 sheaves at 2s. 6d. a sheaf for the King's valets, 6,000 at 18d. a sheaf, 9,600 at 16d. a sheaf, 5,691 at 13d. a sheaf and 2,000 at 10d. a sheaf, a total of 23,691 sheaves, or 568,584 arrows. Special hunting arrows for the king were also purchased, four sheaves at 6s. a sheaf, and for Queen Philippa two sheaves and eighteen arrows with broad heads, fletched with peacock feathers 'for the new hunting season', at 10s. a sheaf, made by Anselm Fletcher.

Bowstrings to the number of 351 gross, four dozen and four (50,596) were purchased from William Strynger, Thomas Strynger and other string makers of London at 4s. the gross.⁴⁴⁷ Twenty-eight pairs of quivers for use by mounted archers in France, covered in leather for carrying bows and arrows, at 20s. a pair, were purchased from John Kent bottler of Wood Street; the existence of such quivers has been debated, but this provides documentary evidence of their existence, but only in exceedingly small numbers. The usual way of carrying the sheaves of arrows by English longbowmen, using the hemp twine with which the arrows were tied in

⁴⁴⁴ See Appendix of names; none of these bowyers is recorded elsewhere.

⁴⁴⁵ Also unrecorded, see Appendix of names.

⁴⁴⁶ See Appendix of names; Patyn and Bonnet were well known London fletchers, the others unknown.

⁴⁴⁷ See Appendix of names for these otherwise unrecorded stringmakers.

sheaves to secure them at the waist with a running knot, has recently been the study of a paper by John and Jonathon Waller, the celebrated longbow archers.⁴⁴⁸

Issues of archery equipment from the Tower under Rothwell include four in 1356, two directly to Edward the Black Prince and to William Clewer for shipment to him, which give a total of 1,385 bows, 3,630 sheaves of arrows and 12,190 bowstrings, an indication of the quantity required to resupply the estimated 2,000 archers in the prince's army at Poitiers.⁴⁴⁹

Snaith inherited from Rothwell in 1360:

3 painted bows,
4,998 white bows,
4,000 bowstaves,
719 sheaves of arrows,
9 gross, 3 dozen and 4 (1,336) bowstrings.

Hugh Lengynour despatched 200 painted and 400 white bows, 4,000 sheaves of arrows and forty-two gross, four dozen (6,096) bowstrings, the latter worn out, from Calais on 20 March which had been intended for a campaign in France in 1359 but then ordered back by a verbal instruction from the king. Snaith had 2,200 bows made from the 4,000 bowstaves remaining from Rothwell's keepership, by Thomas Wales, John Galewey, Robin Bristowe and other bowmakers working in the Tower, for £73 6s. 8d. (8d. each),⁴⁵⁰ the remainder of the bowstaves being 'putrid and of no value'. 3,000 sheaves of arrows were bought from Laurence Fletcher, John Patyn, John Bonnet and other fletchers⁴⁵¹ at 16d. a sheaf, for £200. Twenty gross of

⁴⁴⁸ J. Waller and J. Waller, 'The personal carriage of arrows from Hastings to the *Mary Rose*', *Arms and Armour*, 7 (2010), 155–77

⁴⁴⁹ TNA, E 372/206, rot. 53. For Poitiers, see Ormrod, *Edward III*, 250–3; Sumption, *Trial by Fire*, 233–9.

⁴⁵⁰ See Appendix of names. Richard Bristowe was working there in 1343, the others are unrecorded.

⁴⁵¹ See Appendix of names; Patyn and Bonnet were well known London fletchers.

bowstrings (2,880) were bought at 4s. 6d. a gross from William Leicester and John Lanham, stringers of London for £4 10s. (1/3d. each).

For the guard of twenty-four archers established for the king at Calais by order of 6 August 1360, twenty-four painted bows, 100 sheaves of arrows (2,400) and twenty dozen (240) bowstrings were issued (100 arrows and ten strings per bow, roughly double the normal allowance). Roger Corndale⁴⁵² was issued with 1,000 white bows, 3,000 sheaves of arrows ‘good and better’ and thirty-one gross (4,464) of bowstrings for Lionel of Antwerp’s mission to Ireland, and John Hilton⁴⁵³ was issued with 600 white bows, 2,000 sheaves of arrows, 2,400 bowstrings packed in ten coffers and nine tuns, also for Ireland by order of 31 May 1362.

Snaiith’s second account for 1362–4 records the purchase of some 595 white bows at 7d. (altered from 13d.) each from Thomas Wales of London for £17 19s. 4d.,⁴⁵⁴ thirty-one painted bows at 16d. each for 42s. 8d., and forty-eight bows painted green (*arcubus viridibus depictis*) at 8d. (altered from 14d.) each for 32s. This is the first reference in the accounts to anything other than white or painted bows, and suggests that the painted bows were decorated in a relatively sophisticated way, if merely painting a white bow green added 1d. to its cost, and a painted bow cost 9d. more. Unfortunately there is no evidence for what a painted bow looked like, either in the accounts or in contemporary artistic representations. 500 more bowstaves were purchased at 36s. 4d. a hundred for £8 6s. 8d. on 8 February 1363. At the end of his keepership there were:

279 painted bows,
4,998 white bows,

⁴⁵² Keeper of Lionel of Antwerp’s wardrobe, see Appendix of names.

⁴⁵³ King’s clerk, see Appendix of names.

⁴⁵⁴ TNA, E 101/394/14. The number is damaged in the expenses, is specified as in hundreds of six twenties, and the total sum divided by seven makes 616; in the summary it is recorded as 575. See Appendix of names for Wales, first recorded making bows in the Tower in 1360.

2,619 sheaves of arrows,
3 gross 22 dozen (696) bowstrings.

The pattern of issues in this period of peace is naturally quite different from the earlier accounts. Sir Alan Buxhull⁴⁵⁵ was issued with twenty-four painted bows and twelve sheaves of arrows, obviously for hunting. Stephen Scarlett⁴⁵⁶ was issued with six painted bows, six white bows, twelve sheaves of arrows and seven dozen bowstrings. The king was sent directly sixty painted bows for hunting in the forests of Sherwood and Rockingham.

John Sleaford's receipt from Snaith in 1364 included:

293 painted bows,
5,301 white bows,
1,595 sheaves of arrows (38,280),
18 gross, 15 dozen bowstrings (2,772).

In his expenses we find one fletcher paid 6d. a day for 244 days making 300 sheaves of arrows from *arighshaftes* from stock, feathers (*plumis pro pennatione*) purchased at 8s., wax for 3s. 4d. and a dog skin for 6d., £6 13s. 10d. in total. This total of 45,744 arrows was therefore assembled at a rate of 187 per fletcher per day; no other source known to the writer gives that degree of detail about the work-rate of a medieval fletcher. There remained at the end of his tenure:

293 painted bows,
3,053 *bowstaves*⁴⁵⁷
1,395 sheaves of arrows,
13,500 arrow shafts,
16 gross 17 dozen (2,508) bowstrings.⁴⁵⁸

⁴⁵⁵ Keeper of the New Forest, see Appendix of names.

⁴⁵⁶ Keeper of the manor of Rotherhithe, see Appendix of names.

⁴⁵⁷ The first time the English word is used in these accounts, alongside the English *arughshaftes*.

⁴⁵⁸ TNA, E 101/395/1.

Sleaford's second account covering 1369–72 is virtually illegible. His third account, however, for 1373–5, contains a wealth of detail about the activity of the armoury.⁴⁵⁹ Included in his expenses are the wages of two fletchers for fifty days at 6d. a day repairing 9,000 sheaves of arrows, with four quarters of charcoal at 11d. a quarter for straightening them (*pro traitione*), and two more fletchers for fifty days storing and repairing bows and arrows 'returned from various voyages'. Later in the account the transfer of 300 pieces of firewood (*talwode*) at 8d. a hundred, and 16½ quarters of charcoal at 9d. a quarter from Baynard Castle to the Tower are recorded, at a carriage cost of 4s., for repairing and safely storing arrows. Personal bows for the king were still being purchased, thirty-eight painted bows for hunting for 110s. (about 2s. 11d. each), together with ten linen bags for their carriage and storage, at 3d. each.⁴⁶⁰ For the fortification of Calais, 500 bows, 3,000 sheaves of arrows and twenty gross of bowstrings were issued. A group of twenty-four carpenters, twenty-four wattlers (*lataviis*) and fifteen painters assembled for the king's failed naval expedition of 1372 were issued with sixty-three bows, sixty-three sheaves of arrows and 126 bowstrings. For the same voyage Sir Philip Courtenay⁴⁶¹ was issued with twenty bows, forty sheaves of arrows and eighty bowstrings, Edward Despenser⁴⁶² with 120 bows, 200 sheaves of arrows and 200 bowstrings. 'Various' ships were issued with seventy-two bows, eighty-four sheaves of arrows and four gross of bowstrings. The fort at Ardres in the Pas de Calais was issued with 100 white bows and 2,000 sheaves of arrows, while Bordeaux was issued with 1,000 white bows, 5,000 sheaves of arrows and sixty gross of bowstrings all packed in twenty-two pipes and a barrel. There remained in the armoury in 1374:

⁴⁵⁹ TNA, E 101/397/10.

⁴⁶⁰ See Hildred, *Weapons of Warre*, 698.

⁴⁶¹ Admiral of the fleet, see Appendix of names.

⁴⁶² Constable of John of Gaunt's army, see Appendix of names.

4,250 white bows,
 505 painted bows,
 10 gross, 9 dozen and 4 bowstrings (1,552),
 2,053 bowstaves,
 10,365 arrows with heads,
 8,500 arrowshafts,
 19,288 arrowheads.

Sleaford's final account for 1374–8 includes the purchase of twenty-seven painted bows for hunting (*pro bosco* and *pro venatione regis*), from Adam Hackett⁴⁶³ at 2s. each together with ten sheaves of 'large' arrows, presumably broad heads, from Thomas Fletcher at 12s. 6d. per sheaf. 1,096 sheaves of conventional military arrows, 620 of which were supplied without heads, were purchased, mostly from Thomas Patyn⁴⁶⁴ at 18d. per sheaf with heads, without heads at 7d. per sheaf.⁴⁶⁵ A further 820 sheaves of arrows, also headless, were supplied by Robert Broadway.⁴⁶⁶ John Stringer of Southwark and William Stringer of Oxford supplied sixty gross of bowstrings at 5s. per gross and twenty-five gross at 8s. per gross respectively.⁴⁶⁷ Within the Tower during this account, thirty-nine sheaves of arrowheads were manufactured from 1,014 lb of iron bought at 7s. 6d. a hundredweight, a half hundredweight at 4s. and two barrels of Osmonds at 20s. and 22s., a cost of 12d. or 16d. per sheaf. The account includes a very full set of issues; 250 sheaves of arrows were sent to Dover Castle, forty white bows and 100 sheaves of arrows to Helmyng Leget⁴⁶⁸ for the *Maudelyn*. The chamber was issued with 200 white bows, 120

⁴⁶³ A London bowyer who had supplied the Tower since the 1340s, see Appendix of names.

⁴⁶⁴ The well-known London fletcher who had been supplying the Tower since 1353, see Appendix of names.

⁴⁶⁵ TNA, E 101/398/1, with more detail in E 101/397/19.

⁴⁶⁶ An otherwise unrecorded fletcher, see Appendix of names.

⁴⁶⁷ See Appendix of names for these otherwise unrecorded stringmakers.

⁴⁶⁸ King's yeoman, served in various capacities, see Appendix of names.

sheaves of arrows and six gross of bowstrings (864), as well as twenty-seven painted bows, ten sheaves of broad heads and forty-eight of the bowstrings purchased during the same account, the latter for hunting. Dublin Castle was issued with 200 white bows, 433 sheaves of arrows and seven gross of bowstrings, packed in two long coffers, by an order dated 1 October 1376. Windsor Castle was issued with 200 bows, 100 of them painted, 600 sheaves of arrows and 84 dozen bowstrings by an order dated 4 March 1377 presumably in connection with Edward III's last great Garter feast, held there in April.⁴⁶⁹ Two large issues were sent to Calais for its defence, one of 1,000 white bows, 4,000 sheaves of arrows, forty gross of bowstrings, by order of 18 December 1374, and a further 1,000 white bows, 4,000 sheaves of arrows and twenty-three gross of bowstrings by order of 1 May 1377. Sleaford's write-off of broken, worn out and unfit stores included 2,530 bowstaves. At the end of Sleaford's keepership there remained in the armoury at the Tower:

1,260 white bows,
 384 painted bows,
 2,693 sheaves of arrows (64,632),
 2,000 arrowheads,
 13 gross of bowstrings (1,782).

John Hatfield's account of 1378–81 records the purchase of 640 white bows and 380 sheaves of arrows, part of a series of purchases from suppliers including John Maire, Robert Dawe, Robert Foxle and Walter Alresgate.⁴⁷⁰ Calais was issued with 600 bows, 1,250 sheaves of arrows (30,000) and six gross of bowstrings (864) for its defence. Portchester Castle was issued with fifty bows and 100 sheaves of

⁴⁶⁹ Ormrod, *Edward III*, 573–4.

⁴⁷⁰ The mutilated TNA, E 101/400/10. For these bowyers and fletchers, a new group all unrecorded elsewhere, see Appendix of names.

arrows. Philip Walewyn⁴⁷¹ at Corfe Castle was issued with thirty bows and sixty sheaves of arrows. Edmund of Langley⁴⁷² was issued with 1,000 bows, 384 of them painted, 2,000 sheaves of arrows (48,000) and sixteen gross of bowstrings (2,304), all packed in twelve long coffers for the expedition to Portugal of 1381.⁴⁷³ The account notes the haste with which this order was assembled; the expedition sailed on 15 May, but one at least of the orders for its equipment was dated 24 May. It is one of few issues for a specific number of archers from which the number of arrows and bowstrings per bow for an expedition (forty-eight and two) is explicit. The theft of arms from the Tower in July 1381 included 819 bows, but only fifteen sheaves of arrows and sixteen (376), a very small quantity from the stores there, as Tout pointed out.⁴⁷⁴

There remained after Hatfield's death in office:

1,046 bows,
995 sheaves of arrows (23,880),
1,700 arrow heads.

Hatton's keepership of 1381–8 records extensive acquisitions and issues from the armoury. The purchases comprised 3,320 bows, 4,648 sheaves of arrows, 4,000 arrow heads, 168 gross of bowstrings. Additionally there was a new subvention of bows and arrows from the counties in 1382, totalling 3,270 bows and 2,030 sheaves of arrows, itemised as:

300 bows and 200 sheaves of arrows from Buckinghamshire on 16 January,
300 bows and 200 sheaves of arrows from Surrey and Sussex on 22 January,
50 bows and 40 sheaves of arrows from Oxfordshire and Berkshire on 26 January,
120 bows and 110 sheaves of arrows from Hereford on 6 February,
764 bows and 500 sheaves of arrows from Lincoln on 23 February,

⁴⁷¹ Constable of Corfe Castle, see Appendix of names.

⁴⁷² Earl of Cambridge, see Appendix of names.

⁴⁷³ Sumption, *Divided Houses*, 431–7.

⁴⁷⁴ Tout, *Chapters*, iv, 461.

200 bows and 100 sheaves of arrows from Rutland on 24 February,
 400 bows and 200 sheaves of arrows from Gloucestershire on 22 March,
 400 bows and 300 sheaves of arrows from Essex and Hertfordshire on 26 March,
 436 bows and 140 sheaves of arrows from Nottingham and Derby on 29 March.⁴⁷⁵

Henry Despenser, bishop of Norwich, was issued with 1,000 bows, 1,500 sheaves of arrows and ten gross of bowstrings (1,440) for his crusade to Flanders of 1383, by another retrospective order dated 6 July.⁴⁷⁶ Roxburgh Castle was issued with 100 bows, 200 sheaves of arrows and 1,000 bowstrings by order of 15 February 1383. Simon Martin,⁴⁷⁷ for his majesty's barge the *George* of Dover was issued by order of 15 February 1384 with 200 bows, 400 sheaves of arrows and 2,000 bowstrings for the town and castle of Berwick-upon-Tweed. Another issue for the defence of Berwick and Roxburgh comprised 308 bows and 409 sheaves of arrows and two gross and five dozen bowstrings (348) all packed in twenty coffers. Among the Cinque Ports, Sandwich was issued for its defence with fifty-two bows, forty sheaves of arrows and two gross of bowstrings. The Bargate at Southampton was issued with twenty-four bows, fifty sheaves of arrows and 200 bowstrings in addition to the gunpowder weapons that were sent there. Calais was issued with a further 1,000 bows, while Brest received 520 bows, 800 sheaves of arrows and thirty gross of bowstrings (4,320).

Hatton's third account for 1393–6 records the purchase of 2,350 bows, 8,726 sheaves of arrows, fifty-nine gross, four dozen and eight bowstrings (8,552) and 4,780 arrow heads.⁴⁷⁸ Dublin Castle was issued with 778 bows, 3,748 sheaves of arrows and forty-eight gross of bowstrings by order of 21 September 1396. A further

⁴⁷⁵ TNA, E 101/400/22.

⁴⁷⁶ The expedition, which culminated in the failed siege of Ypres, sailed in May, see Sumption, *Divided Houses*, 471–2, 494–504.

⁴⁷⁷ See Appendix of names.

⁴⁷⁸ TNA, E 101/402/14.

1,586 bows, 1,908 sheaves of arrows and twenty-five gross of bowstrings were issued for the king's expedition to Ireland. After Hatton's death remained in the armoury:

2,328 bows,
3,822 sheaves of arrows (91,728),
44 gross and 10 dozen bowstrings (6,456).⁴⁷⁹

John Lowick's account for 1399 gives a detailed picture of the continual provision of archery equipment at the Tower at the close of the fourteenth century.⁴⁸⁰ 1,300 white bows, 3,100 sheaves of arrows and fifteen gross of bowstrings were purchased, from named London suppliers, though the roll is extensively damaged and many of the names are lost. Seven individual fletchers provided headless arrows at 18d. a sheaf, in quantities of 400, 300, 300, 158, 100 each from John Banastre, William Burton, Simon Ashton and Richard Chamberlain,⁴⁸¹ and 1,100 from Stephen Seder.⁴⁸² Randolph Strenger and William Strenger provided eight and seven gross of bowstrings respectively, at 6s. 8d. a gross.⁴⁸³ John Dernford, John Bourne and Geoffrey Barel, all London bowyers,⁴⁸⁴ supplied 500, 552 and 300 bows respectively at 14d. each. In the period between Hatton's last account and Lowick's, substantial quantities of archery equipment had been acquired, as the latter received 2,318 bows, 6,062 sheaves of arrows (145,488) and 70,480 arrowheads. For the king's expedition to Ireland in 1399, 1,500 bows, 3,000 sheaves of arrows (*garbas de setes*, rather than *garbas sagittarum*) and twenty gross of bowstrings were issued. 64,000 arrowheads were expended in the preparation of arrows for this expedition. Dublin Castle was

⁴⁷⁹ Also listed in the indenture TNA, E 101/403/8.

⁴⁸⁰ TNA, E 101/403/20.

⁴⁸¹ See Appendix of names for these fletchers, all otherwise unrecorded.

⁴⁸² A well-known London fletcher, see Appendix of names.

⁴⁸³ See Appendix of names for these otherwise unrecorded stringmakers.

⁴⁸⁴ See Appendix of names; Dernford is a well-known bowyer.

issued with 500 bows, 3,000 sheaves of arrows (72,000) and thirty gross of bowstrings (4,320). 1,760 bows and 130 sheaves of arrows remained to be transferred to John Norbury.

Norbury's account of 1404–6 records the issue of 90 bows, 486 sheaves of arrows, and two gross of bowstrings to Thomas Beaufort,⁴⁸⁵ for use on the fleet, and the account recorded that forty bows, 263 sheaves of arrows and eight gross of bowstrings were expended by the masters of various ships and other mariners. There remained in the armoury 842 bows and 3,907 sheaves of arrows (93,768) to be passed on to the next keeper, Henry Somer.⁴⁸⁶

The accounts of archery equipment in the Tower armoury under the privy wardrobe in particular provide the most extraordinarily detailed account of this aspect of English military equipment in the Middle Ages. Throughout the period of the privy wardrobe in the Tower the longbow was the most important weapon of the English army. Despite the call for huge quantities of bows, arrows and bowstrings, the accounts of the Tower armoury show that there were stocks of bows throughout the period. The stock level shows a pattern of rise and fall slightly different from that exhibited by munition armour. The stock of bows rose to just above 20,000 after Poitiers, fell to 4,500 in the early 1360s, rose above 5,000 in the late 1360s, fell to just over 1,000 in the early 1380s, rose to just over 7,500 in the late 1380s and fell to below 1,000 by 1405.

A similar pattern is observed in the stocks of bowstrings and of sheaves of arrows, considered in ratio to the numbers of bows. Bowstrings were held at a ratio of 2.5:1 during the 1350s, fell to about 0.5:1 during the 1360s and 70s, were raised to just over 3:1 in the late 1380s, and remained over 2:1 into the early fifteenth

⁴⁸⁵ Duke of Exeter, admiral of the fleet, see Appendix of names.

⁴⁸⁶ TNA, E 101/404/25, E 101/405/4.

century. Sheaves of arrows were held at a ratio of 1.5:1 during the 1350s, fell to about 0.5:1 during the 1360s and 70s, falling as low as 0.1:1 in the mid-1370s, were raised to just over 1:1 in the late 1380s, and were raised over 4.6:1 in the early fifteenth century though they dipped to 0.1:1 in the late 1390s.⁴⁸⁷

These figures merely record the numbers of bows, bowstrings and sheaves of arrows in the Tower at the times when inventories were taken, but certainly indicate a general trend to hold high stocks of these weapons during the active campaigning of the 1340s, 1350s and late 1380s, and the active defence policy of the late 1370s, and to allow them to subside to a level which, though low, was still capable of sustaining a significant force of archers during the periods of peace, of Brétigny in the 1360s and of Leulinghen in the 1390s. The quantity of military (white) bows purchased during periods of peace, by Henry Snaith during the early 1360s, and by John Lowick in the 1390s, is testimony to the imperative to retain stocks of archery equipment at the Tower.

2.5 Close combat weapons

The assemblage of munitions for Bordeaux at the Tower in 1324 contains relatively little in the way of close combat weapons. Robert Pippishull's account only records 100 gisarmes, staff weapons with blades at the head, bought for £3 15s. (9d. each), 134 gisarmes made new in the Tower from heads bought for 21s. (just under 2d. each), fitted with hafts by workmen at the Tower, and 201 lance staves also made in the Tower.⁴⁸⁸ 175 of the gisarmes were issued for transport to Gascony, while fifty-five remained at the Tower. The lance staves remained behind also. In 1330 John

⁴⁸⁷ The provision of 3,000 sheaves of arrows for Richard II's expedition to Ireland in 1399 explains this dramatic drop in stocks, see above.

⁴⁸⁸ TNA, E 101/17/6; see C. Blair, *European and American Arms* (London, 1962), 22, 24 for the gisarme, which Blair suggested might be an early form of the military bill.

Haddon's receipt of the Tower armoury from John Cromwell includes twenty-five lances with heads, 460 darts, thirty-four hafts for darts, thirty-nine gisarmes and two gisarme heads.⁴⁸⁹

The swords, daggers and banners of Edward II were received by John Fleet from William Langley in 1325:

35 swords, 1 decorated with emeralds and silver with a belt (*rangia*) decorated with white pearls lacking its chape; 1 war sword decorated with gold, the scabbard (*vagina*) and belt embroidered with the arms of France, lacking its chape; 1 war sword decorated in silver with scabbard and belt embroidered with the arms of England and silver griffins; 1 long great sword with a scabbard of black velvet with a belt of deer hide; another great sword garnished with black leather with a belt of deer hide; another long sword with black leather and russet leather belt; 1 long sword garnished with black leather, with a white leather belt; 1 sword decorated in silver with a belt of white silk and a scabbard of leather lacking its chape; 1 sword decorated with silver, with a belt of green silk gilded, and a scabbard of leather; 1 sword decorated with silver, with a belt of silk and a scabbard of green cloth; 2 large swords decorated with silver the scabbard of one of red silk fretted with gold and the belt covered with cloth of gold; 1 sword lacking its scabbard, with pommel and guard (*pumello et cruce*) of silver; 3 swords covered in black leather with belts of silk decorated with silver; 1 sword covered with red silk fretted with blue, with belt of silk decorated with silver, 9 swords of various types, 1 without a belt; 5 swords without scabbards, 1 with a pommel of jasper and guard of silver,
 5 daggers (*panadis*), 1 decorated with silver, lacking its chape, 2 covered in black leather, 1 small dagger covered in red leather, 1 other dagger lacking its scabbard,
 3 axes (*hachiis et hachetis*),
 6 banners, 2 in silk of the arms of England, 2 in silk of the arms of St Edward, 1 of the arms of St Edmund, 1 of the arms of St George,
 130 lance pennons, 40 in silk, 70 in cloth, 20 in green cloth with white ends.⁴⁹⁰

There is a parallel description of the swords and daggers in French in the water-damaged indenture of 1325, but much of the relevant text is now lost:

1 sword decorated with silver ... of crystal of which the ... damaged, 1 dagger decorated with silver ... the sleeve damaged, 1 dagger decorated with silver ... covered in russet leather and the hilt of black leather,' 'and the belt of ... russet leather. 1 other long sword ... belt of

⁴⁸⁹ TNA, E 101/36/7.

⁴⁹⁰ BL, Add. MS 60584, f. 16r.

white leather, 1 other sword decorated with silver, the belt of yellow silk ... leather lacking its chape. 1 other sword decorated in silver, the belt of green and gold silk and the ... other sword decorated with silver the belt of silk and covered in green twill. 2 large ... and the scabbards of a cloth of scarlet silk fretted gold and the belt covered in cloth of gold without ... of silver lacking its chape. 2 other daggers covered with black leather. 2 small daggers ... another dagger lacking its scabbard. 1 sword without scabbard, the pommel and guard of silver ... of silver, one sword covered in silk' ... 'arms of the earl of Hereford and the belt of gold work ... the belt of green silk decorated with silver gilt. 1 sword covered with silk ... of two arms decorated in silver. 1 sword covered in black leather tooled ... decorated with silver, the belt of red silk decorated with silver. Item 1 sword covered with ... silk decorated with silver, dagger covered with black leather tooled the belt covered with green silk ... sword covered in black leather.⁴⁹¹

The purchases made by Fleet during 1337–44 included only two swords, nine daggers and three maces (*masuelis*),⁴⁹² but in total his receipt comprised:

1,471 lances,
399 lance heads,
20 gisarmes,
2 banners,
92 lance pennons,
34 standards,
3,600 caltrops.⁴⁹³

Fleet's account records the issue to Thomas Snetesham in 1337 for the fleet of 892 lances, 300 darts, twenty gisarmes, ninety-five lance pennons and all 3,600 caltrops.⁴⁹⁴ In the same year, twenty-two swords were given as gifts, ten on 15 March to a group including the young Edward the Black Prince, Henry of Grosmont, William de Bohun, earl of Northampton, Robert Ufford, earl of Suffolk, and inevitably Sir John Molyns, and others with gifts of armour, such as that to Sir Thomas le Brut, whose sword was from Florence; four daggers were also issued, to

⁴⁹¹ TNA, E 101/390/7, fragments 2, 6, 11 and 22.

⁴⁹² BL, Add. MS 60584, ff. 44v, 45r, 47r.

⁴⁹³ BL, Add. MS 60584, f. 48v; the latter are devices usually with four spikes, intended to land on three when scattered, leaving one pointing upwards, usually used by infantry as a defence against cavalry.

⁴⁹⁴ BL, Add. MS 60584, f. 51v; TNA, E 101/388/1.

John Fleet himself (with a note explaining that they had come from William Langley in 1325).⁴⁹⁵

	1344	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
lances, war, long		1	356	156	81	427	111	330	1540	443	350	138
lance heads	25	836		200	206	28	28	62	98	89		
short lances, darts								8,767	8,757	8,076	8,076	4,220
short lance heads								163	163	163		
jousting lances					11	15						
coronels			2	2	32	32	32	31	31	31	56	
grators					4	2		4+3	4+3	3	3	3
vamplates		3	3								24	
bannerstaves			12					100	100	100	9	20
standards						172	154	114	114			
pennons						190	190	190	190	190	190	
swords	25	26	876		104	103	85	82	82	82	82	82
scabbards	5	5	5									
gisarmes		5										
pollaxes			182			181	53	22	345	187	172	266
caltrops						10,000	8,100	8,100	8,100	8,100	8,100	
picks						181	119	112	112	14	7	6
shovels						260	255	253	253	118	128	
fenders						21	21	21	21	21	21	

Table 11 Summary of weapons in the armoury, from receipts and remains, showing the great expansion in holdings in the last quarter of the century.

The account of Robert Mildenhall for 1344–51 includes in the armoury after the death of John Fleet in 1344 a quite meagre collection of close combat weapons.⁴⁹⁶ These include a godendag, the characteristic heavy mace of Low Countries communal infantry, which may very well be one of the small group of maces acquired by Fleet in the late 1330s.⁴⁹⁷

The return of spoils from Caen in Normandy included:

- 1,208 lances for war with heads,
- 200 new lance heads,
- 57 standards with leopards in chief,
- 1,309 lance pennons, 60 of them square.

⁴⁹⁵ BL, Add. MS 60584, f. 45v; for the individuals named, see Appendix of names.

⁴⁹⁶ TNA, E 372/198, rot. 34, m 2d.

⁴⁹⁷ See J.F. Verbruggen, 'De Godendag', *Militaria Belgica*, 1 (1975), 65–70

A separate return from the king and others at various times during the period of the account included:

5 gisarmes,
86 standards,
791 lance pennons for the valets.

Many of these were immediately issued to Thomas Rolleston, clerk of the chamber, in 1345:

1,208 lances,
62 standards,
1,500 lance pennons.

Swords were included in three of the king's gifts to nobles and men-at-arms, also comprising a crossbow and baldrick, to Thomas Beauchamp, earl of Warwick, John de Lisle and Robert Mauley in 1345.⁴⁹⁸ Another eighty-one standards, 601 lance pennons (sixty of them square) were issued to William Tamworth in 1350.⁴⁹⁹

The remain of the armoury in 1353 included:

26 swords, 1 for the tournament and 2 worn out,
4 daggers, 3 of them in 'Saracen style' and 1 plain,
5 scabbards for swords (*scauberces*), 3 of them decorated with silver gilt, 2 decorated with latten,
336 lance heads, 320 for war, 8 for glaives, 2 for 'great lances' and 1 small one,
5 gisarmes called 'hasgayes'.⁵⁰⁰

In William Rothwell's account eleven bannerstaves (corrected from lances) bound with iron for banners were supplied by Peter the lance maker and Andrew the king's painter, for 5s. a piece.⁵⁰¹ Andrew the painter was responsible for purchasing 500 heads for lances of war at 4s. 8d. each (20s. per hundred, only the total is

⁴⁹⁸ For these individuals, see Appendix of names.

⁴⁹⁹ Clerk of the chamber, see Appendix of names.

⁵⁰⁰ For this rare usage, see D. Scott-McNab, 'The treatment of *assegai* and *zagaie* by the *OED*, and of *assegai* by the *Dictionary of South African English*', *Neophilologus*, 96 (2012), 151–63

⁵⁰¹ TNA, E 101/392/14, edited in chapter 3.2 below; see Appendix of names for what little we know of the makers.

specified). In the next section is one lance given to the king by Thomas Rokeby.⁵⁰² Included in the return of arms from Calais in 1363 were 850 old, useless and valueless swords, 182 staves and axes and 200 lances, all rotten and useless. This is the earliest mention of axes, most likely pollaxes capable of being wielded in two hands, in the privy wardrobe accounts, indicating that they had been used by English men-at-arms for some time. In 1359, 155 lances and two coronel lance heads for the joust were deposited by Richard Carswell.⁵⁰³ The total receipt corresponds exactly with these figures.

That Rothwell disposed of most of these weapons is clear from the receipt in Henry Snaith's account for 1360–2.⁵⁰⁴ All that remained were 156 lances 'for war', 200 lance heads and the two coronel heads for the joust, and all these remained in the armoury to the end of that account. In Snaith's second account, an interesting group of tournament weapons appears with prices. Deposited by Richard Carswell were:

- 2 coronel lance heads, valued at 24s. (12s. each),
- 4 coronels valued at 16s. (4s. each),
- 12 normal coronels valued at 24s. (2s. each),
- 12 small coronels valued at 18s. (1s. 6d. each),
- 2 lance staves without vamplates, valued at 12s. (6s. each),
- 12 small lance staves at 60s. (5s. each),
- 4 grators.

Coronel or rebated lance heads are those used for the joust of peace (*Gestech*), which was the most popular form of joust in western Europe. The grators were iron circles which fitted over the tapering lance butt and engaged on impact with the lance rest on the cuirass, stopping the lance in its recoil and transferring its full impact to the target. The earliest known example of a lance rest, fitted to the

⁵⁰² Sheriff of Yorkshire see Appendix of names.

⁵⁰³ Valet of the king's arms, see Appendix of names.

⁵⁰⁴ TNA, E 101/394/2.

earliest known solid plate breastplate, is from Churburg, and is currently thought to have been made about 1370. Included in the issues were eighty-eight lances sent to Queenborough Castle.

John Sleaford's receipt from Snaith in 1364 included:

3 lance staves without vamplates (*stufs lancearum sine avantplate*),
 8 small lance staves and the four grators,
 81 lances for war,
 200 lance heads,
 32 coronels.⁵⁰⁵

Included in the extensive purchases that characterise his first account are eighty-six swords at 3s. 4d. each, nineteen swords at 2s. each and six heads for lances for war at 18d. each, all from John Salman of London.⁵⁰⁶ The remain in 1369 includes almost all those objects.

Sleaford's third account, for 1373–5, includes in the receipt from the previous account:

4 grators,
 15 lance staves without vamplates, 12 of them small,
 32 coronels associated with the tournament,
 103 swords,
 188 axes,
 230 standards of worsted, 62 with the arms of the king, 168 with the arms of St George,
 190 silk or taffeta lance pennons with the arms of St George,
 400 shovels,
 20,000 caltrops.

The expenses record the employment of three workmen for four days and six for four days at 6d. per day for fixing heads to lances for war and 'burring' (*brurwyns, burren*) the same, for which one horse hide, 100 nails at 3d. a hundred

⁵⁰⁵ TNA, E 101/395/1.

⁵⁰⁶ See Appendix of names for this London merchant.

and 1,000 tacks at 1d. a hundred were also bought, a total price of 13s. 6d.⁵⁰⁷ The burr or burre is a ring of leather fastened to the tapering butt of the lance designed to check the backward movement of the lance against the lance rest, in the same way as the metal grator or grapper operated on a jousting lance. The account describes the ‘helving’ (fitting hafts to) of ten ‘hachetts’, axes or pollaxes, ‘in the manner of picks’ together with eight guns (the same verb is used, and the process was clearly very similar) for 13s. The axes again most likely represent pollaxes, by this time the most popular hand-to-hand weapon of the men-at-arms.

A barrel for the caltrops was purchased too, for 10d., also for the king’s attempted relief of La Rochelle of 1372.⁵⁰⁸ Also required on the voyage were picks; Stephen Smith supplied 200 at 12d. each and five workmen were employed for 6d. a day for three days helving 194 of them for 7s. 6d., with hafts of ash which cost 6s. 6d. (making the total cost about 13d. each). Purchases included 444 ‘long’ war lances fitted with heads at 2s. each and 64 lance heads at 10d. each from Bodkyn Joignour at a total of £47 16s.⁵⁰⁹ This would suggest 14d. as the going rate for a lance stave. Robert Brouderer supplied a standard of worsted with the arms of the king quarterly and another with the arms of St George for 12s. in total. The issues include 10,000 of the caltrops, thirty-one standards with the king’s arms and thirty with the arms of St George to Calais; a sword was given to one of the king’s archers, while the king’s ships received seven hatchets, seventeen long lances, thirty-two lance heads, nineteen picks and forty shovels. Part of the king’s gift to Sir John Holland included a standard with the arms of St George.⁵¹⁰

In 1375 there remained:

⁵⁰⁷ TNA, E 101/397/10.

⁵⁰⁸ Ormrod, *Edward III*, 511–12; Sumption, *Divided Houses*, 153–5.

⁵⁰⁹ See Appendix of names.

⁵¹⁰ Half-brother of Richard II, see Appendix of names.

427 lances for war,
 28 lance heads,
 32 standards with the arms of the king,
 138 standards with the arms of St George,
 103 swords,
 4 grators,
 15 lance staves lacking vamplates, 12 small,
 32 coronels,
 181 picks,
 181 pollaxes,
 10,000 caltrops,
 260 shovels.

Sleaford's final account for 1375–7 has an identical receipt.⁵¹¹ It includes the maintenance of the 427 lance heads for war by one workman working twenty-one days at 6d. a day, with a gallon of oil at 14d. (clearly the heads were those still affixed to lances, though the account mentions only the heads), and of 180 pollaxe heads by two workmen for twelve days and two gallons of oil. Another workman was employed for twenty-four days at the same rate mending and maintaining 125 swords. The purchases include thirty-two swords at 2s. each and six lances of war at 2s. 2d., each from the Flemish merchant Peter Beek in London.⁵¹² The issues include 100 long war lances to Calais; to Richard Taunton at Windsor Castle were issued fifty swords, 100 axes, and 200 long war lances in 1378.⁵¹³ The small issue to Hadleigh Castle in Essex included ten war lances. Nineteen axes were issued to individual men-at-arms, sometimes alone, most often with articles of armour one axe with a mail shirt, or with a pair of vambraces and pair of gauntlets, sometimes as part of a complete or near complete harness: to John Bryan a bacinet and aventail, mail

⁵¹¹ TNA, E 101/398/1, detailed in E 101/397/19.

⁵¹² See Appendix of names.

⁵¹³ Librarian, see Appendix of names.

shirt, jack, pair of gauntlets and a pollaxe;⁵¹⁴ to John Bacon a bacinet and aventail, mail shirt, pairs of plates, vambrace and gauntlets, and a pollaxe.⁵¹⁵

John Hatfield's account of 1378–81 records 301 long (war) lances, sixteen headless, 8,757 short lances, 730 headless, heads for thirty-three long lances and 163 short.⁵¹⁶ This is the first mention of the short form of lance, called 'dartes' in the later accounts, in the privy wardrobe accounts. This is most probably the type of lance that English men-at-arms started to use while fighting on foot in preference to the pollaxe at about this time.⁵¹⁷ This group appears in Hatfield's account as a remain from the previous year, but from where is unclear. Not apparently from Sleaford, whose remain appears in the section of receipt following. A further receipt from Sleaford included 1,159 short lances and thirty-three heads for the same, and all these were recorded as written off during military action. Calais was issued with forty long war lances, twelve banners each of the king's arms quarterly and of St George, the latter with leopards' heads (*cum leopardis in capitibus*). Sir Robert Ashton at Portchester Castle received ten axes and twenty long lances as part of the equipment of the garrison.⁵¹⁸ The theft from the Tower in July 1381 accounted for seven picks, twelve banners, both types included, three swords, twenty-three axes and twelve shovels.

Hatfield's remain and the issue of the armoury to John Hermesthorp is almost identical to the 1377 remain. The receipt of the armoury by John Hermesthorp confirms the remain after Hatfield's death, and the same figures were issued with the armoury to Ranulph Hatton in 1381.⁵¹⁹ Hatton's acquisitions for the armoury

⁵¹⁴ Served under John of Gaunt in 1378, see Appendix of names.

⁵¹⁵ Chamberlain of the exchequer, see Appendix of names.

⁵¹⁶ The mutilated TNA, E 101/400/10.

⁵¹⁷ See for example A. Ayton, 'English armies in the fourteenth century', *The Wars of Edward III*, ed. C. Rogers (Woodbridge, 1999), 317.

⁵¹⁸ See Appendix of names.

⁵¹⁹ TNA, E 101/400/14, E 10/400/16.

included 1,210 war lances, with thirty-six extra heads, and 222 axes, specifically called ‘war axes’ (*hachettos de guerra*) rather than merely *hachettos*.⁵²⁰ Issues included 200 war lances (150 without heads) to Henry Despenser for his crusade to Flanders in 1383.⁵²¹ The second issue for the defence of Berwick and Roxburgh included nine heads for war lances. Odiham Castle received twelve war lances. Only the issue to Brest contained a substantial quantity of these weapons and tools, in the form of 280 war lances (160 with heads), twenty picks (*bech’ vocatos pycois*) and twenty shovels. Finally thirty-eight standards with the arms of the king and ninety-two with the arms of St George, from the group with leopards ‘in the head’ were issued to various knights and others in towns and fortresses on the marches of Scotland.

Hatton’s third account for 1393–6 records the remain from his previous account.⁵²² Just six long war lances were included in the issue to Dublin Castle in 1396. For the king’s expedition to Ireland in 1399, forty banner staves and 647 lances were issued, and owing to a shortage of lance heads, 163 were fitted with heads for short lances and 235 with the heads of springald quarrels.⁵²³ A further 300 lances were issued to Dublin Castle with an equal number of pavises, and seven picks were lost at sea. Apart from the issue of lances, this aspect of the privy wardrobe’s activity had become almost entirely static by the beginning of the fifteenth century.

These weapons do not conform to the tidy patterns exhibited by the missile weapons and armour in the Tower armoury. In several instances we can observe categories of material entering the Tower, often in large quantities, then remaining

⁵²⁰ TNA, E 101/400/22.

⁵²¹ Bishop of Norwich, see Appendix of names.

⁵²² TNA, E 101/402/14.

⁵²³ TNA, E 101/403/20.

unwanted for long periods of time. This occurs with caltrops: a large quantity was bought and issued in the 1330s, and a new batch obtained in the 1370s; the new batch remained in store for the next thirty years. Short lances follow the same pattern: a large quantity were obtained in the early 1380s, and remained in store for the next two decades. Swords follow the pattern set by the knightly armour: a large number were returned to the Tower after Poitiers, mostly worn out or otherwise useless, most of these were disposed of but a rump of about 100 was retained, and these remained in the Tower for the next forty years, unwanted but still on the books, and hence accountable by the keeper. Only pollaxes and lances appear to follow the pattern established by munition armour and bows. Pollaxes do so in very small numbers. These first appear in any quantity in the mid-1370s, and were replenished in the late 1380s and 1400s, falling after each replenishment. Lances were returned in large numbers after Poitiers, reduced by disposal to half their number by the early 1360s, and were replenished in the mid-1370s, early 1380s and late 1380s, again falling by issue after each replenishment. Large stocks of picks and shovels acquired in the mid-1370s were gradually issued, but the set of fenders for boats, also purchased in the 1370s, was evidently unwanted as it remained in the armoury for the next thirty years.

2.6 Ordnance

The records of the Privy Wardrobe at the Tower have long been recognised as of unique importance to the understanding of the early use of firearms in England, and have been transcribed, published and commentated upon in this particular context extensively. The first major study of the evidence for the very earliest firearms in the

privy wardrobe accounts, was published by Joseph Burt in 1862.⁵²⁴ T.F. Tout came across many more references during the preparation of his encyclopaedic study of English administrative records in the Public Record Office. He found ‘the large amount of new material which they supply for the early history of guns and gunpowder in this country ... [and] thought it worthwhile to put together and comment on in this paper the chief texts relevant to this subject down to the deposition of Richard II’.⁵²⁵ Howard Blackmore, then deputy master and keeper of firearms at the Tower Armouries, included transcripts of much of the same documentary evidence from the privy wardrobe accounts in his catalogue raisonné of the artillery collection.⁵²⁶ The privy wardrobe records are therefore well known and studied in this particular regard, and the following account is a brief summary with comments on details which have received little attention in the previous studies.

The earliest evidence for firearms in Britain is the illustrations in the illuminated manuscripts *De secretis secretorum* and *De nobilitatibus, sapientiis et prudentiis regum*, the former copied by Walter Milemete, chaplain to Edward III, the latter composed by him, between 1326 and 1327.⁵²⁷ These show small, vase-shaped cannon, depicted to indicate that they were made of bronze, mounted on wooden trestles.⁵²⁸ No examples of early guns securely dateable to the fourteenth century exist; the earliest cannon, of the type shown in the Milemete manuscripts, is the Loshult gun from Sweden, a small, vase-shaped cannon.⁵²⁹ The earliest guns from England are the two chambered guns of hoop and stave construction in wrought iron

⁵²⁴ Burt, ‘Extracts from the Pipe Roll’, 68–75.

⁵²⁵ Tout, ‘Firearms in England in the fourteenth century’, 666–702.

⁵²⁶ H.L. Blackmore, *The Armouries of the Tower of London, i: Ordnance* (London, 1976).

⁵²⁷ BL, Add. MS 47680, f. 44v and Christ Church, Oxford, MS 92, f. 70v respectively, see Blackmore, *Ordnance*, 1; Tout ‘Firearms in England’, 1968 ed., pl. 1–2.

⁵²⁸ Probably small, though Nick Hall and Robert Smith, then both of the Royal Armouries, attempted a reconstruction scaled according to the figures in the drawing, which was actually very large indeed, improbably heavy and highly ineffectual.

⁵²⁹ Tout, ‘Firearms in England’, 1968 ed., pl. 3.

from Castle Rising in Norfolk, and a small gun recently acquired by the Royal Armouries, excavated from the foreshore of the river Thames, also of wrought-iron construction.⁵³⁰

No references to guns appear in the records of arms at the Tower prior to John Fleet's establishment in the privy wardrobe there. However, there is a reference in what remains of Fleet's own accounts of gunpowder, the purchase of 1 quarter of saltpetre for 6d., 3 lb of 'quick' sulphur (*vivi*) for 2s. 6d., and 4 lb of sulphur *simplicis* for 2s. in his chamber account of January 1333 to 31 July 1334.⁵³¹ Tout expended much effort in correctly countering Sir Nicholas Harris Nicolas's assertion that guns were issued to the navy in 1338.⁵³² The iron pestle and bronze mortar, presumably used for gunpowder, were already in the wardrobe in 1329,⁵³³ and were evidently removed before 1351 as they were returned from France during Rothwell's keepership. They were used, to judge from their position in subsequent inventories, for the manufacture of gunpowder, for which their bimetallic nature would render them eminently suitable. The size is unknown, but the mortar from the infirmary of St Mary's Abbey, York, dated 1308, may be comparable.⁵³⁴

The account of Robert Mildenhall for 1344–51 records the provision of ten guns, two large, together with their stocks (*telaris*) five small barrels of saltpetre, sulphur and 'other powder for the guns', seventy-three large bullets and thirty-one

⁵³⁰ Tout, 'Firearms in England', 1968 ed., pl. 3, 7–9, Royal Armouries nos AL.44.1–2 and XII.11787.

⁵³¹ Tout, 'Firearms in England', 688, TNA, E 101/386/15. For sulphur, see J.R. Partington, *A History of Greek Fire and Gunpowder* (Cambridge, 1950), 48.

⁵³² Tout, 'Firearms in England', 668–9, contra P.H. Nicolas, *The History of the Royal Navy* (London, 1847), ii, 168. Nicolas based this on 'an indenture between John Starlynge, formerly clerk of the king's ships, and Helmyng Leget, keeper of the same . . . dated 12 June, 12 Edward III'. Tout correctly suggested that this should be dated to 1411 (12 Henry IV, see *CPR 1408–13*, 182).

⁵³³ 'Inventory of crown jewels, 3 Edw. III, from a record in the Exchequer', ed. C. Ord, *Archaeologia*, 10 (1792), 249.

⁵³⁴ Alexander and Binski, *The Age of Chivalry*, 244.

small, six pieces of lead, all sent to the king at Calais in 1346.⁵³⁵ The guns with their stocks, the five barrels of gunpowder, six pieces of lead and 100 bullets were shipped in a single crate with two cables on three boats (*shoutes*) to the *Redcog* in the Pool at Greenwich for shipment to France where they were received by Clement atte Merke of the king's chamber.⁵³⁶ The firearms are called *gunnes* or *gunnys* when spelt out in full in the account. As stated elsewhere, Tout's association of these guns with the ribauds prepared for the same campaign is unfounded. It is most likely that the two larger guns were of exactly the type shown in the Milemete manuscripts, requiring trestles, while the other eight could be fired by hand from their tillers. Though all ten of these guns were made to fire bullets, Mildenhall's order for these, dated 1 February 1344, refers to guns with arrows and bullets.⁵³⁷

	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
guns		4	9			22	11	11	50	39	23
canons								87			
pots for canons											6
pellet guns											2
gun powder, lb		16						3976	1022	848	1702
anvils					3						
fraying barrel					1	1	8	8	8	8	3
lead, lb					124	1530	998	1288	848	848	456
moulds					5	4	4	5	4	3	
sulphur, barrels/lb					4			96			600
carbon, barrels								1			
lanterns						60	60	96	12	25	4
firepans, patell' for canons						6	6	30	50	13	6
ladles						6	6	6	3	3	
saltpetre, lb							80	664	108	108	(2370)
gun stones								2113	1356	800	1060
wads								798	350	100	1912
folles								36	22	3	
hammers								25	22	3	13
touches								80	44	24	74
canon beds/stocks								57	28	23	
mandrels								7			1

Table 12 Summary of ordnance in the armoury, from receipts and remains, showing the great expansion in this area in the last quarter of the century.

⁵³⁵ TNA, E 372/198, rot. 34; Burt, 'Extracts from the Pipe Roll'; Tout, 'Firearms in England', 668–70.

⁵³⁶ Tout, 'Firearms in England', 689; for atte Merke see Appendix of names.

⁵³⁷ TNA, E 372/198, rot. 34, m 2; Tout, 'Firearms in England', App. III.

Under Rothwell's keepership four guns of copper made by William of Aldgate at 13s. 4d. each were purchased for the armoury.⁵³⁸ John Byker⁵³⁹ was responsible for purchasing 16½lb of gunpowder at 18d. per lb, together with 6 lb of wax at 7d. per lb, and four hemp sacks at 15d. each. They seem to have remained in the Tower, and were received by his successor, Henry Snaith.

Snaith's account records the purchase from John Cornwall of five guns, ordered by the king on 15 May 1361.⁵⁴⁰ As these were part of a mixed order of weapons their individual cost cannot be ascertained. One small gun of copper was purchased for 6s. 8d. from the same John 'brazier of Cornhill' on 1 August 1361, part of the equipment including the 16 lb of gunpowder, for Lionel of Antwerp's expedition to Ireland as its new lieutenant in 1361–4.⁵⁴¹

John Sleaford's first account of 1365–9 records the receipt of the nine guns and the pestle and mortar from Snaith, and additionally records the finding of two more large copper guns at the Tower.⁵⁴² All of them, the nine smaller and two large guns together with the pestle and mortar were issued in 1365 to Queenborough Castle.

Ordnance activity at the Tower begins in earnest during the period of Sleaford's second account for 1373–5.⁵⁴³ The expenses included 'helving' (fitting stocks to) eight guns and ten pollaxes 'in the manner of picks' (which we know from another reference in the same account were helved with ash hafts), for 13s. A number

⁵³⁸ Keeper 1353–60, see Appendix of names; account TNA, E 101/392/14, edited in chapter 3.2 below, the firearms section transcribed in Tout, 'Firearms in England', app. V; Blackmore, *Ordnance*, 252.

⁵³⁹ The king's artillerer, see Appendix of names.

⁵⁴⁰ Keeper 1360–5 and king's artillerer 1360–4 respectively, see Appendix of names; TNA, E 101/394/2, Tout, 'Firearms in England', app. VI.

⁵⁴¹ Ormrod, *Edward III*, 424–7.

⁵⁴² Keeper 1365–78, see Appendix of names; TNA, E 101/395/1; Tout, 'Firearms in England', app. VII.

⁵⁴³ TNA, E 101/397/10; Tout, 'Firearms in England', app. X.

of workmen spent a total of fifty-eight days at 6d. a day (though the total cost is 33s.) making gunpowder and casting lead bullets at the Tower. A quarter of charcoal at 10d. and half a hundredweight of firewood (*talwod*) at 4s. 4d. were purchased for heating the lead for casting bullets and for drying the finished gunpowder. For the gunpowder 103 quarters of willow charcoal were purchased, at 4s. 6d. a hundredweight, and 400 faggots of willow for charcoal along with 220 lb of saltpetre, but there is no indication of any sulphur being purchased. Three wooden trays for drying the gunpowder in the sun were purchased at 3d. each, and 13d. worth of bronze bowls and plates were purchased for drying the powder over the fire. Twenty four leather bags at a total of 10s. 7d. were purchased for storage and transport of the gunpowder. Two new bronze mortars with three iron pestles together with twelve ladles of iron (*cocleariis*) and ten moulds of latten (*formulis*) for casting lead bullets were purchased along with a pair of scale balances for weighing out gunpowder and sixteen pairs of bellows. Thirty small barrels for casting lead bullets, with hasps and staples and locks, and eight more barrels for gunpowder were purchased. The whole enterprise, undertaken by John Derby, styled ‘clerk of the office of the king’s guns’ cost £25 4s. 8d., and included the services of three workmen for twenty-five days. After his final account he returned to Sleaford the ten bullet moulds, 184 lb of gunpowder made from 135 lb of the saltpetre and 49 lb of sulphur, and a further 242 lb of sulphur. Peter Joigneur⁵⁴⁴ was paid 20s. for a gun of latten ‘with two pots’, identified correctly by Tout as the removable breech chambers of the type originally fitted with the Castle Rising guns.⁵⁴⁵ Stephen ‘Smith’ provided two large iron guns at 40s. each, together with thirteen iron pans at 5s., six iron

⁵⁴⁴ See Appendix of names.

⁵⁴⁵ Tout, ‘Firearms in England’, 1968 ed., pl. 7–9: the two early wrought-iron guns at Castle Rising were originally fitted with such chambers, and three more chambers for larger guns were once there.

hammers at 10d., twenty-eight ramrods (*drivelles*) at 3d. and twenty-eight ‘firing irons’ at 2d.⁵⁴⁶

The issues of firearms were as active as the manufacture and provision of them. Calais was issued with a large gun with three chambers and 300 gun stones (*petris ingeniorum*). William, lord Latimer,⁵⁴⁷ was issued with 200 gun stones for Dover Castle. John Derby⁵⁴⁸ was issued with twenty-nine iron guns, and all the rammers, pans and hammers which were purchased during the same account period from Stephen atte Mersh, all in a Flanders chest, a quantity of lead delivered by Sleaford personally and a pipe and two barrels of saltpetre weighing 1,052 lb for the king’s failed expedition of 1372. Queenborough Castle was issued in 1375 with 30 lb of gunpowder, five moulds for casting bullets, and by a separate order of 1374 with 126 lb of quick sulphur and another 30 lb of gunpowder. At the end of the account only four barrels and 116 lb of sulphur, 124 lb of lead for guns and five bullet moulds remained at the Tower, an illustration of how despite the Tower’s established role as an armoury, stores could be brought in and issued out again without ever appearing on a receipt or remain.

Sleaford’s account for 1375–7 illustrates the continued activity in the ordnance.⁵⁴⁹ Only one purchase was made, of a barrel of saltpetre weighing 252 lb at 8d. per lb purchased from John Donat for £8 8s. John Derby⁵⁵⁰ returned to store six fire pans and ladles, twenty-four guns, 1,530 lb of lead and one of the bronze mortars and iron pestles. The issues comprised 101 lb of gunpowder, the barrel of sulphur weighing 252 lb purchased during the account, another barrel of sulphur weighing

⁵⁴⁶ Stephen atte Mersh, king’s smith in the Tower, see Appendix of names.

⁵⁴⁷ Constable of Dover Castle, see Appendix of names.

⁵⁴⁸ Clerk of the king’s guns, see Appendix of names.

⁵⁴⁹ TNA, E 101/397/19, E 101/398/1, Tout, ‘Firearms in England’, app. XI.

⁵⁵⁰ Now formerly former clerk of the king’s guns, and probably about to take up his post in Berwick, see Appendix of names.

280 lb and 100 gun stones to Calais by letter of privy seal dated 6 November 1375.

Two guns were sent to the king by the hand of Richard Swift, for which the instruction of 4 May 1377 also survives, ‘nostre mestre carpenter, deux petites canons esteantes en votre garde a ce quest dit, que feurent a notre seigneur et aiel susdit’.⁵⁵¹

During the first four years of the reign of Richard II, the activities of the ordnance department at the Tower almost ceased. John Hatfield, appointed keeper on the accession of Richard II, inherited:

4 bullet moulds,
22 guns (of the 24 returned from John Derby),
6 fire pans and ladles,
the pestle and mortar,
1,530 lb of lead bullets.

These appear in the same sequence and form of words in the receipt in Sleaford’s remain and Hatfield’s receipt. Hatfield’s account records the issue in 1381 to Portchester Castle of three guns, 103 lb of lead cast in bullets and in one barrel, and to Corfe Castle of four guns and 1,000 lead bullets weighing 285 lb.⁵⁵² His remain, passed on to the next keeper, John Hermesthorp, comprised:

4 bullet moulds,
11 guns,
6 fire pans and ladles,
the pestle and mortar,
988 lb of lead bullets.

This leaves four guns unaccounted for. Two of them were reported stolen by the *communes rebelles insurgentes* in 1382 (with no ammunition). The remaining

⁵⁵¹ The king’s carpenter, see Appendix of names; TNA, E 101/396/15; Tout, ‘Firearms in England’, App. XI.

⁵⁵² Keeper 1378–81, see Appendix of names; in the mutilated TNA, E 101/400/10, the weight given as *cc dim. xxxv lb*. Tout, ‘Firearms in England’, app. XII, has *vc pelletas plumbi*.

two guns (*canones vocati gunnes*) and 172 lb of lead were sold off as surplus together with various pieces of armour and thirty-six shields. Hermesthorp's equally brief keepership of 1381–2 encompassed only the purchase of 80 lb of saltpetre from William Arblaster at 20d. per lb.⁵⁵³ The receipt from Hatfield and the issue to Hatton are identical (with the addition of the saltpetre).

The following decades saw the most extensive acquisition and issue of firearms. Included in Ranulph Hatton's⁵⁵⁴ purchases were:

66 large guns of copper for firing stones, priced by weight: 3 weighing 600 lb at 4d. per lb, 7 smaller cannons weighing 484 lb at 4d. per lb, 5 weighing 1,590 lb⁵⁵⁵ at 3d. per lb, subtotalling £23 3s. 9d.; 47 large cannons weighing in total 17,875 lb (159 cwt 67 lb, so 380 lb each if they were all the same) at 4d. per lb, totalling £297 18s. 4d.; a large cannon with one bore or barrel for large gun stones and ten bores or barrels for bullets or large quarrels weighing 665 lb for £12 5s. 8d., all from William Wodeward;⁵⁵⁶ 1 weighing 210 lb, 1 weighing 212 lb, 1 weighing 175 lb at the same rate, totalling £9 16s. 10d. at 3½d. per lb from John Molling,⁵⁵⁷

9 small copper cannons designed for shooting bullets and quarrels, weighing a total of 283 lb (so 31 lb each if they were all the same) at 4d. per lb also from William Wodeward, 17 small iron guns designed to fire bullets, 1 at 40s., 2 at 29s. 3d., 6 at 39s. 3d., 6 at 20s. each, from Stephen atte Mersh,⁵⁵⁸ 1 at 20s., 1 at 26s. 8d., from William Byker,⁵⁵⁹

3,976 lb of gunpowder, 3,916 lb at 18d. per lb from William Wodeward; 60 lb at 16d. per lb from William Byker,

584 lb of saltpetre, 404 lb at 18d. per lb, 22 lb at 16d. per lb, 40 lb at 15d. per lb from William Wodeward; 12 lb at 12d. per lb, 6 lb at 2s. 6d. per lb from William Byker, 40 lb at 3s. 4d. per lb from John Boveshall,

52 large wooden beds (*truncis grossis*) for cannons, bound with iron, 3 at 18s. 4d. each, 46 at 20s. each, 1 for a large cannon with eleven barrels at 30s., and 2 more for even larger guns at 46s. 8d. each,

ironwork and binding for 7 small cannon at 7s. 6d. each, intended for Berwick and Roxburgh 4 stocks called *baculos*, large and iron bound for smaller cannon, at 3s. 4d. each,

⁵⁵³ Keeper 1381–2 and king's esquire respectively, see Appendix of names; accounts TNA, E 101/400/14, 15, and 16; Tout, 'Firearms in England', app. XIII.

⁵⁵⁴ Keeper 1381–96; account TNA, E 101/400/22, 23; Tout, 'Firearms in England', app. XIV.

⁵⁵⁵ 14 cwt and 22 lb, *m' iij^c. xxij lb per centenam de v^{xx}. xij lb.*

⁵⁵⁶ Gunfounder of London, see Appendix of names.

⁵⁵⁷ Gunfounder, see Appendix of names.

⁵⁵⁸ King's smith in the Tower, see Appendix of names.

⁵⁵⁹ King's artillerer in the Tower, see Appendix of names.

96 lb of sulphur at 2d. per lb from William Wodeward,
 1 barrel of powdered willow charcoal for 18d. from William Wodeward,
 2,113 gun stones, 2,000 at 4d. each from William Wodeward, 13 gun stones at 2s. 2d., and
 100 gun stones at 3d. from John Molling,
 a bullet mould for 6s. 8d. from William Wodeward,
 100 wooden wads for 4s. from William Wodeward,
 300 lb of lead for casting bullets at 7s. 5d. per hundred from William Wodeward,
 798 wooden wads at ½d. each from John Molling,
 24 iron pans or fire pans ‘for keeping fire for the guns burning’ at 3s. 4d. each from Stephen
 atte Mersh,
 12 iron hammers from Stephen atte Mersh,
 7 iron mandrels weighing 44 lb at 2d. per lb from Stephen atte Mersh,
 80 iron ‘touches’ at 1d. each from Stephen atte Mersh,
 3 leather bags for gunpowder at 12d.

The cannon with eleven barrels is unusual, but not unique. Another gun of exactly this form, though presumably much larger and probably later, survives in the collection of the Askeri Müze, Istanbul, cast in bronze with eleven integral barrels, a central barrel with a bore of 195 mm and ten surrounding barrels of 130 mm, and dated in the engraved inscription recording its capture from the Venetians and re-use by the Turks 1126 AH (1714–5), while there is another in the Musée de l’Armée, Paris, with nine integral barrels, similarly arranged with eight smaller ones around a large central bore. The term *baculus* for a gun stock is most probably cognate with the *bastons* used in Burgundy as stocks for *coulvorines*.⁵⁶⁰ The iron plates, almost certainly what are called fire pans in the previous accounts, were clearly intended for keeping a fire burning beside each guns in order to heat the ‘touch’ which was applied to the priming powder. The iron mandrels were for forming wrought-iron barrels, made on the hoop and stave construction found on all such fourteenth and

⁵⁶⁰ See R.D. Smith and K. De Vries, *The Artillery of the Dukes of Burgundy 1363–1477* (Woodbridge, 2005), 217–18.

fifteenth century iron guns from Europe, such as the Boxted bombard.⁵⁶¹ Two workmen were employed for six days at 7d. per day rounding gun stones, and two more for two days removing them from the ‘great hall in the Tower to the small tower next to William Byker’s house prior to the arrival of the king’ in time for Christmas 1387.

Roxburgh Castle received four cannon and 60 lb of saltpetre in 1384.⁵⁶² The *George* was issued with eight cannon, 60 lb of gunpowder and 40 lb of saltpetre for carriage to Berwick-upon-Tweed. John Derby, now clerk of the wardrobe at Berwick, was issued in 1386 with two cannon, one with a removable breech chamber (*cum uno capite*) and sixty gun stones. A separate issue to Berwick in 1387 contained a large cannon with two chambers and a bed, three small cannon of bronze *vocatos handgonnes*, a bullet mould of copper and thirty-one large quarrels for cannon. This and the references to guns designed for bullets or large quarrels in the same account are the only references in the privy wardrobe accounts to the gun arrows illustrated in the Milemete manuscript. The Cinque Ports received four cannon, 200 lb of gunpowder and 100 lb of saltpetre in 1386, while Rye Castle was issued separately with 60 lb of gunpowder. The Bargate at Southampton received three cannon *vocatos gunnes* and 200 lb of gunpowder in 1386.⁵⁶³ Portchester Castle received two cannon, a large one of bronze with two chambers weighing 242 lb, another the same but weighing 157 lb, and 100 lb of gunpowder in 1386. John Roches at Brest in Brittany⁵⁶⁴ received:

4 large cannon with beds firing stones, one with two chambers,
1,457 lb of gunpowder,

⁵⁶¹ R.D. Smith, ‘The technology of wrought-iron artillery’, *Royal Armouries Yearbook*, 5 (2000), 68–79.

⁵⁶² In TNA, E 101/400/27 ‘deux gunnes grandes et deux gunnes meyndres de cupro’.

⁵⁶³ In TNA, E 101/400/27 ‘trois canons pur peres dont un grand et deux moindres’.

⁵⁶⁴ Captain of Brest, see Appendix of names.

256 lb of saltpetre,
 56 lb of sulphur,
 the barrel full of powdered willow charcoal,
 300 lb of lead for casting shot 'for the small cannon',
 500 gun stones for the larger cannon.⁵⁶⁵

The ordnance for Richard II's expedition to Ireland of 1394–5 comprised:⁵⁶⁶

12 cannon, large and small, with stocks or beds,
 3 large and 4 small mandrels,
 306 gun stones,
 140 lb of lead bullets,
 966 lb of gunpowder,
 406 wads,
 3 iron pans,
 3 sets of bellows,
 20 touches of iron,
 6 leather bags for gunpowder.

John Lowick's account for 1396–9 gives a few particulars of ordnance, with a little new detail. He received from Hatton's executors:

50 guns of iron and bronze,
 23 iron fire pans,
 3 ladles of iron,
 108 lb of saltpetre,
 1,022 lb of gunpowder,
 848 lb of lead bullets,
 1,356 gun stones,
 350 wooden wads,
 43 iron touches,
 28 cannon stocks.

Only twelve bags of white leather were purchased. Sir John Stanley at Roxburgh Castle was issued in 1397 with:

⁵⁶⁵ Extra detail in TNA, E 101/400/27; Tout, 'Firearms in England', app. XIV.

⁵⁶⁶ See Saul, *Richard II*, 278–85; E. Curtis, *Richard II in Ireland, 1394–5, and Submissions of the Irish Chiefs* (Oxford, 1927).

3 cannons, one with two beds or stocks (or possibly chambers or barrels, *dupliciter*) and two for firing bullets,
 20 gun stones,
 14 wads and fire pans,
 7 touches,
 11 lead bullets,
 20 lb of gunpowder.

John Elkington⁵⁶⁷ at Holt Castle received:

4 cannons with double stocks,
 80 gun stones,
 80 wads,
 80 lb of gunpowder,
 1 fire pan,
 2 hammers.⁵⁶⁸

It seems most likely that these ‘double stocks’ were fitted one on top of the other, enabling the barrel to be elevated.

Lowick’s account of 1399 gives a detailed picture of the provision of artillery equipment at the Tower at the close of the fourteenth century.⁵⁶⁹ The expenses included the payment of workmen at 6d. per day, five for sixteen days, two for ten days, modifying the beds (*trunca pro canonis*) of eight cannon, with the purchase of iron for binding and timber for the beds; the payment of four workmen at 12d., double the usual pay, for eight days rounding gun stones. Dublin Castle was issued with eight guns with eight beds, evidently the same eight that were modified at the Tower during the period of the account, each gun with one plate (*follis*), hammer, fire pan and two touches, a total of 200 lb of gunpowder, 200 tompions and 200 gun stones. At the end of Lowick’s account the remain in the armoury comprised:

⁵⁶⁷ See Appendix of names.

⁵⁶⁸ Tout, ‘Firearms in England’, app. XV; TNA, E 101/403/13 gives the extra detail of ‘trois canouns daresme, lun troncat double, et deux pur pelletes’ and ‘vynt peres pur le canon troncat’.

⁵⁶⁹ TNA, E 101/403/20, Tout, ‘Firearms in England’, app. XVI.

39 cannon of copper and iron,
 3 ball moulds,
 the pestle and mortar,
 108 lb of saltpetre,
 848 lb of gunpowder,
 848 lb of lead cast into bullets,
 800 gun stones,
 100 tompions,
 3 plates,
 3 hammers,
 24 touches,
 24 gun stocks.

Norbury's account of 1404–6 records the purchase from William Foundour⁵⁷⁰ of twelve cannons with stocks for a total of £46 4s., at an average of £3 17s. each, though only the total is given, six guns shooting bullets (*pelotgunnes*) at 12s. 4d., a total of £3,500 gun stones and the same number of wads, 200 lead shot weighing 1 lb, 8,000 lb of gunpowder, 1,000 lb of sulphur, four mandrels, twenty-four touches and six sets of bellows. The gunpowder was supplied by William Founder, Laurence Cely, Robert Huwys, John Turnepas and John Morris.⁵⁷¹ This section of the roll is damaged, and most of the details of prices of the purchases cannot be read. Six more cannon with beds, sixty gun stones, twenty-four bullets weighing 6 lb in total (4 oz each) were transferred from the chamber. Forty bullets weighing 10 lb (also 4 oz) were returned with three touches from the master of the *Holy Ghost*.⁵⁷²

This is as far as we know the only direct evidence for the size of lead bullets in England in the fourteenth and early fifteenth century. At four bullets per lb (4 bore) such bullets require a bore of about 26 mm, and a number of early handguns, among them the small wrought-iron gun from the River Thames, now in the Royal

⁵⁷⁰ See Appendix of names.

⁵⁷¹ TNA, E 101/404/25; for these suppliers, see Appendix of names.

⁵⁷² William atte Wood, see Appendix of names.

Armouries, have a comparable calibre (allowing for expansion of the metal by corrosion and lamination).⁵⁷³ 1,200 lb of gunpowder was manufactured in the armoury. From the previous account fourteen cannon, 712 gun stones, 675 lb of lead in bullets, 440 lb of gunpowder, nine plates, thirty-three hammers, sixty-six touches, a pestle and mortar, thirteen pairs of bellows, three moulds for casting bullets, four cannon bindings and four beds, six breech chambers (*pott' pro canonis*) and 1,712 wads were transferred.

The account records the issue of two 'stonegunnes' with beds and 100 lb of gunpowder to Sandwich Castle,⁵⁷⁴ 1,000 lb of saltpetre for the manufacture of gunpowder and 600 lb of gunpowder to Gerard Spronge,⁵⁷⁵ 5,000 lb of gunpowder to Pontefract Castle, 100 lb of gunpowder to the Rysbank at Calais,⁵⁷⁶ one cannon with bed to Thomas Bempton, constable of the Tower of London, and six more cannon, together with 285 lb of lead in bullets, 1,238 lb of gunpowder and various sundries, were expended by the masters of various ships and other mariners during the period of the account. Another detailed record of the manufacture of gunpowder in the Tower occurs here: 1,370 lb of saltpetre and 400 lb of sulphur were used to make 1,300 lb of gunpowder, (77:23 per cent allowing equal loss of both components during manufacture), but again the account is unsatisfactory as it does not include the amount of charcoal included in the finished product.

The total issue comprised:

9 cannons of iron and copper,
4 guns shooting bullets (*pelotgunnes*),
212 gun stones,

⁵⁷³ See for example Smith and DeVries, *Artillery*, 218 where despite the richness of the Burgundian ordnance records they have no evidence for the size of lead bullets.

⁵⁷⁴ To John Whittene, yeoman of the chamber and keeper of the meadow outside Sandwich Castle, see Appendix of names.

⁵⁷⁵ King's gunner, see Appendix of names.

⁵⁷⁶ To Thomas Toty, keeper of the Rysbank, see Appendix of names.

285 lb of lead for bullets,
 7,038 lb of gunpowder,
 2,370 lb of saltpetre,
 400 lb of sulphur,
 4 plates (*patella pro canonis*),
 20 hammers,
 20 touches,
 12 sets of bellows.

There remained for the office of the ordnance:

23 cannons,
 2 guns shooting bullets,
 1,060 gun stones,
 456 lb of lead for bullets,
 1,702 lb of gunpowder,
 no saltpetre,
 600 lb of sulphur,
 6 plates,
 13 hammers,
 73 touches,
 7 sets of bellows,
 4 moulds for casting bullets,
 4 cannon bindings (*ligatura canonorum*),
 16 cannon beds,
 the pestle and mortar.

Though the Tower armoury handled guns in small quantities from the 1340s, it was not until the 1370s that large numbers of them appeared. From 1374 onwards, despite the great numbers of guns acquired and issued the stocks of them at the Tower never fell below ten. The active campaigning period of the late 1380s saw the greatest acquisition of guns, but activity in this area continued despite the peace of Leulinghen in the 1390s and into the early fifteenth century. Evidence of the accounts shows constant maintenance of the guns and their equipment throughout the

late fourteenth century, and manufacture, especially of ammunition, also within the Tower.

2.7 Military textiles

In the early days of the privy wardrobe the office handled a very substantial quantity of the king's garments, his wardrobe in the modern sense, as well as the military equipment that forms the focus of this study. Many of the garments were, however, closely associated with armour, and it is useful to discuss them here.

Substantial quantities of garments, some of them clearly military, can be found in Fleet's account of 1325–44.⁵⁷⁷ In the receipt of the armoury of Edward II from William Langley we find a number of types:

20½ coat armours,
3 gambesons,
14 aketons,
a tabard for war,
a gown for war.⁵⁷⁸

Of these the most numerous are the coat armours, which are quite clearly the long, sleeveless surcoats shown on the series of brasses of the late 1320s.⁵⁷⁹ The detailed descriptions of these coat armours make this identification very clear, as several were fitted with ailettes, the standing shoulder defences seen on the Trumpington and Setvans brasses.⁵⁸⁰ The gambesons were quilted coats similarly decorated with

⁵⁷⁷ BL, Add. MS 60584.

⁵⁷⁸ BL, Add. MS 60584, f. 14r.

⁵⁷⁹ D'Abernon, I, Trumpington, Bures, Setvans and Fitzralph: Clayton, *Catalogue of Rubbings*, pl. 1–2.

⁵⁸⁰ BL, Add. MS 60584, 12r. One was the coat armour and ailettes of Piers Gaveston, recorded with ailettes and decorated in pearls with his arms, *vert, six eagles displayed or*, both in his inventory of 1313 and in Fleet's account; J. Hewitt, *Ancient Armour and Weapons in Europe* (London, 1855), 252. There were two coat armours of Sir Bartholomew Badlesmere, captured and executed after the battle of Boroughbridge in 1322, one of cloth of gold with ailettes, the other of velvet without ailettes, both of which Fleet was instructed to return to Giles Badlesmere in 1328, *CCR 1327–30*, 321.

heraldry and intended for external wear; one was covered in white silk with a black bend decorated with three dolphins in gold.⁵⁸¹ The aketons were quilted garments intended for wear under mail armour, and mostly old and worn out; a group of eight were of plain white cloth, worn and ripped, but one was of higher quality, being covered with red silk but also torn. The tabard and gown for war both belonged to Roger Mortimer, were decorated with his arms, and he was presumably wearing them at the time of his arrest in 1322.⁵⁸² The difference, however, between such a tabard and gown and a conventional surcoat is unknown.

From 1338, with the assumption of responsibility for military supply for the war with France, Fleet handled a large quantity of garments for wear with armour.⁵⁸³ The indenture for issues to the fleet in 1337 includes 152 aketons, at least ninety-eight of them again covered with white cloth. Another form is the aketon of plates, evidently an aketon incorporating iron plates, which is unnoticed in the history of armour. One was covered in green leather, twelve more without detail.⁵⁸⁴ Four more aketons were described as part of a set with pairs of plate covered in white cloth, and eight more as part of a set with pairs of plate covered in cloth ‘of Alexandria’. Evidently almost indistinguishable from these are doublets: nineteen are described as ‘aketons or doublets’ of white cloth and buckram. 120 more doublets were covered in white buckram (in the case of eighty of these, the word ‘fustian’ was deleted and buckram substituted, indicating a difference between the types of cloth). None of the knightly coat armours was included in this issue. Another type of aketon, the ‘aketoner’ appears in the later section of Fleet’s account; again, unnoticed in the history of armour, its exact form is unknown, and was cognate with the aketon of

⁵⁸¹ The arms of Mauley, presumably for Peter (IV), second lord Mauley: BL, Add. MS 60584, f. 14r.

⁵⁸² See Appendix of names.

⁵⁸³ BL, Add. MS 60584, f. 41v.

⁵⁸⁴ TNA, E 101/388/1.

plates, as Mildenhall's later account shows. During these early years of the war, Fleet issued in total:

685 aketons,
305 doublets,
85 aketoners,
30 coat armours.⁵⁸⁵

The doublets were issued mainly with complete sets of harness for men-at-arms, indicating that the term was by then used for the arming doublet (as aketon was used in the previous generation), while aketon and the cognate 'paltock' had come to be used of a quilted garment worn on its own.⁵⁸⁶ The coat armours were issued with a set of thirty harness for men-at-arms to the garrison of Carisbrooke Castle on the Isle of Wight.⁵⁸⁷ There were other coat armours in Fleet's armoury, however, with the fictitious arms of 'Sir Lionel', *argent a quarter gules*. These arms were worn in tournaments by Edward III from at least 1333 to about 1342.⁵⁸⁸

Fleet's remain included only:

17 doublets,
4 coat armours,
3 pairs of ailettes,
1 pair of gambesons.

The receipt of textile armour in Robert Mildenhall's account was much larger, comprising:

46 doublets, one large and covered with white silk,
14 aketons, 2 covered in velvet, 1 in russet silk, 2 in silk, 1 in red leather and green silk, 8 in white fustian,

⁵⁸⁵ BL, Add. MS 60584, f. 47v.

⁵⁸⁶ For doublets and paltocks, see S. Thursfield, *The Medieval Tailor's Assistant* (New York, 2001), 94; M. Scott, *Medieval Clothing and Costumes*, (New York, 2004), 33; J. Barker, *The Tournament in England, 1100–1400* (Woodbridge, 2003), 182.

⁵⁸⁷ BL, Add. MS 60584, f. 44v.

⁵⁸⁸ See Ormrod, *Edward III*, 99.

2 jupons with the old royal arms,
 5 aketoners of plate covered in cloth,
 32 tunics of arms, 1 of red velvet, 1 of silk, 1 of cloth, each with the old royal arms and 29
 with escutcheons bearing the arms of Sir Lionel.⁵⁸⁹

These discrepancies were no doubt due to the confusion at the Tower following Fleet's death in office. During the period of Mildenhall's first account, 1344–51, eleven of the aketons were issued to the chamber, twenty-nine doublets to Thomas Rolleston for the fleet, and an odd one with a complete armour. The remain, however, included:

22 shirts,
 16 doublets,
 11 aketons,
 9 paltocks,
 3 jupons,
 5 aketoners,
 32 coat armours or 'tunics of arms', 1 of red velvet, 1 of silk, 1 of cloth, each with the old royal arms and 29 with escutcheons bearing the arms of Sir Lionel.⁵⁹⁰

The shirts are explained in more detail in Mildenhall's second account, where they are described as Gascon and old, though there is no sign of their arrival in the first account.⁵⁹¹ During 1351–3 the paltocks were all issued to Richard Carswell, and everything else was passed on to William Rothwell; two of the aketons had disappeared in the meantime, and six were 'old and rotten'.

⁵⁸⁹ TNA, E 372/198, rot. 34, m. 2.

⁵⁹⁰ TNA, E 372/198, rot. 34, m. 2.

⁵⁹¹ TNA, E 372/198, rot. 36, m. 2.

	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
shirts (<i>camisa</i>)	22	22									
coat armours	32	34	2	2	2	2	2	2	2	2	
aketons	9	9	3	3	3						
aketoners of plate	5	5	1								
gipelettes	2	2	2	2	2	2	2	2	2	2	
doublets	16	17	16	17	48	47	309	309	235	127	13
paltocks		20									
jacks					173	139	715	716	715	695	259
tents	1	307									

Table 13 Summary of textiles in the armoury, from receipts and remains, showing the log retention of material associated with the equipment of men-at-arms in the first phase of the war, and a significant expansion in equipment for archers in the last quarter of the century.

Most of these garments remained in the privy wardrobe for some time. The reiteration of them in the various accounts occasionally sheds a little colour. For example, the two jupons were decorated with the old arms of England in Snaith's account, and one of the aketoners of plate survived as a doublet, of cloth of gold of Flanders with sleeves of plates riveted with gilt headed rivets.⁵⁹² This may, in fact reveal the true nature of the aketoners, as conventional quilted aketons with plate sleeves, like the jacks with plate sleeves of the sixteenth century.⁵⁹³ The two surviving coat armours were those of red velvet and white silk, the last survivor of the set with the arms of Lionel, the rest having been written off during Rothwell's keepership.

The figures for the period of John Sleaford's first account for 1365–9 show no change. In his third account for 1373–5 there is an increased number of doublets, and jacks appear for the first time. Eaves' earliest reference to jacks is 1364 in Paris, and his earliest reference in England is for 1374.⁵⁹⁴ Most remain at the end of the account, but the single issue shows that the doublets were by this time certainly

⁵⁹² TNA, E 101/394/2.

⁵⁹³ Such as Royal Armouries, nos III.1884–5, see Eaves, 'On the remains of a jack of plate', 137, n. 29.

⁵⁹⁴ Eaves, 'On the remains of a jack of plate', 137, n. 31.

arming doublets, as they were issued with complete armours, while the three jacks that were issued were sent to the chamber along with bows, arrows and palets, presumably for issue to archers.⁵⁹⁵

In 1377 John Tilneye ‘paltokmaker’ sold two ‘paltokes or jacks’ of black satin for 100s., indicating that by then the two terms were synonymous, and that they could be quite expensive garments as well as defences for the ordinary soldier.⁵⁹⁶ Sleaford’s fourth account for 1375–7 includes an issue of twelve jacks along with partial armours comprising bacinets and aventails, pairs of gauntlets and vambraces, mail shirts and lances for the garrison of Corfe Castle, otherwise all the garments remained in store.

A similar issue to Corfe Castle under John Hatfield is found in his account for 1377–81, this time for ten further jacks along with similar armour and a larger number of bows.⁵⁹⁷ By the end of this time the doublets were worn out, and the jacks only of moderate value, though their number had increased substantially between Sleaford’s last remain and his own receipt. This high stock level of both types remained in the Tower under John Hermesthorp and Ranulph Hatton, and had dwindled slightly by the end of the century, by disposal as there is no indication of issues, and 108 doublets were supposedly sold, though it seems more likely that they were disposed of as being rotten and of no value.⁵⁹⁸

The knightly components of the military textiles in the armoury follow the pattern set by the knightly armour and equestrian equipment. The older types, the aketons and coat armours, had their heyday in the late 1330s and early 1340s under John Fleet, and only a small rump survived the disposals of the early 1360s. That

⁵⁹⁵ TNA, E 101/397/10.

⁵⁹⁶ *CLB, H*, 67; Eaves, ‘On the remains of a jack of plate’, 137, n. 31.

⁵⁹⁷ TNA, E 101/400/10.

⁵⁹⁸ TNA, E 101/403/20.

small rump, however, once established on the books, was retained, in the case of two coat armours and two gipelettes, until the end of the fourteenth century. During the first part of the period doublets followed the same pattern as the coat armours and aketons, but change in the mid-1370s. After 1374 both jacks and doublets follow the established pattern of holding for munition armour and missile weapons, by types having major influxes in the mid-1370s and early 1380s, and falling by issue following the influxes.

2.7.1 Tents

The king's tents were briefly the responsibility of the privy wardrobe under Robert Mildenhall, and his account furnishes the only surviving description of such tents in the fourteenth century.⁵⁹⁹ There were sixty tents in total:

- 1 screen (*claustrum*) of woollen cloth (*carde*) blue on the outside, white inside,
- 18 round houses (*domus rotundi*), 8 of woollen cloth blue on the outside, green inside,
- 2 chapels (*capelle*), 1 of linen cloth (*tela lineae*) with vertical gables, 1 with four posts,
- 4 houses of green for hunting,
- 3 stables, 1 white in 3 pieces with 4 posts 20 feet long,
- 1 chamber (*camera*) decorated with crowns,
- 1 palace of blue cloth, probably the hall 'Westminster' in 15 pieces, powdered with roses
- 1 'alee',
- 1 house for the king's ship the *George*,
- 1 hall 'Berwick', in 3 pieces with 2 doors,
- 4 round houses with the arms of England,
- 1 house of the same arms with 3 posts,
- 1 house with 2 posts and 2 'aleez' in a set,
- 1 house of cotton with 20 foot posts,
- 1 great palatial hall with 6 posts called the hall 'Bermondsey', with 2 doors and 1 alee in a set,
- 2 leather bags,
- 3 pieces of a tent.

⁵⁹⁹ TNA, E 372/198, rot. 34, m. 2d.

These were partly issued to Thomas Rolleston in 1346 for the Crécy campaign, and the rest went to John Yakesley, the new pavilioner, in 1348.⁶⁰⁰ Some of the tent cloth was issued to Thomas Cophram and John Swerdeston for the repair of pairs of plate on the king's ships, while pieces of blue woollen cloth, red worsted, linen cloth from Wilton, rope in white and black from Bridport were used in repairing the tents. The two leather bags remained in the armoury. The tents follow no other pattern in the history of the armoury at the Tower in the fourteenth century, and their presence there is simply an administrative convenience in the hiatus between pavilioners.

2.8 Packing materials⁶⁰¹

	1353	1360	1362	1369	1374	1377	1381	1388	1396	1399	1405
coffers	3	210	7	9	247	54	106	100	85	71	5
casks (<i>dolia</i>)		74									
pipes		4									(2)
barrels		100			4						8
chests					6	8	1	1	11	1	1
sacks							1	1			
<i>borelkes</i>										40	
hogs' heads											1

Table 14 Summary of packing materials in the armoury, from receipts and remains; these remained a constant requirement throughout the period of the privy wardrobe, and in general were procured on an ad hoc basis for shipments of arms.

From the start of John Fleet's tenure at the Tower in 1338 the provision of packing for various commodities was a major consideration. Some was for the jewels and other valuables. In 1343 he paid 28s. 10d. for carpenters to fit two great locks and a padlock (*una serrura pendula*) with keys together with three more large padlocks for

⁶⁰⁰ See Appendix of names. The three named tents are otherwise unattested; the hall Bermondsey predicts the new manor house built between 1353 and 1356 on the south bank of the river Thames, in sight of the Tower, usually called Rotherhithe Manor, bequeathed to the Abbey of St Mary of Grace by the Tower in 1377 and excavated 1985–94, see A. Emery, *Great Medieval Houses of England and Wales 1300–1500, iii: Southern England* (Cambridge, 2006), 244–6.

⁶⁰¹ This section was given as a paper, 'Packing arms and armour for the king's voyages to parts of France 1344–60' at the International Medieval Conference, Leeds, 2010.

the coffers in which the king's jewels were kept. The letter authorising this payment was dated 2 September 1336. The same letter also authorised the purchase of a 'Flanders chest' (*unum coffrum de Flandres*), in which the king's armour was subsequently kept, an item which appears in several of the later inventories.⁶⁰² Most critical was the transport and supply of longbows and arrows, which in a generation had become the mainstay of the English tactical system. Fleet's account for 1343 itemises nine tuns (*dolia*) at 12d. each and nine pipes at 10d. each, bought in London, and 358 boards of wood bought in Southwark, Kingston and Cornhill at 2d., 3d. or 4d., together with 1,600 nails, for the manufacture in the Tower of eighty coffers (approximately four and a half boards and twenty nails per coffer), followed by an order for thirty tuns at 12d., 100 hoops for binding the tuns at 2d., sixty-nine wooden boards for sixteen coffers at 3d. a board (approximately four and a half boards per coffer), 2,700 nails at 2d. a hundred, and twelve hemp strings for binding arrows in sheaves, all for the transport of bows, arrows, bowstrings and other arms for the campaign in France.

The apparently odd proportion of boards to coffers makes sense if one considers that the coffers were designed for longbows. Four boards just over 6 feet in length would be required, but to make a coffer of a convenient size, two end boards cut from a half-size board 3 feet long would suffice, making a coffer about 6 feet long and 18 inches square. No fourteenth-century longbow coffers are known, the earliest surviving examples being the two from the *Mary Rose*, which measure 2250

⁶⁰² TNA, E 372/189, rot. 43, account of John Fleet as keeper of the Exchange at the Tower. It is tempting to think of the 'Flanders chest' as something like the Courtrai chest, for which see C.J. ffoulkes, 'A carved Flemish chest at New College, Oxford', *Archaeologia* 15 (1914), 113–28; E.T. Hall, 'The Courtrai chest from New College, Oxford, re-examined', *Antiquity*, 61 (1987), 104–7.

x 360 x 280 mm and 2,240 x 330 x 310 mm respectively, and each contained fifty bows.⁶⁰³

The batch delivered to France in June 1345 gives us the number of bows per coffer.⁶⁰⁴ 3,408 bows were packed in 40 coffers or chests, giving an average of eighty-five in each. 16,868 bowstrings fitted into three pipes and a barrel, giving just under 1,300 in a barrel, just over 5,000 in a pipe. 7,406 sheaves of arrows fitted into six coffers and twenty-seven tuns (*dolia*); we know from elsewhere that a tun could hold 260 sheaves of arrows, so a coffer could hold sixty-four sheaves of arrows.

The batch delivered in April 1346 gives us an almost exact figure for the number of arrows per tun, and the number of bows per coffer: 2,110 bows, 13,440 bowstrings and 3,800 sheaves of arrows in twenty coffers and twenty-four tuns, giving figures of about 105 bows per coffer, just under 4,000 arrows (about 165 sheaves) per tun (assuming one tun held the bowstrings).

The deliveries for the siege of Calais are less helpful, as we do not know what went in what:

December 1346: 1,110 bows, 5,040 bowstrings and 2,027 sheaves arrows in 2 coffers, 4 tuns and 7 pipes,

February 1347: 3,000 bows, 5,000 sheaves of arrows, 18,288 bowstrings in 64 coffers and 11 pipes [if the bowstrings filled 4 pipes at 5,000 a pipe, and the bows fitted in 28 coffers at 105 per coffer, then about 112 sheaves of arrows fitted in each coffer and 130 in each pipe],

May 1347: 5,572 bows, 42,388 bowstrings, 9,316 sheaves arrows in 69 coffers, 6 tuns, 4 pipes.

Smaller issues give an idea of what could be packed in what; in one issue 1,220 bows fitted into twenty-nine coffers (forty-two bows per coffer), 7,416 bowstrings into two coffers (3,600 in each), and 4,183 sheaves of arrows went into thirteen tuns and six pipes (130 sheaves in a pipe, 260 in a tun). But bows could

⁶⁰³ Hildred, *Weapons of Warre*, 641–4.

⁶⁰⁴ TNA, E 372/198, rot. 35, m. 1 for all the following details.

sometimes fit into a tun: four tuns sent to the *Plente Christine* and *Mariot* contained 194 bows, 870 sheaves of arrows and 1,284 bowstrings. A single coffer delivered in 1347 to Thomas Copham contained forty bows, 100 sheaves of arrows and 180 bowstrings, and another for the *Sabel* and *Welifare* contained twelve pairs of plates, twelve bacinets, twenty bows, forty sheaves of arrows, 120 bowstrings. Mildenhall's second account for 1351–3 continues the same story.⁶⁰⁵ A major issue of 1,315 bows, 6,958 sheaves of arrows and 10,932 bowstrings was packed in eleven tuns, 119 barrels and two coffers.

Rothwell gives some details of the manufacture of the coffers at the Tower in the 1350s.⁶⁰⁶ For bows, 201 coffers were made, fourteen with double hasps for 4s. and 187 with single hasps for 2s., by William Crowe and others⁶⁰⁷ for 4s., while seventy-four tuns at 20d., three pipes at 18d. and 100 barrels (price not specified, but 16d. each by deduction) were bought from London coopers John Wayte and William Draybone.⁶⁰⁸ Generally a tun (*dolium*) was double the capacity of a pipe (butt or cask, *pipa*) and equivalent to eight barrels: by the fifteenth century a tun contained 252 gallons and a pipe 126 gallons, and a barrel by the following century had become standardised at thirty-two gallons. But these terms could be used generically also: in 1348 we find 'xj pipe de cupro pro pennis fesaun'.⁶⁰⁹ Obviously the tuns containing bows had to be at least 6 feet long, and those containing arrows 3 feet long.

By 1374 the coffers had been divided into three types, short ones, for packing arrows, at 22d., long ones for bows at 3s. 6d. each or 6s. each for iron bound ones,

⁶⁰⁵ TNA, E 372/198, rot. 35, m. 2.

⁶⁰⁶ TNA, E 101/392/14, edited in chapter 3.2 below.

⁶⁰⁷ Carpenter at the Tower, see Appendix of names.

⁶⁰⁸ Otherwise unrecorded, see Appendix of names.

⁶⁰⁹ N.H. Nicolas, 'Observations on the institution of the Most Noble Order of the Garter, illustrated by the accounts of the great wardrobe of King Edward III', *Archaeologia*, 31 (1846), 31, 39.

small but presumably rather classy ones at 5s. each for crossbow quarrels. We have full details of the packing of the latter: sixteen contained 2,200 quarrels, another thirty-five contained 6,000 quarrels, eleven contained 1,500, another eleven contained 1,800 (all about 135–170 per coffer). Pipes for arrows, described as ‘Rheinish’, varied in price from 20d. to 3s., and a great barrel for transporting bows and arrows was 16s. Many of these were destined for the garrison at Calais: twenty-five long coffers held 1,000 bows (at forty to a coffer), and 118 short coffers and a pipe the remaining 4,000 sheaves of arrows, twenty-three gross of bowstrings, 140 crossbows, 10,000 quarrels, and forty baldricks.⁶¹⁰

The personal armour of Edward III had its own packing materials. Nine coffers containing the king’s armour returned from Caen before 1344, and were issued to Clement atte Merke at Calais in 1346.⁶¹¹ Returning from France in 1355 prior to his departure for Scotland in early 1356 his armour, listed in detail on p. 74 above, was packed in three coffers, and one of his two shields, the steel one, had its own case.⁶¹²

Firearms also required packing: in 1374 one Flanders chest was bought for 5s. 6d. for packing twenty-nine iron guns and their accessories.⁶¹³

Even within England the logistics of transporting arms and armour, or at least accounting for the process, were legion. In 1374 it took five workmen four days at 6d. a day to pack and carry a package of 200 mail shirts, 200 bacinets and aventails, 200 pairs of plate gauntlets, 200 bows, 600 sheaves of arrows, eighty-four dozen bowstrings, 100 crossbows, 4,400 quarrels and some other gear from the Tower to

⁶¹⁰ TNA, E 101/397/10.

⁶¹¹ TNA, E 372/198, rot. 34, m. 1d. Clement atte Merke was the king’s serjeant at Calais, see Appendix of names.

⁶¹² TNA, E 101/392/14, edited in chapter 3.2 below.

⁶¹³ TNA, E 101/397/10.

Windsor in twenty small barrels at 20d. and three pipes at 18d., plus a workman for one day fitting circles to the barrel and pipes at ½d. each and 6d. a day for the labour. A quart of bran had to be purchased for 20d. for packing the mail, and straw for the bows for 4d. One boat (*shouta*) was hired to convey the armour from the Tower to Windsor at 13s. 4d., then 15s. 8d. was spent on portage of the armour from the river to the castle and into the wardrobe there.⁶¹⁴

Moving the king's silver around involved time and expense. Hire by William Rothwell of three horses at 6d. a day for 139 days was required for taking the crown and dishes for the king's feasts at Christmas, Easter, St George's, Pentecost and All Saints, to Windsor, Woodstock, Marlborough, Hampstead Marshall, Reading and Eltham at a total cost of £10 8s. 6d. in 1353–60.⁶¹⁵

One very fully documented record of the packing of arms relates to Richard II's last tour of Ireland in 1399. For packing 3,000 sheaves of arrows, 1,500 bows, 2,880 bowstrings, 200 pavises, 200 long lances, and 359 mail shirts, the packaging comprised twenty long coffers at 3s. 4d., thirty short coffers at 18d. and forty short coffers at 14d. plus 300 nails at 5d. a hundred, 200 nails at 6d. a hundred and 300 nails at 4d. a hundred for fastening them closed, sixty barrels at 8d. each for the mail, forty pipes for arrows and bowstrings, a total of 190 containers of different sorts. Eight workmen were paid 6d. a day for twelve days packing, then for four days carrying the barrels, pipes and coffers to the river. The shipment was then converted into tuns: battilage at Waterford from the ship to the land was 4d. per tun for the eighty tuns. Eighty carts (one tun per cart) were hired to carry the shipment 40 leagues to Dalkey from Waterford, at 6s. 8d. a cart, another 40 leagues from Dalkey

⁶¹⁴ TNA, E 101/397/10.

⁶¹⁵ TNA, E 101/392/14, edited in chapter 3.2 below.

to Kilkenny and another 36 leagues from Kilkenny to Dublin, at a total cost of £26 13s. 8d. per stage.⁶¹⁶

Unlike the weapons and armour kept in the Tower during the fourteenth century, the materials in which they were packed for shipment abroad were never retained in any deliberate fashion. All the evidence of the accounts shows that they were bought in or manufactured on-site on an ad hoc basis as required. However, the accounts give a unique insight into this aspect of the logistics of the English army in the fourteenth century.

⁶¹⁶ TNA, E 101/403/20, edited in chapter 3.3 below.

3 Edited texts

The records of the armoury in the Tower survive in two forms, as accounts or indentures. The accounts take the form of rolls of varying length enumerating the receipt of money from the exchequer during the period of the account, the cash expenses for the period, summarised then itemised, the receipt of stores from the previous custodian and from other sources, issues and other disposals of stores, and a remain. The indentures list the items transferred from one keeper to the next. Two documents have been selected for edition. The first is one of the earliest surviving accounts, which includes more detail about the material in the Tower than any of the subsequent accounts, is the longest of all of them, as it covers the longest period, and is undamaged. The second is an example of an indenture. These illustrate the types of records kept by the privy wardrobe at the Tower.

3.1 Editorial method

Editorial conventions for the text largely follow the style of the most recently published records of the wardrobe and household.⁶¹⁷ Much of the original text is tabular, and where possible the original layout has been retained in the transcription. Where this has not been possible, the location of headings and marginal material has been noted. Punctuation and capital letters have been used in passages of continuous text for sense to aid the reader, but in tabular material they have followed the documents. Marginal headings, following the conventions of earlier editions, have been italicised. Cancellations in the text, whether struck through or completely or partially erased, are recorded in footnotes. Though the documents selected are in

⁶¹⁷ *The Wardrobe Book of William de Norwell, 12 July 1338–27 May 1340*, ed. M. and B. Lyon and H.S. Lucas (Brussels, 1983); *Records of the Wardrobe and Household 1286–1289*, ed. B.F. and C.R. Byerly (London, 1986).

relatively good condition, there are still some lacunae in the text owing to wear and tear. Such lacunae are marked by dots, and where adjacent text is damaged it is marked as such. Interlined text is marked with angled brackets, but superscript terminals are set as such. Completely illegible words are rendered by question marks. Missing portions of text which can be provided from the sense of what remains are set in square brackets.

The many contracted words in the documents have been extended silently in a manner consistent with conventional usage, and are generally quite clear and consistent. All abbreviated and suspended words are extended wherever possible and reasonable. The rare examples which show, for example, that some lists of items were mainly intended to be read in the accusative (see *galeas*, helms, and *fenderos*, fenders, in E 101/400/16) while others were in the nominative (*corone*, crowns and *galee*, helms in E 101/394/14). As these are sometimes contradictory, the nouns in these lists have been left unextended, and in general where it has been difficult to guess how the scribe intended a word to be extended, and apostrophe has been used to mark the unknown extension. Place names are almost universally suspended and have been transcribed as written with an apostrophe to mark the suspension (for example Westm' for Westminster) where this is helpful. Numerals have been transcribed as they appear in the documents, with the extension of suspended fractions. Sums of money in English sterling are consistently abbreviated, as they are mostly in the text, so that libra, solidus and denarius appear as li., s. and d. For dimidius and obolus dim. and ob. have been used. For weight libra has been abbreviated as lb., as it is in the text.

3.2 TNA, E 101/392/14, account of William Rothwell,⁶¹⁸ keeper of the privy wardrobe at the Tower of London, 9 May 1353–24 June 1360

Recepta

Recepta private garderobe Regis infra Turrim London' de toto tempore Willelmi de Rothwell custodis eiusdem.⁶¹⁹

[m. 1]

Recepta denariorum ad receptam scaccarii et expense eorumdem necnon recepta diversarum armaturarum, balistarum, arcuum, sagittarum et aliarum rerum subscriptarum officium private garderobe domini nostri Regis infra Turrim London' tangentium tempore domini Willelmi de Rothewell' clerici <nuper> custodis eiusdem a ix^o die Maij anno regni domini nostri Regis Edwardi tertii post conquestum xxvij^{mo} usque xxiiij^{to} diem Junii anno regni domini nostri Regis supradicti xxxiiij^{to} quo die idem Willelmo liberavit officium predictum domino Henrico de Snayth per breve Regis de magno sigillo dato apud Westm' xx^{mo} die Junii anno xxxiiij^{to} qui amodo Regi in scaccario predicto inde est responsurus.

De termino	De dominis thesaurario et camerariis ad receptam	xlviij s. vj d.
Pasche anno	scaccarii per manus proprias Johannis Byker ⁶²⁰	
xxvij ^o	balistarii domini nostri Regis infra Turrim	

⁶¹⁸ Keeper of the privy wardrobe, receiver of the chamber and keeper of the mint and exchange in the Tower, 1353–60, see Chapter 1 and Appendix of names.

⁶¹⁹ On outside of roll, with original title.

⁶²⁰ King's artillerer, see Appendix of names, s.v. Byker.

London' super officio suo vj die Junii anno xxvij^o

De termino Michaelis anno xxvij ^o	De eisdem thesaurario et camerariis ad eandem receptam per manus dicti Johannis Byker super officio suo xvij die Decembris, xl s. Et de eisdem ibidem in precio m ^l m ^l garbarum sagittarum precio cuiuslibet garbe x d. per ipsum emptas ad opus Regis necnon super apparatu diversorum armaturarum et hernesiorum infra eandem garderobam existentium xij die Februarii, cxliij li. vi s. viij d.	cxlv li. vj s. viij d.
De termino Pasche anno xxvij ^o	De eisdem thesaurario et camerariis ad eandem receptam per manus proprias super officio suo per unam talliam levatam de exito cambii Turri London' xxvij die Maii	xl li.
De termino Michaelis anno xxix ^o	De eisdem thesaurario et camerariis ad eandem receptam per manus proprias super officio suo super reparatione armaturarum et aliarum rerum in custodia sua infra Turrim London' existentium, vij die Decembris, x li. Et de eisdem ibidem per manus proprias super officio suo xij die Februarii, xl li. Et de eisdem ibidem per manus propriis super officio suo xvij die Maii, xx li. Et de eisdem ibidem super officio suo xxvj die	Summa cxxx li.

	Martii, lx li.	
De termino Pasche anno xxix ^o	De eisdem thesaurario et camerariis ad receptam scaccario per manus proprias super officio suo xxxj die Julii	dccxxxij li.
De termino Michaelis anno xxx ^o	De eisdem thesaurario et camerariis ad eandem receptam per manus proprias super empcione dcc arcuum ad opus Regis vij die Novembris, xlvij li. Et de eisdem ibidem super officio per talliam levatam de exito cambii Regis in Turrim London' x die Novembris, cxl li. Et de eisdem ibidem super empcione arcuum et sagittarum ad opus Regis xx die Aprilis, cc li.	Summa ccc iiij ^{xx} viij li.
De termino Pasche anno xxx ^o	De eisdem thesaurario et camerariis ad eandem receptam super officio suo per talliam levatam de exitu cambii Regis in Turrim London' ix die Augusti	c iiij ^{xx} xvj li. ix s.
De termino Michaelis anno xxxj ^o	De eisdem thesaurario et camerariis ad eandem receptam super empcione lignarum pro arcubus de Johanne de Conyngesburgh ⁶²¹ ad opus Regis quarto die Novembris, cxxxij li. xj s. viij d. Et de eisdem ibidem per manus proprias super officio ix die Decembris, xv li. Et de eisdem ibidem per manus proprias super empcione arcuum et	Summa cccxiij li. v s. viij d.

⁶²¹ London bowyer, see Appendix of names, s.v. Conisbrough.

	sagittarum ad opus Regis dicto ix die Decembris, iiij ^{xx} v li. Et de eisdem ibidem super empcione consimilium arcuum et sagittarum ad opus Regis xxviiij die Februarii, lxxviiij li. xix s.	
De termino	De eisdem thesaurario et camerariis ad eandem	Summa cc
Pasche anno xxxj ^o	receptam per manus proprias super empcione arcuum et sagittarum ad opus Regis xxij die Junii, clxv li. Et de eisdem ibidem per manus proprias super officio suo quarto die Septembris, cxxix li. x s.	iiij ^{xx} xiiij li. x s.
De termino	De eisdem thesaurario et camerariis ad eandem	Summa
Michaelis anno xxxij ^o	receptam per manus proprias super officio suo xxix die Novembris, l li. Et de eisdem ibidem super officio suo xij die Maii, lxxvij li.	cxxvij li.
De termino	De eisdem thesaurario et camerariis ad eandem	lx li.
Pasche anno xxxij ^o	receptam per manus proprias super officio suo xxvij die Julii	
De termino	De eisdem thesaurario et camerariis ad eandem	cc li.
Michaelis anno xxxiiij ^o	receptam super eodem officio per talliam levatam de exito cambii Regis in Turrim London' primo die Aprilis	
De termino	De eisdem thesaurario et camerariis ad eandem	Summa
Pasche anno	receptam per manus Johannis Gunwardby ⁶²² in	dccxxx li. xij

⁶²² See Appendix of names s.v. Gunwardby.

xxxiiij ^o	<p>precio xij loricarum precio cuiuslibet v marcas et dimidium, et x loricarum de ferro precio eiusdem xl s., xxviiij aventallorum precio cuiuslibet xiiij s. iiij d. per donum domini Regis emptorum et Willelmo de Rothewell' liberatorum ad opus Regis custodiendum xxv die Maii, iiij^{xx} ij li. xiiij s. iiij d. Et de eisdem ibidem super empcione m^lm^lm^lm^l bowestaves ad opus Regis v die Augusti, iiij li. xij s. Et de eisdem ibidem per manus proprias per officio suo xxviiij die Augusti, xl li. Et de eisdem ibidem per manus proprias super empcione arcuum et sagittarum pro passagio domini Regis versus partes transmarinas dicto xxviiij die Augusti, dlxiiij li. vj s. viij d.</p>	s.
De termino	De eisdem thesaurario et camerariis ad eandem	Summa c
Michaelis anno	receptam super empcione arcuum et sagittarum ad	iiij ^{xx} x li. xij
xxxiiiij ^o	<p>opus Regis xvj die Januarii, lvj li. xiiij s. iiij d. Et de eisdem ibidem super empcione consimilium arcuum et sagittarum ad opus Regis xxix die Januarii xxxv li. viij s. Et de eisdem ibidem super empcione consimilium arcuum et sagittarum ad opus Regis vj die Februarii lvj li. Et de eisdem ibidem super empcione consimilium arcuum et sagittarum tercio die Maij xliij li. x s.</p>	s.

De termino	De eisdem thesaurario et camerariis ad eandem	Summa xlv
Pasche anno	receptam super empcione arcuum et sagittarum ad	li. v s.
xxxiiij ^o	opus Regis xiiij die Aprilis, xxiiij li. Et de eisdem	
	ibidem super consimili empcione arcuum et	
	sagittarum ad opus Regis xiiij die Aprilis, xxj li. v	
	s.	

Et oneratur de lxxiiij li. xiiij s. vj d. de m^lcclij garbis sagittarum communis, xx ulnis cavenaci,⁶²³ j pipa vacua et ij coffris sine serruris sic venditis super comptum ad diversa precia.

Summa totalis Recepte m^lm^lm^ldclxix li. iij s. iij d.

Expense denariorum

Item computavit in precio xij loricarum precio cuiuslibet pecie lxxiiij s. iij d., x loricarum de ferro precio cuiuslibet pecie xl s. et xxviiij aventallorum precio cuiuslibet pecie xiiij s. iij d. per ipsum dominum Regem emptorum de Johanne de Gunwardby xxv die Maij anno xxxiiij^o, iij^{xx} li. xiiij s. iij d., sicut continetur in pellibus memorandorum ad receptam scaccarii termino Pasche dicto anno xxxiiij^o. Et in m^lm^lm^lm^lxij arcubus depictis precio pecie ij s. vj d. emptis de Adam Haket,⁶²⁴ Willelmo Chamberlein,⁶²⁵ Hugone de Farnyngham⁶²⁶ et aliis diversis archifactoribus London' et Lincoln' ad opus dicti domini nostri Regis per vices infra tempus huius

⁶²³ An alternative spelling for *camabis*, hemp, which is used elsewhere in the account. Attested in R.E. Latham, *Revised Medieval Latin Word-list* (London, 1980), 67.

⁶²⁴ London bowyer, see Appendix of names s.v. Hackett.

⁶²⁵ Bowyer, see Appendix of names s.v. Chamberlain.

⁶²⁶ Bowyer, see Appendix of names s.v. Farningham.

compoti per duo brevia de privato sigillo unde unum datum xxix die Apriliis anno xxix et alium datum primo die Martij anno xxx, dvij li. xv s. Et <in> m^lm^lcv arcubus albis emptis de predicto Adam Haket et aliis archifactoribus supradictis ad opus dicti domini nostri Regis infra idem tempus precio pecie xvj d. per brevia de privato sigillo superius allegata, cxl li. vj s. viij d. Et in ix^{ml} c iiiij^{xx} xvij arcubus albis provenientibus de x^{ml} lignis pro arcubus emptis de Johanne de Conyngesbury pro predictis arcubus ad opus Regis inde faciendis infra eandem Turrim per Willelmum Bromley,⁶²⁷ Johannem de Sprotburgh,⁶²⁸ Thomam de Mendham,⁶²⁹ Johannem de Bruggewater,⁶³⁰ Johannem de Bury⁶³¹ et alias archifactores London', Lincoln' et Ebor' capientes pro qualibet pecie viij d. pro omnibus misis et expensis per ipsos inde apportis ex certa conventionione cum eisdem facta et pro maiori commodo Regis una cum cxxxij li. vj s. viij d. solutis dicto Johanni de Conyngesbury pro prima empicione lignorum supradictorum sicut continetur in pellibus memorandorum ad eandem Receptam quarto die Novembris termino Michaelis anno xxxj^o, ccccxxxix li. xvij s. viij d. Et in m^lm^lm^lm^l bowestaves emptis de predicto Johanne de Conyngesbury pro arcubus, scilicet unde factis ad opus Regis precio cuiuslibet millene xj li. iij s. sicut continetur in pellibus memorandorum ad eandem receptam xx^o die Julii termino Pasche anno xxxij^o, xliij li. xij s. Et in cc lignis pro balistis emptis de Johanne Prentissh⁶³² per magistrum Johannem Byker pro balistis ad opus Regis unde factis x^{mo} die Aprilis anno xxxj^o precio centene xxvj s. viij d. per duo brevia de privato sigillo unum datum primo die Junii et alterum xxvj^{to} die Junii anno xxvij^o, liij s. iiiij d. Et in xxij^{ml} vj^c xlij garbis sagittarum emptis de Laurentio

⁶²⁷ Bowyer, see Appendix of names s.v. Bromley.

⁶²⁸ Bowyer, see Appendix of names s.v. Sprotbrough.

⁶²⁹ Bowyer, see Appendix of names s.v. Mendham.

⁶³⁰ Bowyer, see Appendix of names s.v. Bridgewater.

⁶³¹ Bowyer, see Appendix of names s.v. Bury.

⁶³² See Appendix of names s.v. Prentish.

Fletcher,⁶³³ Johanne Patyn,⁶³⁴ Johanne Bonett,⁶³⁵ Willelmo de Stoke,⁶³⁶ Anselmo Fletcher⁶³⁷ et aliis diversis sagittariis London' et Lincoln' ad opus dicti domini Regis per vices infra tempus huius compoti et ad diversa pretia, videlicet cccc garbis pro valletis Regis precio cuiuslibet garbe ij s. vj d., vj^{ml} garbis precio garbe xvij d., ix^{ml} vj^c garbis precio garbe xvj d., v^{ml} vj^c xlj garbis precio garbe xij d. et m^lm^l garbis precio garbe x d. per breve de privato sigillo superius allegatum, m^ldlij li. xij s. x d. Et Thome Fletcher precio garbe pro iiiij^{or} garbis sagittarum per ipsum factis ad opus Regis pro venatione et liberatis dicto domino Regi per diversas vices duobus annis precedentibus precio garbe vij s. per breve de privato sigillo datum apud Westm' vij die Novembris anno xxxij^o et indenturam ipsius Thome de receptione, xxvij s. Et in ij garbis et xvij sagittarum largarum pennatis cum pennis pavonis emptis de Anselmo Fletcher precio garbe x s. et liberatis Willelmo de Dalley⁶³⁸ ad opus domine Philippe Regine Anglie pro seisona venationis anno xxxiiij^o, xxvij s. vj d. per breve de magno sigillo datum xx^o die Octobris anno xxxiiij^o dominis Thesaurio et Baronibus de scaccario directis de allocando dictam parcellam sagittarum inter alias diversas parcelas eisdem Thesaurio et Baronibus sub pede sigillo missas. Et in cccxli grossis iiiij^{or} duodenis et iiiij^{or} cordis precio grossi iiiij s. emptis de Willelmo Strynger,⁶³⁹ Thome Strynger et aliis cordariis London' per idem breve de privato sigillo superius allegatum, lxx li. xv s. v d. Et in clxj paribus platorum factorum ex precepto et ordinatione domini nostri Regis per Johannem de London'⁶⁴⁰ vallettum et armurariorum ipsius domini Regis et alios diversos operarios et armurarios secum

⁶³³ See Appendix of names s.v. Fletcher for all these otherwise unnamed fletchers.

⁶³⁴ Bowyer and fletcher, see Appendix of names s.v. Patyn.

⁶³⁵ See Appendix of names s.v. Bonnet.

⁶³⁶ See Appendix of names s.v. Stoke.

⁶³⁷ See Appendix of names s.v. Fletcher.

⁶³⁸ See Appendix of names s.v. Dale, William de la, keeper of the forests of the Isle of Wight.

⁶³⁹ See Appendix of names s.v. Stringer for all these otherwise unnamed stringers.

⁶⁴⁰ See Appendix of names s.v. London.

operantes infra Turrim London' per vices infra tempus huius compoti, unde xxx paria cooperta de velveto et panno samaka et tartaryn diversis coloribus cum clavatura deaurata capientes pro quolibet pari pro omnibus misis et expensis per ipsos inde apportis ex certa conventionione cum eisdem facta et pro maiori commodo Regis xl s., et cxiiij paria⁶⁴¹ cooperta de fustiano nigro et albo capientes pro quolibet pari pro omnibus misis et expensis per ipsius inde apportis ut superius xxvj s. viij d.

[m. 2]

et xij paria cooperta de canabo duplicata cum clavatura alba capientes pro quolibet pari pro omnibus misis et expensis per ipsos inde apportis ut superius xij s. iiij d., una cum c paribus platorum veterum et dcccl ensibus veteribus sibi liberatis extra garderobam predictam pro admunatione et emendatione operariis supradictis per duo brevia de privato sigillo superius allegata unde unum datum primo die Junii anno xxvij^o et alterum datum xxvj^o die Julii proximo sequento eodem anno predicto Willelmo de Rothewell' directo pro huius operibus liberationibus misis et expensis necessariis predicto garderobe Regis tangentibus de tempore in tempus faciendis, ccxx li. Et in iiij gunnis de cupro factis et operatis per Willelmum de Algate⁶⁴² Brasier capientem pro qualibet pecia pro omnibus misis et expensis per ipsum inde apportis ex certa conventionione facta et pro maiori commodo Regis xij s. iiij d. per eadem brevia de privato sigillo superius allegata, liij s. iiij d. Et in xij springaldis factis et reparatis per magistrum Johannem Byker artillatorem domini nostri Regis et alios diversos operarios sub ipso operantes infra Turrim London' per vices infra tempus huius compoti capientes pro qualibet pecia pro qualibet misis et expensis per

⁶⁴¹ Rothwell uses *par*, pl. *paria* throughout.

⁶⁴² See Appendix of names s.v. Aldgate.

ipsum inde apportis ex certa conventione scaccarii facta et pro maiori commodo Regis lxxvj s. viij d. per eadem brevia de privato sigillo superius allegata, xl li. Et in xvj arcubus pro balistis factis per predictum Johannem Byker et alios operarios suos infra Turrim predictam per tempus compoti, unde ix de cornu capientes pro qualibet pecia xx s., et vij de ligno capientes pro qualibet pecia vi s. viij d. pro omnibus misis et expensis per ipsum inde apportis ex certa conventione scaccarii facta et pro maiori commodo Regis per eadem brevia de privato sigillo superius allegata, xj li. vj s. viij d. Et in xj vicz pro grossis balistis tendendis factis per magistrum Robinum de York⁶⁴³ ingeniorem et alios diversos ingeniores London' infra tempus compoti capientes⁶⁴⁴ pro omnibus misis et expensis per ipsos inde apportis ex certa conventione cum eisdem facta et pro maiori commodo Regis⁶⁴⁵ per eadem brevia de privato sigillo superius allegata vj li. Et in xiiij hancepeez pro balistis tendendis factis infra tempus compoti per predictum Robinum de York ingeniorem capientem pro omnibus misis et expensis per ipsum inde apportis ut superius v s. Et in xij baudricis de corio bovino albo factis per Johannem de Shene⁶⁴⁶ infra tempus huius compoti capientem pro qualibet pecia omnibus misis et expensis per ipsum inde apportis ut superius ij s. per eadem brevia de privato sigillo superius allegata, xxiiij s. Et in viij^{ml} viij^c xvj quarellis diversis pro springaldis et balistis factis per Johannem Dabell,⁶⁴⁷ Petrum Vancre,⁶⁴⁸ Walterum van the Lane⁶⁴⁹ et Johannem Mountelbergh⁶⁵⁰ ad opus domini nostri Regis per vices infra tempus huius compoti unde iiiij^{ml} vj^c l quarellis pennatis de ere et plata ferrea capientes pro qualibet centena xiiij s. iiiij d., et iiiij^{ml}

⁶⁴³ See Appendix of names s.v. York.

⁶⁴⁴ Text erased 'pro qualibet pecia'.

⁶⁴⁵ Text erased 'xij s. iiiij d.'

⁶⁴⁶ See Appendix of names s.v. Sheen.

⁶⁴⁷ See Appendix of names s.v. Dabell.

⁶⁴⁸ See Appendix of names s.v. Vanacre.

⁶⁴⁹ See Appendix s.v. Lane.

⁶⁵⁰ See Appendix of names s.v. Mountelburgh.

clxvj pennatis cum pennis auucarum precio cuiusdem centene iij s. pro omnibus misis et expensis per ipsos apportis ex certa conventionone cum eisdem operariis facta et pro maiori commodo Regis per eadem brevia de privato sigillo superius allegata, xxxvij li. iij s. xj d. Et in l lb. fili canabi precio lb. viij d., cl lb. pili equorum precio lb. iij d. provisus et emptis per Johannem Byker attilatorem domini Regis per vices infra tempus compoti ad cordas frettas et ligaturos pro springaldis et balistis unde faciendis et reparandis per eadem brevia de privato sigillo superius allegata, lxx s. x d. Et in <pretio> xvij stiroporum pro balistis precio pecie vj d., xvj lb. dim. pulveris pro gunnis precio lb. xvij d., vj lb. cere precio lb. vij d. et iij^{of} saccis de canabo precio sacci xv d. emptis per predictum Johannem Byker attilatorem dicti domini Regis pro officio artillario predicto infra tempus huius per brevia de privato sigillo superius allegata, xlij s. iij d. Et in ccxxx ulnis canabi per centenam de vj^{xx} et ulnis de v quartis emptis de Ricardo de Wycombe⁶⁵¹ cresser pro officio dicte garderobe, videlicet pro armaturis marinariorum domini Regis cooperiendis precio centene l s., et ulnis v d. per eadem brevia de privato sigillo superius allegata, cxij s. vj d. Et in xj <banerstavis>⁶⁵² ferro ligatis pro vexillis Regis tempore guerre deferendis factis <in grossis> per Petrum de Ioco lanceatores⁶⁵³ et magistrum Andream Fabrum⁶⁵⁴ domini nostri Regis infra Turrim London' precio cuiuslibet lancee v s. per breve de magno sigillo datum apud Westm' primo die Julii anno xxxij^o, lx s. Et in xxvij paribus de quivers coopertis de corio pro arcubus et sagittis intrussandis et super equos in partibus Francie cum domino nostro Rege cariandis emptis de Johanne de Kent Botteller de Wodestrete⁶⁵⁵ per tempus compoti precio pari xx s. per idem brevia de

⁶⁵¹ See Appendix of names s.v. Wycombe.

⁶⁵² Originally 'lanceis', struck through.

⁶⁵³ Sic.

⁶⁵⁴ See Appendix of names s.v. Fevre.

⁶⁵⁵ See Appendix of names s.v. Kent.

magno sigillo superius allegata, xxviii li. Et in ccj coffris pro arcubus intrussandis per Willelmum Crowe⁶⁵⁶ et alios carpentarios infra eandem Turrim ex certa <conventionem factam> per vices infra tempus compoti unde xiiij coffris quolibet cum duplicis serruris precio pecie iiiij s. et ciiiij^{xx} vij aliquibus serruris precio pecie ij s. per brevia domini nostri Regis de privato et magno sigillis suis superius allegata, xxj li. x s. Et in precio lxxiiij doliorum vacuum precio pecie xx d., iij piparum precio pecie xviiiij d. et c barellorum pro sagittis et cordis ad arcus salve intrussandis emptorum de Johanne Wayte⁶⁵⁷ et Willelmo Draybone⁶⁵⁸ couperis infra tempus compoti per brevia superius allegata xiiij li. xiiij d. Et in factura vj baiorum almoriarum factorum per Willelmum Crowe et alios carpentarios infra eandem Turrim pro arcubus Regis imponendis et salvo custodiendis pro omnibus misis et expensis per ipsos inde apportis ex certa conventionem cum predicto Willelmo factam et pro maiori commodo Regis per brevia superius allegata, vj li. xiiij s. iiiij d. Et in m^lcccc de talshide precio centene viij s., m^lm^l viij^c de bylect⁶⁵⁹ precio centene xiiij d. emptis de Johanne Bonet et Johanne Podenhale⁶⁶⁰ per vices infra tempus compoti <et expensis in>⁶⁶¹ officiis eisdem garderobe, videlicet pro lecto Regis tempore yemali siccando necnon pro armaturis predictis de moistura custodiendis, videlicet pro quolibet anno dictorum septem annorum cc de calshide⁶⁶² et iiiij^c de bylect⁷ per brevia de privato sigillo superius allegata, vij li. iiiij s. viij d. Et in precio v^c capitum lancearum pro guerra factorum ad opus Regis per Magistrum Andream Fabrum dicti domini regis infra Turrim London⁷ ex certa conventionem per dictum dominum Regem cum eodem

⁶⁵⁶ See Appendix of names s.v. Crowe.

⁶⁵⁷ See Appendix of names s.v. Wayte.

⁶⁵⁸ See Appendix of names s.v. Draybone.

⁶⁵⁹ Another type of hide, possibly 'bileta', weasel fur. Thanks to Paul Dryburgh for this suggestion.

⁶⁶⁰ See Appendix of names s.v. Podenhall.

⁶⁶¹ Struck through 'pro'.

⁶⁶² Leather calf's hide.

Andrea facta per breve de privato sigillo datum apud Westm' primo die Julii anno xxix^o, x li. Et in vadiis iiiij^{or} operariorum haubergiers cuiuslibet eorum ad vi d. per diem per ccxxvj dies operantes per vices infra tempus compoti super emendatione et factura loricarum cum coleris infra eandem garderobam existentarum per brevia superius allegata xxij li. xij s. Et in vadiis iiiij^{or} operariorum fourbours cuiuslibet eorum ad vj d. per diem per clv dies et iiiij valletorum vertendos barellos cum hernesiiis de maille cuiuslibet eorum ad iiiij d. per diem per cciiij dies operantes per diversas vices infra tempus huius compoti super fourbicatione, purgatione et mundatione bacinetorum, galearum, capellorum ferreorum, pavisorum, braciarum, pizanum, aventalliorum et aliarum diversarum armaturarum infra eandem garderobam existentarum prope rubiginatores unde deponendos per brevia superius allegata, xxix li. viij s. Et in vadiis Johannis Brakelond⁶⁶³ supervisoris archifactorum domini nostri Regis in Turri predicta capientis vj d. per diem a xxiiij^o die Aprilis anno regni ipsius domini Regis tricesimo primo usque ultimum diem Junii anno tricesimo tertio utraque die computata per dcciiij^{xx} xvij dies per breve de privato sigillo datum xxiiij die Aprilis anno xxxj^o et per indenturam ipsius Johannis de receptione, xix li. xix s. Et pro labore et expensis ipsius Johannis euntis usque Lincoln' et abinde usque Lenn⁶⁶⁴ pro archifactoribus querendis et eos usque Turrim London' ducendos pro arcubus ad opus Regis ibidem faciendis necnon pro empcione corium et aliarum rerum pro officio dictorum archifactorum pertinente de dono Regis per breve et indenturam superius allegata, xl s. Et Johanni Serle⁶⁶⁵ valetto garderobe predicte in recompensationem laboris suis in eadem garderoba per ipsum factis a tempore adventi sui ibidem usque primum diem Julii anno xxxiiij^o de dono dicti domini Regis

⁶⁶³ See Appendix of names s.v. Brakelond.

⁶⁶⁴ King's Lynn.

⁶⁶⁵ See Appendix of names s.v. Serle.

per breve de magno sigillo data primo die Julii anno xxxiiij^o, lx s. Et pro diversis custubus et expensis per ipsum Johannem factis et apportis in officio garderobe predictae super purgatione diversorum armaturorum ibidem existentorum una cum oleo et furfure per ipsum emptis pro dictis armaturis purgandis ungendis et salvo custodiendis a dicto primo die Julii dicto anno xxxiiij^o usque xv diem Junii anno xxxiiij^o per predictum breve de magno sigillo superius allegatum, c s. Et in pergamena, papiro, cera et encausto emptis et expendis in litteris, rotulis et aliis diversis memorandis officii dicte garderobe tangentibus per tempus compoti <xxxiiij s. iiij d.>.⁶⁶⁶ Et in vadiis ipsius Willelmi de Rothwell' capientis xij d. per diem in officio suo predicto, videlicet a⁶⁶⁷ <ix^o> die Maii anno xxviij^o usque xxiiij diem Junii anno xxxiiij^o utraque die comprehensa per vij annos vj septimanas v <dies>, cxxx li. ij s. Et in conductione trium equorum quolibet eorum ad vj d. per diem per cxxxix dies cariantes coronam et vj discos grossos domini nostri Regis pro speciebus de Turri London' ad curiam Regis ad diversa festa, videlicet Natalis Domini, Pasche, Sancti Georgii, Pentecostes et Omnium Sanctorum et ad diversa loca, videlicet Wyndesor', Wodestok', Marlebergh', Hampstedemarestcall',⁶⁶⁸ Redyng' et Elthom' et alia loca diversa ubi dominus Rex tenuit festa sua predicta per diversas vices infra tempus huius compoti per brevia superius allegata, x li. viij s. vj d. Et in portagio, skippagio, cariagio, cartagio et discartagio diversorum armaturarum arcuum et sagittarum tam per terram quam per aquam per diversas vices infra tempus huius compoti de Turri London' ad diversa loca videlicet Westm', Retherhith',⁶⁶⁹ Suthampton' et Sandwic' ordinato pro diversis viaggiis domini nostri Regis tam super

⁶⁶⁶ Struck through 'xl s.'

⁶⁶⁷ Struck through 'vij^o'.

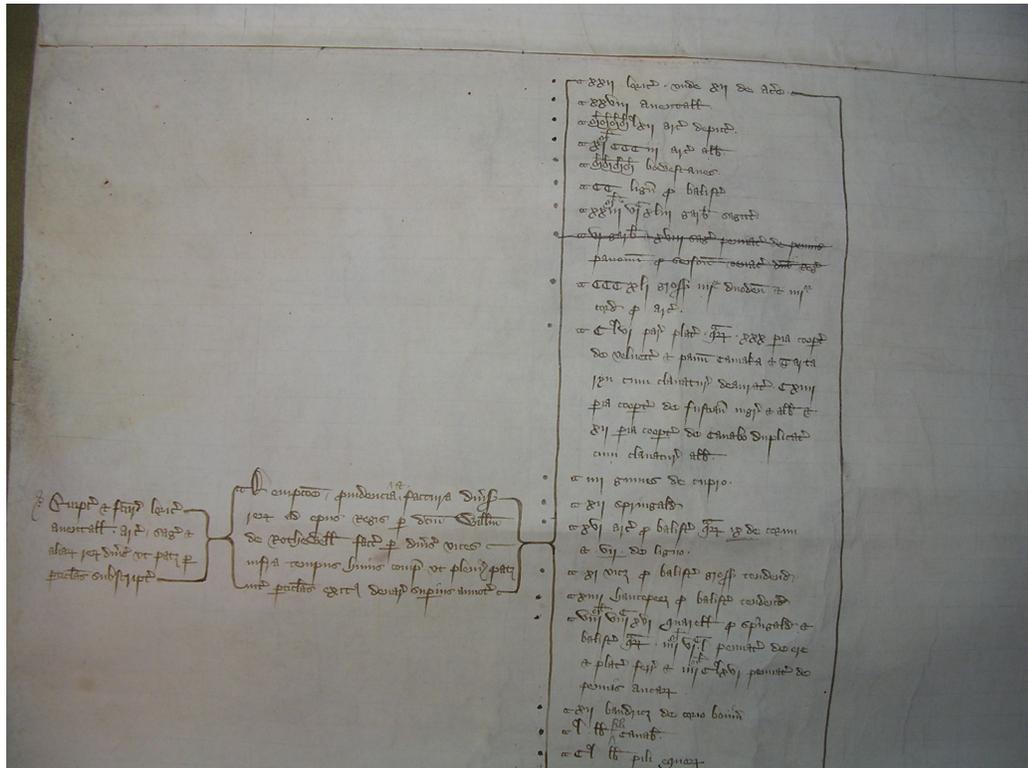
⁶⁶⁸ Hamstead Marshall, between Newbury and Hungerford in Berkshire.

⁶⁶⁹ Rotherhithe.

mare quam ad partes Francie per brevia superius allegata et etiam per breve de magno sigillo datum apud Westm' primo die Julii anno xxxiiij^o xxv li. iiij s.

Summa totalis expensarum m^lm^lm^llxv li. xv s. xj d. Et debet cliij li. vij s. v d.

[m. 3]



14 Section of William Rothwell's account, E 101/392/14.

Emptiones et factura loricarum, aventallorum, arcuum, sagittarum et aliarum rerum diversorum ut patet per particulas subscriptas

De empcione, providencia <et> factura diversarum rerum ad opus Regis per dominum Willelmum de Rothwell' facta per diversas vices infra tempus huius compoti ut plenius patet inter particulas exitii denariorum superius annotata

xxij loric' unde xij de acere

xxviiij aventall'

m^lm^lm^llxij arc' depict'

xj^{ml} ccciiij arc' alb'

m^lm^lm^lm^l bowestaves

cc lign' pro balistis

xxiiij^{ml} vj^c xliij garb' sagittarum⁶⁷⁰

cccxlj gross' iiiij^{or} duoden' et iiiij^{or} cord' pro arcus

clvj par' plat' quorum xxx paria cooperta de velvetto et panno camaka et Tartaryn

cum clavatura deaurata, cxiiiij paria cooperta de fustiano nigro et albo et xij paria

cooperta de canabo duplicato cum clavatura alba

iiiij gunnes de cupro

xij springald'

xvj arc' pro balistis quorum ix de cornu et ix de ligno

xj vicz pro balistis grossis tendendis

xiiiij hancepeez pro balistis tendendis

viiij^{ml} viij^c xvj quarell' pro springaldis et balistis quorum iiiij^{ml} vj^c l pennat' de ere et

plat' ferr' et iiiij^{ml} clxvj pennat' de pennis aucarum

xij baudricz de corio bovino

l lb. <fili> canabi

cl lb. pili equorum

xviiij stirop' pro balistis

xvj lb. dim. pulveris pro gunnis

vj lb. cere

⁶⁷⁰ Struck through 'vj garbas et xviiij sag' pennat' de pennis pavonum pro seisona venationis domini Regis'.

iiij^{or} sacc' de canabo

ccxxx uln' canabi

xij banerstaves⁶⁷¹ ferr' ligata pro vexillis Regis <deferendis>

xxviiij paria de quivers de corio

ccj coffr' pro arcubus intrussandis

lxxiiij doli'

iiij pip' pro sagittis et cordis intrussandis

c barell'

v^c capit' lancearum de guerra

[m. 4]⁶⁷²

Recepta ballistarum, arcuum, sagittarum, cordarum pro arcubus et aliarum rerum officii attilarii Regis tangentibus de domino Roberto de Mildenhale ut patet per particulas subscriptas

De domino Roberto de Mildenhale clerico nuper Custode private garderobe domini nostri Regis infra Turrim London' ix^o die Maii anno xxvii^{mo} per indenturam ipsius Roberti receptionem rerum subscriptarum testificantem

dccclj arc' depict'

dc iiij^{xx} ij arc' alb'

diiij^{xx} xix garb' sagittarum de fraxino

m^l dccxix garb' sagittarum communes

⁶⁷¹ Struck through 'lanceas'.

⁶⁷² A summary total of receipts appears in the right column, parallel to particulars of receipt, on mm. 4-5.

xxv gross' et x duoden' cordarum ad arcus

c iiij^{xx} ij balist' quarum xij gross' de cornu de brake ad tendend' cum hancspeez, xvij gross' de ligno ad tendend' cum hancspeez, iiij parv' debil' de cornu, lix communes de ligno veter' et debil' quarum iiij fract', iiij^{xx} vj de ligno nov', j pro domino Rege et ij bastard' depict' quarum teller unius separata est de coster'

xij baudric' veteres et puterid'

m^lm^lm^l ccc capita sagittarum

Recepta jocalium et aliarum rerum de eodem Roberto de Mildenhale ut patet per particulas subscriptas

De predicto domino Roberto de Mildenhale nuper custode private garderobe domini Regis supradicto ix^o die Maii anno xxvii^o per indenturam ipsius Roberti superius annotatam

ij superpellicias

x libros⁶⁷³ quorum v de romance

xxvj quaternos diverse scripture

iiij bagas cum rotulis et inde diversis compot'

vij cornua quorum j de ebore cum ij virollis et j tuellis argenti et j de ebore garnitis de serico et argent' deauratis et aymellatis et v de cornu et corio

ij coronas et j pec' unius corone argento deaurato et ponderato de doublett'

j capellum de velvetto rubeo cum j bend argenti aymellato cum armis Francie et cum

j pomello argento deaurato operato de foliis quercuum et cum iiij leopardis argenteis deauratis

⁶⁷³ Written in full, showing the nouns in the list are all in the accusative case.

ij chastellettos de cupro deaurato

j scaccarium de cristallo et jaspide cum familia, videlicet xv de cristallo et xv de jaspide

v capellos <veteros> de bevre de sarzyneys quorum iiij^{or} cum pomellis argenticis deauratis et j sine pomello

j lapekyn' pro j galea de velveto albo operato de serico et minutis perlis

j lut' gross' in uno caso de corio

j caput unius croce⁶⁷⁴ pro abbate de cupro deaurato

xxix pecias de cupro deaurato

iiij paria cultellorum veterum vocata trenchours

j parvum forc' de mug' garnitt' de cupro deaurato

j discum de jaspide garnitto de argento deaurato et aymellato et operato de diversis perre cum uno circulo et viij barris deauratis et operatis de diversis perre cum uno crapaudyn⁶⁷⁵ in sumett' dicti circuli et cum uno pede argenti deaurato et aymellato et operato de diversis perre⁶⁷⁶

ij magn' disc' pro speciebus de argento deaurato et aymellato cum ij pedibus argenteis deauratis pro eisdem

j petr' quarr' de uno saphiro aquatico cum uno chivalrotto et uno turreto auro pro eadem nuper existento secreto sigillo domini Regis in uno coffro ligato de ferro

Recepta sellarum, patterellorum, croperiorum, mantellettorum, chanfrorum, picers <haunchers>, flanchers pro trapperis equorum de predicto domino Roberto de Mildenhale ut patet particulas subscriptas.

⁶⁷⁴ Sic, for *crocis*.

⁶⁷⁵ A toadstone, see chapter 1.

⁶⁷⁶ Sic.

De predicto Roberto de Mildenhale nuper custode private garderobe domini Regis
infra Turrim predictam dicto ix^o die Maii anno xxvij^o per indenturam ipsius Roberti
superius annotatam

xxiiij sellas pro equis quarum xiiij pro torniamento, viij pro hastiludo et ij pro guerra
iiij ligna pro sellis vetera et putrida

j patterellos debiles ponderatos cum parvis campanis

lvij croper' quorum xxxiiij de frettis cordis coopertis de panno rubeo, xix de frettis
cordis coopertis de fustiano albo, j de frettis cordis coopertis de velveto viride cum
veteribus armis Anglie borduris de auro, iij de platis de corio <diversimode> depictis
xxi tester' quorum xix de frettis cordis coopertis de fustiano albo, j de frettis cordis
non coopertis nullius valoris et j de frettis cordis coopertis de velveto viride cum
veteribus armis Anglie

j mantelletum de platis de cornu coopertis de sindone viride

xxxv chanffren' quorum ij de corio depicto diversimode, j de corio depicto et
cooperto de cornu, ij larg' unde j coopert' de velveto rubeo et j de velveto viride
garnito de cupro deaurato et aymellato, j de corio depicto cum uno caput unius
domicelle, j de corio nigro ligato de cupro deaurato, j coopertum de velveto rubeo
garnito cum capitibus leopardorum de cupro deaurato, xvij de Vascon' unius
sortis⁶⁷⁷ veteres et debiles, j de ferro debilem, viij communes

lxvj picer' quorum xxxij de frettis cordis coopertis de panno rubeo, xvij de
quirboillo, viij depicta de armis domini Johannis de Molyng, ⁶⁷⁸ j de corio cooperto
de velveto rubeo cum veteribus armis Anglie bordura de auro, iij de platis de corio

⁶⁷⁷ Possibly 'seytis', of a set.

⁶⁷⁸ See discussion in Chapter 2.3 and Appendix of names.

depicto diversis modis, iij de velveto rubeo cum veteribus armis Anglie, j de sindone rubeo stuffato de platis de cornu

xxiiij paria et j hancher' quorum xvj paria de quirboillo, viij paria depicta de armis dicti domini Johannis de Molyns, et j hancher' de corio cooperto de velveto rubeo cum veteribus armis Anglie bordura de auro cum ij parvis peciis de eadem secta

vj flancher' de velveto rubeo bordura cum veteribus armis Anglie

viiij paria glasner' de armis dicti domini Johannis de Molyns

xiiij glasner'

Recepta camisiarum Vascon', aketonum, doublettorum, jupellettorum, cotarum ad arma, vambracz et rerebracz cum plongeris de predicto Roberto de Mildenhale ut patet per particulas subscriptas

De predicto Roberto de Mildenhale nuper custode dicte private garderobe Regis infra Turrim predictam dicto ix die Maii anno xxvj per indenturam ipsius Roberti superius annotatam

xxij camis' ad modum Vascon' veter' et de diversis operatoribus

ix aketones quorum vj veteres et putrid'

xvj doublett' coopert' de tela linea et fustiano

ij gipellett' de veteribus armis Anglie

v aketoner' de plata coopert' de panno diversis coloribus

xxxij cot' ad arma, quorum j de velveto rubeo, j de camaka et j de panno et omnes

tres de veteribus armis Anglie, et xxix de panno de tirtano cum scuto domini Leonelli

[m. 5]

cvj paria de vantbracz, quorum ij paria cum coteris de latone, iiij^{or} paria cooperta de panno de Coloign', vj paria de ferro et iiij^{xx} xiiij paria de corio
 lvij paria de rerbracz, quorum xlviij paria de ferro cooperto de panno diversis coloribus exceptis v paribus non coopertiis, vij paria de corio, ij paria pro hastiludo et j par cum coteris et lunettis de veteribus armis Anglie
 j plonger' de eisdem armis.

Recepta <platorum, loricarum >, pauncorum, bracorum, pizanum, aventallorum et aliorum hernesiorum de mayle et de plata de dicto Roberto de Mildenhale ut patet per particulas subscriptas

De predicto Roberto de Mildenhale nuper custode dicte private garderobe Regis infra Turrim dicto ix^o die Maii anno xxvij^o per indenturam ipsius Roberti superius annotatam
 cxiiij paria de pauncz quorum l paria de diversis clavaturis et lxiiij debiles cxxxviiij paria et j braces quorum lxxvij paria longa, xlv paria curta, ij paria pro torniamento et xiiij paria et j bracz communes
 ij paria de gusettis
 iiij paria de chaousns
 xj pec' de maille debiles pro coopertoriis equorum
 cxlviiij pizan' quorum iiij de platis ferreis et cxliiiij de maille
 xij paria de musekyns
 c iiij^{xx} vj aventalla

clxxiij loricis quarum lxxvj cum coleris de nova factura, iiij^{xx} viij absque coleris de vetera factura, iiij de alta clavatura, iij pro torniamento debilas, j de maille jasserant et j de latone

cxliiij paria platorum quorum j par de velveto rubeo clavato de argento, xviiij cooperta de velveto diversis coloribus et cxxv coopertas de aliis diversis coopertoriis

lxij galeas quarum vj pro torniamento, iij cum barberis pro hastiludo, j depicta de veteribus armis Anglie et liij pro guerra

cxij capellos quorum [sic] cx de ferro, j de corio pro torniamento et j de ferro deaurato cum una bordura de argento allevata de bestiis deauratis

ccxlix bacinettos quorum j cum visero, xxij pro torniamento et ccxxvj pro guerra xviiij paria cerotheris de platis vetera et fracta

Recepta crestorum, quirrez, waynpayns, lamers, mayndefers, vamplatorum, sabatons et alettorum, ocularorum et auricularorum de predicto Roberto de Mildenhale

De predicto Roberto de Mildenhale nuper custode dicte private garderobe Regis dictis die et anno per indenturam ipsius Roberti superius annotatam

xxj crest' de sindone de armis dicti domini Leonelli

xvij quirrez pro torniamento

xij <par' de> waynpaynz

iiij lamer' quorum j de latone

iiij mayndeferr'

iiij vantplat'

iiij paria sabatonium quorum j par coopertum de velveto rubeo

j par de allettis

iiij paria ocularorum de cupro deaurato pro equo

j par auricularorum

Recepta scutorum, pavisorum, targettarum, ensium, panadorum, scauberks, capitorum lancearum, zonarum pro pauncz, pavillonum et gisarmes vocantur hasegaies

De predicto Roberto de Mildenhale nuper custode private garderobe Regis predictae eiusdem die et anno per indenturam suam superius annotatam

xij scuta quorum j de acere cum uno scochon' de armis Anglie in medio loco cum una bordura de argento de eisdem armis in uno coffino, j de cupro et velveto rubeo cum veteribus armis Anglie, iij de eisdem armis cum leopardis deauratis, ij de acere, j de platis de latone et iiij^{or} cooperta de platis ferreis

lj targettas de armis Regis quartellatis

j targettas de alia factura de eisdem armis

j pavisium de eisdem armis

m^lxl pavisia depicta cum colore albo et in medio loco cuiusdem pavisii unum garterum ynde inclusum j escochon de armis Regis

c pavisia larga burnitta de foliis argenti deauratis cum uno scuto de armis Regis infra unum garterum depictis

xxvj enses quorum j pro torniamento et ij debiles

iiij panad' quorum iij ad modum sarecinum et j non garnitum

v scauberch' pro ensibus quorum iij garnitos de argento deaurato et ij garnitos de latone

cccxv capita lanciarum quorum cccxx pro guerra, viij pro glayvis, ij pro lanceis
 grossis et j parvum
 iiij zonas pro pauncz
 j pecia unius pavillon'
 v gisarm' vocata hasegayes

*Adhuc recepta de quisseux, poleinis, tubialis et etiam de bulgis, coifettis, espaularis,
 cotis punctis cum loriceis, lanceis, crinalis et coffris et morsis de cupro et palettis pro
 torniamento*

De predicto Roberto de Mildenhale nuper custode private garderobe Regis antedictae
 die et anno per indenturam suam superius annotatam

ccxl paria et j quissorum quorum xiiij paria de ferro, ij paria cooperta de panno de
 Coloign', ciiij paria et j quissum de corio et minutis platis coopertis de corio rubeo,
 xij paria pro torniamento quorum x debiles, j par coopertum de panno adaurato et
 garnito de latone, j par coopertum de samitto rubeo cum veteribus armis Anglie et
 cviiij paria communes

ccxxviiij paria et j polanum quorum xiiij de ferro, ij cooperta de panno de Coloign',
 ciiij paria et j polanum de corio et de minutis platis coopertis de corio rubeo, xij paria
 de corio pro torniamento quorum ix debiles, j par coopertum de panno adaurato et
 garnito de latone, j par coopertum de samitto rubeo cum veteribus armis Anglie et
 iiij^{xx} <xvj paria> communes

cxlvj paria tubialorum⁶⁷⁹ quorum xxxij paria de ferro, ij paria cooperta de panno de Coloign', c paria de corio et de alia diversa factura, xij pro torniamento debila

j par de boulg' de corio⁶⁸⁰

j coifett' de maille

xiiij paria espaularorum quorum ix debiles

ij coifett' pro torniamento

[m. 6]

vij cot' punct' cum loricis infra eadem quarum v cooperta de fustiano albo et ij de panno russetto

j lanc' nuper datam domino Regi per dominum Thomam de Rokeby⁶⁸¹ militem

iiij crinal' frettat' de corde

iiij coffr' gross' ligat' de ferro

ij mors de cupro deaurato pro ij capis operatis de ymaginis plantatis de doubletto diversis coloribus

iiij palett' pro torniamento

Recepta platorum, loricarum, bacinettorum, capellarum ferri, pauncorum, bracorum, pizanorum, aventallorum et aliarum diversarum armaturarum et rerum de stuffa Cales'

⁶⁷⁹ Shin defences.

⁶⁸⁰ 'Budgets', the provision of which was ordered to Thomas Staundon in 1355 along with other sacks and leather bags; *CPR 1355–1357*, 280.

⁶⁸¹ Sir Thomas Rokeby, see Appendix of names.

De Hugone Lengynour⁶⁸² custode garderobe domini nostri Regis infra villam Cales'
 xxvj^o die Julii anno xxvij^o per indenturam ipsius Hugonis receptionem rerum
 subscriptarum testificantem

j bacinett' cum ij viseres [*sic*]

j gal'

ij capell' de ferro

j par de vantbracz

j par de rerebracz de ferro

j par de vantbracz de corio cum coteris deauratis

j par de quissis et polanis de platis coopertis de camaka viride

j par de quissis et polanis de maille coopertis de zatyn blue⁶⁸³

j avental'

j pisan' de maille

j par de pauncz

j par de bracz

j par de chausons de maille

j par platorum coopertum de armis Regis

j doublet' de Flandr' coopertum de panno adaurato cum manicis de platis cum
 clavatura deaurata

j cot' ad arma de armis Regis <quartellatis> cum butonis argenti deauratis

j al' cot' ad arma cum botonis argenti cum uno scuto de armis Regis in medio
 eiusdem

j duodena de agiletis de serico <bleu>⁶⁸⁴ cum punctis argenti

⁶⁸² The engineer, see Appendix of names s.v. Lengynour.

⁶⁸³ The following line struck out, 'j par tubial' de corio nigro'.

⁶⁸⁴ Struck through 'bleu'.

j aventall'
 j par de pauncis
 j par de gussettis de acere in uno pare⁶⁸⁵ bolgis
 iiij coffr' ad armaturam pro corpore Regis intrussandam
 ij targett' <quorum> j de acere et <alterum> de armis Regis
 iiij^{xx} bacinett'
 cv gal' veteres et debiles
 l capell' de ferro veter'
 iiij^{xx} paria de platis communes
 xxxvij loric' cum coleris
 iiij^{xx} aventall' de maille
 lxxvij pizan'
 iiij^{xx} ij paria de bracz de maille longa et curta
 ij paria de vantbracz et rerebracz de acere
 vj pavillon' pro pizanis nova
 xxx zon' pro pauncz
 xlix balist' bon'
 xxxj balist' communes
 j mortar' de cupro cum uno pestello ferreo
 xiiij cist' de Flandria pro hernessis Regis imponendis
 dcccl enses veteres nullius valoris et nullius precii
 cxiiij targett' et taluas⁶⁸⁶ vet'
 cxl pavis' vet' et long'
 cxxiiij paria quissium et polanorum vetera et nullius valoris

⁶⁸⁵ Struck through 'de'.

⁶⁸⁶ Clearly a synonym for target, a small round shield, but otherwise unattested.

ccc paria cerothecarum de platis vetera et nullius valoris

ciiij^{xx}ij baculos et hachett' putridos et nullius valoris

ccc pavillon' pro pizanis putrid' et nullius valoris

lxij paria⁶⁸⁷ <de iamusieris⁶⁸⁸> de ferro et corio vetera et debiles

clvij paria de vantbracz et rerbracz de corio vetera et debiles

cc lance' veteres et putrid' et nullius valoris

*Recepta platorum, bacinettorum, capellarum ferri, cerothecarum de platis,
vantbracz, rerbracz, targettarum et lancearum*

De Ricardo de Carswell⁶⁸⁹ valetto armaturarum domini nostri Regis xxvij die
Augusti anno xxxiiij per indenturam sua receptionem rerum subscriptarum
testificantem

cxxiiij par' platorum communes

cxxiiiij bacinett' et capell' de ferro <inde xliij bacinett' et iiiij^{xx} capell'>

iiiij^{xx} ix paria cerothes de platis

iiiij^{xx} ix paria de vantbracz

iiiij^{xx} ix paria de rerbracz

clv targett'

clv lance'

⁶⁸⁷ Struck through 'tubialorum'.

⁶⁸⁸ An interlined insertion difficult to read, clearly a synonym for tibials, lower leg defences of plate, but otherwise unattested.

⁶⁸⁹ See Appendix of names s.v. Carswell.

Recepta capellarum ferri, <galearum,> balistarum, casorum cum quarellis, paltoc', coronalorum pro hastiludo, loricarum coopertarum corio et testorum de mayle, aventallorum, pizanum et braces

De predicto Ricardo de Carswell valletto armaturarum Regis die et anno supradictis per indenturam suam receptionem rerum subscriptarum testificantem

xx capell' de ferro

lxvij balist'

xxiij baudricz

xv cas' cum quarellis de Jeoyne

xx paltoks

j coopertor' de maille de Lumbardy pro uno equo

j tester' de maille iacerant pro uno equo

iiij aventall'

j pizan'

j par de bracz

vj gal'

j capell' de ferro

ij coronal' pro hastiludo

xx loric' quarum vij de acere

Recepta canabi

De domino Willelmo de Dalton⁶⁹⁰ clerico custode magne garderobe Regis infra
 tempus huius compoti per diversas indenturas receptionem dicti canabi testificantes
 c ulnas canabi per centenam de vj^{xx} et ulnam de v quarteriis
 cc ulnas canabi per centenam de vj^{xx} et ulnam de v quarteriis

*Restitutiones platorum, loricarum et aliarum diversarum armaturarum ut patet per
 particulas subscriptas*

De restitutione facta per Johannem de London⁶⁹¹ valletum et armurarium domini
 nostri Regis x^{mo} die Maii anno xxx^o in partem restitutionis diversarum armaturarum
 sibi alias extra dictam garderobam liberatarum pro viagio ipsius domini nostri Regis
 mense Junii anno xxix^o ex precepto Regis ut plenius patet inter particulas exitus
 armaturarum et hic restitutis

vij paria de pauncz

vij pizan'

vij bacinett'

vij aventall'

vij paria platorum quarum ij cooperta de fustiano nigro et v cooperta de fustiano
 albo⁶⁹²

[m. 7]

⁶⁹⁰ See Appendix of names s.v. Dalton.

⁶⁹¹ See Appendix of names s.v. London.

⁶⁹² Line struck through 'j par de gusetis'.

De restitutione facta per Ricardum de Carswell valletum armaturarum domini nostri Regis dicto x^{mo} die Maii anno xxx^o pro totis loricis et totidem capellis ferri sibi alias extra dictam garderobam liberatis pro dicto viagio Regis supra mare ex precepto Regis ut plenius patent inter particulas exitus armaturarum et hic restititis

xvj loric' cum coleris

xvj capell' ferri

<j par' plat' coopertum cum panno de glauco>

De restitutione facta per Johannem Sweyn,⁶⁹³ Gerardum Healmer Regis,⁶⁹⁴ Ricardum de Carswell valettum armaturarum Regis, Willelmum Hervy,⁶⁹⁵ Thomam London',⁶⁹⁶ Gerardum Hauberger Regis,⁶⁹⁷ Gerard <Mareschall'>,⁶⁹⁸ Johannem de Hampton Trumpator⁶⁹⁹ et Johannem Typett⁷⁰⁰ x^{mo} die Junii anno xxxiiij^o pro totis loricis sibi alias mutuatis extra eandem garderobam per preceptum domini nostri Regis videlicet omnibus eorum unam loricam ut plenius patent inter particulas exituum armaturarum hic restititis

ix loric' cum standardis et coleris de pizanis

De restitutione facta per Ricardum de Carswell valettum armaturarum domini nostri Regis dicto x^o die Junii dicto anno xxxiiij^o

ij loric'

⁶⁹³ See Appendix of names s.v. Sweynle.

⁶⁹⁴ See Appendix of names s.v. Helmer.

⁶⁹⁵ See Appendix of names s.v. Hervy.

⁶⁹⁶ See Appendix of names s.v. London.

⁶⁹⁷ See Appendix of names s.v. Hauberger.

⁶⁹⁸ Originally written as 'Waytes', alternative name substituted, see Appendix of names s.v. Marshall.

⁶⁹⁹ Actually Ralph Bampton, see Appendix of names s.v. Bampton.

⁷⁰⁰ See Appendix of names s.v. Tipett.

De diversis hominibus per manus Johannis Serlee⁷⁰¹ per diversas vices infra tempus
huius compoti
xxvj pavis'

De diversis rebus inventis infra eandem garderobam per Thomam de Petresfeld⁷⁰²
nuper valettum eiusdem garderobe
j leopardum operatum de serico glauco super uno capello de velveto rubeo cum
duabus partibus, unius parve corone de cupro nuper existente, una cresta de veteribus
crestis Regis
j coopertor' pro j equo de frettis cordis cooperto de panno rubeo
j arcus de Turkye
j cokr' cum xxiiij vires
x arc' alb'
iiij gross' vj duoden cordarum ad arcus

[m. 8]

<j par de gussetis, j picer', j flancher', ij glasners>

*Lincoln*⁷⁰³

⁷⁰¹ See Appendix of names s.v. Serle.

⁷⁰² See Appendix of names s.v. Petersfield.

⁷⁰³ The orders to the county sheriffs for the provision of these bows and arrows were issued on 30 January 1356, and 8 November 1360 (*CCR 1354-60*, 244, 601). Lincoln was ordered to provide 500 white bows and 600 sheaves of arrows, and 400 painted bows, 200 white bows, and 1,000 sheaves of arrows 'well pointed' by indenture to William de Rothwell, keeper of the wardrobe, there or send £145 16s. 8d. 'as the king must have a great number for the furtherance of his war with France'. As the deliveries show, Lincoln far exceeded the original request, sending in 454 painted bows, 2,561 white bows and 1,696 sheaves of arrows between 1355 and 1360.

De Thoma de Fulnetby⁷⁰⁴ vicecomite Lincoln' viij die Junii anno xxix^o ad opus

Regis per indenturam de receptione

ccxvij arcus depict'

dcclv arc' alb'

De eodem quarto die Julii anno predicto ad opus Regis per indenturam de receptione

cxlj arc' depict'

cciiij^{xx} v arc' alb'

De eodem viij die Octobris anno predicto ad opus Regis per indenturam de

receptione

cccxxxiiij garb' sagittarum communes

De eodem quinto die Maii anno xxx^o ad opus Regis per indenturam de receptione

iiij^{xx} xvj arc' depict'

dl arc' alb'

cclxvj garb' sagittarum communes

De eodem viij die Augusti anno predicto ad opus Regis per indenturam de receptione

dcccxxxij arc' alb'

cclviij garb' sagittarum communes

De eodem xvj die Maii anno xxxj^o ad opus Regis per indenturam de receptione

cxxxix arc' alb'

⁷⁰⁴ See Appendix of names s.v. Sir Thomas Fulnetby.

cxxij garb' sagittarum communes

De Edmundo de Cornewall⁷⁰⁵ vicecomite Lincoln' xj die Maii anno xxxiiij^o ad opus

Regis per indenturam de receptione

cccxvj garb' sagittarum communes

De eodem xiiij die Februarii anno xxxiiij^o ad opus Regis per indenturam de receptione

ccciiij^{xx} xix garb' sagittarum communes

Glouc'

De Thoma de Berkle de Coburle⁷⁰⁶ vicecomite Glouc' viij die Octobris anno xxix^o ad

opus Regis per indenturam de receptione

cxvj garb' sagittarum communes

De eodem xxvj die Junii anno xxx^o ad opus Regis per indenturam de receptione

ccxxx arc' alb'

ccccxlvj garb' sagittarum communes

De Roberto de Hildesley⁷⁰⁷ vicecomite Glouc' tertio die Augusti anno xxxiiij^o ad

opus Regis per indenturam de receptione

ccc garb' sagittarum communes

⁷⁰⁵ See Appendix of names s.v. Sir Edmund Cornwall.

⁷⁰⁶ See Appendix of names s.v. Sir Thomas Berkeley of Coberley.

⁷⁰⁷ See Appendix of names s.v. Sir Robert Hildesley.

Kant'

De Gilberto de Helles⁷⁰⁸ vicecomite Kant' v^{to} die Maii anno xxx^o ad opus Regis per
indenturam de receptione
cij garb' sagittarum communes

De eodem xxiiij die Augusti anno predicto ad opus Regis per indenturam de
receptione
cxx garb' sagittarum communes

De Willelmo Wakenade⁷⁰⁹ vicecomite Kant' xv die Maii anno xxxiiij^o ad opus Regis
per indenturam de receptione
cccxlvj garb' sagittarum communes

De eodem xvj^o die Junii anno predicto ad opus Regis per indenturam de receptione
ccc garb' sagittarum communes

Norf' et Suff'

De Guidone Sent Clier⁷¹⁰ vicecomite Norf' et Suff' xix die Junii anno xxix^o ad opus
Regis per indenturam de receptione
lxvj arc' depict'
clxiiij arc' alb'

⁷⁰⁸ See Appendix of names s.v. Gilbert Hilles.

⁷⁰⁹ See Appendix of names s.v. William Wakenade.

⁷¹⁰ See Appendix of names s.v. Sir Guy St Clere.

De Johanne de Ratlesden⁷¹¹ vicecomite Norf^o et Suff^o xj die Julii anno xxxiiij^o ad
opus Regis per indenturam de receptione
cccc garb' sagittarum communes

De eodem xj die Februarii anno xxxiiij^o ad opus Regis per indenturam de receptione
Dcccc garb' sagittarum communes

Staff'

De Johanne Musard⁷¹² vicecomite Staff^o xxii die Junii anno xxx^o ad opus Regis per
indenturam de receptione
cxiiij arc' alb'
ciiij^{xx} vj garb' sagittarum communes

De eodem xxviiij die Augusti anno xxxiiij^o ad opus Regis per indenturam de
receptione
ccxl garb' sagittarum communes

Notingham' et Derby'

De Rogero Michel⁷¹³ vicecomite Notingham' et Derby' vj die Julii anno xxx^o ad opus
Regis per indenturam de receptione

⁷¹¹ See Appendix of names s.v. Sir John Ratlesden.

⁷¹² See Appendix of names s.v. Sir John Musard.

⁷¹³ See Appendix of names s.v. Roger Michel.

cxviiij arc' alb'

ccij garb' sagittarum communes

De Johanne de Gresley⁷¹⁴ vicecomite Not' et Derb' xix^o die Augusti anno xxxiiij^o ad

opus Regis per indenturam de receptione

ccccxxviiij garb' sagittarum communes

Hereford'

De Thoma de la Bare⁷¹⁵ vicecomite Hereford' xvj die Octobris anno xxx^o ad opus

Regis per indenturam de receptione

ccclxiiij garb' sagittarum communes

Bed' et Buk'

De Petro de Salford⁷¹⁶ vicecomite Bed' et Buk' xiiij die Decembris anno xxxiiij^o ad

opus Regis per indenturam de receptione

cclx garb' sagittarum communes

De Johanne de Hampden⁷¹⁷ vicecomite Bed' et Buk' xj die Julii anno xxxiiij^o ad

opus Regis per indenturam de receptione

ccc garb' sagittarum communes

⁷¹⁴ See Appendix of names s.v. Sir John Gresley.

⁷¹⁵ See Appendix of names s.v. Thomas atte Bare.

⁷¹⁶ See Appendix of names s.v. Peter Salford.

⁷¹⁷ See Appendix of names s.v. John Hampden.

De eodem xix die Augusti anno predicto ad opus Regis per indenturam de receptione
cc garb' sagittarum communes

Wygorn'

De Thoma Cascy de Haddesoure⁷¹⁸ vicecomite Wygorn' xxij die Februarii anno
xxxj^o ad opus Regis per indenturam de receptione
l arc' alb'

Soms' et Dors'

De Johanne Sent Lowe⁷¹⁹ vicecomite Soms' et Dors' vj die Februarii anno xxxj^o ad
opus Regis per indenturam de receptione
ccc arc' alb'
cccc garb' sagittarum communes

De Ricardo Turberville⁷²⁰ vicecomite Soms' et Dors' xxiiij^o die Februarii anno
xxxiiij^o ad opus Regis per indenturam de receptione
ccc garb' sagittarum communes

Wiltes'

⁷¹⁸ See Appendix of names s.v. Thomas Cassy of Hadzor.

⁷¹⁹ See Appendix of names s.v. Sir John Seynt Loo.

⁷²⁰ See Appendix of names s.v. Sir Richard Turberville.

De Thoma de Hungerford⁷²¹ vicecomite Wiltes' xiiij die Maii anno xxxiiij^o ad opus
Regis per indenturam de receptione
ccvij garb' sagittarum communes

Cantebr' et Hunt'

De Nicholo de Stukeley⁷²² vicecomite Cantebr' et Hunt' xij die Julii anno xxxiiij^o ad
opus Regis per indenturam de receptione
cccc garb' sagittarum communes

De eodem v^{to} die Octobris anno predicto ad opus Regis per indenturam de receptione
cccc garb' sagittarum communes

De eodem v^{to} die Decembris anno predicto ad opus Regis per indenturam de
receptione
cc garb' sagittarum communes

Warr' et Leyc'

De Thoma de Stoke⁷²³ vicecomite Warr' et Leyc' tertio die Octobris anno xxx^o per
indenturam de receptione
clxxix garb' sagittarum communes

⁷²¹ See Appendix of names s.v. Sir Thomas Hungerford.

⁷²² See Appendix of names s.v. Sir Nicholas Stukeley.

⁷²³ See Appendix of names s.v. Thomas Stoke.

De eodem primo die Augusti anno xxxij per indenturam de receptione
ccclxvij garb' sagittarum communes

Norhant'

De Andrea Landwath⁷²⁴ vicecomite Norhant' tertio die Aprilis anno predicto ad opus
Regis per indenturam de receptione
cc garb' sagittarum communes

Suthant'

De Waltero de Haywode⁷²⁵ vicecomite Suthant' xiiij die Maii anno predicto ad opus
Regis per indenturam de receptione
c garb' sagittarum communes

Surr' et Sussex'

De Thoma de Hoo⁷²⁶ vicecomite Surr' et Sussex' x^{mo} die Augusti anno predicto ad
opus Regis per indenturam de receptione
ccc garb' sagittarum communes

Arcus, garbe sagittarum et corde pro arcubus forfacti in portu London' et aqua

Thamesie

⁷²⁴ See Appendix of names s.v. Andrew Landwath.

⁷²⁵ See Appendix of names s.v. Walter Haywood.

⁷²⁶ See Appendix of names s.v. Sir Thomas Hoo.

De Reginaldo de Sholdham⁷²⁷ scrutatore in portu London' et aqua Thamesie viij die

Julii anno xxxij^o ad opus Regis per indenturam de receptione

xxij arc' alb'

xij duodena cordarum pro arcubus

xxxiiij garb' sagittarum veteres et debiles

De eodem xvij die Novembris anno predicto ad opus Regis per indenturam de

receptione

vij duodena cordarum pro arcubus debiles

Essex' et Hertford'

De Rogero de Louthe⁷²⁸ vicecomite Essex' et Hertford' anno xxxiiij^o <sine

indentura>

ccxxxv garb' sagittarum communes

<oneratur per magnum rotulum

Idem oneratur de duabus coffris <sine seruris> pro sagittis imponendis anno xxxiiij^o

receptis de Nicholo de Styvele⁷²⁹ vicecomite Cant' et Hunt'

Et de j pipa vacua recepta de dono Landwath vicecomite North' pro sagittis

imponendis

⁷²⁷ See Appendix of names s.v. Reginald Sholdham.

⁷²⁸ See Appendix of names s.v. Sir Roger Louth.

⁷²⁹ See Appendix of names s.v. Sir Nicholas Stukeley.

Et vendat super comptum ad diversas precias prout huius res emendantur supra
trailo expensis

v s. vj d.>

[m. 4, right column]

*Summa totalis recepte*⁷³⁰

Jocalium et librorum

ij coronas et j pecia unius corone de argento deaurato

j discum de jaspide garnito de argento deaurato

ij magna disca pro speciebus de argento deaurato

j petr' quarreat' de uno saphiro in uno parvo coffro

viiij cornua

j scaccarium de cristallo et jaspide cum familia, videlicet xv de jaspide et xv de
cristallo

j caput de uno croce pro abbate de cupro deaurato

ij morses de cupro pro duabus capis

j <parvum> forcerium de muge garnitto de cupro deaurato

j morterium de cupro cum j pestello ferreo

xxix pec' de cupro deaurato

j lutam grossam in j caso de corio

iiij paria cultellorum vocata trencheros

ij chastellettos de cupro deaurato

⁷³⁰ This summary appears in the right column, parallel to particulars of receipt, on m. 4.

x libros quorum v de romanc'

xxvj quaternos diverse scripture

iiij bagas cum joculis et medicinis

iiij superpellicias

<j leopardum operatum de serico glauco>

Herneysiarum de maille

cclxxix loricas

cxxiiij paria de pauncz

ccxxij paria et j bracz

ccxxxv pizanos

cccvj aventallos

iiij paria de gussettis

iiij paria de chausions

xij paria de musekyns

xij pecias de maille pro coopertoriis equorum

j tester' de maille pro equo

j coifett' de maille

Armaturarum de plate

v^c xj paria platorum

clxxiiij galeas

ccc iiij^{xx} bacinettos⁷³¹

cc iiij^{xx} j capellos ferreos

⁷³¹ The line following has been erased completely.

c iiij^{xx} xvij paria de vantbracz

cxlvij paria de rerebracz

clxj paria de vantbracz et rerebracz

ccxl paria de quissis

ccxxviiij paria et j polan'

cxxvj paria de quissis et polanis

ccix paria tubialorum

iiij paria de sabatons

iiij vantplat'

ccccvj paria de cerother de plate

iiij mayndefers

ij coifett' pro torniamento

iiij palett' pro torniamento

xiiij paria de espaulers

xvij quirres pro torniamento

xij paria de waynpayns

iiij lamer'

Armaturarum lingearum,⁷³² tunicarum et aliarum rerum diversarum

vij cot' punct' cum loricis infra easdem

ix aketons

xvij doublett'

v aketoners de platis

xx paltoks

⁷³² Of linen.

ij gipellett' de armis Anglie
 j plounger'
 j mantellett' de platis de cornu cooperto de sindone viride
 xxij camis' ad modum Vascon'
 xxxiiij cot' ad arma
 j duodenum de agillettis de serico blu cum punctis argento
 j par de allettis
 j lapekyn pro una galea
 j capellum de velvetto rubeo cum iij bendis argentis esmellatis cum armis Francie
 v capellos de bever sarzineis
 j peciam unius pavillonis vetera
 xxxiiij zonas pro pauncz
 cccvj pavillon' pro pizanis
 xxxij crest'
 xxiiij sellas pro equis
 iij ligna pro sellis
 <j coopertor' de frettis cordis coopertis de panno rubeo pro uno equo>
 j paterell' cum campernollis
 xxj tester' de fretto de cordis covertz en diverse mans⁷³³
 xxxv chanffren'
 lxxvj picer'
 xxiiij paria <et dim de> hauncher'
 vj flancher'
 viij paria de glasner'

⁷³³ The following line struck through, 'j testerum de mayle iacerant'.

<xvj>⁷³⁴ glasner'

lvij croper'

iiij paria ocularorum

j par auricularorum

iiij crinal' frett' de cordis

ccclvj lancias

xij <banerstaves>⁷³⁵ ferro ligatas pro vexillis Regis <de fer'>

dcccxxxvj capita lancearum

xij scuta

ccix targettos

cxiiij targettos et taluas'

m^lcccvij pavisia

dccclxxvj enses

iiij panad'

v scauberc' pro ensibus

v gisarm' vocatas hasgayes

ciij^{xx} ij baculos et hachett'

ij coronal' pro hastiludo

[m. 5]⁷³⁶

Springaldorum, balistarum, arcuum, sagittarum et aliarum rerum officii artillatoris

Regis tangentium

⁷³⁴ Originally 'xiiij'.

⁷³⁵ Originally 'lanceas', presumably of fir wood.

⁷³⁶ Continuing the list in the right column.

iiij gunnes de cupro

xij springald'

cccxxix balist'

xvj arcus pro balistis

cc ligna pro balistis

xj vicz pro balistis tendendis

xiiij hanspeez pro balistis tendendis

xviiij stirop' pro balistis

xlviij baudricz

viiij^{ml} viij^c xvj quarell' pro balistis et springaldis

xv cas' cum quarellis de Jeoyne

l lb. fili canabi

cl lb. <cord> pili equorum

xvj lb. dim. pulveris pro gunnis

vj lb. cere

iiij sacc' de canabo

dxxx ulna canabi

j par de boug' de corio

xxviiij paria de quivers de corio

xiiij huches de Flandr'

iiij coffr' ferro ligatos

iiij coffr' pro armaturis pro corpore Regis intrussandis

cciiij coffr' pro arcubus intrussandis

lxxiiij dol' vac'

iiij pip'

c barell'

v^{ml} v^c xxxiiij arcus depictos

xv^{ml} v^c liij arcus albos

m^lm^lm^lm^l bowestaves

ccclxxiiij gross' iij duoden' iij cordarum pro arcubus

xxxvj^{ml} ccc iij^{xx} xvij garb' sagittarum⁷³⁷

m^lm^lm^lccc capita sagittarum

j arcum de turky

j cokre cum xxiiij vires

⁷³⁷ Erased line follows, 'vj garb' xvij sagitt' larg' cum pennis pavonis'.

3.3 TNA E 101/400/16 Indenture for delivery of the contents of the privy wardrobe at the Tower of London by John Hermesthorp⁷³⁸ to Ranulph Hatton,⁷³⁹ 9 May 1382

Ricardus dei gratia Rex Anglie et Francie et Dominus Hibernie dilecto clerico suo Johanni de Hermesthorp' nuper custodi private garderobe nostre infra turrim nostram London' salutem. Cum constituimus dilectum clericum nostrum Ranulphum de Hatton' custodem Garderobe nostre predicte percipiendum in officio illo vadia et feoda consueta prout in litteris nostris patentibus inde confectis plenius continentur vobis mandamus quod eidem Ranulpho Garderobam illam cum omnibus rebus nostris in eadem et ad officiam huiusmodi custodis pertinentibus per indenturam liberari faciat indilate ad opus nostrum salvo custodiendum volumus enim ... vos⁷⁴⁰ inde erga nos exonerari. Teste me ipso apud Westm' viij die Maii anno regni nostri quinto.⁷⁴¹

Presens indentura testat quod dominus Johannes Hermesthorp nuper custos private garderobe domini nostri Regis infra Turrim London' liberavit Randulpho de Hatton custode eiusdem garderobe particulas subscriptas videlicet

dcclxxvij bacinett'

dxlvj palett'

iiij^{xx} xvij par' plates

clxxvj par' cerothecarum de plate

⁷³⁸ Keeper of the privy wardrobe 1381–2, see Chapter 1 and Appendix of names.

⁷³⁹ Keeper of the privy wardrobe 1382–96, see Chapter 1 and Appendix of names.

⁷⁴⁰ Word damaged.

⁷⁴¹ On a contemporary flap, sewn to the upper left corner of the indenture.

lxvj vantbras

j rerebras

iiij longes pavys

m^l xlvj arcus

iiij^{xx} ij targett' de cornu

m^l ccxxv paveys et targett' debiles pro navibus

cccxxx lanc' long' debiles

lxij capit' lancearum longarum

xxj fendours pro navibus⁷⁴²

iiij hancepes non garniciat'

iiij grossa dim. cord' ad arcus

v springoldes

xxxiiij coffres longes unde xiiij coopert' cum corio debiles et fractos

xvj coffres curtos unde xiiij coopert' cum corio debiles

cxij pykoys

c capita pro springoldes

cxiiij standardes de armis Regis et Sancti Georgii⁷⁴³

vj galeas

cxxv ketelhattes

dcclxxiiij aventall'

ciij^{xx} xvij pisainiz [sic]

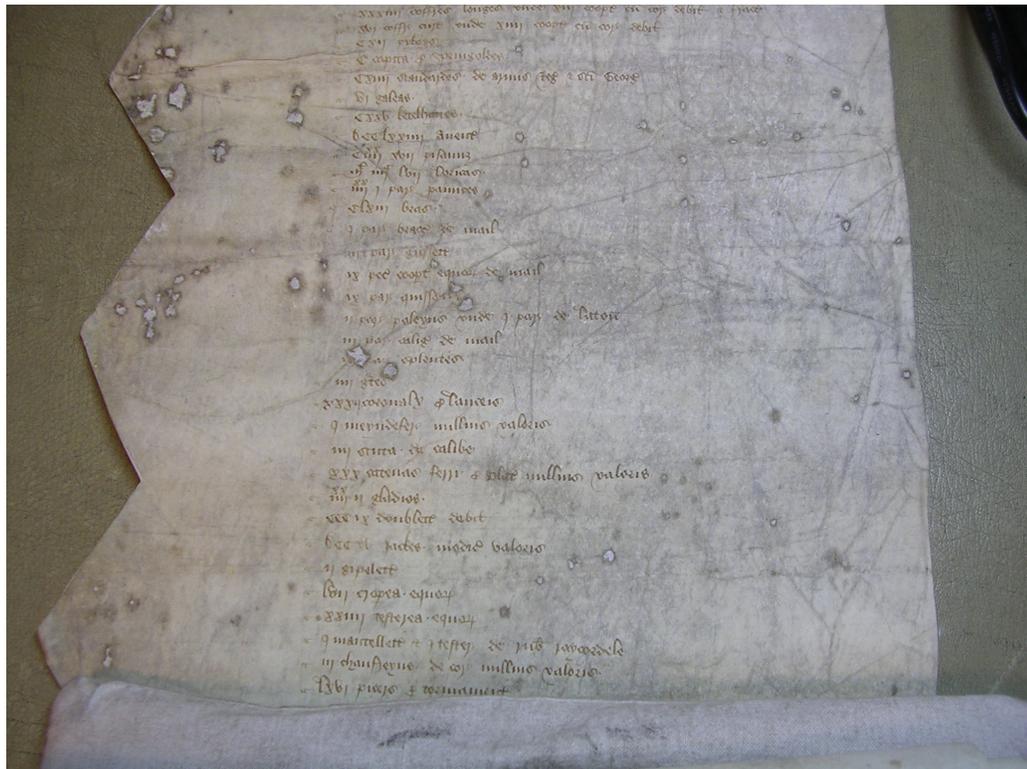
m^l iiij^c lvij loricas

iiij^{xx} j par' paunces

⁷⁴² It is clear from other accounts that these are literally fenders for ships.

⁷⁴³ Though not technically weapons, standards and banner staves are discussed under 2.5, close combat weapons, along with lances and lance pennons.

clxiiij bras



15 Section of Ranulph Hatton's indenture, E 101/400/16.

j par' bracc' de mail

iiij paria gussetorum

ix pecias coopertorium equorum de mail

ix paria quisseux

ij par' de poleyns unde j par de lattone

iiij par' caligarum de mail

ix par' splentes

iiij grates

xxxj coronalx pro lanceis

j meyndefere nullius valoris

iiij scuta de calibe

xxx catenas ferri pro platis nullius valoris

iiij^{xx} ij gladios

cccix doublett' debiles

dccxv jackes modici valoris

ij gipelett'

lvij croperea equorum

xxiiij testerea equorum

j mantelett' et j tester de rubeo raycordele

iiij chanfreyens de corio nullius valoris

lxvj picers pro torniamento

xxiiij paria dim. haunchiers

vj flaunchiers

viiij par' glasners

xiiij glasners

ij cot' ad arma

j par' aletz

j lapkyn pro j galea

lxxvij balist' unde ij fract'

xiiij baudryk' debiles

j vis pro balistis tendendis

xxij^{ml} c quarell' unde v^{ml} vij^c cum capitibus

ix^c iiij^{xx} xv garb' sagittarum

m^l vij^c capit' sagittarum

xx<ij> hachett'

c iiij^{xx} x pencell' de sindone et taffatta

viiij^{ml} c caltrapes

ccxliij tribulos unde lj non ferratos

liij coffr' standard' de ferro ligat'

iiij coffr'

viiij frayngbarell'

viiij cornua

j scaccarium de crystallo et jaspre cum famulia

j forcerium de muge

iiij graters

iiij moldes vocatos formulas pro pelettis infundendis

lx lanternas

ccccix springoldshaftes pennat' cum stanno

ij gunes

vj firpannes

v...⁷⁴⁴ ladles

cccxxv quarell' pro springoldes cum capitibus

j mortar' enneum cum pestello

viiij^{ml} vij^c lvij lance' curt'

clxiiij capit' lancearum curtarum

j cista Flandr'

j sacc' ad pannum debilem

c banerstaves debiles

iiij^{xx} lb. saltpetre

ix^c iiij^{xx} viij lb. plumbi in pelottis

⁷⁴⁴ Damaged.

In cuius rei testimonium partes predictae hiis indenturis sigilla sua alternatim
apposuerunt. Datum London' ix^o die Maii anno regni dicti Regis Ricardi Secundi
quinto.

4 Conclusions

The analysis of the accounts of the privy wardrobe demonstrates the continued existence of a working armoury in the Tower of London from the late 1330s until the early fifteenth century. The history of the armoury under the privy wardrobe can be divided into three phases. From 1338 to 1360 it provided armour, weapons and equestrian equipment for men-at-arms, and bows and arrows in very large quantities together with a limited amount of armour for archers. This coincides with the requirement for large field armies in France for the campaigns in Flanders, the Crécy campaign and the Poitiers campaign, concluding with the Treaties of Brétigny and Calais in 1359–60. Much of the armour was imported from north-west Europe, though some was made in England.

From 1361 to 1377 the armoury ceased to cater for men-at-arms, except for members of the royal family, and the residual stocks of plate armour were gradually reduced. Much of the armour was made within the Tower, and the privy wardrobe was responsible for the equipping of a new workshop for the king's armourer within the Tower. The armoury continued to provide substantial quantities of longbows and arrows, though on a much reduced scale compared to the earlier period, and issued them mainly for the defence of Calais. It retained substantial stocks of these weapons. There was a much increased provision of armour for the archers, in the form of mail shirts, gauntlets of plate, bacinets and aventails, and, towards the end of the period, of quilted jacks.

From 1378 to 1410 the stocks of weapons and armour for the archers continued on a similar scale but the throughput increased. Archery equipment was constantly purchased, manufactured and occasionally supplied in bulk from the counties, and was constantly issued. This period is, however, characterised by the

emphasis on gunpowder weapons, and the growth of the ordnance became by the end of this period the main focus of the Tower armoury. Alongside the ordnance appear quantities of picks and shovels, essential for siege operations. Nonetheless the armoury continued to provide some weapons for men-at-arms, the long lances which had featured through the previous period and short lances which appeared in the early 1380s in large numbers. The Truce of Leulinghen on 1389 seems to have had little impact on the scale of military provision as expeditions to Ireland and Gascony in the early 1390s kept up the demand for weapons.

These overall conclusions are hardly revolutionary, and conform to Tout's summary of the operation of the privy wardrobe. However, the detailed information provided by the privy wardrobe accounts about arms and armour in England during the period of the privy wardrobe is significant, and provides the single most extensive and important source on the subject. This again is unsurprising, given the importance of the accounts in the study of firearms in England for the same period.⁷⁴⁵

4.1 Phase 1: 1338 to 1360

The information is at its most profuse for the early period of the armoury. The accounts provide the richest single vein of information on the armour of the men-at-arms in England. For the first time we learn that mail sleeves, collars and paunces, rather than full mail shirts, were used from the very introduction of plate armour, and this enables us to reconsider the date of surviving defences, including examples in the Royal Armouries which may have survived from the period of the privy wardrobe. The accounts provide an explanation of a distinction between types of mail of fully riveted and of half riveted, half solid construction, which has never

⁷⁴⁵ Tout, 'Firearms in England'.

previously been understood, and which again allows the re-dating of surviving objects by over a century. Details of description of mail shirts of the same transitional period show the change from short to long sleeves and the provision of integral collars, which can again be observed in surviving examples which can be dated much earlier than hitherto.

The accounts provide details of the changing terminology of armour during this transitional period in the history of armour. Much of this is a transition from Latin to French terms: thus the mail *thema* becomes the *coiffe*, the *antebracchia* and *retrobracchia* of the 1330s become the *avantbras* and *rerebras* of the 1340s and 1350s, while other terms indicate a change in type, such as the mail collar, where the *pisane* of the 1330s, 1340s and 1350s was replaced by the standard from the 1360s; or the gauntlet, where the *waynpayns* for the tournament existed alongside the *cerrothes* of plate for the field. For some rare terms there is a large amount of new information, though they remain incompletely understood. The mail *musekins* found in the 1330s and 1340s are a good example; the accounts furnish substantial information about them, such as their issue along with mail aventail, collar, sleeves and paunces and a pair of plates, and their price. There is even a single reference to butted mail, of very large links for the tournament, in contradiction of the usual understanding that all such mail was either modern or Asian in origin. Jazerant mail appears much more in the accounts than would be expected, but appears alongside terms such as 'privy tunic' lined with mail, which ought to be synonymous. Mail of steel links was differentiated from that of iron links, and correspondingly twice as expensive. Mail shirts for the tournament were differentiated from those for the field, though we have no idea of the difference. Numerous examples of mail fully constructed of latten links are recorded, as opposed to mail garments with decorative

borders or dags of latten links. All these are aspects of the study of mail which have been hitherto unknown.

The accounts provide the largest corpus of prices for armour in England for the fourteenth century. They show that where we might expect standardisation among products bought in great numbers, there was in fact wide variation in the prices of apparently identical items. For example, the purchases of the late 1360s by John Sleaford show that a regular shirt of riveted iron mail could cost anything between 16s. 1d. and £2 6s. 8d., while a mail shirt of steel links could cost between £3 6s. 8d and £4. Bacinets with mail aventails varied in price between 24s. and 17s. 3d., and gauntlets between 5s. 6d. and 2s. 3d. in the same set of purchases, which record the first total price for providing armour for a mounted archer, of £2 6s. 8d., the same as some of the mail shirts alone. William Rothwell's account provides similar information about pairs of plates in the 1350s, which varied in price from 13s. 4d. for plain ones covered in hemp, better ones covered in plain fustian for £1 6s. 8d., or the best covered in velvet or other silks with gilded rivets for £2. By the 1370s the accounts for armour made for the king and members of the royal family show that the very finest pairs of plate could cost £4 13s. 8d., and the very finest complete armour could total £21, a sum roughly four times the price of a complete armour of plate in the middle of the fifteenth century.

Despite the ostentation of the materials used in much of this armour, the silks, satins and velvets with which the pairs of plates were covered, it is quite clear from the accounts that this armour was intended for serious wear on the battlefield. Despite the importance of the tournament under Edward III, the Tower armoury retained only a very small quantity of arms and armour made specifically for the

tournament, and most of this specialist gear was inherited by John Fleet from William of Langley in 1325, and passed on, unissued, to Robert Mildenhall in 1344.

Information about the sourcing of armour in the early period is also very interesting. Though the only previously published details suggested the Low Countries origin of much English armour of the mid-fourteenth century,⁷⁴⁶ the details in Fleet's account confirm it, and show how important Cologne and Maastricht were as armour-making centres at that time.⁷⁴⁷ 77% of the bacinets, 96% of the helms, 66% of the kettle hats, 84% of the pairs of plates, 83% of the arm defences, 86% of the gauntlets, 85% of the cuisses and 70% of the greaves were imported from those two centres.

This makes the traditional ascription of the group of surviving great helms to English manufacturer highly improbable, and shows that they were much more likely to have been made in Maastricht. The accounts also challenge the traditional dating of this group of great helms for the field to the later fourteenth century, by providing evidence not only of their purchase and issue between 1338 and 1344, but of their return to the Tower in 1353 old and worn out, and their subsequent disappearance from the records in 1360 apart from a small rump which remained at the Tower for the next fifty years.

The accounts also challenge the traditional assumption that the bacinet of the mid-fourteenth century was always or even usually fitted with a visor. Though it may be that many of the bacinets recorded in the accounts had visors which were not

⁷⁴⁶ For Gerard of Tournai see Dillon, 'An armourer's bill'.

⁷⁴⁷ For Cologne see P. Terjanian, 'The armorers of Cologne: organization and exports markets of a foremost European armor-making center, 1391–1660', *Journal of the Armour Research Society*, 1 (2005), 23–48. No study of the Maastricht armourers has ever been published though the later gun making industry is recognised, see A. Kessen, 'Over de wapenindustrie te Maastricht in vroeger tijden', *De Maasgouw*, 56 (1936), 18–21.

mentioned, only one, the personal bacinet of Edward III, is described as having a visor (or in this specific case, two visors).

One of the most fundamental ideas that the accounts challenge is the idea that before the fifteenth century there was no such thing as a complete armour, that armours were merely assembled from components by their owners rather than made as a homogeneous whole.⁷⁴⁸ From the late 1330s the accounts provide evidence that though plate armours were not manufactured as complete sets, armours were certainly issued to men-at-arms as full sets, such as the set comprising a helm, bacinet and aventail, mail collar, pairs of plates, rerebraces, vambraces, gauntlets, cuisses, greaves, mail paunces and sleeves given by the king to Sir Thomas le Brut in 1338. Numerous similar issues are recorded in Mildenhall's accounts, where for the first time they are termed 'complete armours' (*hermesia integra*) in the accounts.

The issue of great helms with these armours in the 1330s and 1340s, taken together with the continued issue of horse armour during the same period, lends weight to the idea that the English armies expected to retain a reserve of mounted men-at-arms during this early phase of the Hundred Years War, for which evidence can be found in contemporary descriptions of the non-battles of the Weardale campaign of 1327 and of Buirenfosse in 1339, and that the 'English system' was not, at least at the outbreak of the war, as cut and dried as it is often perceived.⁷⁴⁹

The details of the equipment of the longbowmen during the same period are particularly informative. In general they give the lie to any idea that there were bows of various draw weights. The only differentiation recorded was between painted bows and white bows, the former costing double the price of the latter. Bowstrings were supplied by stringers, and there is no suggestion that there were different types:

⁷⁴⁸ See chapter 2.2 above for a full discussion and list of sources.

⁷⁴⁹ See chapter 2.3 above for a full discussion and list of sources.

we must assume that any string would fit any bow, which strongly supports the idea that bow length and draw weight were standard.

The same standardisation is found in the arrows, which were supplied by fletchers in sheaves of twenty-four, bound with hemp cord which served the archers to tie them round their waists in action (only a very small number of quivers are recorded in the accounts, and those were for Edward III's personal guard of mounted archers). In the case of the arrows, we again find complete standardisation: apart from broad heads for hunting, we find only arrow heads, some steeled, some not, which we must assume are the common military type found in the archaeological record ubiquitously in the fourteenth century.⁷⁵⁰ Some arrow shafts were of ash and fletched with peacock feathers, the remainder unspecified; we assume they were of pine fletched with goose, but the accounts nowhere specify this detail.

In none of this documentation do we find any indication that there might have been some more powerful bows which could have been used stronger archers. Quite clearly there was a standard bow which all English archers were expected to be able to shoot, and with which they were issued for campaigns, along with the requisite bowstrings and arrows.

The accounts do provide great detail about the issue of archery equipment, and these issues can sometimes be tied to specific campaigns. For the period of 1338–44, including the land campaign in Flanders of 1339 and the naval action at Sluys in 1340, the English archers were supplied with 3,705 bows, 5,424 sheaves of arrows and 7,853 bowstrings. This quantity would have been sufficient for less than

⁷⁵⁰ The M4/type 16, see Jessop, 'A new artefact typology', 198.

two thirds of the archers in the army had it been of the size (9,000 men-at-arms and 6,000 archers) described by Froissart at Buirenfosse.⁷⁵¹

However, the exact size of the army for the Flanders campaign is recorded in the wardrobe account of William Norwell, which includes full details of the wages for service in Flanders with the king between 22 June 1338 and 16 November 1339.⁷⁵² Excluding the garrison of Berwick, Henry Percy's retinue in Northumberland, and a contingent of south Welshmen employed only during April 1339, the army appears to have comprised 46 bannerets, 235 knights, 1,449 men-at-arms, 79 hobelars and armati, 1,254 mounted archers and 2,478 foot archers (1,284 supplied by the counties of England, 964 from Wales), accompanied by 93 vintenars, 11 standard bearers and 6 centenars. The archery equipment supplied by the Tower was almost exactly enough to equip the whole contingent of 3,732 archers for Edward's expedition to Flanders in 1339.

The issue of arms and armour to the knightly contingent for the Flemish campaign is much less straightforward, though Fleet's account provides a great deal of detail. Complete armours, including great helms, were given to new knights, such as Sir Thomas le Brut, mentioned above, pp. 56–7, but also to established household knights such as Sir John Stirling, Sir William Frank, Sir Robert Dalton, to holders of important household offices including Sir John Darcy, steward of the household, but also to men-at arms, such as William Hadham, the king's herald and falconer, all of whom are recorded in the wages for the Flanders campaign.⁷⁵³ Some of the gifts were more symbolic, such as the issue of swords and mail shirts to the most senior nobles involved in the campaign, and the gift of a kettle hat to the Flemish knight, Sir John

⁷⁵¹ *Chroniques de Froissart*, i, 177–9, see pp. 90–1 above.

⁷⁵² *The Wardrobe Book of William de Norwell*, 325–62; I am very much obliged to Professor Anne Curry for suggesting that this might be fruitful analysis.

⁷⁵³ *The Wardrobe Book of William de Norwell*, 334, 337, 338, 329–30, 351.

Levedale. Some gifts were of odd elements of armour, a bacinet each to Robert de la Char and Roger de la March, both of the queen's household, a helm to Sir Henry Ferrers, the chamberlain, and an aketon to Sir William Trussel, admiral of the fleet.

Most of the issues of gear for the men-at-arms were in batches, however, for shipment to Flanders and distribution over there. The total issue of armour for this campaign, 93 helms, 1,642 bacinets, 664 aventails, 123 kettle hats, 685 aketons, 305 doublets, 434 mail shirts, 148 pairs of mail sleeves and paunces, 873 mail collars, 530 pairs of plates, 394 pairs of full arm defences, 315 pairs of upper cannons, 539 pairs of gauntlets, 366 cuisses and poleyns, 202 pairs of greaves, gives an indication of the extent to which not only the household knights and nobility were furnished with new harness, but how widespread the issue of harness throughout the army was. Indeed, if we consider the bacinets and aventails, and suppose that the full set was issued to knights and men-at-arms, there are enough bacinets without aventails to issue one to all but 200 of the mounted archers recorded in Norwell's account.

The most telling figure in the issues in Fleet's account, as far as the men-at-arms are concerned, is the issue of lances. The total issued, 1,471, is not far short of the total number of knights and men-at-arms recorded in the wages for the campaign in Flanders (1,684), and this, like to total number of longbows, can scarcely be coincidental.

For the Crécy campaign of 1346, the issues of bows are similarly exact: the issues of 18 June 1345 and 1 April 1346 plus the issue to William de Bohun of 2 April 1345 give a total of 6,518 bows, 32,126 bowstrings and 13,206 sheaves of arrows (316,944). The numbers of bows included in this sum is intriguingly close to

the estimated total number of archers in the English army at Crécy, which the best current estimates put at about 7,250.⁷⁵⁴

The proportion of bows/strings/sheaves of arrows found in the issues of the 1340s, 1:5:2, does seem to be deliberate and a uniform feature of issues during the entire period of the privy wardrobe, though not one observed on every occasion: Walter Bentley's force in Brittany in 1352 was issued with 500 bows, 1,000 sheaves of arrows and 1,500 bowstrings (1:3:2). The actual size of Bentley's force has been estimated at 1,500 men, half of them archers, a figure which Sumption suggests was about double the true figure.⁷⁵⁵ If the issue from the Tower was intended to equip all the archers in the force, we could tentatively suggest that the whole might have been 1,000 men.

Rothwell's issue of 1,385 bows, 3,630 sheaves of arrows and 12,190 bowstrings in 1356 for the Poitiers campaign is likewise close to the estimated 2,000 archers in the English army. There certainly seems to be a close comparison between the numbers of bows issued to English forces during this period and the best estimates of the numbers of archers present in these campaigns. At the very least it can be taken to support the estimates of numbers of troops derived from other documentary sources. It does, however, beg the question of the equipment the soldiers themselves provided. In the case of commissions of array, who made up the greater part of a large army such as the Crécy force, the archers were supposed to supply their own weapons. In practice we have no contemporary evidence that this in fact occurred.

No detailed evidence for the actual weapons and armour of the county archers survives from the fourteenth century, but it is likely that the first evidence we have,

⁷⁵⁴ See Ayton and Preston, *Crécy*, 159–251, especially 189, for this difficult calculation.

⁷⁵⁵ Sumption, *Trial by fire*, 93–4.

the Bridport muster of 1460, probably reflected the situation in the previous century.⁷⁵⁶ It shows that 82 from a group of 201 archers brought no equipment at all to the muster, and even allowing for the redistribution of spare bows, the total was about 87 short. Clearly the exact numbers of troops who would actually appear on a given campaign could not be known in advance in order for a precise number of bows to be procured and issued, but it does seem that there is a reasonably close correlation between the numbers of archers and the number of longbows provided, certainly enough for these issues to be included in the discussion of the numbers of archers in the campaigns of the Hundred Years war.

The quantities of arrows issued certainly cast a new light on the English archer of the Hundred Years War: it seems highly probably that an archer entered battle with a single sheaf of twenty-four arrows, and we should consider the archers making a few carefully aimed shots at the closing enemy, rather than the ‘arrowstorm’ shot at extreme range that has entered the popular culture.⁷⁵⁷ Unpublished experiments by the archer Mark Stretton and his team have incidentally shown that a skilled archer with a powerful longbow can only loose three arrows at a charging mounted knight between maximum and point blank range; only in an infantry duel, such as that between the English archers and Genoese crossbowmen at Crécy, or, much later, the opposing forces at Towton, would the quantity of arrows become an issue. However, the evidence which emerges from the accounts of restricted ammunition among English longbowmen is an important factor which should be borne in mind when analysing their performance on the battlefields of the Hundred Years war and the Wars of the Roses.

⁷⁵⁶ Richardson, ‘The Bridport muster roll’, 46–52.

⁷⁵⁷ For example R. Wadge, *Arrowstorm, the world of the archer in the Hundred Years War* (Stroud, 2007)

The provision of twenty-four shots to English soldiers seems to have survived the transition from longbow to firearms, and infantry were equipped by the early eighteenth century with powder and ball enough for twenty-four shots.

The accounts record the maintenance of archery equipment at the Tower from the early 1340s, when bowyers and fletchers were employed at 3d. per day repairing and maintaining bows and arrows brought back from France. The need for great quantities of bows meant that every avenue for their procurement was explored. As well as the county levies, bows were purchased from London bowyers (2s. 6d. each for painted bows, 1s. 4d. each for white bows) and manufactured in the Tower by buying bowstaves and hiring bowyers (11¼d. each for white bows). These prices remained almost constant throughout the second half of the century: a sheaf of arrows, which in 1353 varied in price from 10d. to 1s. 4d., by 1399 had risen to 18d. A white bow fell in price to 7d. in the 1370s, but had risen again to 1s. 2d. by 1399. The price of a painted bow remained double that of a white bow, falling to 1s. 4d. in the 1370s and rising constantly throughout the period at 2s. or 2s. 6d.

Procurement of the very large quantities of archery equipment required for the early phases of the war showed that the counties were unable to provide more than a fraction of the material needed, and that the bulk had to be purchased.⁷⁵⁸ The procurement from the Tower led rapidly to the concentration of bowyers, fletchers and longbowstringmakers in the vicinity of the Tower. The accounts provide a wealth of names of these makers, many of them unknown in the existing literature. Mildenhall did not record the names of the bowyers concerned, but Rothwell's account shows they were being procured during the 1350s from one well-known bowyer, Adam Hackett, and provides new names for seven more, while it records

⁷⁵⁸ See Table 10 on p. 134 above.

two well-known fletchers, John Patyn and John Bonett, and provides new names for others. The accounts are an important and previously untapped resource for information about the earliest years of these trades, and graphically illustrate how the requirement of the privy wardrobe in the Tower led within a few years to the formation of the trade companies.

There is little evidence for the issue of defensive armour to the archers during this period. That they were issued with pairs of plates, of a sort, is shown by the issue of sixty-nine corsets of plate specifically for archers to Thomas Rolleston for shipment to France in 1345.⁷⁵⁹ The same issue includes large numbers of bacinets and pisanes of mail (but not aventails), suggesting that these may have also been issued to archers.

Though the defence of the English archers by ditches is well attested, the use of caltrops as a defence against enemy cavalry is not. However, the accounts record several issues of caltrops at intervals during the war, the first a batch of 3,600 caltrops being sent to France in 1337, though there is no evidence of where they were used (they were not returned to the Tower). Another batch of caltrops was purchased, probably in the early 1370s, and 10,000 were taken to Calais for its defence in 1372, the residue remaining in the armoury until the end of the fourteenth century.

The accounts certainly record the ten guns, two large and eight small, all firing lead bullets rather than the arrows with which these early guns are commonly associated, which were shipped to France in 1346. Mildenhall's account also makes clear that the ribauds, shipped to France at the same time, commonly asserted to have been fitted with guns, were not, but were wheeled carts, each fitted with ten spears.

⁷⁵⁹ TNA, E 372/198, rot. 34d, m. 1, 'cccxxvij paria de platis unde lxxix corsetta pro sagittariis'.

The accounts also provide substantial new information about springalds, mostly confirming the conclusions of recent scholarship, that they were torsion-powered bolt shooting engines, using hair for their torsion skeins, and shooting bolts fletched usually with copper alloy fletchings. They show that there were standard sizes of springalds, too, in the first half of the fourteenth century, shooting quarrels 22.5 and 27 inches in length. The large quantities of springalds recorded in Fleet's account for 1338–44 have never previously been published.

Similarly the accounts record a continued use of crossbows, mainly issued to ships, occasionally given to men-at-arms, during the early years of the war. Though the continued use of these weapons is understood by a few scholars, it is unknown in the general literature of the subject where crossbows are generally considered a continental weapon after the widespread introduction of the longbow in England. The accounts provide the only detailed description of the manufacture of crossbows for the period, as well as showing that most crossbow quarrels were fletched with feathers from hawks, a recurrent note which appears nowhere else in the literature of crossbows. Whether those given to members of the king's household and nobility were intended for sporting use on the hunting field, or whether they were intended for military use, for example in sieges, is not made clear in the accounts. The former is the most likely intention, but the latter should not be ignored as a possibility.

An interesting aspect of the records of the crossbows relate to spanning mechanisms, where the baldrick and hook remained the most common, but the *hancepes*, identified here as a form of gaffle or goat's foot lever, was used for the larger of the hand-held crossbows, while other even larger crossbows were spanned with screw winders. Though the accounts do not resolve the debate over one- and two-foot crossbows, they do provide evidence, based on the interchangeability of

springald quarrels and those for two-foot crossbows, suggesting that Wilson is probably correct in his suggestion that the size refers to the projectile, so a one-foot crossbow shot a one-foot quarrel, and a two-foot crossbow a two-foot quarrel.⁷⁶⁰

The provision of pavises in very large numbers during this early period is new and also unexpected, as pavises have traditionally been associated with continental warfare rather than the English system. The details in the accounts show that the pavises were all issued to ships, and that they were decorated with the royal arms, arms of St George, and with the garters of the Order of the Garter, which is first recorded on pavises in 1351, showing how prominently the symbolism of the order was used by Edward III in the early years of the war.

4.2 Phase 2: 1361 to 1377

Despite the truce with France, the armoury at the Tower continued to manufacture and stockpile arms during this period. The provision of mail shirts together with bacinets and aventails and, towards the end of the period, quilted jacks and doublets, indicate a systematic effort to provide defences for at least a minority of archers. The purchase of mail shirts during Sleaford's keepership in the late 1360s provides the largest single group of prices for these defences, and, as well as giving comparative prices for mail of iron and steel links, shows the very wide range of prices which could be paid for ostensibly the same item. Though we have no solid evidence for the differentiation in price, it is likely that size and weight were the principal factors. The accounts also indicate that London, rather than continental, craftsmen were involved in the manufacture, though some of the suppliers were merchants who could have

⁷⁶⁰ Wilson, 'What's in a name?', 318–24.

been supplying imported armour, and the names of some of the suppliers indicate that they were Flemish, at least in origin.

The term complete armour is retained in the 1360s, but not, as before, for the complete armours of the man-at-arms, but for infantry half armours, comprising just bacinet and aventail, mail shirt and gauntlets. Hardly any were issued, and they were added to the stocks of the armoury.

Though the supply of armour for the men-at-arms effectively ceased during this period, the installation of William Snell as the king's armourer in the Tower in 1377 provides a rare description of the tools in the workshop of a fourteenth-century armourer. The few descriptions of the products of his predecessor, the king's helmet-maker William Swynley, armour for the king and his family, show that the latest styles of armour, decorated with tooled latten borders and previously thought to have been restricted to the armourers of Milan, were being made in the Tower in the 1370s. This reference provides important evidence supporting the early chronology for this series of armours, which have been the subject of hot debate regarding their dating, for which dates as early as 1365 and as late as 1390 have been propounded in recent publications.

The change from purchasing armour and arms to making and repairing it in the Tower is illustrated by the records of the maintenance of crossbows. The king's artillerer, William Byker, was installed in the Tower in the 1360s, and there are constant references to making new quarrels, fletching quarrels, and buying fish for glue for repairing crossbows, throughout the period.

The provision of longbows, strings and arrows had by this time become the armoury's major priority. The vast quantities needed for the great campaigns of the 1340s and 1350s were no longer required, so there were no county levies for

longbows. Instead we find London bowyers providing a constant, low-level supply of bows, and London fletchers providing arrows, or working in the Tower, paid by the day, and providing a unique insight into the work-rate of the medieval fletcher. One account shows a fletcher at his standard rate of 6d. a day could assemble an average of 187 arrows. The use of the Tower as a working armoury can be seen in the employment of workmen to assemble pollaxes and lances, also at the daily rate of 6d. Pollaxes featured regularly in the accounts from this period onwards, but in small numbers, whereas lances both long and short continued to be issued in large numbers.

The same change can be seen in the ordnance provision at the Tower. Though guns were still purchased, from London makers the manufacture of gunpowder and lead bullets in the Tower began under John Derby in the early 1370s, and from that time onwards workmen were regularly employed there in the manufacture of ordnance.

Towards the end of the period a small number of issues of harness for men-at-arms were recorded, and these indicate a rather different set of equipment from the full plate armour of the earlier period: an issue of bacinet and aventail, mail shirt, pairs of plates, vambraces and gauntlets together with a pollaxe was typical, a set of gear customised for fighting at close quarters on foot, without the plate leg harness with which such armours were invariably depicted in monumental effigies and brasses.

Towards the end of the period banners started to be stocked and issued by the Tower armoury. Only two types are recorded, those with the arms of St George and those with the royal arms, and these appear in a ratio of about 4:1. They were provided with banner staves, which appear to have been almost indistinguishable

from lances, the difference seemingly in that their shafts were bound with iron. This would have made the banner staves heavier than ordinary lances, but much more resistant to cuts. This kind of reinforcement is found in surviving pikes of the early sixteenth century, whose heads are forged with long, narrow iron straps or langets which extend down the shaft, nailed at intervals, and make it difficult for an enemy to cut the heads off the pikes.

4.3 Phase 3: 1378 to 1410

This period is characterised by the importance of the Tower armoury for the provision of ordnance. Analysis of the accounts show that Tout was extremely thorough, and that very little new information can be derived from them. The details regarding the casting of bullets for the smaller handguns or *pelotgunnes*, which first appear in the 1380s, show that they were 4 bore guns, with a calibre of about 26 mm, like an example recently excavated from the River Thames, and that the sockets at their breeches were originally fitted with ash wood stocks. The provision of gun stones for the larger bore cannons starts in this period, and of the tompions or wooden wads which helped compress the charge during detonation. Several accounts very nearly give away the exact composition of the gunpowder used in these early guns, such as the detailed record of its manufacture at the Tower in the early fifteenth century which provides the exact proportion of saltpetre to sulphur (77:23), but fails to give the amount of charcoal (if any) added to the mix.

The maintenance of arms and armour at the Tower continued throughout the period, and the accounts give details of the lining of a series of bacinets in the 1390s and the repair of mail shirts in the same account, by specialist mail-makers paid 12d. per day. Some manufacture is recorded, such as the detailed record of the

construction and decoration of 500 pavises for Richard II's last expedition to Ireland, in 1399.

Despite the increasing importance of firearms, springalds continued to be maintained and manufactured, and in the late 1370s and 1380s they were issued for the defence of Portchester Castle and of Berwick. By 1393 they had clearly become redundant, however. We find no further issues, though a small residual stock was kept on the accounts, and their quarrels were on at least one occasion used to make good a shortfall in lance heads for short lances.

Crossbows continued to be issued during this period, exclusively for the defence of fortifications, to Calais, Portchester Castle, Windsor Castle, Hadleigh Castle, Corfe Castle and to unnamed Welsh castles in the 1370s, to Berwick, Dover castle, Southampton and Odiham Castle in the 1380s. Their continued importance is emphasised by one of the few references we have to dedicated storage facilities at the Tower, where hooks for crossbows were installed in the mid-1370s. No change is recorded in the types or proportions of spanning mechanisms. Baldricks continued to outnumber hancepes by about 4:1, and screw winders continued to be issued for large crossbows, albeit in very small numbers. Like that of the springalds, the waning in importance of the crossbow is clearly documented in the accounts, where after 1393 there is very little evidence either for their procurement or issue.

The provision of longbows and arrows continued throughout this period, and the quantities involved required another county levy. Most of the bows and arrows were, however, purchased from London bowyers and fletchers, and the work had by this time become so regular that guilds were formed among the bowyers, fletchers and longbowstringmakers to regulate the trade. The bowyers established their

workshops at Bowyers Row, just to the west of St Pauls Cathedral,⁷⁶¹ and the patterns of ordnance supply at the Tower which are well documented in the seventeenth century seem already to be established by the end of the fourteenth century.

A large proportion of the issue of longbows and their arrows and strings was, like that of the crossbows, for defensive purposes, and we find large issues to Calais for the garrison there in the late 1370s and 1380s. Smaller issues were made to castles in England and Ireland, to Dublin, Corfe Castle and Windsor Castle, during the same period. The issue of 1,000 bows to the expedition of Edmund of Langley to Portugal in 1381 shows a close correlation between the expected number of archers in an English army and the numbers of bows issued; the Anglo-Portuguese treaty of 1380 agreed to support a force of 2,000; in the event, 1,500 archers and 1,500 men-at-arms were shipped over.⁷⁶² Similarly the 1,000 bows issued to Henry Despenser, bishop of Norwich, for his crusade to Flanders in 1383 could have been intended to equip the archers of the force of 2,000 which was intended to march to relieve the blockade of Ghent in 1383.⁷⁶³ The exact size of Richard II's expeditionary force taken to Ireland in 1399 is unknown, though it is known to have been small.⁷⁶⁴ The issue of 1,500 bows to the force, recorded in Lowick's account, strongly suggests that it included 1,500 archers.

Issues of arms to ships are numerous throughout the period also, and again correspond very accurately to the known sizes of the crews. From this late period a good example in John Norbury's account is the issue of bows, jacks and habergeons

⁷⁶¹ Megson, *Such goodly company*, 12–19, 34–40; Strickland and Hardy, *Warbow*, 41.

⁷⁶² T. V. de Faria, 'Tracing the "chemin de Portyngale": English service and servicemen in fourteenth-century Portugal', *Journal of Medieval History*, 30, 2011, 1–12, 3, note 12, citing TNA, C 47/49/2.

⁷⁶³ Sumption, *Divided Houses*, 495.

⁷⁶⁴ Sumption, *Divided Houses*, 858; D. Johnston, 'Richard II's departure from Ireland, July 1399', *EHR*, 98 (1983), 785–805, at p. 801.

for forty archers, together with 144 bowstrings and 100 sheaves of arrows, twenty-four lances and twenty-four pollaxes, sixty pavises and one cannon, the latter with nineteen bullets and 40 lb of gunpowder, to the *Trinity* in 1404.⁷⁶⁵ The ship had a crew of ninety.⁷⁶⁶

In conclusion, the accounts of the Tower armoury under the privy wardrobe record a transition from a large-scale operation to supply relatively large field armies with the arms and armour they required in the first two decades of the Hundred Years War into the kingdom's principal working armoury, manufacturing, repairing, stocking and shipping arms wherever they were required by the end of the fourteenth century. Its central role from 1337 onwards is highlighted by the lack of any other major armouries in the realm: though Calais and Bordeaux were supplied constantly with arms for their garrisons, neither developed an independent armoury with its own local procurement. Neither did any of the other fortresses in England develop their own armouries, though they were supplied constantly from the Tower. This in turn led to the growth of a local arms industry in London to supply the Tower, which was the prime factor in the subsequent development of the London Armourers and later Gunmakers guilds, and the almost complete centralisation of arms and armour manufacture in London until the nineteenth century.

The detailed study of the accounts provides a wealth of information about arms and armour in England in the fourteenth century. The accounts enable us to date mail armour more exactly, to understand the way in which mail was worn under plate armour from its inception in an entirely new way, and to have new insights into the way in which the longbow, the iconic English weapon of the Middle Ages, was used on the battlefield.

⁷⁶⁵ TNA, E 101/404/17.

⁷⁶⁶ *CPR 1401-5*, 429.

Appendix of names

List of keepers of the privy wardrobe

John Fleet 1323–44

William Rothwell 1344–53

Henry Snaith 1360–5

John Sleaford 1365–78

John Hatfield 1378–81

John Hermesthorp 1381–2

Ranulph Hatton 1382–96

John Lowick 1396–9

John Norbury 1399–1405

Henry Somer 1405–7

Simon Fleet 1407–15

Names encountered in the text

Airmyn, William

William Airmyn, attorney in chancery 1300, keeper of the rolls of chancery 1316–24, captured by the Scots at Myton 1319, appointed bishop of Norwich 1325, keeper of the great seal 1326, treasurer 1331–2, died 1336.

E 372/198, rot. 34, m. 2; Tout, *Chapters*, ii, 218–9, 221, 306–9; iii, 3, 43–4; vi, 7–11, 22, 50; *ODNB*, i, 519–20.

Aldersgate, Walter

Walter of Aldersgate (Alresgate), bowyer, supplied crossbows and quarrels 1353–60, bows and arrows 1378–81.

E 101/392/14; E 101/400/10; no obvious candidate in Megson, *Such Goodly Company*.

Aldgate, William

William of Aldgate, gunfounder and brazier 1353–60, possibly William Godriche (Godryche), recorded as a founder in 1358–9.

E 101/392/14; *CLBG*, 105, 119; Tout, 'Firearms in England', app. V; H.L. Blackmore, *The Armouries of the Tower of London, i: Ordnance* (London, 1976), 252.

Arblaster, William

Supplier of saltpetre 1381–2; a John Arblaster is recorded as a king's esquire 1384.

E 101/400/14; E 101/397/19; *CPR 1381–5*, 380; Tout, 'Firearms in England', app. XIII.

Arundel, Sir John

Sir John Arundel the younger, born about 1364, son of the elder (marshal, keeper of Southampton, died 1379), chamber knight from 1386, company commander in 1387, active in Cornwall in 1388, died in 1391 while his son, also John, was a minor.

CPR 1385–9, 467; *1389–92*, 430; *ODNB*, ii, 561–2; Given-Wilson, *The Royal Household*, 283; <http://www.icmacentre.ac.uk/soldier/database>.

Ashton, Robert

Sir Robert Ashton, chamber knight, knighted by 1361, chancellor of Ireland 1364–7, captain of Guisnes in 1368, of Crotoy in 1369, of Southampton in 1371, king's lieutenant in Ireland 1372–3, treasurer 1375–7, king's chamberlain in 1377, keeper of Portchester Castle 1376–81, where he carried out major repairs including a tower in the inner ward that bears his name, keeper of Dover Castle and warden of the Cinque Ports in 1381, died in 1384.

ODNB, ii, 683; Tout, *Chapters*, iii, 278–9, 312–5; vi, 23, 47; Given-Wilson, *The Royal Household*, 281.

Aston, Thomas

Thomas Aston, escheator of Shropshire and Staffordshire 1343–4, of Herefordshire and the Welsh March 1350–2.

E 372/198, rot. 34, m 2d, rot. 36, m 1; *List of Escheators*, 58, 126; *CCR 1343–6*, 275; *CPR 1350–4*, 190; Fuller, *Worthies*, ii, 85.

atte Kirk, Adam

Adam atte Kirk, fletcher of London in 1343.

E 372/189, rot. 43; not recorded in *CCR*, *CPR*, *CLB*, Oxley, *Fletchers*.

atte Lee, Thomas

Thomas atte Lee (de Legh, Leghe), king's fletcher from 1351, commissioned to recruit smiths in Kent and Sussex for forging 500 steel arrowheads for the king in 1359.

E 372/198, rot. 36, m. 1, rot. 36, m. 1d; *CPR 1358–61*, 222.

atte Merke, Clement

Clement atte Merke (de Merk), king's sergeant, at Calais supervising receipt of arms in 1344, given an exemption from assizes, juries and other service in 1361, reviewed pontage at Staines in 1363 and 1371.

E 372/198, rot. 34, m. 2, rot. 34, m. 2d; *CPR 1361-4*, 138, 408; *1370-4*, 134; *1385-9*, 362; Tout, 'Firearms in England', 673.

atte Mersh

Stephen atte Mersh (Marsh, Mersshe), king's smith in the Tower, working as Patrick Byker's assistant in 1363, supplied picks 1364-78, quarrels 1374-8, appointed surveyor of smith's work at the Tower at 8d. a day in succession to Master Andrew de Turri in 1378, permitted to take eight smiths from London for royal service in Brittany in 1381, succeeded by his son William in 1393.

E 101/395/1; E 101/398/1; *CCR 1360-4*, 503; *CPR 1361-4*, 80; *1377-81*, 137, 148, 609.

atte Wood, William

Wiliam atte Wood (atte Wode, Attwood), master of the king's ship the *Holyghost* 1402.

E 101/404/25; *CPR 1401-5*, 197.

Aubyn, Robert

Robert Aubyn, bowyer of London, pardoned for good service in 1346.

E 372/198, rot. 34; *CPR 1343-5*, 509.

Bacon, John

John Bacon, king's clerk, held the wardship of a manor in Norfolk in 1374, chamberlain of the exchequer in 1377, commissioned to survey the jewels, keeper of Linton Priory, Cambridge, in 1378.

E 101/398/1; *CFR* 1368–77, 247; 1377–83, 50, 287.

Badlesmere, Bartholomew

Sir Bartholomew Badlesmere (about 1265–1322), served with Edward I in Flanders in 1297, fought at Falkirk in 1298, household knight by 1299, constable of Bristol Castle 1307–12, petitioned Edward I for reform in 1310, fought at Bannockburn in 1314, with Aymer de Valence on campaigns in Wales 1315–6, constable of Leeds Castle, fought with the earl of Lancaster at Boroughbridge in 1322, captured and executed. Son and heir Giles Badlesmere (1314–38).

BL, Add. MS 60584, f. 12r; *ODNB*, iii, 205–6.

Bampton, Ralph

Ralph Bampton, King's trumpeter, in receipt of robes as a minstrel 1375–7.

E 101/392/14; E 101/397/20, mm. 23, 25, 27, cited in G.R. Rastall, 'Secular musicians in late medieval England', PhD thesis (Manchester, 1968), ii, 81; *CPR* 1370–4, 350.

Banastre, John

John Banastre, fletcher of London, 1399.

E 101/403/20; *CPR* 1399–1401, 73; not recorded in *CCR*, *CLB* or Oxley, *Fletchers*.

Bardolf, Sir Robert

Sir Robert Bardolf, keeper of Snettisham Manor, Norfolk, 1371–82, of Titchfield Abbey in 1375, king's esquire in 1377, chamber knight and constable of Portchester Castle in 1386, justice in Oxfordshire, escheator in Oxfordshire and Bedfordshire in 1395.

E 101/400/22; *CCR 1385–9*, 73, 326, 422, 670; *CPR 1385–9*, 82, 112, 134; *CFR 1368–77*, 131, 220, 305; *1377–83*, 305; *1383–91*, 130, 136; *1391–9*, 154; Tout, *Chapters*, iv, 344; Given-Wilson, *The Royal Household*, 282.

Barel, Geoffrey

Geoffrey Barel, bowyer of London, recorded in 1386 as William.

E 101/403/20; Megson, *Such Goodly Company*, 73.

Barre, Thomas atte

Thomas atte (de la) Barre, escheator in Herefordshire and the Welsh March 1355–6.

E 101/392/14; *List of Escheators*, 58; *CCR 1354–60*, 271, 279; *CPR 1354–8*, 435; *CFR 1337–47*, 324; Fuller, *Worthies*, ii, 85.

Beauchamp, Giles

Sir Giles Beauchamp (Bello Campo) of Powick (about 1280–1361), keeper of Clarendon Forest in 1339, household knight, one of a group close to the king, married Katherine Bures about 1329, paid £27 18s. 8d. for service abroad with the king in 1339, with the king in the Tower for the return of the great seal in 1340, fee raised to £30 in 1341, issued with a kettle hat 1344–51, fought at Crécy in 1346, rewarded with two tuns of wine yearly from 1348, died 1361.

CCR 1339–41, 158, 248, 306, 524, 653, 656; *1341–3*, 82, 159; *1343–6*, 233, 333, 586, 644; *1346–9*, 432; *1349–54*, 198, 262, 285, 407; *1354–60*, 167;

1361–4, 227–8, 390, 424; *CPR 1338–40*, 27; Ayton and Preston, *Crécy*, 246; D. Richardson & K.G. Everingham, *Magna Carta Ancestry: A Study in Colonial and Medieval Families* (Baltimore, 2005), 675; Ormrod, *Edward III*, 140, 231, 459.

Beauchamp, Thomas

Thomas Beauchamp, eleventh earl of Warwick (1313/4–69), chamber knight, knighted in 1329, served in Scotland in 1333–5 and 1337, France in 1340, siege of Vannes in 1342, at Crécy in 1346, with Edward the Black Prince in 1355, at Poitiers in 1356, with Edward III on the Reims campaign 1359–60, joined the crusade with the Teutonic knights in Prussia in 1365, with John of Gaunt in France in 1369, died of the plague.

E 372/198, rot. 34, m. 2d; *ODNB*, iv, 590; Given-Wilson, *The Royal Household*, 280–1.

Beaufort, Thomas

Thomas Beaufort, duke of Exeter (1377–1426), illegitimate son of John of Gaunt, admiral of the north in 1403.

E 101/404/25; *ODNB*, iv, 643–4.

Beche, Edmund

Edmund Beche, clerk of the king's wardrobe 1334–5, controller 1335–7, keeper 1337–8, archdeacon of Berkshire from 1337, keeper of Southampton from 1339, keeper of the Forest of Chute 1348–52.

CCR 1343–5, 324; *CFR 1337–47*, 130, 133, 404; *1347–56*, 103, 321; Tout, *Chapters*, iii, 53, iv, 79, 81, 89, 96, 99, 100, 102, 104, 374, 381, 395, vi, 27, 29, 33, 36.

Beek, Peter

Peter del Beek, merchant of Bruges, 1368–75, may have moved to London as a tailor of that name is recorded in 1380.

E 101/397/19; E 101/398/1; *CCR 1377–81*, 463; *CPR 1367–70*, 170.

Possibly related to Bendenell de Beek, Richard II's worker in gold cloths, appointed 1385 at 12d. a day.

CPR 1385–89, 94.

Bentley, Walter

Sir Walter Bentley (about 1310–59), a Yorkshire knight, fought in Scotland in the 1330s and in France after 1339, formed his own company, by 1346 had acquired the island fortress of Tristan off the west coast of Brittany, married Jeanne de Belleville, dame de Clisson, in 1348/9, lieutenant of Brittany 1349–53, in England in 1352, raising 160 men-at-arms and 160 archers to add to a force which totalled about 750 men and issued with bows from the Tower, defeated Guy de Nesle's French army at the battle of Mauron, replaced by John Avenel, imprisoned in the Tower 1353–7.

E 372/198, rot. 34, m. 1d, rot. 35, m. 1, rot. 36, m. 1; Sumption, *Trial by Fire*, 29–30, 55–6, 79, 83, 91–4, 134–5; Wagner, *Encyclopedia*, 50–1, 61

Berkeley, Thomas

Sir Thomas Berkeley of Coberley, knighted by 1330, sheriff of Gloucestershire 1330–2, 1338–40, 1355–6, escheator 1355–6, commissioner of array in 1333 and 1352, surveyor of ships in 1332, keeper of the peace in 1335, 1338, 1344 and 1353, received an exemption for military service in 1342, keeper of the forest south of Trent in 1346, justice in Somerset and Dorset 1340–5 and in Gloucestershire in 1354, knight of the shire in 1358, died in 1365.

E 101/392/14; *List of Sheriffs*, 49; *List of Escheators*, 49; *CFR 1337–47*, 51, 53, 118, 231, 387, 414, 437; *CCR 1354–60*, 14, 144, 250, 470; *CPR 1354–8*, 269, 275, 278, 394; Gorski, *Sheriff*, 36; Saul, *Knights and Esquires*, 15, 16, 32, 34, 44, 45, 129, 151, 161–2.

Blake, John

John Blake, ship's master in 1324; several individuals of this name are recorded, one an envoy of Edward I, who might be the same person.

CPR 1281–92, 327; *1292–1301*, 7; *1321–24*, 170, 448; *CCR 1318–23*, 207.

Bohun, Humphrey de

Humphrey de Bohun, fourth earl of Hereford (about 1276–1322), fought at Bannockburn in 1314, against the Welsh in 1316, against Scotland again 1318–9, rebelled and was killed at Boroughbridge in 1322.

'The will of Humphrey de Bohun'; *ODNB*, vi, 442.

Bohun, William de

William de Bohun, first earl of Northampton (about 1312–60) helped his cousin Edward III with the arrest of Roger Mortimer in 1330, fought in Scotland 1333–6 including Roxburgh, rewarded with the earldom of Northampton, fought at Sluys in 1340, at Crécy in 1346, lieutenant of Brittany 1346–7, elected to the Order of the Garter in 1349, admiral of the fleet in the north 1350–5, in France 1356–60.

E 372/198, rot. 34, m. 2, rot. 35, mm. 1, 2; *ODNB*, vi, 447–8.

Bonnet, John

John Bonnet (Bonet), fletcher of London, supplied bows and also leather hides 1353–60, warden of the fletchers in 1376.

E 101/392/4; E 101/392/14; Oxley, *Fletchers*, 89, 103.

Bourne, John

John Bourne, bowyer of London, probably a descendant of William Bourne, recorded in 1332.

E 101/403/20; Megson, *Such Goodly Company*, 73.

Boveshall, John

John Boveshall, supplied gunpowder 1382–8.

E 101/400/22; not recorded in *CLB*, *CLMR*, *CCR* or *CPR*.

Brakelond, John

John Brakelond, king's archer, pardoned for good service in the war in France in 1346, appointed supervisor of bowmakers at the Tower, 1357, died in 1368.

E 101/392/14; *CPR* 1345–8, 500; 1354–8, 516; 1367–70, 113.

Bramber, Thomas

Thomas Bramber (Brembre), chamber clerk, keeper of Boulogne in 1340, king's secretary, with the king during the Crécy campaign in 1346, clerk and receiver of the chamber 1347–54, clerk of the secret seal 1349, keeper of Sporle Priory, Norfolk, keeper of the privy seal 1354–5, chirographer of the common bench 1361, died 1361.

E 372/198, rot. 34, m. 2; *CFR* 1337–47, 226; 1347–56, 38, 182, 198, 267, 330; Tout, *Chapters*, iii, 169, 219–20, 237–8; iv, 116, 258–9, 261–3, 280, 285, 290–1, 454–5; v, 33–4, 180, 291; vi, 53, 55.

Braybrook, Sir Reginald

Reginald Braybrook, esquire of the household in the 1380s, knighted 1390, married Joan de la Pole daughter of Sir John Cobham, elected to parliament 1404,

accompanied Thomas of Lancaster to Flanders 1404, wounded, died 1405, buried with brass and achievements at Cobham.

Saul, *Death, Art and Memory*.

Brian, Sir Guy

Sir Guy Brian (about 1310–90), king's sergeant at arms, served in the Scottish campaigns of 1327 and 1337, in Flanders in 1339, constable of St Briavels and keeper of the Forest of Dean, 1340, at Crécy in 1346 after recruiting miners from the Forest of Dean for the campaign, ordered to join the king at Calais in 1347, sub-chamberlain in 1348, the king's standard-bearer in 1349, and later his spokesman in parliament, close advisor of Edward the Black Prince in Aquitaine, steward of the household 1359–61, commander of a retinue of twenty mounted archers in 1359, of twenty-nine men-at-arms and thirty archers on the expedition of John, duke of Lancaster, in 1369, Knight of the Garter 1370, spokesman of Edward of Woodstock during his last years, councillor in 1371, chamberlain 1377–8, effigy in Tewkesbury Abbey.

E 372/198, rot. 34, m. 1d; *CFR 1337–47*, 230, 243, 355; Tout, *Chapters*, iii, 285–6, 298; iv, 255; vi, 43, 46; Ayton and Preston, *Battle of Crécy*, 172, 248, Ayton, *Knights and Warhorses*, 14, n. 22, 188, n. 268; Sherborne, *War, Politics and Culture*, 4, 37, 87; Given-Wilson, *The Royal Household*, 282; *ODNB*, vii, 540–1.

Bridgwater, John

John Bridgwater, bowyer of London, Lincoln or York 1353–60.

E 101/392/14; not recorded in Megson, *Such Goodly Company*.

Bristowe, Robin

Robin Bristowe, London bowyer, recorded 1360–2. Richard Bristowe, a contractor at the Tower in 1343, is probably related.

E 372/189, rot. 43; E 101/392/4; *CPR 1358–61*, 381, Megson, *Such Goodly Company*, 23, 73 (as Robert).

Broadway, Robert

Robert Broadway, fletcher 1374–8.

E 101/398/1; not recorded in Oxley, *Fletchers*.

Bromley, William

William Bromley, bowyer of London, Lincoln or York 1353–60.

E 101/392/14; not recorded in Megson, *Such Goodly Company*.

Brouderer, Robert

Robert Brouderer, supplied standards 1364–78.

E 101/395/1; not recorded in *CPR*, *CCR*, *CLB* or *CPMR*.

The king's embroiderer (or armourer) at this time was William Glendale, described as king's yeoman in 1362.

CPR 1364–7, 421; *CFR 1356–68*, 219.

Brut, Thomas le

Sir Thomas le Brut, knighted by 1334, custodian of the Forest of Blackmore, dead by 1342.

T. Madox, *Baronia Anglica: An History of Land-honours and Baronies, and of Tenure in Capite* (London, 1736), 250; *CPR 1330–4*, 526; *CCR 1341–3*, 611.

Bryan, John

John Bryan is recorded as an esquire in Sir William Beauchamp's company under John of Gaunt in 1378, in Sir William Windsor's company in 1380–1, in Sir John Arundel's company in 1387 and yeoman of the chamber 1390.

E 101/36/39, cited in <http://www.icmacentre.ac.uk/soldier/database>; *CPR 1389–92*, 230.

Buckland, Nicholas

Nicholas Buckland (Bokeland, Boclund), auditor of the chamber and custodian of the chamber records, either in the Tower or in his own house, 1335–40, appointed with Sir John Molyns and dismissed with him in 1341, reinstated 1345–9, ordered to give them up the chamber records in 1348 so they could be kept in a new chamber in Westminster, died in 1349.

E 372/198, rot. 34, m. 2; Tout, *Chapters*, iii, 116; iv, 249, 266–9, 271, 273, 279–84, 287, 446–7, 452; *CPR 1334–8*, 429–30; *1340–3*, 398; *CCR 1346–9*, 567; *CFR 1337–47*, 144, 199, 210, 225, 430; *1347–56*, 81, 108.

Bures, Sir Robert

Sir Robert Bures (1255–1331), king's yeoman, served in Wales 1283–95, justice in Suffolk from 1296, keeper of the forest of Cannock in Staffordshire 1295–12, knighted by 1319, keeper of lands of the rebels in Norfolk, Suffolk and Cambridge, and of Clare Castle in Suffolk in 1322, still active in 1327; his brass in All Saints church, Acton, Suffolk, is one of the finest military brasses of the period.

CPR 1281–92, 340; *1313–16*, 483; *1327–30*, 209; *CCR 1296–1302*, 286, 361; *1307–13*, 371, 415; *1313–18*, 541; *1318–23*, 139, 469, 573, 592, 602; Coales, *The Earliest English Brasses*, 94–7.

Burghersh, Bartholomew senior

Bartholomew Burghersh senior, brother of Henry, bishop of Lincoln, second lord Burghersh, fought at Boroughbridge with the earl of Lancaster in 1322, pardoned by Queen Isabella, constable of Dover Castle and warden of the Cinque Ports 1327–55, seneschal of Ponthieu 1331–4, keeper of the forest south of Trent 1335–43, admiral of the western fleet 1337–9, master of the Black Prince's household 1341–7, fought at Crécy in the king's division in 1346, king's chamberlain 1347–55, constable of the Tower of London, died in 1355.

E 372/198, rot. 34, m. 1d; Tout, *Chapters*, iii, 115; v, 433; vi, 46; *ODNB*, viii, 798–9; Ayton and Preston, *Battle of Crécy*, 41, 84, 163, 242, 245.

Burley, Sir Simon

Sir Simon Burley (1336–88), chamber knight, served in the sea battle off Winchelsea in 1350, with Prince Edward in Aquitaine and Spain, knighted by 1366, at Nájera, tutor and chamberlain to Prince Richard 1376–7, sub-chamberlain 1377–88, receiver of the chamber for part of that time, constable of Windsor Castle 1377–84, constable of Dover Castle and warden of the Cinque Ports 1384–8, tried and executed in 1388.

E 101/398/1; Tout, *Chapters*, iii, 331, 340–1, 367–8, 382, 406–7, 411, 416–17, 428–9, 434–5; iv, 197, 320, 333–4; vi, 47, 49, 56; *ODNB*, viii, 869–70; Given-Wilson, *The Royal Household*, 282.

Burton, Robert

Robert Burton, chamber clerk, chief receiver of the king's chamber 1344–53, alongside Thomas Bramber, accompanied the king on the Crécy campaign of 1346, never given the title of keeper of the secret seal, probably ex-officio keeper of the griffin seal.

E 372/198, rot. 34, m. 2; *CCR 1343–5*, 608; *CFR 1337–47*, 489; Tout, *Chapters*, iii, 167, 169; iv, 116, 258–9, 262, 280, 288–91, 295, 308, 453–4, 469; v, 180, 189.

Burton, William

William Burton, fletcher of London in 1399.

E 101/403/20; not recorded in *CCR*, *CPR*, *CLB* or Oxley, *Fletchers*.

Bury, John

John Bury, bowyer of London 1353–60.

E 101/392/14; not recorded in Megson, *Such Goodly Company*.

Bury, Richard

Richard Bury (1287–1345), entered royal service as a clerk in 1312, on the staff of Prince Edward from 1316, possibly his tutor 1323–6, chamberlain of Chester 1320–4, travelled to France with Edward and Queen Isabella in 1325, constable of Bordeaux in 1326, cofferer in 1327 then keeper of the wardrobe 1328–9, keeper of the privy seal 1329–33, constable and receiver of Bordeaux in 1332, treasurer of the exchequer in 1333, chancellor 1334–5, bishop of Durham from 1333, and employed on numerous diplomatic missions throughout the period, collector of books and author of the *Philobiblion*.

Tout, *Chapters*, iii, 25–6; iv, 74–7; vi, 68; *ODNB*, ix, 67–9; W.M. Ormrod, ‘The king’s secrets: Richard de Bury and the monarchy of Edward III’, *War, Government and Aristocracy in the British Isles, c. 1150–1500: Essays in Honour of Michael Prestwich*, ed. C. Given-Wilson, A. Kettle and L. Scales (Woodbridge, 2008)

Butler, James

James Butler, second earl of Ormond (1331–82), granted Dublin Castle for life in 1350, justiciar 1359–60 and 1376–9, summoned to parliament in 1361 where Lionel of Antwerp's expedition to Ireland was announced, closely associated with Lionel's rule.

E 372/198, rot. 36, m. 1; *ODNB*, ix, 145–6.

Buxhull, Sir Alan

Sir Alan Buxhull (Buxhill), chamber knight from at least 1358, keeper of the New Forest 1362–4, constable of the Tower from 1366 succeeding Richard de la Vache, sub-chamberlain 1369–71, succeeded by Sir Richard Pembridge, served with Sir Robert Knolles in France in 1370, granted profits of Havering-atte-Bower in 1377, keeper of a manor in Essex in 1379, escheator in Sussex and Dorset in 1381, died in that year.

E 101/394/14; E 101/398/1; *CFR 1356–68*, 321; *1377–83*, 174, 279, 301; *Tout, Chapters*, iii, 235, 309, 339–40, 366; *Sumption, Divided Houses*, 66, 88; *Given-Wilson, The Royal Household*, 143–4, 150, 280–1, 284.

Byker, John

John Byker, son of Robert and Juliana, king's artillerer 1353–60 at 12d. a day, held the manor of Byker, Northumberland, appointed tax collector in Newcastle in 1360 (son Patrick appointed artillerer at the Tower in 1361), bailiff of Newcastle upon Tyne in 1367, commissioner of the peace in 1368.

E 101/392/14; E 101/398/1; *CPR 1350–4*, 418; *1354–8*, 24; *1358–61*, 122, 348; *1361–4*, 42; *1364–7*, 432; *1367–70*, 194; *CCR 1354–60*, 400; *CFR 1347–56*, 401.

Byker, Patrick

Patrick Byker, probably son of John Byker and father of William, king's artillerer at the Tower at 12d. a day from 1361.

E 101/395/1; *CCR 1360–4*, 373, 503; *CPR 1361–4*, 42.

Byker, William

William Byker (Biker), probably son of Patrick, king's engineer of war slings in 1360, artillerer of the king's crossbows at 6d. per day and one robe yearly in 1369, called king's *balistarius* (though erroneously named as John Byker in Sleaford's account) 1373–5, king's bowyer in 1378, king's artillerer with a *hospicium* adjacent to one of the smaller mural towers in the Tower 1382–99, part of a commission of Henry IV to dispose of defective arms in the Tower in 1399.

E 101/397/10; *CPR 1367–70*, 291; *1377–81*, 137; *1399–1401*, 214, 225; *Issue Roll of Thomas de Brantingham*, 339; Tout, *Chapters*, iv, 473, 479.

Carswell, Richard

Richard Carswell (Cardwell), valet of arms of the king 1344–60, appointed king's tailor in 1362, served until the king's death in 1377.

E 101/392/14; E 101/393/9; E 372/198, rot. 36, m. 2, rot. 36, m. 1d; Tout, *Chapters*, iv, 388.

Cassy, Thomas

Thomas Cassy (Cascy) of Hadzor, Worcestershire, sheriff of Worcestershire 1349–50.

E 101/392/14; *List of Sheriffs*, 157; *CPR 1348–50*, 517; *CCR 1346–9*, 379.

Castra, Gilbert

Gilbert Castra, supplied quarrels 1374–8.

E 101/398/1; not recorded in Megson, *Such Goodly Company* (though there is a William Cestre in the early fourteenth century, p. 74).

Possibly related to Bartholomew Castre, a prominent London goldsmith.

CLBG, 188, 229, 262; H, 239, 354, 423.

Cave, Thomas

Thomas Cave, supplied coffins 1374–8; otherwise unrecorded, though there is a John Cave of Milton recoded in 1373; maybe related to a Thomas Cave, clerk, recorded 1327–33.

E 101/398/1; *CCR 1327–30*, 88, 358; *1333–7*, 185, 645; *1369–74*, 491; no corresponding reference in *CPR*, *CCR*, *CLB* or *CPMR*.

Cely, Laurence

Laurence Cely, supplied gunpowder 1403–6.

E 101/404/25; not recorded in *CCR*, *CPR*, *CLB* or *CPMR*.

A John Sely, alderman of Bread Street ward in 1379, of Walbrook in 1381, sheriff in 1383, may be related.

List of Sheriffs, 202; *CLBH*, 118, 178, 188, 198, 230.

Chamberlain, Richard

Richard Chamberlain, fletcher of London, 1399.

E 101/403/20; not recorded in *CCR*, *CPR*, *CLB* or Oxley, *Fletchers*.

Chamberlain, William

William Chamberlain, bowyer 1353–60. John, possibly his father, is recorded in 1338–44.

BL, Add. MS 60584, f. 46r; E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Charles, Richard

Richard Charles, chaplain of St Giles, Northampton, 1339, granted land in Knaresborough by Queen Philippa in 1353, yeoman of Queen Philippa's buttery with an annual grant of 20 marks in 1358, constable of Tickhill Castle at £13 6s. 8d. a year in 1359; keeper of Knaresborough Forest in 1361.

E 372/198, rot. 36, m. 2, rot. 36, m. 1d; *CPR 1338–40*, 204, 216, 552; *1350–4*, 435; *1358–61*, 99, 275, 290, 541.

Clewer, William

William Clewer (Clevare), clerk of the king's ships in 1351, master of the cog *Thomas* in 1353, searcher from Southampton to Weymouth, 1356.

E 372/198, rot. 34, m. 2, rot. 36, m. 1, rot. 36, m. 1d; *CPR 1350–4*, 125; *CFR 1356–68*, 22.

Colley, Thomas

Thomas Colley (Colleye), king's yeoman, *rhingyll* (sergeant) and *rhaglaw* (lieutenant) of Twrcelyn, Anglesey, in 1339, controller of customs in Hull 1341–5, appointed Alan Upsale as his lieutenant at Hull 'because he stays continually with the king in the office of the buttery' in 1342.

E 101/392/14; E 372/198, rot. 34, m. 2, rot. 34, mm. 1d–2d, rot. 36, m. 2, rot. 36, m. 1d; *CFR 1337–47*, 149, 152; *CCR 1343–5*, 28, 206; *CPR 1340–5*, 176, 434, 461, 540.

Cologne, John of

John of Cologne (Coloyng, Colonia, Colon), king's armourer 1329–54, actually made textile garments and harness for the king, and included embroidery in his skills (*broudator*), attached to the great wardrobe; brought wine from Germany in 1335, was licensed to crenellate in Clerkenwell in 1337, owed John Chichester £80 in 1339, paid £57 in 1341 and called citizen of London with lands in Kent and Essex, king's serjeant or king's yeoman, dispute over Nettlestead church, Kent, in 1342, succeeded William Standerwick, another king's armourer, at the latter's death in 1345, gave power of attorney to Roger de Colon in 1346 (while serving in France), until 1353 also keeper of the gate of Winchester Castle, granted the office of gauging wine in London with his wife Dulcia (Douce) in 1353 in succession to Thomas Colley, brought two barrels of steel for the king in 1354, as John de London, yeoman of the king's armour in the Tower, commissioned to recruit smiths to make armour for the king in 1354, employed William Bumble, another 'brouderer', in 1355, attorney for John Longe, German merchant, in 1358, granted for long service 12d. a day and two robes a year of the suit of the other serjeants (46s. 8d. a year) in 1359, given wardship of a manor in Kent, 1360, died before 1 October 1360 (owing £140 for damaged property to the king), account tendered by his nephew William 1361.

E 372/198, rot. 34, m. 2, rot. 34, m. 1d, rot. 36, m. 2, rot. 36, m. 1d; E 372/207, rot. 51; *CCR 1333–7*, 532; *1339–41*, 226, *1341–3*, 55, 139, *672–3*; *1346–9*, 93, 365; *1354–60*, 13, 38; *1360–4*, 70; *CPR 1334–8*, 505; *1348–50*, 438, 489;

1350–4, 21, 116, 129, 409, 481; 1354–8, 11, 198; 1358–61, 57, 102, 293, 335, 447; *CFR* 1347–56, 184; 1356–68, 120; *CLBG*, 5; *CPMR* 1323–64, 201, 263; Tout, *Chapters*, iv, 308, 389–91, 397, 453, 478.

Possibly related to Giles de Colonia, ‘hauberger’, recorded in the king’s service in 1350.

CCR 1349–54, 220.

Colston, Robert

Robert Colston (Colton), clerk of the chamber serving in the privy wardrobe under Mildenhall 1344–52 alongside William Tamworth and Thomas Rolleston.

E 372/198, rot. 36, mm. 1, 2, rot. 36, m. 1d; Tout, *Chapters*, iv, 453.

Colum, John

John Colum (Columbus), received supplies at Calais in 1324, petitioned the king from Bordeaux in 1325.

E 101/17/6; SC 8/234/11651; *CCR* 1323–7, 263.

Conisbrough, John

John Conisbrough (Conyngesburgh), bowyer of London, 1353–60.

E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Copham, Thomas

Thomas Copham, king’s armourer 1329, also king’s clerk with Walter Weston shipping guns to France, clerk of the *Christiene* and *Plente* 1346, master of an unnamed ship 1353.

E 372/198, rot. 34, m. 2, rot. 34, m. 2d, rot. 35, m. 1, rot. 36, m. 1, rot. 36, m. 1d; Tout, *Chapters*, iv, 389.

Corand, Nicholas

Nicholas Corand, king's artillerer (*attiliator*), commissioned in 1338 to buy 1,000 bows, 4,000 bowstrings, and 4,000 sheaves of arrows of an ell in length, with steel heads, 'which the king has ordered to be purveyed in the realm and sent to him beyond the seas with all speed. If he cannot find the full number of bows and arrows, he is to buy wood for bows and arrows, feathers to wing the arrows with, and iron and steel for their heads, as may be required, to hire makers so as to have them ready as soon as possible, and to deliver them when made to John de Flete to be sent to the king.' Richard Corand, possibly a relative, is recorded as a bowyer in 1338–44.

BL, Add. MS 60548, f. 46r; *CPR 1338–40*, 124–5.

Corndale, Roger

Roger Corndale, keeper of Lionel of Antwerp's wardrobe 1360–2.

E 101/392/4; Tout, *Chapters*, iii, 254; iv, 154.

Cornwall, John

John Cornwall (Cornewaille), of the king's suit in 1354, king's artillerer 1360–4, brazier of Cornhill, son of William Cornewail, citizen of London, appointed to array a company of archers in 1361, still active in 1366.

E 101/394/14; *CPR 1350–4*, 434; *1354–8*, 91; *1358–61*, 343; *1361–4*, 36; *1364–7*, 413; *CCR 1360–4*, 332; *1364–9*, 293.

Easily confused with Sir John Cornwall, 'chivaler', arrested as a spy in 1359, died in Sir Guy Brian's company in 1360.

CPR 1354–8, 631; *1358–61*, 284, 384.

Cornwall, Sir Edmund

Sir Edmund Cornwall (de Cornubia, Cornewaille), knight by 1347, father also Edmund, sheriff of Lincolnshire 1358–60.

E 101/392/14; *List of Sheriffs*, 79; *CCR 1346–9*, 395; *1354–60*, 21, 122; not recorded in Gorski, *Sheriff*.

Coton, Thomas

Thomas Coton, London bowyer, apprenticed after 1346, part of a commission of Henry IV to dispose of defective arms in the Tower in 1399, died 1403, his will listing his tools.

E 101/404/4; *CPR 1399–1401*, 214; Megson, *Such Goodly Company*, 30, 74.

Courtenay, Philip

Sir Philip Courtenay (Courtney, Courteney), brother of William Courtenay, archbishop of Canterbury, admiral of the fleet from the mouth of the Thames westward 1372–6, keeper of land in Devon and surveyor of tax assessments in Devon in 1381.

E 101/397/10; *CPR 1370–4*, 204; *CCR 1369–74*, 428; *1374–7*, 366; *CFR 1377–83*, 162, 294; Sumption, *Divided Houses*, 237, 495.

Creke, John

Sir John Creke (Crek, Creyk, Cryk), abroad with Edward Prince of Wales in 1303, attorney to Bartholomew Badlesmere, constable of Bristol Castle, in 1313, sheriff of Huntingdon and Cambridgeshire 1307–14 and 1319, justice in Cambridgeshire, 1306–22, dead by 1345.

List of Sheriffs, 12; *CCR 1302–7*, 393–5; *CCR 1318–23*, 236, 336; *CPR 1301–7*, 155, 457; *1307–13*, 567; *1313–17*, 49, 244, 500; *1317–21*, 95, 602; *1321–4*, 225.

Cromwell, John

Sir John Cromwell, Lincolnshire baron, fought in Scotland in 1310, was steward of the household 1314–16, keeper of the forest south of Trent from 1317 in succession to Thomas Wake, exiled but restored in 1327 to office, constable of the Tower 1327–32 in succession to Thomas Wake, ‘to deliver the armour, victuals and other things belonging to the king and the prisoners’.

E 101/36/7; Tout, *Chapters*, ii, 237; iii, 12; vi, 42; *CPR 1327–30*, 33; Ayton, *Knights and Warhorses*, 95.

Croule, Robert

Robert Croule (Crulle) king’s clerk, treasurer for Ireland until 1399, delivered arms from Lowick in 1399.

Tout, ‘Firearms in England’, 701; *CCR 1396–9*, 119, 393; *CCR 1399–1402*, 78; *CFR 1399–1405*, 50; Johnston, ‘Richard II’s departure from Ireland’, 799.

Crous, John

John Crous, armourer, 1372–4.

E 101/397/10; not recorded in *CPR*, *CCR*, *CLB*.

Crowe, William

William Crowe, recorded as a carpenter at the Tower, making bays of shelves for storage of bows 1353–60.

E 101/392/14, not recorded in *CCR*, *CPR*, *CLB*.

Cuireur, Milo le

Milon le Cuireur made armour for a tournament in 1278.

‘Copy of a roll of purchases’, ed. Lysons.

Cusance, William

William Cusance, clerk of the younger Despenser in 1320, keeper of the wardrobe 1320–1, receiver of monies sent to Aquitaine and on campaign in Bordeaux 1324–6, keeper of the king’s castles and receiver in 1326, keeper of the wardrobe of John of Eltham, duke of Cornwall, 1332–8, keeper of the great wardrobe 1340–1 and again 1349–50, in France with the king at Sluys in 1340, treasurer of the exchequer 1341–4, dean of St Martin’s le Grand 1349–60, keeper of Bermondsey Priory (later Abbey) in 1351.

CFR 1347–56, 151, 179, 176, 301; Tout, *Chapters*, ii, 15, 272; iii, 115, 161, 204; iv, 72–4, 78–9, 106–11, 122–4, 155, 375; vi, 23, 27, 35.

d’Abernon, John

John (III) d’Abernon (about 1267–1345), fought at Boroughbridge in 1322, accompanied the earl of Surrey to Guyenne in 1325, member of parliament, sheriff, brass in Stoke d’Abernon church.

ODNB, i, 73–5.

Dabell, John

John Dabell, recorded as a quarrelmaker 1353–60. Unlikely to be John Drabbel, recorded in a land dispute in Houghton, Norwich, in 1356.

E 101/392/14; *CCR 1354–60*, 280; not recorded in *CPR*, *CCR*, *CLB*.

Dale, William de la

William de la Dale (de Dale, Dalle, Dalley), king's yeoman, valet of the chamber, bailiff ('penkiset' or 'penkeyset') at Carmarthen in 1340, keeper of Parkhurst forest, Isle of Wight, in 1341, with Richard Westfale and Alexander Shadeworth organised two ships, *la Katerine* and *la Nicholas*, for the passage of William Trussel to Flanders on the king's service in 1343, keeper of Carisbroke Castle in 1343, constable in 1347, keeper of the king's park at Cold Kennington in 1349, leased the manor of Whitefield, Isle of Wight, in 1350, granted £20 a year for life and appointed keeper of the forests of the Isle of Wight in 1354, received arrows for Queen Philippa, 1353–60, commissioner of the peace in 1356.

E 372/198, rot. 36, m. 1, rot. 36, m. 1d; E 101/392/14; *CFR 1337–47*, 162, 165, 227–8, 348; *1347–56*, 107, 231, 390; *CCR 1333–7*, 377; *1341–3*, 613, 678; *1343–5*, 226; *CPR 1345–8*, 111; *1348–50*, 110, 291, 496; *1354–8*, 111, 114, 317, 388.

Dalton, Robert

Robert Dalton, constable of the Tower, 1344, ordered to 'cause a turret⁷⁶⁷ in that Tower to be delivered for the making of gold and silver coins, by the advice of John Fleet, the king's clerk, until certain houses are ordained for making those stamps in the Tower'.

CFR 1337–47, 212; *CCR 1343–6*, 196, 210, 368, 370, 483, 568, 581, 604, 650, 653, 672.

⁷⁶⁷ Though the White Tower is the central keep of the Tower, it was then, and still is, surrounded by a series of smaller towers or turrets in the inner wall, named today (clockwise from the south) the Wakefield, Bloody, Bell, Beauchamp, Devereux, Flint, Bowyer, Brick, Martin, Constable, Broad Arrow, Salt and Lanthorn Towers, with the site of the Wardrobe Tower within the inner ward. The medieval use of these towers is very poorly understood, and the site of the mint at this time is unknown, though Mint Street is the traditional name of the outer ward on the west side of the complex.

Dalton, William

William Dalton, king's clerk, cofferer of the wardrobe 1338–44, controller of the wardrobe 1344–50, keeper of the great wardrobe 1353–58.

E 101/392/14; *CFR 1347–56*, 216, 366; Tout, *Chapters*, iv, 95, 104, 106, 110, 114, 119–20, 123, 128, 130, 374, 383, 408, 414, 432–4; vi, 29, 32, 36.

Darcy, John

Sir John Darcy le cosyn (before 1284–1347), who fought as a household banneret with the king at Crécy in 1346, and whose son, John Darcy le fitz (1317–56), was also at Crécy and also served in the chamber.

E 372/198, rot. 34, m. 1d, rot. 34, m. 2d, rot. 35, m. 1; Tout, *Chapters*, iii, 89, 120, 125, 151; iv, 81–2, 108; vi, 13, 43, 46; Ayton and Preston, *Crécy*, 33, 152, 163, 180, 242, 246; *CPR 1321–4*, 264; *ODNB*, xv, 127–8.

Dawe, Robert

Robert Dawe, bowyer of London, 1378–81.

E 101/400/10; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Derby, John

John Derby, king's clerk, archdeacon of Barnstaple, presented to the church of Weston, Norwich 1359, granted 100s. a year in 1362, granted the deanery of Langchester 1369, prebend of king's chapel of St Stephen, Westminster 1370–1, archdeacon of Northumberland 1370–81, prebendary of Drifffield 1372, clerk of the king's guns 1370–4, named as a clerk alongside John Hermesthorp in Northumberland in 1384, chancellor, chamberlain and clerk of the wardrobe in Berwick 1382–7, commissioned to enquire into bows, crossbows, artillery and arms

in custody of William Dawson at Bamburgh and Roxburgh 1390–1, in charge of works at Wallingford Castle in 1399.

E 101/400/22; *CPR 1358–61*, 191; *1361–4*, 312; *1367–70*, 218, 431; *1370–4*, 28, 51, 190; *1377–81*, 202, 469; *1381–5*, 8, 424, 469, 534; *1385–9*, 283; *1389–92*, 347, 518; *1396–9*, 596; Tout, *Chapters*, iv, 471–2.

Dernford, John

John Dernford; there were at least three London bowyers of this name, one working before 1320, one apprenticed in 1332, warden of the Bowyers in 1376, and another, clearly the same as found in Lowick's account, recorded in 1392.

E 101/403/20; Megson, *Such Goodly Company*, 26–8, 74.

Despenser, Edward

Edward Despenser, first lord Despenser (1336–75), married Elizabeth daughter and heiress of Bartholomew Burghersh, served with Edward the Black Prince at Poitiers in 1356, in France with Edward III in 1359, made a knight of the Garter in 1361, accompanied Lionel of Antwerp to Milan in 1368, constable of John of Gaunt's army in 1373, served with Edmund Langley in Brittany in 1375, died with monument in Tewkesbury Abbey.

E 101/397/10; *ODNB*, xv, 909–10; Allington-Smith, *Henry Despenser*, 3–4.

Despenser, Henry

Henry Despenser, brother of Edward Despenser, first lord Despenser (about 1342–1406), ordained and fought alongside his brother in Italy 1360, archdeacon of Llandaff 1364, elected bishop of Norwich through family influence in 1370, involved in suppression of peasants' uprising in 1381, led an army to Flanders 1383, defeated a Flemish army at Dunkirk but failed in the siege of Ypres, accompanied Richard II

on Scottish campaign of 1385, implicated in the ‘Epiphany plot’ of 1400.

ODNB, xv, 910–12; Sumption, *Divided Houses*, 470–2, 493–504, 507–10;
Allington-Smith, *Henry Despenser*.

Deyville, Thomas

Thomas Deyville (Davill, Dayvill, Deyvill, Eyvill), keeper or receiver of Pontefract Castle 1322–5, keeper of Sandal Castle in 1324, probably a member of the family of which John Deyville, active in the Barons wars and candidate for the original Robin Hood, and Jocelin Deyville, executed after Boroughbridge in 1324, were the more notorious members.

CFR 1319–27, 118, 125, 275, 309; *CCR* 1318–23, 596; 1323–7, 146, 246–8, 253, 289, 290, 388, 395, 455; *CPR* 1324–7, 61; De Ville, ‘The Deyvilles’.

Draybone, William

William Draybone, recorded as a London cooper 1353–60.

E 101/392/14, not recorded in *CPR*, *CCR*, *CLB*.

Dymoke, John

Sir John Dymoke (Dymmok, Dymok, Dymoc), attorney in Ireland for the prior of Little Malvern 1330–52; escheator for Lincolnshire, Northamptonshire and Rutland in 1341 and 1375–7, usher of the exchequer in 1341, pardoned at the request of Edward the Black Prince for receiving felons in 1355, knighted by 1359 and inherited the right to be king’s champion and the manor of Scrivelsby, Lincolnshire, by marriage to Margaret, granddaughter of Philip Marmion, appointed commissioner of the peace 1364–77, commissioner of array in Lincolnshire and *de wallis et fossatis* in 1367, MP for Lincolnshire 1372–3 and 1377, and king’s champion at the coronation of Richard II in 1377, died 1381.

E 372/198, rot. 34, m. 2d, rot. 35, m. 1; *List of escheators*, 74; *CPR 1330–4*, 3; *CPR 1340–5*, 180, 340, 349; *1350–4*, 296; *1354–8*, 262; *1358–61*, 288; *1361–4*, 530; *1364–7*, 430, 440; *1367–70*, 49, 193, 261; *1370–4*, 106, 176; *1374–7*, 137, 158, 312, 490; *1377–81*, 46, 92; Lodge, *Scrivelsby: Home of the Champions* (London, 1894); *ODNB*, xvii, 502–3.

Edington, William

William Edington, clerk of Adam Orleton, bishop of Winchester, in 1332, king's clerk 1330–5, receiver of the ninth from the counties south of the Trent 1335–41, keeper of the wardrobe 1341–4, organised finance for the Scottish campaign of 1341–2 and Brittany campaign of 1342–3, treasurer of the exchequer 1344–56, oversaw the reduction in weight of the silver coinage, chancellor 1356–63, bishop of Winchester in succession to Orleton 1345–66, died in 1366.

E 372/198, rot. 34, m. 2, rot. 34, m. 1d; Tout, *Chapters*, iii, 109–10, 161, 163–4, 202–7, 231–2, 235, 255; iv, 110–14, 128–9, 133–4, 137; vi, 15, 23, 27; *ODNB*, xvii, 732–4.

Edmund of Langley

Edmund of Langley, first duke of York (1341–1402) fifth son of Edward III and Queen Philippa, on Reims campaign 1359–60, knight of the Garter in 1361, created earl of Cambridge in 1362, served with Edward the Black Prince in Spain, at Nájera in 1367, served with John Hastings, earl of Pembroke, in Brittany in 1369, constable of Dover Castle and the Cinque Ports 1376–81, led failed expedition to Portugal 1381–2, served in Scotland with Richard II in 1385, created duke of York, keeper of the realm while Richard II was in Ireland 1394–5 and 1399, supported Henry Bolingbroke, died 1402.

E 101/400/10; *ODNB*, xvii, 762–6; Sumption, *Divided Houses*, 431–8, 462–8.

Edward of Woodstock

Edward of Woodstock, the Black Prince (1330–76), eldest son of Edward III and Philippa of Hainault, prince of Wales and Aquitaine, guardian of England 1338–46, commanded centre division at Crécy 1346, commanded in the Aquitaine campaign of 1355, at Poitiers in 1356, in the Spanish campaign at Nájera in 1367, ill from 1370, died in 1376, helm and other achievements with monument at Canterbury.

E 372/198, rot. 35, m. 1; *ODNB*, xvii, 792–801; Mills and Mann, *Edward, the Black Prince*.

Elkington, John

John Elkington, at Holt Castle 1396–9, the stronghold of earl of Arundel during the rebellion of 1393, and surrendered to Henry Percy, earl of Northumberland, lieutenant of Henry Bolingbroke, in 1399.

E 101/403/20; Sumption, *Divided Houses*, 810, 861; not recorded in *CCR*, *CPR*.

Ermyn, William

Sir William Ermyn, king's clerk, guardian of the temporalities of the bishop of Exeter in 1370, treasurer at Calais 1375–82, held property in Farringdon in 1375, knighted 1379 and appointed to survey tax in Kesteven, Lincolnshire.

E 101/400/10; A.K. McHardy, *The Church in London, 1375–92* (London, 1977), 42; *CFR* 1368–77, 73, 328; 1377–83, 260, 302, 374; *CPMR*, ii, 231.

Eudes de Bourgogne

Eudes de Bourgogne, count of Nevers (1230–69); his daughter Yolande de

Bourgogne married Robert III de Dampierre, count of Flanders.

‘Inventaire et compte de la succession d’Eudes’.

Fevre, Andrew le

Andrew le Fevre (Faber), Tower workman 1344–53, appointed king’s chief smith at the Tower and chief surveyor of his works for life, with robe and 8d. per day, in 1354, supplied arrowheads in 1352, banner staves and lance heads 1353–60.

E 101/392/14; E 372/198, rot. 34, mm. 1, 2d, rot. 36, mm. 1, 2; *CPR 1354–8*, 72.

Farningham, Hugh

Hugh Farningham (Farnyngham, Faringhoo), bowyer, probably of London, 1340–60.

BL, Add. MS 60584, f. 46r; E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Fauconburg , Henry

Henry Fauconburg (Faucomberge), sheriff of Nottingham 1318–19, 1323–4.

List of Sheriffs, 102; *CCR 1323–7*, 246–8; *CPR 1324–7*, 80.

Ferrers, Reginald

Reginald Ferrers (Ferariis, Ferrariis, Fereres) holder of Callington, Cornwall, in 1341, king’s sergeant at arms in 1350, possibly connected to the baronial family.

E 372/198, rot. 34, m. 2, rot. 34, m. 2d, rot. 36, m. 1, rot. 36, m. 1d; *ODNB*, xix, 422–4; *CPR 1346–50*, 466; *CFR 1347–56*, 202.

Fitzalan, Richard

Richard Fitzalan (about 1313–79), third earl of Arundel, dispossessed during the revolution of 1326–7, restored by Edward III in 1331, commanded in Scotland 1333–

8, keeper of the realm 1338–40, admiral of the west, at Sluys 1340, commanded the second battle at Crécy 1346, at Winchelsea 1350. On embassy to Avignon 1343, 1350 and 1353–4, Lieutenant of Aquitaine 1344, to the Scots in 1351–7 and 1362.

BL, Add. MS 60584, f. 48v; *ODNB*, xix, 768–9.

Fitzralph, Sir William

Sir William Fitzralph, served against the Scots in 1296 and 1298–1301, commissioner of the peace in Essex in 1314, commissioner of array in 1316, refused to serve on the Scottish campaign of 1322 on account of illness, died soon after, tomb in the church of St John the Baptist, Pebmarsh, Essex with a brass probably made in 1323.

Blair, *European Armour*, fig, 15; Coales, *The Earliest English Brasses*, figs 91–2.

Fleet, John

John Fleet (Flete), clerk and receiver of the chamber 1333–44, keeper of the privy wardrobe 1323–44, based in the Tower 1338–44, keeper of the queen's wardrobe in the Tower (in what Tout called the Mansell Tower in the north-east corner of the fortress, presumably meaning the Martin Tower), keeper of the mint and exchanges in the Tower 1338–44, died in office in 1344.

E 101/386/15; E 372/198, rot. 34, m. 2, rot. 34, m. 2d; BL, Add. MS. 60584; *CFR 1337–47*, 390; *CPR 1340–3*, 256; Tout, *Chapters*, ii, 338, iii, 54, 115, 179; iv, 255–9, 280, 404, 415, 441, 445–51, 463; vi, 37, 55; Tout, 'Firearms in England', 688.

Fleet, Simon

Simon Fleet (Flete), king's servant of the chandlery in 1399, esquire, appointed

keeper of the privy wardrobe in 1407, receiver of the chamber and granted revenue of the park of Langley, Kent for life in 1408, controller of finances of Harfleur 1415–20, captured by the French about 1428. None of his privy wardrobe accounts have been found.

CCR 1399–1402, 12; *1405–9*, 510; *CPR 1399–1401*, 88; *1405–8*, 387, 411, 474; *1408–13*, 42; E 101/48/7; SC 8/111/5527.

Fletcher, Anselm

Anselm, Fletcher of London or Lincoln, 1353–60.

E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Oxley, *Fletchers*.

Fletcher, Laurence

Laurence, Fletcher of London or Lincoln, 1353–62.

E 101/392/4; E 101/392/14; not identifiable in *CCR*, *CPR* or *CLB*.

Fletcher, Roger

Roger, Fletcher of London, 1399; the earliest fletcher fore-named Roger is Roger Daneneye, warden of the company in 1424.

E 101/403/20; Oxley, *Fletchers*, 103.

Fletcher, Thomas

Thomas, Fletcher of London or Lincoln 1353–78.

E 101/392/14, E 101/397/10; not recorded in Oxley, *Fletchers*.

Fosse, Giles

Giles Fosse, part of a commission of Henry IV to dispose of defective arms in the Tower in 1399.

E 101/404/4; *CPR 1399–1401*, 214; Megson, *Such Goodly Company*, 30.

Founder, William

William Foundour, gun founder 1403–6, maybe the same as one mentioned in 1420, or more likely William Fungry, master of the founders in 1394.

E 101/404/25; *CLBH*, 416; *CLBI*, 245–6.

Foxley, Robert

Robert Foxley, bowyer of London, 1378–81.

E 101/400/10; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Foxley, Sir John

Sir John Foxley (about 1318–78), son of Thomas Foxley, constable of Windsor Castle, chamber knight, possibly at Poitiers, knighted about 1360, served on the expedition of 1359–60 to France, constable of Queenborough Castle 1360–76, served on the expedition of 1369 to France with a small retinue under John, duke of Lancaster, constable of Southampton Castle 1376–8, buried at Bray, Berkshire, with a memorial brass.

E 101/393/13; E 101/394/14; Sherborne, *War, Politics and Culture*, 4, 87; Tout, *Chapters*, iii, 236, 180; Given-Wilson, *The Royal Household*, 280–1.

Fulnetby, Sir Thomas

Sir Thomas Fulnetby, escheator of Lincolnshire and Rutland 1355–7, sheriff of Lincolnshire 1355–8.

E 101/392/14; *List of Sheriffs*, 79; *List of Escheators*, 74; *CCR 1354–60*, 123, 144–5, 157, 158, 162, 164, 166, 245, 279, 338, 348, 353; *CPR 1354–8*, 201, 286, 339, 375, 472; Gorski, *Sheriff*, 183.

Galewey, John

John Galewey, bowyer in the Tower 1360–2.

E 101/392/4; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Garne, Richard

Richard Garne, king's fletcher in 1339, paid 6d. a day, commissioned to make darts in the Forest of Dean and deliver them to Berwick-upon-Tweed.

CCR 1337–9, 11.

Garton, Thomas

Thomas Garton, clerk of Sir William Montagu, later earl of Salisbury, in 1318, wardrobe clerk from 1319, controller of the wardrobe 1328–9, keeper of the wardrobe 1329–31, baron of the exchequer, 1331, died in that year.

Ord, *Inventory of the Crown Jewels*; Tout, *Chapters*, iii, 29, 37; iv, 76–8; vi, 27, 29.

Glendale, William

William Glendale, armourer of London 1358–64.

CCR 1354–60, 519.

Glovere, Richard

Richard Glovere, armourer at the Tower 1372–4, served in Ireland in 1373, imprisoned in the Tower for debt but released in 1376, king's helmet-maker (*galeator*) at the Tower at 12d. a day in succession to William Swynley in 1376, served in Ireland 1378–9 and 1383.

E 101/397/10; *CPR 1370–4*, 339; *1374–7*, 401; *1377–81*, 61, 100, 267, 384, 409; *1381–5*, 290; *CCR 1373–7*, 313; *CFR 1368–77*, 78.

Godfrey, John

John Godfrey (Godefray, Godefrey) clerk, king's yeoman, keeper of the new park of Windsor at 3d. per day, same or related to the reeve of the king's park of Isleworth in 1374.

E 372/198, rot. 35, m. 1; *CPR 1338–40*, 229; *CPR 1345–8*, 533; *CPR 1374–7*, 24.

Gresley, Sir John

Sir John Gresley (Grisle, Gresleye), sheriff of Nottinghamshire and Derbyshire 1355, 1358–9, and of Staffordshire in 1361 and 1371–2.

E 101/392/14; *List of Sheriffs*, 103, 127; *CPR 1354–8*, 334; Gorski, *Sheriff*, 165.

Grey, John

John Grey, first lord Grey of Rotherfield (1300–59), served in Scotland 1322–3, Gascony in 1325, Scotland again in 1327 and 1335, at Crécy in 1346, founder member of the Order of the Garter, knight of the chamber by 1348, died 1359.

E 372/198, rot. 36, m. 2; Tout, *Chapters*, iv, 255; Ayton and Preston, *Crécy*, 190, 244; *ODNB*, xxiii, 861.

Grosmont, Henry of

Henry of Grosmont or Henry of Lancaster (about 1310–61), first duke of Lancaster, knighted in 1330, he was recorded at a tournament in 1331, served in Scotland 1333–5, was the king's lieutenant in Scotland in 1336, was created earl of Derby in 1337,

campaigns with Edward III in Flanders during 1338–9, was at Sluys in 1340, earl of Lancaster and lieutenant of Aquitaine from 1345, victor at the battle of Auberoche in the same year, was one of the founder knights of the Order of the Garter in 1348, duke of Lancaster 1351, joined the Prussian Crusade of 1351–2, was engaged in diplomatic missions in France and Low Countries 1353–4, the king's lieutenant in Brittany 1355–8, where he commanded at the siege of Rennes, was engaged on the Reims campaign 1359–60 and was principal English negotiator at Brétigny in 1360.

E 372/198, rot. 35, m. 1, rot. 36, m. 2; *ODNB*, xxvi, 572–6; Ayton and Preston, *Crécy*, 32.

Gunwardby, John

John Gunwardby, citizen and merchant (pepperer) of London 1352–9, supplied mail in 1359.

E 101/392/14; *CCR 1349–54*, 418; *1354–60*, 645; *CPR 1361–4*, 258.

Hackett, Adam

Adam Hackett, London bowyer 1340–78, died in 1378 leaving three wills.

BL, Add. MS 60584, f. 46r; E 101/392/14; E 101/398/1; Megson, *Such Goodly Company*, 17, 75; *CLBF*, 75, 92.

Hakton, John

John Hakton, sergeant at arms, lieutenant of the Tower under John Cromwell in 1330, possibly the same man as the John Haddon who accounted for repair of ships in London in 1351.

E 101/26/14; E 101/36/7; *CCR 1327–30*, 189; *CFR 1347–56*, 315, 338, 360; not recorded in Tout, *Chapters*.

Hales, William

William Hales, armourer of London, 1337–45.

CCR 1337–39, 412; *1343–46*, 637.

Hampden, John

John Hampden, justice in Buckinghamshire 1355–7, escheator in Bedfordshire and Buckinghamshire in 1357, sheriff 1357–9 and 1360–1.

E 101/392/14; *List of Sheriffs*, 1; *List of Escheators*, 3; *CCR 1354–60*, 349, 435, 541, 571; *1360–4*, 6, 52, 546; *CPR 1354–8*, 295, 550; Gorski, *Sheriff*, 180.

Hatfield, John

John Hatfield (Haytfield), appointed to send fletchers, smiths, bowyers, armourers and furbishers from Surrey, Sussex and Kent to the Tower for the king's works in 1369, clerk of the king's ships 1370–7, keeper of the privy wardrobe 1378–81, died shortly afterwards.

Issue Roll of Thomas de Brantingham, 344; E 101/400/10; E 372/198, rot. 34, m. 2, rot. 34, mm. 1–2d; Tout, *Chapters*, iv, 458–61, 467, 476–7; vi, 37; Steel, 'English Government Finance', 583.

Hatfield, Thomas

Thomas Hatfield, clerk of the chamber, receiver of the chamber 1337–44, king's secretary and keeper of the secret seal, 1344, bishop of Durham from 1345, at Crécy in 1346, died in 1381.

E 372/198, rot. 34, m. 2, rot. 34d, mm. 1–2; Tout, 'Firearms in England', 673; *CFR 1337–47*, 85, 156, 447; *1377–83*, 38, 152; Tout, *Chapters*, iii, 87; iv, 257, 261–2, 287–8, vi, 52; *ODNB*, xxv, 806–7.

Hatton, Ranulph

Ranulph Hatton, from Cheshire, keeper of the privy wardrobe 1382–96, accompanied the king on the Scottish campaign of 1388, died in 1396.

E 101/400/22; *CFR 1377–83*, 11; Tout, *Chapters*, iv, 411, 462, 465–6, 472–4, 479; vi, 37.

Hauberger, Gerard

Gerard Hauberger, returned a mail shirt in 1360, appointed king's hauberger for life at 6d. a day in 1363, annuity of 110s. for life in 1366.

E 101/392/14; *CPR 1361–4*, 344; *1364–7*, 250.

Hauberger, William le

William le Hauberger, recorded in the king's service as a mail maker 1328–40, issued with mail and other armour 1344–51.

E 372/198, rot. 34, m. 1d; *CCR 1327–30*, 423; *1339–41*, 524; *1341–3*, 84; *CPR 1327–30*, 550.

Hawberk, Sir Nicholas

Sir Nicholas Hawberk (Hauberk) of Winchester, king's esquire 1385–91, chamber knight from 1393, married Joan de la Pole, daughter of Sir John Cobham and widow of Sir Reginald Braybrook, sheriff and constable of Flint Castle 1396–1404, commissioner of array for the defence of Kent against the French in 1407, died that year, buried with brass and achievement in Cobham.

CPR 1381–5, 551; *1389–92*, 487; *1391–6*, 205, 344; *1396–9*, 193, 280, 342; *1399–1401*, 119; *1401–5*, 411; *1405–8*, 303; *1408–13*, 123; Saul, *Death, Art and Memory*; Given-Wilson, *The Royal Household*, 285, 287.

Haywood, Walter

Walter Haywood (Heywode, Haywod), justice 1355, escheator of Southampton 1356–7, sheriff of Hampshire 1356–60, sheriff of Wiltshire 1366–71.

E 101/392/14; *List of Sheriffs*, 54, 153; *List of Escheators*, 143; *CCR 1354–60*, 349, 367, 371, 661, 664, 665; *1360–4*, 59, 90, 110, 464; *CPR 1354–8*, 298; Gorski, *Sheriff*, 166.

Helmer, Gerard

Gerard Helmer (Heaumer), king's helmet-maker 1360, granted annuity for long service of £10, presumably succeeded by William Swynley after 1373.

E 101/392/14; *CPR 1364–7*, 381; the tools of his office are recorded in E 101/397/19.

Henry V

Henry V (1386/7–1422), eldest son of Henry IV, with Richard II on voyage of pacification to Ireland in 1399, member of the Order of the Bath, carried sword at Henry IV's coronation in 1399, created prince of Wales, duke of Cornwall and earl of Chester, suppressed the rebellion of Owain Glyndŵr 1400–10, crowned king in 1413, led the Agincourt campaign 1414–5, Normandy campaign 1417–9, married Catherine, daughter of Charles VI, in 1420, returned to England, died 1422, monument with helm and shield at Westminster, later chantry chapel completed in 1450.

ODNB, xxvi, 487–97.

Herland, William

William Herland (Herlond), the king's carpenter, first recorded in the king's service in 1332 sawing moulds for St Stephen's Chapel, warden of the king's carpentry

works in 1347, chief carpenter from 1354, supervising works at Hadleigh Castle, the Tower and Westminster, employed making quarrels at the Tower in 1364, surveyor at Rotherhithe Manor in 1367, commissioned to recruit carpenters in 1370, granted a tenement in London for long service in 1371, died in 1375 and succeeded by his son Hugh as ‘disposer of the king’s works touching the art or mystery of carpentry’ at the same salary of 12d. a day and a winter robe in the colours of the esquires of the household.

E 101/395/1; J.H. Harvey, *English Mediaeval Architects* (2nd ed., Gloucester, 1987), 142–3; *CPR 1358–61*, 53, 449; *1364–7*, 414, 417, 427; *1367–70*, 384; *1370–4*, 59; *1374–7*, 189; *CCR 1360–4*, 44

Hermesthorp, John

John Hermesthorp, king’s clerk, archdeacon of Holderness in 1363, rector of St Vedast, London, 1364–5, rector of Bedale, Yorkshire, and master of St Katherine’s Hospital by the Tower from 1368, guardian of the temporalities of the archbishop of York in 1373, Warwick or ‘Beauchamp’ chamberlain of receipt 1376–97, keeper of the privy wardrobe 1381–2; administrator of emoluments of Upchurch, Kent, in 1380, keeper of Killerby (Kilwardeby) Manor, Yorkshire, and three priories, Monks Kirby, Warwickshire, Astley, Worcestershire, and Wilsford, Lincolnshire, in 1388; controller of London customs and granted a house in the Fleet Prison in 1396.

E 101/400/16; Tout, *Chapters*, iii, 358, 451; iv, 163, 459, 461–5, 470, 472; vi, 37; *Ancient Deeds*, ii, 269; Steel, ‘English Government Finance’, 583; Shepherd and Eames, *Metropolitan Improvements*, 61; *CPR 1391–6*, 691; *CFR 1368–77*, 38, 219; *1377–83*, 105, 179; *1383–91*, 213, 232, 205, 278.

Hervy, William

William Hervy, returned a mail shirt in 1360.

E 101/392/14; not recorded in Tout, *Chapters, CCR, CPR*.

It is tempting to suggest this may be Sir William Heron, leader of a company in 1360, but the context suggests a group of the king's servants.

Ayton, *Knights and Warhorses*, 155; *CCR 1354–60*, 39, 70, 86, 192, 199, 203, 235, 502–4, 508, 510.

Hildesley, Robert

Sir Robert Hildesley (Hildeslegh, Hildesle), justice in 1355, escheator in Gloucestershire and the Welsh March 1356–7, sheriff of Gloucester 1356–60.

E 101/392/14; *List of Escheators*, 49; *List of Sheriffs*, 49; *CCR 1354–60*, 347, 349, 368; *1360–4*, 109, 368; *CPR 1354–8*, 618.

Hilles, Gilbert

Gilbert Hilles (Helles), escheator and sheriff of Kent 1355–6.

E 101/392/14; *List of Escheators*, 65; *List of Sheriffs*, 68; *CPR 1354–8*, 352, 379; Fuller, *Worthies*, ii, 167.

Hilton, John

John Hilton (Hilteron), clerk, nominated as attorney for Richard Cavendish and Philip Popham while in Ireland in 1362, parson of Haverhill, Suffolk, from 1362, attorney for Thomas Dale and Warin Bassyngbourne going to Ireland on the king's service with Lionel of Antwerp 1364–5 and 1368, investigated goods of John Glaumvill, clerk, who died indebted to Queen Philippa in 1364, king's yeoman 1367, authorised to sell underwood in Clarendon Forest, stayed in England with attorneys in Ireland Robert Eure and Edmund Laurence in 1372, had attorneys in Ireland

Robert Lytham and William Tarent in 1373.

E 101/392/4; *CPR* 1361–4, 223, 259, 260; 1364–7, 29, 69, 99; 1367–70, 173; 1370–4, 165, 288, 405; *CFR* 1356–68, 372.

Probably connected to Adam Hilton, clerk of the privy seal, 1356–61 and Reginald Hilton, king's clerk and cofferer of the great wardrobe, 1377–81.

Tout, *Chapters*, v, 111; vi, 30.

Holborn, Edward

Edward Holborn, supplied quarrels 1374–8.

E 101/398/1; not recorded in *CCR*, *CLB* or *CPR*.

Some other contemporary citizens of London (Nicholas, Stephen and Richard) may be connected.

CCR 1369–74, 323, 344, 283; 1374–7, 95; *CPR* 1364–7, 375; 1370–4, 318, 276; *CLBG*, 281, 315.

Holland, John

Sir John Holland, first earl of Huntingdon, duke of Exeter (about 1352–1400), half brother of Richard II, chamber knight, served with John of Gaunt in Brittany in 1378, made Knight of the Garter in 1381, disgraced during Scottish campaign of 1385, constable under John of Gaunt in Spain in 1386 and married his daughter Elisabeth, created earl of Huntingdon in 1388, served in Ireland in 1395, chamberlain 1390–9, warden of the western march toward Scotland and custodian of Carlisle in 1397, served on Richard II's Irish expedition of 1399, imprisoned by Henry Bolingbroke, conspired against him and executed 1400.

E 101/397/10; *ODNB*, xxvii, 674–6.

Hoo, Thomas

Sir Thomas Hoo, escheator of Surrey and Sussex 1347–51, 1356–7.

E 101/392/14; *List of Escheators*, 159; *CCR 1354–60*, 332, 349, 354, 365.

Hungerford, Thomas

Sir Thomas Hungerford, escheator of Wiltshire 1355–7, sheriff of Wiltshire 1355–60, constable of Marlborough Castle.

E 101/392/14; *List of Escheators*, 177; *List of Sheriffs*, 153; *CCR 1354–60*, 247, 255, 348–9, 358, 372, 374; *1360–4*, 6, 16; *CPR 1354–8*, 347.

Husborne, William

William Husborne (Husshburne, Husshbarne, Usborne), king's yeoman in 1345, paid by William Wakefield in 1345, issued with a crossbow in 1345 and with baldricks in 1350.

E 372/198, rot. 34, m. 2d, rot. 35, m. 1, rot. 36, m. 1, rot. 36, m. 1; *CCR 1343–5*, 382, 604.

Huwys, Robert

Robert Huwys, supplied gunpowder 1403–6.

E 101/404/25; not recorded in *CPR*, *CLB* or *CCR*.

John of Gaunt

John of Gaunt, duke of Aquitaine and Lancaster (1340–99), fourth son of Edward III, knighted in 1355, married Blanche daughter of Henry, duke of Lancaster, in 1359, commanded vanguard of Edward the Black Prince's force in Spain at Nájera in 1367, king's captain in France in 1369, married Constanza daughter of Pedro I of Castile in 1371, commanded chevauchée of 1373–4, palace of Savoy burnt during the Peasants'

Revolt of 1381, lieutenant of the marches towards Scotland in 1378, campaigned in Scotland 1381–5, engaged on campaign to secure the throne of Castile 1386–7, lieutenant of Aquitaine in 1388, duke of Aquitaine 1390–5, died 1399, son and heir Henry Bolingbroke.

ODNB, xxx, 174–83.

Joignour, Bodkyn

Bodkyn Joignour, supplied lance heads 1364–78, possibly related to Hugh Lengynour, king's yeoman and keeper of the king's artillery in Calais in 1352, and to Peter Joignour, target maker.

E 101/395/1; not recorded in *CPR*, *CLB* or *CCR*.

Joigner, Peter

Peter Joignour, supplied targets and guns 1372–5, possibly related to Hugh Lengynour, king's yeoman and keeper of the king's artillery in Calais in 1352, and Bodkyn Joignour, lance head maker in 1364–78.

E 101/397/10; no record in *CCR*, *CPR* or *CLB*.

Joiner, Robert

Robert Joiner, supplied pavises 1372–4, possibly Robert Walsingham, joiner of London, or Robert Louth.

E 101/397/10; *CPR* 1367–70, 36; *CCR* 1374–7, 512.

Katherine

Katherine, wife of Walter the king's painter 1344–50, possibly identified with Walter Stockwell, q.v.

E 372/198, rot. 34, m. 1.

Kent, John

John Kent, bottler of Woodstreet, supplied leather quivers 1353–60; a person of this common name is listed in a warrant for arrest along with other London tradesmen in 1336, and another as a vintner in 1363, presumably the same as became gauger of wine in Sheppey for life in 1367.

E 101/392/14; *CPR* 1334–8, 376; 1364–7, 386; *CLBG*, 165.

The mistery of the bottlers was registered with the mayor of London in 1373, with Peter Trent and John Staunford as Masters.

CLBG, 317.

Knight, Henry

Henry Knight, bowyer probably of London, 1338–40.

BL, Add MS 60584, f. 46r; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Knyveton, Ralph

Ralph Knyveton, had an annuity of 100s. in 1361, raised to 10 marks in 1365, served as purveyor of the household, died in 1370 and has a memorial brass in the church of St Michael, Aveley, Essex.

CPR 1361–4, 117; 1364–7, 187; 1367–70, 372; H. Haines, *A Manual of Monumental Brasses* (reprinted Bath, 1970), 52; M.D. Bonfield, *Monuments and Tombstone Inscriptions of St Michael's Church, Aveley, Essex* (n.p., 2007), 6.

Landwath, Andrew

Andrew Landwath, sheriff and coroner of Northamptonshire 1358–9, ‘sick and aged’ by 1360.

E 101/392/14; *List of Sheriffs*, 92; Fuller, *Worthies*, ii, 523; *CCR 1360–4*, 52, 127, 313.

Lane, Walter van der

Walter van der Lane, recorded as a quarrelmaker 1353–60.

E 101/392/14; not recorded in *CLB*, *CCR* or *CPR*.

Langley, William

William Langley, clerk of the king’s chamber, receiver of the chamber 1322–6.

CPR 1327–30, 241; *CCR 1330–3*, 27–8; Tout, *Chapters*, i, 53; ii, 338, 344–6, 348–9; iv, 232, 234, 444; vi, 54.

Lanham, John

John Lanham, longbowstringmaker of London 1360–2.

E 101/392/4; not recorded in *CLBG* or Oxley, *Fletchers*.

Latimer, William

William, fourth baron Latimer (1335–81), knight at Calais by 1351, banneret of the household by 1359, served in the defence of Bécherel castle in 1360, in Brittany until 1368, steward of the household 1368–71, chamberlain 1371–6, constable of Dover Castle 1373–5, tried and convicted of misconduct in 1376 and pardoned the same year, at Sluys in 1377, served with Thomas of Woodstock on chevauchée in 1380, died 1381.

ODNB, xxxii, 643–4; Given-Wilson, *The Royal Household*, 148.

Leget, Helming

Helming (Helmyngus) Leget, king's yeoman, received annuities of the king and various wardships 1358–63, king's sergeant in 1361, receiver of the chamber and keeper of the secret seal 1362–75, entitled esquire in 1369 and permitted to crenellate his house, le Ponde, at Hadleigh in 1371, coroner and clerk of the market of the king's household 1375–7, constable of Windsor Castle in 1374, had ships of his own including the *Katherine Haverlond* in 1366, the *Saintmarie* cog in 1371 and the *Maudelyn* in 1374, wife Margery died in 1378, justice in Suffolk and commissioner of the peace in Middlesex 1382–6.

E 101/398/1; *CPR* 1358–61, 136, 201, 478; 1361–4, 41, 144, 1364–7, 334; 1370–4, 54, 91, 273; 1374–7, 171, 384; 1377–81, 14, 184, 243; 1382–5, 251, 254; *CFR* 1356–68, 178, 205, 236, 251, 254, 349, 352; 1368–77, 2, 50; *Tout, Chapters*, iii, 234, 246; iv, 128, 330–2, 347–8, 466; vi, 56.

Leicester, William

William Leicester, longbowstringmaker of London 1353–60.

E 101/392/4; E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Oxley, *Fletchers*.

Lengynour, Hugh

Hugh Lengynour (le Gynour, le Joinour or Joigneur), king's yeoman, recorded with John Fleet in the privy wardrobe 1334–5, making engines and springalds in the Tower in 1339, given a chess set in 1347, keeper of the king's wardrobe in Calais, also styled keeper of the king's artillery in Calais, in 1353, retired after long service in 1355.

E 101/387/10; E 101/392/4; E 101/392/14; E 372/198, rot. 36, m. 2, rot. 36, m. 1d; Tout, *Chapters*, iv, 412, 476, 483; *CCR 1339–40*, 179; *CPR 1354–8*, 252.

Levedale, John

Sir John Levedale (Lovedale), commissioned to take possession of Hainault, Zeeland, Holland and Friesland inherited by Queen Philippa on the death of her brother William, the late count, in 1345, granted for life 100 marks and at Crécy in 1346.

E 101/392/14; E 372/198, rot. 34, m. 2; *CPR 1343–5*, 555; *1345–8*, 26, 123; Ayton, *Crécy*, 250.

Lien, Peter

Peter Lien, king's yeoman and lancemaker, appointed at 12d. a day with the robes of a yeoman of the household in 1340, supplied banner staves in 1353–60.

E 101/392/14; *CPR 1338–40*, 531.

Lionel of Antwerp

Lionel of Antwerp, duke of Clarence (1338–68), third son of Edward III and Philippa of Hainault, married to Elizabeth de Burgh, daughter of the late third earl of Ulster, in 1342, regent of England 1345–7 during the Crécy–Calais campaign, knighted in 1355, accompanied the king to Calais and to Scotland; lieutenant in Ireland 1362–6, sent with 50 knights, 300 men-at-arms, 540 mounted archers, fought at Drogheda and Meath in 1362, married Violanti Visconti, daughter of the duke of Milan in 1368, died that year.

E 101/392/14; E 372/198, rot. 34, m. 1d; *ODNB*, xxxiii, 950–2.

Lisle, John de

Sir John de Lisle, second baron Lisle, household knight 1338–41, mayor of Bordeaux in 1343, elevated to banneret on the day of Crécy in 1346, founder member of the Order of the Garter in 1348, summoned to parliament in 1350, close advisor of Edward the Black Prince in Aquitaine, died 1358 killed ‘mult merveilousement’ by a crossbow.

E 372/198, rot. 34, mm. 1–2d; *CFR 1337–47*, 352; Shenton, ‘The English court’, 256; Ayton and Preston, *Crécy*, 32.

Littleton, Thomas

Thomas Littleton (Litlyngton alias Prynce), king’s painter, recorded as Thomas Gibonservant Prynce in 1390, painted pavises in 1399 and given protection while travelling to Ireland, the protection revoked in 1402 as he remained in London instead of going to Calais.

E 101/403/20; *CPR 1396–9*, 573; *1401–5*, 95; *CCR 1389–92*, 158.

London, John of

John of London, valet of the king’s armour 1353–60.

E 101/392/14; not recorded in Tout, *Chapters*, not identifiable in *CCR*, *CPR* or *CLB*.

London, Thomas of

Thomas of London, returned a mail shirt, 1360; unlikely to be identified with the king’s clerk, canon of York, Chichester and St Martin le Grand, rector of Mold, rewarded for long service in 1351.

CPR 1350–4, 169.

Loring, Nigel

Sir Nigel (Neil) Loring (about 1315–86), chamber esquire 1334–8, in the retinue of the earl of Salisbury in 1338, equipped with a warhorse valued at £26 6s. 8d. by 1339 in the Low Countries, household knight from 1340, fought at Sluys in 1340, served in the Breton campaign of 1342–3 under Sir Walter Mauny, mission to the pope in 1345, then with Henry, earl of Derby, at Poitou and Saintonge, not at Crécy in 1346 but in the king's retinue at Calais in 1347, one of the original Garter knights 1348–9, close advisor of Edward the Black Prince in Aquitaine, served at Poitiers in 1356, at Najera in 1366, chamber knight from 1378, lived at Chalgrave. Portrait in garter robes, BL Cotton Nero D.vii, f. 105v.

E 372/198, rot. 34, m. 1d, rot. 35, m. 2; *ODNB*, xxxiv, 356–7; Shenton, 'The English court', 257, 259; Ayton, *Knights and warhorses*, 187, 215, 235, 264.

Louis IV, Emperor

Louis IV (Ludwig) the Bavarian (1282–1347), German king and claimant to the Holy Roman Empire from 1314, defeated Frederick the Fair at Mühldorf in 1322, Holy Roman Emperor from 1328, allied with Edward III against Philip VI of France in 1337, entertained Edward at the Imperial Diet in the Kastorkirche at Coblenz in 1338, count of Hainault, Holland, Zeeland and Friesland from 1345, died of a stroke during a bear hunt 1347.

G. Benker, *Ludwig der Bayer, ein Wittelsbacher auf dem Kaiserthron, 1282–1347* (Munich, 1997)

Louth, Roger

Sir Roger Louth, justice in Hertfordshire 1359, sheriff of Essex and Hertfordshire 1358–60.

E 101/392/14; *List of Sheriffs*, 44; *CCR 1354–60*, 547, 661; *1360–4*, 336, 517.

Lowick, John

John Lowick (Loufwyk, Luftwick, Lowyk, called Lowick by Tout ‘because it is the modern form of a recognised place name’), yeoman of the king’s chamber in 1393 alongside Adam atte Wood, first layman to act as keeper of the privy wardrobe 1396–9, called keeper of the king’s secret wardrobe in the Tower with the same robes and furring as Ranulph Hatton; yeoman of the robes before 1398, receiver of the chamber 1398–9.

E 101/403/20; Tout, *Chapters*, i, 54, iv, 330, 336, 462, 466, 475, vi, 37, 57; *CPR 1391–6*, 311; *1396–9*, 61, 668; *CCR 1396–9*, 467; *CFR 1391–9*, 170.

Maire, John

John Maire, bowyer of London, 1378–81.

E 101/400/10; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Makenade, William

William Makenade (Wakenade), sheriff of Kent, 1358–9.

E 101/392/14; *List of Sheriffs*, 68; *CPR 1354–8*, 295; Fuller, *Worthies*, ii, 167.

Malton, William

William Malton, fletcher in the Tower 1338, paid 2d. a day by Nicholas de la Beche, appointed artillerer in 1340 at 8d. a day, to make crossbows and springalds, supervise other craftsmen, based at Windsor.

CCR 1337–9, 556; *CPR 1338–40*, 517.

Malyn, John

John Malyn (Malewayn), citizen and merchant of London, master of the *Cog Johan* (*Yon*) in 1337, collector of the subsidy in Bedfordshire in 1351, master of *Le Michel* in 1352, keeper of the tronage and pesage in the port of London 1350–70 (succeeding Sir Guy Brian, succeeded by Nicholas Ploket), king's esquire by 1373.

E 372/198, rot. 36, m. 1, rot. 36, m. 1d; *CPR 1334–8*, 425, 568; *1348–50*, 448, 557, 571, 578, 593; *1370–4*, 18, 338, 408; *CFR 1347–56*, 196, 316.

Margaret of France

Margaret of France, Queen of England, second consort of Edward I, born about 1279, daughter of Philippe III of France, married 1299, died 1318.

ODNB, xxxvi, 635–6.

Marshall, Gerard

Gerard Marshall (Mareschaut), returned a mail shirt in 1360, janitor of Woodstock manor in 1379.

E 101/392/14; *CCR 1377–81*, 272.

Martin, Simon

Simon Martin (Martyn) master of the *George* of Dover, recorded in 1384 as a mariner taking gold from the *Cristofre* of Stralsund.

E 101/400/22; *CCR 1381–5*, 461.

Mauley, Sir Robert

Sir Robert Mauley, prince Edward's steward from 1314, served in the Roxburgh campaign of 1334–5 (mentioned with Sir Guy Brian), and at Crécy in 1346.

E 372/198, rot. 34, m. 2d; Ormrod, *Edward III*, 9, 43; Ayton and Preston, *Crécy*, 211, 248.

Mendham, Thomas

Thomas Mendham, bowyer of London, Lincoln or York 1353–60.

E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Megson, *Such Goodly Company*.

Michel, Roger

Roger Michel, escheator of Nottinghamshire and Derbyshire 1355–6, sheriff of Nottinghamshire 1357–8, justice in 1357.

E 101/392/14; *List of Sheriffs*, 103; *List of Escheators*, 109; *CCR 1354–60*, 164, 245, 254, 263, 265, 285, 353; *CPR 1354–8*, 362, 397, 403, 472, 551, 648.

Mildenhall, Robert

Robert Mildenhall (Mildenhale), chamber clerk, keeper of the privy wardrobe 1344–53, receiver of the chamber 1346–53, keeper of the changes at the Tower from 1349 succeeding John Horton, presented the church of Birchanger in London in exchange for St John, Craneford, Northamptonshire in 1354.

E 372/198 rots. 34–36; *CPR 1354–8*: 89; *CFR 1347–56*, 89, 140, 358, Tout, *Chapters*, iv, 258–9; Burt, ‘Extracts’; Tout, ‘Firearms in England’, 668–70.

Milemete, Walter

Walter Milemete, author of *De nobilitatibus, sapientiis et prudentiis regum*, 1326–7.

British Library Add. MS 47680, f. 44v; Christ Church Oxford MS 92, f. 70v; Blackmore, *Ordnance*, 1; Tout ‘Firearms in England’, 1968 ed., pl. 1–2.

Miners, William

William Miners, king's serjeant at arms, sent to keep the peace at Baldock and issued with bows and arrows accordingly in 1343.

E 372/189, rot. 43; *CPR 1343–5*, 172.

Molling, John

John Molling, gunfounder of Cornhill 1382–8; conceivably John Molynton, recorded in dispute with another citizen of London in 1398, and in 1399 given protection to travel to Ireland, but he was from Cheshire and appointed steward of Menai in 1394.

E 101/400/22; *CCR 1385–9*, 296; *CPR 1391–6*, 492; *1396–9*, 305, 540.

The masters of the founders at this time were Hugh Baron and John Redhode, succeeded in 1391 by Thomas Grace and Robert Neuman, and in 1392 by Thomas Page and John Cappe.

CLBH, 356, 369, 389.

Molyns, John

Sir John Molyns accompanied Prince Edward to France as a squire in 1325, and acted as auditor of the privy wardrobe from 1327. He acquired the manor of Stoke Poges by dubious means, and, under the patronage of William Montagu, was knighted by 1334. He served as a household knight in the Dunbar campaign of 1338 and undertook various royal missions to the Low Countries. Charged in 1340 with 'rebellion', he absconded, but received a royal pardon in 1345, served in the Crécy campaign of 1346–7, became steward of Queen Philippa's household in 1352, was charged in 1357 and this time convicted of various felonies, and imprisoned in Nottingham Castle until his death in 1361. Tout remarks that 'no other official of Philippa's had a reputation so unsavoury'. His property was confiscated by Montagu,

his old patron, and by the king in person at St Albans.

E 372/198, rot. 34, m. 1d, rot. 36, m. 2; BL, Add. MS 60584, f. 1r; N. Fryde, 'A medieval robber baron: Sir John Molyns of Stoke Poges, Buckinghamshire', in *Medieval Legal Records* ed. R.F. Hunnisett and J.B. Post (London, 1978), 197–221; Shenton, 'The English court', 254, 262; Tout, *Chapters*, v, 258; *ODNB*, xxxviii, 537–8.

Montfort, John

John Montfort, duke of Brittany from 1341 until his death in September 1345, fought in the Breton War of Succession for his right to the title against his niece Joanna of Penthièvre and her husband Charles of Blois, supported by Edward III.

E 372/198, rot. 34, m. 1d; *CFR 1337–47*, 270; Ayton and Preston, *Crécy*, 261.

Morele, Henry

Henry Morele, armourer of London 1345.

CCR 1343–6, 652.

Morley, Robert

Robert second lord Morley (1295–1360), fought at Boroughbridge in 1322, Halidon Hill in 1333, justice in Norfolk in 1338, admiral of the northern fleet 1339–42 and 1355–60, at Sluys in 1340, Crécy in 1346, justice in Norfolk in 1354, constable of the Tower 1355–6.

CFR 1337–47, 136, 233; *CCR 1354–60*, 248; *CPR 1354–8*, 275; *ODNB*, xxxix, 236–7; Ayton and Preston, *Crécy*, 201, 218, 225, 244.

Morris, John

John Morris, supplier of gunpowder 1403–6. He may have been a grocer: a John

Morris (Morys, Morice) of London is recorded inheriting from his father William in 1389, in payment of a debt with pepper and cumin in 1390, married Agnes, daughter of Richard Blount in the same year, and was cited as an aged grocer in 1411.

E 101/404/25; *CLBH*, 341; *CLBI*, 95; *CCR 1389–92*, 214, 324; *1392–6*, 149.

Morris, William

William Morris (Morys), bowmaker and member of a commission of Henry IV to dispose of defective arms in the Tower in 1399. Whether he is connected with John Morris (q.v.) or a scribal error for the same person is unknown.

E 101/404/4; *CPR 1399–1401*, 214; Megson, *Such Goodly Company*, 30.

Mortimer, Roger

Roger Mortimer, first earl of March (1287–1330), fought in Ireland 1308–20, justiciar there 1319–21, one of the marcher lords allied with earl of Lancaster against the Despensers 1321–2, imprisoned in the Tower 1322–3, joined with Queen Isabella and led her forces back into England in 1326, made earl of March in 1328, arrested by a group of conspirators including the earl of Salisbury and John Molyns, returned to the Tower, tried and executed in 1330; inventory of his confiscated goods at Wigmore 1322.

BL, Add. MS 60584; ‘Inventory of the effects of Roger de Mortimer’; *ODNB*, xxxix, 396–402.

Moseley, Richard

Richard Moseley (Mosele, Musele, Musle), king’s clerk, constable of Pontefract Castle 1322–5, of Conisbrough, Sandal and Wakefield Castles 1325–8.

CCR 1318–23, 596; *1323–7*, 12, 28, 81, 93, 104, 141, 245–8, 463; *1327–30*, 59, 67, 127, 261; *CPR 1324–7*, 60.

Mountelbergh, John

John Mountelburgh, quarrelmaker 1353–60.

E 101/392/14, not recorded in Oxley, *Fletchers*, *CBLG*, *CPR* or *CCR*.

Moye, William

William Moye, armourer of London 1358–64.

CCR 1354–60, 519.

Musard, John

Sir John Musard (Mursard), justice in Worcester in 1354, sheriff of Staffordshire in 1351 and 1361.

E 101/392/14; *List of Sheriffs*, 127; *CCR 1360–4*, 54, 252; *CPR 1354–8*, 59–60.

Nesle, Raoul de

Raoul de Nesle, comte d'Eu and Guines, constable of France, commanded the French left at Courtrai in 1302.

Verbruggen, *The Art of Warfare*, 192–3; 'A knight's armour of the early XIV century', ed. Kelly, 468.

Nief, John

John Nief (Neve), king's serjeant, porter of Hadleigh Castle under Edward III and Richard II 1376–81, issued with lances and crossbows in 1378, granted 3d. a day for life in 1381.

E 101/397/19; E 101/398/1; *CPR 1374–7*, 350, 469; *1377–81*, 235, 607; *CFR 1377–83*, 157, 194.

Norbury, John

Sir John Norbury, born in the 1350s, fought in Portugal at Aljuberotta in 1385, joined Henry of Derby on the Prussian crusade of 1390, becoming the 'wise and wealthy esquire' of Henry IV, treasurer of the exchequer 1399–1401, keeper of Leeds Castle in 1399, keeper of the privy wardrobe 1399–1405, died 1414.

E 101/404/4; E 101/404/6; E 101/404/17; E 101/404/25; E 101/697/1; Tout, *Chapters*, iv, 56, 61, 480; vi, 24; Steel, 'English government finance', 578; M. Barber, 'John Norbury (c. 1350–1414): an esquire of Henry IV', *EHR*, 68 (1953), 66–76; *ODNB*, xli, 2.

Northburgh, Roger

Roger Northburgh, clerk in the wardrobe 1310–11, keeper of the privy seal 1312–16, keeper of the wardrobe 1316–22, bishop of Coventry and Lichfield 1321–58, treasurer in 1340, dismissed on Edward III's return from the Continent, died in 1358.

Tout, *Chapters*, ii, 24, 270–2, 286; vi, 9; *ODNB*, xli, 132–3.

Norwell, William

William Norwell (fl. 1311–52), clerk of Queen Isabella's kitchen 1311–12, clerk in the king's household 1312–14, cofferer of the wardrobe 1331–4, keeper of the great wardrobe 1335–7 and 1338–40, controller of the wardrobe 1337–8, second baron of the exchequer 1340–52, died by 1357.

Tout, *Chapters*, iii, 53, 87–8; iv, 78–80, 89, 95–6, 102, 106, 236, 374, 381, 395–6, 402, 441; vi, 27, 29, 31, 36; *ODNB*, xli, 197–8.

Ordemer, John

John Ordemer, keeper of Dover Castle in 1325.

E 101/17/13; *CPR 1324–7*, 209; *CCR 1323–7*, 346, 371, 638.

Orleton, Adam

Adam Orleton, king's clerk in 1307, on various diplomatic missions for Edward II 1307–21 and Edward III 1327–31, prebendary of Wells 1310, bishop of Hereford from 1317, bishop of Winchester from 1327, accused of supporting the Marcher lords and aiding Roger Mortimer's escape from the Tower, his temporalities confiscated, treasurer in 1327, sent with Roger Northburgh of Lichfield to claim the French crown for Edward III in 1328, alleged author of the scurrilous *Libellus Famosus* because of his animus against John Stratford, died and his goods seized by the king in 1345.

E 372/198, rot. 34, m. 2, rot. 34, m. 1d; *CPR 1343–45*, 526, 538; Tout, *Chapters*, iii, 8, 13, 16–17, 109, 128; vi, 21; *ODNB*, xli, 934–6; R. M. Haines, *The Church and Politics in Fourteenth-century England: the Career of Adam Orleton* (Cambridge, 1978).

Padbury, John

John Padbury, king's yeoman, bailiff of east and west Medina, Isle of Wight, in 1341, given houses by the king formerly belonging to Richard Karliolo, tailor, and Richard Tripot, 'corsour' in 1345, witness with others including Sir Guy Brian to a land agreement in 1347, exchequer clerk 1348 receiving 1d. per writ at the king's and common benches, keeper of the priory of St Cross, Newport, Isle of Wight, in 1351.

E 101/392/14; E 372/198, rot. 34, m. 2; *CPR 1343–5*, 545, 562; *1345–8*, 570; *1350–4*, 109; *1354–8*, 455, 498; *CFR 1347–56*, 89.

Palshide, John

John Palshide, supplied quarrels 1374–8.

E 101/398/1; not recorded in Oxley, *Fletchers*, *CCR* or *CPR*.

Patyn, John

John Patyn, bowyer and fletcher of London 1353–75, lived and worked on the Southwark side of London Bridge, warden of the fraternity of Salve Regina in the parish of St Magnus, in 1371 obliged to choose between the bowyers' and newly-formed fletchers' companies, in 1375 sold bowstaves contrary to the ordinance between the bowyers and fletchers and fined 40s., died in that year.

E 101/392/14; E 101/394/14; E 101/398/1; Megson, *Such Goodly Company*, 25–6; Oxley, *Fletchers*, 13, 98; Riley, *Memorials*, 348–9.

Payne, John

John Payne, armourer of London 1369–74.

CCR 1369–74, 86, 474, 573; 1374–7, 77–8, 101.

Peletta, Louis

Louis Peletta, merchant of Asti in 1340.

Not recorded in *CCR* or *CPR*.

Presumably one of the group including Conrad de Valscar, Peter Provane, Nicholas de Roys, James Moigne and their fellows merchants of Asti in Italy, Matthew Canaceon and Tisard Garat of the society of the Leopardi.

CPR 1334–8, 554; 1338–40, 19, 384; *CCR* 1339–41, 13, 32, 117, 217, 256, 283, 419, 429, 463, 572, 599.

Pembridge, Fulk

Sir Fulk Pembridge (about 1291–1325), commissioner of array in Shropshire 1323–4.

CPR 1321–4, 264; *1324–7*, 8, 55, Prestwich, *Armies and Warfare*, 26–7.

Pembridge, Richard

Sir Richard Pembridge (about 1320–75), chamber knight, fought at Crécy and Poitiers, custodian of Southampton Castle from 1361, constable of Bamburgh Castle from 1367, elected to the Order of the Garter in 1368, constable of Dover Castle and warden of the Cinque Ports 1370, purchased from Ralph Spigurnell, refused appointment as lieutenant in Ireland 1372, disgraced, died in 1375, monument in Hereford cathedral, great helm in National Museums of Scotland, Edinburgh.

ODNB, xliv, 511–12; Given-Wilson, *The Royal Household*, 280–1.

Petersfield, Thomas

Thomas Petersfield, valet of the king's arms 1345–53.

E 372/198, rot. 36, mm. 1, 2; Tout, *Chapters*, iv, 448.

Philippa of Hainault

Philippa of Hainault (1310/15–69), queen of England, married Edward III in 1328, her brother William was injured at a tournament at Eltham in 1342, then died without issue in 1345 and Edward pursued claims on Philippa's behalf for claims in Holland, Hainault and Zeeland, ruled against by the estates of Hainault and Holland.

E 101/392/14; Tout, *Chapters*, v, 250–60; *ODNB*, xliv, 34–8.

Pippishull, Robert

Robert Pippishull, surveyor of works at York, in the Palace of Westminster and the

Tower of London in 1328.

E 101/17/6; *CPR 1327–30*, 230.

Podenhall, John

John Podenhall (Podenhale), purveyor for the household in 1331, king's serjeant in 1332, served in Calais capturing a French noble in 1350, granted £20 a year in 1352, supplier of leather 1353–60, citizen and woodmonger of London 1354–60, recorded conveying timber on the Thames in 1365.

E 101/392/14; *CPR 1330–4*, 89, 249; *1348–50*, 547, 558; *1350–4*, 234; *CCR 1354–60*, 60–1; *1360–4*, 118; E.W. Brayley and J. Britton, *The History of the Ancient Palace and Late Houses of Parliament at Westminster* (London, 1836), 195.

Pole, Richard de la

Richard de la Pole, merchant and king's serjeant at Hull, chief butler, collector of customs at Hull and collector of customs on wine in 1327, keeper of the exchanges of London, Dover, Yarmouth, Boston and Hull in 1335, brother of William de la Pole.

CCR 1323–7, 246–8; *1343–6*, 289; *CFR 1327–37*, 5, 33, 45, 56, 459; E.B. Fryde, *William de la Pole: Merchant and King's Banker* (London, 1988).

Pouchmaker, Tysell

Tysell Pouchmaker, supplier of baldricks 1374–8.

E 101/398/1; otherwise unrecorded.

Prentish, John

John Prentish, supplied crossbow staves 1353–60. A mercer of the same name

(Prentiz, Prentys) is recorded (alias John Kyng) in 1350, a fuller and a draper in 1376, and a fletcher, Thomas Prentis, active early in the fifteenth century, is perhaps related. A person of the same name from Hertford, 'of the king's suit' in 1356 may be the same man.

E 101/392/14; *CLBF*, 222; *CLBH*, 37, 43; *CPR 1354–8*, 381; *CFR 1399–1405*, 164.

The name is common, and there are examples in York and Worcester at this time.

CPR 1343–5, 98, *1345–8*, 118; *1348–50*, 249.

Pykebussh, Robert

Robert Pykebussh, supplied quarrels 1374–8; otherwise only known for an action for trespass taken against him in 1359 by Henry Ede 'arrowsmith'.

E 101/398/1; *CPR 1358–61*, 252.

Ram, John

John Ram, involved in recovery of cattle in 1343, theft at Dartford in 1345, master of the *Katherine* in 1352, master of the *Alice* in 1355, ordered to arrest a ship loaded with herrings in 1357, robbed in 1365 and in 1373 accused of ravishing Sibyl, wife of Thomas Leyf of Stokenham. Several ships called the *Katherine* appear in the king's service from 1338; in 1351 the master of one, possibly the same one, was Henry Bile.

E 372/198, rot. 36, m. 1, rot. 36, m. 1d; *CPR 1334–8*, 536, 543, 568; *1338–40*, 491–2, *1340–3*, 440; *1343–5*, 76, 423; *1350–4*, 69; *1354–8*, 280, 656; *1358–61*, 185; *1370–4*, 308; *CFR 1356–68*, 57.

Ratlesden, John

Sir John Ratlesden, sheriff of Norfolk and Suffolk 1358–60.

E 101/392/14; *List of Sheriffs*, 87; *CCR 1360–4*, 94, 131, 251.

Redenese, William

William Redenese, recorded as a clerk in London in 1366, victualler of Calais, 1365–70.

CCR 1364–9, 212.

Rempston, Thomas

Sir Thomas Rempston, knighted in the 1380s, served with John of Gaunt in Spain in 1386, in service with Henry Bolingbroke from 1389, served as his standard-bearer on the Prussian expedition of 1390–1, constable of the Tower 1399–1404 at £100 a year, chamber knight from 1399, steward of the royal household 1399–1401, king's admiral in the west 1401–3, accompanied Joan of Navarre from Brittany to England in 1403, died in 1406.

Payling, *Political Society*, 121–4; Given-Wilson, *The Royal Household*, 287; *ODNB*, xlvii, 459–60; *CPR 1399–1401*, 371, 519; *1401–5*, 285, 432; *1405–8*, 260.

Repelyn, Herman

Herman Repelyn (Reple), merchant 1351–3, authorised to export cheese in 1352.

E 372/198, rot. 36, m. 1; *CCR 1349–54*, 454.

Roches, John

Sir John Roches (Roche), escheator in Wiltshire in 1373, active in diplomacy in

Béarn in 1378, admiral of the fleet in the south and west (or west and north) 1382–9, keeper of Marlborough Castle and Savernake Forest from 1381, captain of Brest 1386–8, collector of subsidies in Wiltshire in 1389, sheriff in 1390.

CCR 1385–9, 246, 333, 343, 541, 542, 590; *CPR* 1381–5, 260; 1385–9, 292, 302, 380, 422, 483; *CFR* 1368–77, 239; 1377–83, 257, 297, 330; 1383–91, 137, 341; Tout, *Chapters*, iii, 455; Sumption, *Divided Houses*, 313, 317.

Roger, William

William Roger of Limburg, 1324.

E 101/17/6; not recorded in *CCR* or *CPR*.

Rokeby, Thomas

Sir Thomas Rokeby, knighted by Edward III on the Weardale campaign of 1327, sheriff of Yorkshire 1335–7 and 1342–9, constable of Stirling Castle 1336–42, fought at Neville's Cross in 1346, escorting King David II to the Tower, justiciar of Ireland 1349–55 and 1356–7, campaigning against the Leinster Irish, died in Kildare in 1357.

E 101/392/14; E 372/198, rot. 36, m. 1d; *List of Sheriffs*, 161; R.F. Frame, 'Thomas Rokeby, sheriff of Yorkshire, the custodian of David II', *The Battle of Neville's Cross, 1346*, ed. D. Rollason and M. Prestwich (Stamford, 1998), 50–6; *ODNB*, xlvii, 602–4.

Rolleston, Thomas

Thomas Rolleston (Roldestone), clerk of the king's chamber working under Robert Mildenhall in the privy wardrobe in 1345, in charge of gunpowder making at the Tower in 1346, and shipments to Calais in 1347, acted as pavillioner when Yaxley

was promoted to the great wardrobe; issued with bows in 1353.

E 372/198, rot. 34, mm. 1, 2, rot. 34, mm. 1, 2d, rot. 35, mm. 1, 2, rot. 36, mm. 1, 2, rot. 36, m. 1d; Tout, *Chapters*, iv, 453, 470, 475, 478.

Rothwell, William

William Rothwell, exchequer clerk, clerk of the moneys at the Tower in 1344, serving as the Warwick or 'Beauchamp' chamberlain 1350–4, archdeacon of Essex from 1351, keeper of the privy wardrobe, receiver of the chamber and keeper of the mint and exchange in the Tower 1353–60; given church of Byfield, Lincolnshire, 1354, keeper of Woodstock, died 1361, memorial brass in Holy Trinity Church, Rothwell, Northamptonshire. He was appointed 'to take in London and elsewhere as many armourers, "fleccheers", smiths and other artificers and workmen as are required for the works of armour, bows, bow-strings, arrows, arrow-heads... to buy and fell timber and wood fit for making arrows for a reasonable price ... also to buy 1000 bows, painted and white, 10,000 sheaves of good arrows and 1000 sheaves of the best arrows, with heads hard and well steeled, for the archers appointed for the king's body, 100 gross of bow-strings and twenty-four "haucepees" for drawing crossbows, and feathers of the wings of geese and other necessaries pertaining to his office of the wardrobe and the mistery of the said flecchers and other workmen; to have armouries (*almorias*), quivers and chests in the Tower for the storing and safe keeping of the bows, arrows and strings, and plates for the king's mariners, made out of all the old armour and other harness.'

E 101/392/14; E 372/198, rot. 36, mm. 1, 2, rot. 36, m. 1d; *CPR 1354–8*, 11–2; *1358–61*, 323; *CFR 1347–56*, 315, 358, 381; *1356–68*, 128, 168; Tout, *Chapters* i, 54; iii, 179; iv, 163, 258–9, 280, 290, 302, 307, 312, 412, 442, 454–

7, 462–3, 466–7, 469–71, 477–8; vi, 37; W.M. Ormrod, ‘The Protecolla Rolls and English government finance 1353–64’, *EHR*, 102 (1987), 626; Haines, *Manual of Monumental Brasses*, 160.

Rudolph IV

Rudolph IV of Hapsburg, duke of Austria, Carinthia and Ferette (1339–65), buried in the Stefansdom, Vienna.

W. Baum, *Rudolf IV der Stifter: seine Welt und seine Zeit* (Vienna, 1996).

Sadeler, Godfrey

Godfrey Sadeler supplied targets (shields) 1372–4; identifiable with Godfrey of Nymay (Nijmegen), a German who by 1365 was well established as a London saddler.

E 101/397/10; *CPR 1361–4*, 523; *1364–7*, 121.

Several German saddlers are recorded in London at this time, Rumbald Budde, William Clavering, Ulric of Constance and John of Bonne.

CPR 1374–77, 422.

St Clere, Guy

Sir Guy St Clere (Seintclere), escheator of Cambridgeshire and Huntingdonshire 1348–51, 1352–4, escheator of Norfolk and Suffolk 1355–7, sheriff of Norfolk and Suffolk 1355–8.

E 101/392/14; *List of Sheriffs*, 87; *List of Escheators*, 12, 85; *CCR 1354–60*, 11, 16–17, 24, 29, 95, 266, 273, 281, 291, 286, 358, 668, 419; *CPR 1354–8*, 375, 391, 397, 401, 456, 524; Gorski, *Sheriff*, 62, 168.

Salford, Peter

Peter Salford, escheator of Bedfordshire and Buckinghamshire 1354–56, keeper of the lands of Sir John Molyns, justice in 1360, knight of the shire for Bedfordshire 1361–3.

E 101/392/14; *List of Escheators*, 3; *CCR 1354–60*, 128, 130, 137, 149, 153, 164, 245, 247, 259, 263, 271; *1360–4*, 52, 123, 130, 251, 546; *1364–9*, 86, 271, 387; *1369–74*, 77.

Salman, John

John Salman, merchant of London, co-owner of a ship with John Goldbeter loaded at Nantes with cargo for Flanders in 1359, appointed to make purveyances for the household in their voyage overseas in 1370, held with wife Bartholomea a tenement in Calais 1376, received indemnity for purchases for the king from a Spanish ship in 1377.

E 101/394/14; E 372/198, rot. 34, mm. 1–2d; *CPR 1358–61*, 276; *1364–7*, 375; *1367–70*, 162, 372; *1374–7*, 372; *1377–81*, 30.

Saunderstede, John

John Saunderstede, sheriff of Warwickshire and Leicestershire 1346–51.

E 372/198, rot. 36, m. 1; *List of Sheriffs*, 145; *CPR 1348–50*, 591.

Scarlet, Stephen

Stephen Scarlet, master of the *Trinité* in 1347, surveyor and controller of Rotherhithe Manor 1362–76, king's servant with an annual grant of 100s. 'for long service' 1361–76.

E 101/394/14; *CPR 1345–8*, 282; *1358–61*, 569; *1364–7*, 414, 427; *1374–7*, 358; *CFR 1368–77*, 265.

Seder, Stephen

Stephen Seder (Sethere), fletcher of London, warden or master of the fletchers in 1386, of a commission of Henry IV to dispose of defective arms in the Tower in 1399, still active as a fletcher in 1402.

E 101/403/20; E 101/404/4; *CPR 1399–1401*, 214; *CFR 1399–1405*, 164; Megson, *Such Goodly Company*, 30; Oxley, *Fletchers*, 14, 103.

Sentlo, John

Sir John Sentlo (Seynt Lo, Sancto Laudo) the elder, escheator and sheriff of Somerset and Dorset 1355–6.

E 101/392/14; *List of Escheators*, 134; *List of Sheriffs*, 123; *CCR 1354–60*; 208, 252, 299, 302–3, 440; *CPR 1354–8*, 386.

Serle, John

John Serle, valet of the king's arms 1345–53, valet or yeoman of the privy wardrobe 1353–60.

E 372/198, rots. 34, 36; *CCR 1354–60*, 574; Tout, *Chapters*, iv, 448.

Serre, John

John Serre, merchant of Asti 1340.

Not recorded in *CCR* or *CPR*.

Presumably one of the group including Conrad de Valscar, Peter Provane, Nicholas de Roys, James Moigne and their fellows merchants of Asti in Italy, Matthew Canaceon and Tisard Garat of the society of the Leopardi.

CPR 1334–8, 554; *1338–40*, 19, 384; *CCR 1339–41*, 13, 32, 117, 217, 256, 283, 419, 429, 463, 572, 599.

Septvans, William de

Sir William Septvans (Setvans, Septem Vannis, Sevaunz), son of Sir Robert, sheriff in Kent and keeper of Canterbury Castle, 1320–1, owed William Garton £10 10s. in 1322, died soon after, brass of about 1323 in the church of St Mary the Virgin, Chartham, Kent.

List of Sheriffs, 67; *CFR 1319–27*, 20, 65; *CCR 1318–23*, 359, 691; Coales, *The Earliest English Brasses*, 83–8 (the Setvans style).

Sheen, John

John of Sheen, supplied leather baldricks 1353–60.

E 101/392/14. Not recorded in *CPR*, *CCR* or *CLBG*.

Sholdham, Reginald

Reginald Sholdham, customs inspector in the port of London 1356–68, ordered to bring all bows, bowstrings and arrows arrested by him to William Rothwell in the Tower in 1358, called variously searcher for uncustomed or uncocketed wool, inspector of ships and inspector of the king's forfeitures.

E 101/392/14; *CCR 1354–60*, 215; *1364–69*, 412; *CFR 1356–68*, 27, 192, 246, 282, 309.

Sleaford, John

John Sleaford, king's clerk, clerk of the great wardrobe 1359–65, clerk of works at the Tower in 1362, keeper of the privy wardrobe 1365–78, commissioned in 1369 to

bring fletchers, smiths for making arrow heads, bowyers, armourers and furbishers to the Tower, keeper of the great wardrobe 1371–8.

E 101/395/1; E 101/397/19; E 101/398/1; *CPR 1367–70*, 240; *CCR 1360–4*, 362; *CFR 1356–68*, 300; *1368–77*, 138, 309; *1377–83*, 11, 50–1; Tout, *Chapters*, iii, 234; iv, 374–5, 384–5, 387, 458–9, 463–4, 466–8, 475, 483; vi, 36, 37.

Smith, Stephen

See Stephen atte Mersh.

Snaith, Henry

Henry Snaith (Snayth), clerk of the privy wardrobe in 1359, keeper of the privy wardrobe 1360–5, keeper of the great wardrobe 1361–71, chancellor of the exchequer.

E 101/394/14; *CCR 1354–60*, 574; *CFR 1356–68*, 128, 162, 264, 283; Tout, *Chapters*, ii, 101; iv, 163, 374, 384, 428, 435–6, 442, 457–8, 482; vi, 36–7.

Snell, William

William Snell, king's armourer in the Tower in 1377–95, paid 12d. a day; the constable of the Tower was instructed at the same time to provide him with rooms in which to live and work.

E 101/398/1; *CPR 1377–81*, 21, 61; *1391–6*, 80; Tout, *Chapters*, iv, 475.

Snetesham, Thomas

Thomas Snetesham, king's clerk, presented to the parish of Ruston, Lincolnshire, in 1334, of Freshwater, Isle of Wight, in 1337, clerk of king's ships and barges by 1337, commissioned to investigate uncocketted ships in the Thames in 1339, loading

wool onto the king's ships in the same year, pardoned in 1357 for losing his rolls and memoranda when English ships were taken by the French at Zeeland in 1338.

E 101/388/1; *CPR 1334–8*, 4, 413, 507; *1338–40*, 143, 368; *1354–8*, 608; *CFR 1337–47*, 153; Tout, *Chapters*, iv, 308, 446.

Somer, Henry

Henry Somer (Sumner), king's servant from 1384, collector of customs at Southampton 1397–9, keeper of Felsted Manor and rectory, Essex, in 1397, keeper of the privy wardrobe 1405–7, baron of the exchequer 1407–10, chancellor of the exchequer 1410–39, from 1411 keeper of the mint and exchange at the Tower, died 1450.

E 101/405/4; E 101/405/10; *CFR 1391–9*, 234, 245, 276; Tout, *Chapters*, iv, 477, 480; v, 109; *ODNB*, li, 558–9.

Spronge, Gerard

Gerard (Heretus, Gerland) Spronge, king's gunner, commissioned to move the king's guns and crossbows (four crossbows, a thousand quarrels with heads and two chests for carrying the same, 100 lb. of gunpowder, 24 stones for guns, 6 lb. of thread for crossbow strings and windlasses, one shovel, one spade, one hoe, one hammer and one pair of pincers) to Wales 1401, supplied gunpowder, allowed £20 a year for life in 1406 and took over responsibility for the armoury in the Tower.

E 101/404/25; E 364/49, m. 3; *CPR 1405–8*, 60; *CCR 1399–1402*, 379, 543; *1405–9*, 42; Given-Wilson, *The Royal Household*, 85.

Sprotbrough, John

John Sprotbrough, bowyer of London, Lincoln or York 1353–60.

E 101/392/14; not recorded in *CCR*, *CPR* or Megson, *Such Goodly Company*.

Spugot, Thomas

Thomas Spugot, returned arms in 1337. No-one of this name appears in any of the usual sources, but possibly this is Sir Thomas Spigurnel, king's yeoman, later esquire, wife Katherine, attorney for Robert Spigurnel 1337, undertook investigation and arrest 1345, pardoned for failing to appear with accounts as receiver in 1346, justice in Bedford from 1349, died in 1374.

E 101/388/1; *CFR* 1337–45, 232, 299; *CPR* 1327–30, 101; 1343–5, 494, 497; 1345–8, 203; 1348–50, 383; 1354–8, 440; 1374–7, 61.

Stanley, John

Sir John Stanley (about 1350–1414), served under Robert de Vere in Ireland in 1386, justiciar 1389–91, controller of the wardrobe 1397–9, captain of Roxburgh 1396–8, accompanied Richard II to Ireland in 1399, at the battle of Shrewsbury in 1403, wounded in the throat, lord of the Isle of Man and elected a knight of the Garter in 1405, constable of Windsor Castle in 1409, lieutenant of Ireland in 1413, died in Louth in 1414.

E 101/403/20; Tout, *Chapters*, iv, 50–1, 54, 63, 198–200, 202, 223; vi, 30; *ODNB*, lii, 226–7.

Stapleford, Thomas

Thomas Stapleford (Stapelford), king's clerk, controller of the mine at Birland, Devon in 1333, surveyor of works at Westminster and the Tower 1348–55, chaplain of the king's chapel of St Stephen at Westminster 1336–56, died in 1361.

E 372/198, rot. 36, m. 2, rot. 36, m. 1d; *CPR* 1330–4, 452; 1334–8, 316; 1348–50, 449; 1350–4, 128, 430; 1354–8, 275; 1358–61, 537.

Stapleton, Walter

Walter Stapleton (Stapledon), bishop of Exeter, 1307–26, treasurer of the exchequer 1320–5, implemented stringent fiscal policy, founder of Exeter College, removed from office for avarice and corruption, but closely associated with King Edward II and consequently murdered by London mob in 1326.

Tout, *Chapters*, ii, 207–21, 258–67, 300, 311, 342–3; iii, 19, 36; iv, 77, 227, 430, 436, 463; vi, 21; M. Buck, *Politics, Finance and the Church in the Reign of Edward II* (Oxford, 1983), 170–97.

Steern, Adam

Adam Steern, issued with bows in 1352.

E 372/198, rot. 35, m. 1; not recorded in *CCR* or *CPR*.

Stockwell, Walter

Walter, the king's painter 1344–50, wife Katherine; probably Walter Stockwell, painter, whose daughter Agnes was placed under the guardianship of Thomas Burnham, painter, in 1350.

E 372/198, rot. 34, m. 1; *CLBF*, 229; not recorded in *CPR* or *CCR*.

Stoke, Thomas

Thomas Stoke (Stokke), sheriff of Warwickshire and Leicestershire 1354–66, sheriff of Worcestershire 1358–62.

E 101/392/14; *List of Sheriffs*, 145, 157; *CPR 1354–8*, 397; Gorski, *Sheriff*, 169.

Stoke, William

William Stoke, fletcher of London or Lincoln, 1353–60.

E 101/392/14; not recorded in *CCR*, *CPR*, *CLB* or Oxley, *Fletchers*.

Stow, Richard

Richard Stow, armourer 1372–4; otherwise unattested, though a Richard Armurer was signatory to a London lease in 1369.

E 101/397/10; *CLBG*, 217; not recorded in *CCR* or *CPR*.

Strenger, Randolph

Randolph Strenger, longbowstringmaker in 1399.

E 101/403/20; not recorded in Oxley, *Fletchers*.

Stringer, John

John Stringer, longbowstringmaker 1374–8.

E 101/398/1; not recorded in Oxley, *Fletchers*.

Strynger, Thomas

Thomas Strynger, longbowstringmaker of London, 1353–60.

E 101/392/14; not recorded in Oxley, *Fletchers*.

Strynger, William

William Strynger, three longbowstringmakers, one of London, recorded 1353–60, one from Oxford 1374–8, and a third of 1399.

E 101/392/14; E 101/398/1; E 101/403/20; not recorded in Oxley, *Fletchers*.

Stukeley, Nicholas

Sir Nicholas Stukeley (Stukele, Styuecle), justice and escheator in Cambridgeshire and Huntingdonshire, 1356–7, sheriff of Cambridge and Huntingdon 1356–60. The

error in the name, which appears as Richard in the account, is scribal.

E 101/392/14; *List of Escheators*, 12; *List of Sheriffs*, 12; *CCR 1354–60*, 270, 341, 348, 369, 374, 379; *1360–64*, 251, 404; *CPR 1354–8*, 580, 652.

Sweyn, John

John Sweyn, returned a mail shirt in 1360. Possibly Sir John Swynle, who served on the Reims campaign 1359–60. The context, however, suggests a group of the king's servants.

E 101/392/14, not recorded in *CCR* or *CPR*; Ayton, *Knights and Warhorses*, 266.

Swift, Richard

Richard Swift, king's carpenter in 1372, commissioned to take carpenters to repair castles in Wales in 1375, active in 1379 as a carpenter.

CPR 1374–7, 106; *CFR 1377–83*, 123, 125, 179.

Swynley, William

William Swynley, armourer, king's helmetmaker, probably appointed after 1371, died in 1375 and succeeded by Richard Glover. The under-constable Walter Chippenham was accused of his death, but pardoned.

E 101/397/10; *CPR 1374–7*, 95, 106, 401; *CCR 1374–7*, 223–4.

Tamworth, William

William Tamworth, clerk of the chamber 1345, presented with the church of Soulbury, Buckinghamshire, in 1346.

E 372/198, rot. 34, m. 2, rot. 34, m. 2d, rot. 35, mm. 1, 2; *CPR 1345–48*, 127; Tout, *Chapters*, iv, 453.

John Tamworth is better known and probably related.

CCR 1341–3, 114, 132, 272, 339; *1343–6*, 46, 79, 161, 210, 249, 338.

Tany, John

John Tany, armourer of London in 1345.

CCR 1343–46, 548.

Taunton, Richard

Richard Taunton, called ‘librarian’ at Windsor Castle, presumably served under Sir Simon Burley as constable 1377–84.

E 101/398/1; E 101/397/19; not recorded in *CCR*, *CPR* or Tout, *Chapters*.

Tegnagel, Claisius

Claisius Tegnagel (Tegnail), German knight given a silver gilt and enamelled cup as well as 100s. by Edward III in 1338 as a reward for bringing news from Germany and Brabant.

The Wardrobe Book of William de Norwell, 266, 401; K. Brush, ‘The Recepta jocalium in the wardrobe book of William de Norwell, 12 July 1338 to 27 May 1340’ *Journal of Medieval History*, 10 (1984), 249–70.

Thomas of Woodstock,

Thomas of Woodstock (1355–97), seventh son of Edward III and Philippa of Hainault, married Eleanor, daughter of Humphrey (IX) de Bohun, earl of Hereford, made a knight of the Garter in 1377, created earl of Buckingham for the coronation of Richard II, commanded an expedition to Brittany 1380–1, served with John of Gaunt in Scotland 1384–5, created duke of Gloucester, one of the lords appellant and

at Radcot Bridge in 1388, led a failed expedition to the Baltic in 1391, with John of Gaunt at the Leulinghen peace conference in 1392, arrested at Pleshey in 1397, murdered later that year, inventory of goods at Pleshey.

E 101/397/10; *ODNB*, liv, 277–84.

Tiptoft, John

Sir John Tiptoft (Tibetot, Tiptot, Tybtot), second baron Tibetot (1313–67), lord of Langar, Nottinghamshire, inherited from his father Pain in 1334, fought in Flanders 1338–40, keeper of Berwick-upon-Tweed in 1346, in Ireland in 1352, owed 100 marks to William of Lincoln, saddler of London in 1354, justice in Cambridgeshire in 1356, living in Thaxted Manor, Essex, returned a mail shirt to the Tower in 1359.

E 101/392/14; *CCR 1333–7*, 252–3; *1354–60*, 66–7, 109; *1360–4*, 369, 478; *CPR 1350–4*, 245; *1354–8*, 453; *1358–63*, 553; Burke, *Peerage*, 518.

Toty, Thomas

Thomas or Morell Toty (called William Totty in error), squire to Henry Bolingbroke in 1390, given various grants for service in 1397, appointed to take ships at Dover and Calais for Henry Bolingbroke in 1398, captain of Calais keeper of the Rysbank fort, Calais 1403–6, served as a man-at-arms under Edmund earl of March in 1417 and with his own company under John duke of Bedford in 1420.

E 101/49/36; E 101/51/2 cited in

<http://www.icmacentre.ac.uk/soldier/database>; E 101/404/25; *CPR 1396–9*, 122, 440; *1401–5*, 301; Wylie, *Henry the Fourth*, 143 n. 3.

Turberville, Richard

Sir Richard Turberville, justice in Dorset in 1355, escheator of Somerset and Dorset 1356–7, sheriff of Somerset and Dorset 1356–8.

E 101/392/14; *List of Escheators*, 134; *List of Sheriffs*, 123; *CCR 1354–60*, 364, 479; *1360–4*, 92, 155; *CPR 1354–8*, 295, 481.

Turnepas, John

John Turnepas, supplier of gunpowder 1403–6; probably the same recorded in 1402, as a chapman (trader) of Tetsworth, Oxfordshire, died in 1411, widow Agnes.

E 101/404/25; *CPR 1401–5*, 74; *CCR 1409–13*, 196.

Ufford, Robert

Robert Ufford (1298–1369), first earl of Suffolk, with the earl of Kent's forces in Gascony in 1324, on mission to Amiens with Edward III in 1329, keeper of the forests south of Trent 1330–5, steward of the royal household 1336–7, appointed earl 1337, joint admiral of the north in 1337 and 1344–7, at the attack on Beaumetz in 1339, in Brittany in 1342, on embassy to Avignon in 1343, at Crécy in 1346 in the prince of Wales's division and at the siege of Calais, at Winchelsea in 1350, Poitiers in 1356 and the Rheims campaign 1359–60.

BL Add. MS 60584, f. 48v; *ODNB*, lv, 856–8.

Vanacre, Peter

Peter Vanacre, quarrelmaker 1353–60.

E 101/392/14, not recorded in *CCR*, *CPR*, *CLB*.

Vanbergh, Peter

Peter Vanbergh, armourer 1364–9. A Henry Vanburgh was master of a ship in 1344.

E 101/394/14; *CPR 1343–5*, 402.

Vernhowe, Simon

Simon Vernhowe, king's crossbowmaker (*balistarius*) 1344–53.

E 372/198, rot. 34, m. 1, rot. 34, m. 2d. Not recorded in *CPR*, *CCR* or *CLB*.

Wake, Thomas

Thomas, second lord Wake (1298–1349), keeper of the forest south of Trent 1317–27, served in Aquitaine with the earl of Surrey in the war of Saint Sardos in 1324, supporter of Queen Isabella and Roger Mortimer in 1326, constable of the Tower 1326–8, restored by Edward III, keeper of the Channel Islands 1331–3, fought in Scotland 1333–7, member of the council of regency in 1340, summoned to parliament in the 1340s.

Tout, *Chapters*, iii, 10–12, 23, 112, 122; *CPR 1327–30*, 33; *ODNB*, lvi, 719–21.

Wales, Thomas

Thomas of Wales, bowyer of London, working in the Tower, 1360–4; possibly Thomas Bouiere, recorded as attorney in 1364.

E 101/392/4; E 101/394/14; *CPR 1364–7*, 24; not recorded in Megson, *Such Goodly Company*, or *CCR*.

Walewayn, Philip

Philip Walewayn (Walewyn, Walleweyn), king's esquire, granted £10 per annum for life in 1371, searcher of the port of London 1377–87 (arrested an Almain, Wrowin Stepynge, for possession of a bacinet with aventail and breastplate in 1387), surveyor of tax in Dorset in 1380, constable of Corfe Castle 1384–8, granted 3d. a day for a keeper of armour and artillery in 1385, keeper of the temporalities of the bishopric of Bath and Wells in 1386, usher of the chamber in 1389, bailiff of the stannary of Penwyn and Kiryell, Cornwall, received a tun of wine yearly in Bristol in 1398, and received £20 per annum in 1399.

CPR 1381–5, 441, 545, 554–5; 1385–9, 190, 241, 484; 1389–92, 117, 364, 369, 418; 1399–1401, 33; *CCR* 1377–81, 142; 1385–9, 189, 181, 238, 363; 1389–92, 29, 345; *CFR* 1368–77, 367; 1377–83, 8, 229; 1383–91, 147, 177.

Walklate, William

William Walklate, commanded garrison of Perth in 1339, issued with arrows for the king in 1343 when he was keeper of the march between ‘Rundwisel and Holdemonnescross-upon-Tweed’ on the Scottish border, appointed ‘to take and arrest all victuals, merchandise, arms, horses and other animals, and wool going to the king’s enemies in Scotland’, king’s serjeant at arms at King’s Lynn 1357.

CFR 1337–47, 329; *CPR* 1354–8, 511; *CCR* 1339–41, 188–9.

Waltham, Mary of

Mary of Waltham (1344–62) fourth daughter of Edward III, married John V of Brittany, died in childhood.

ODNB, liv, 277–8.

Waltham, Roger

Roger Waltham, clerk of the bishop of Durham in 1300, canon of St Paul’s 1309–32, keeper of the wardrobe 1322–3, author of *Compendium Morale* on the princely virtues, died by 1341.

Tout, *Chapters*, ii, 273, 275–6, 279; iv, 91–3; vi, 26 (for an earlier steward of the household of the same name), 41; *ODNB*, lvii, 186–7.

Ward, Stephen

Stephen Ward, springaldmaker 1364–78.

E 101/395/1; not recorded in *CLB*, *CPR* or *CCR*.

A Stephen Warde of Liverpool is recorded in 1366 but is unlikely to be the same as the record concerns a shipment of wine.

CCR 1364–9, 226–7.

Warene, John de

John de Warene, seventh earl of Surrey (1286–1347), supporter of Edward II, fought the Marcher lords in 1322, was involved in the arrest of Thomas of Lancaster in the same year, led the expedition to Aquitaine in 1325, served in Scotland 1330–3, at Berwick and Halidon Hill, keeper of the realm with Edward the Black Prince in 1345, excused parliament in 1346 on account of age and frailty, died 1347.

E 372/198, rot. 34, m. 2; BL, Add. MS 60584, f. 48v; *ODNB*, lvii, 399–403.

Warwick, William

William Warwick (Warrewyk), sergeant in arms in 1351.

E 372/198, rot. 36, m. 1, rot. 36, m. 1d; *CPR 1350–54*, 31.

Wayte, John

John Wayte, recorded at Dover Castle, returning bowstrings in 1351, presumably acting under Bartholomew Burghersh as constable; a cooper of the same name is recorded in 1353–60.

E 101/392/14; E 372/198, rot. 36, m. 1; not recorded in *CPR*, *CCR*, *Tout*, *Chapters*, or other usual source.

Alexander Wayte is, however, well attested at Dover, though a few years later, as king's clerk, master of the hospital of the Maison Dieu in 1369, instructed to receive munitions for Dover Castle including wheat, beans, malt, wine, honey, cider, beef, veal and bacon, salt fish, stock fish (*duro pesce*), herrings, oatmeal, salt, oats, hay,

firewood (*talwode*), faggots, sea coal, timber boards, iron, lead, hides for baldricks for the crossbows, hair for the springalds and ropes for fourteen wells, and this is probably a scribal error for him.

CPR 1367–70, 246–7.

Weston, John

John Weston, clerk, paymaster of the army in Scotland in 1304, injured in service in 1320, keeper of the Isle of Wight 1322–3, constable of the Tower 1323–6, ‘the Bishop of Exeter to deliver the Tower to him with the armour and victuals’, constable of Bordeaux 1327–30, commissioner of the peace in Essex in 1330, chamberlain of north Wales 1345–7.

E 101/10/6; E 101/11/1; E 101/12/7; E 101/12/18; E 101/16/31; E 101/17/6; E 101/531/17; *CCR 1323–7*, 246–8; *CPR 1321–4*, 854; *1324–7*, 48; *1330–4*, 58; Tout, *Chapters*, ii, 126; vi, 62, 65, 68.

Weston, Walter

Walter Weston, king’s clerk, receiver of victuals at Plymouth, conveying supplies to Aquitaine 1328–30, accompanied John Weston to Bordeaux in 1328, clerk of works at the Tower 1330–6, lieutenant in the Channel Islands and keeper of Jersey, Guernsey, Sark and Alderney 1336–43, chamberlain of Berwick-upon-Tweed in 1338, receiver in Gascony in 1342, clerk of works at the Tower and Westminster in 1345–9, master of the hospital of St James in Westminster in 1349, treasurer of the army at the siege of Dunbar in 1350, granted a prebend in Westminster in the same year, died in 1359.

E 372/198, rot. 34, m. 2, rot. 34, m. 2d, rot. 35, m. 1, rot. 36, m. 1, rot. 36, m. 1d; *CCR 1330–3*, 15–17, 378, 429; *1330–7*, 217, 218, 235, 552, 584; *1337–9*,

41, 221, 467, 499, 612; *1339–41*, 6, 11, 19, 32; *1341–3*, 295, 420, 425, 455, 562, 563, 572, 651; *1343–6*, 458; *1346–9*, 276; *1349–54*, 90; *1354–60*, 638; *CPR 1327–30*, 320, 502, 508; *1334–8*, 324; *1338–40*, 158, 168, 357–8; *1340–3*, 484; *1343–5*, 104, 527; *1348–50*, 271, 348, 446, 563.

Whissele, John

John Whissele (Whisshley, Whysshele) issued with quarrels for Welsh castles 1374–8; a man of the same name witnessed an indenture in 1369 and a charter in 1371.

E 101/398/1; *CCR 1369–74*, 102, 309.

Whithors, Walter

Walter Whithors (Whythors), king's yeoman and later esquire, keeper of the waters of Foss at York 1343–57, appointed constable of Conisbrough Castle, after the death of John de Warenne, earl of Surrey, 1347–54, steward of the forest of Galtres from 1349, constable of Hadleigh Castle from 1354, possibly receiver of the chamber before 1361, usher of the chapel of St George in Windsor Castle from 1361, keeper of the Fleet prison 1366, dead by 1387.

E 372/198, rot. 34, m. 1d; *CPR 1343–5*, 19, 30; *1345–8*, 234, 451, 545; *1348–50*, 48, 143, 261, 368; *1350–4*, 107, 380, 417; *1354–8*, 136; *1358–61*, 106, 557–8; *1361–4*, 23, 139, 184; *1364–7*, 18, 94; *1370–4*, 225, 290, 350; *1374–7*, 126, 394, 420; *1377–81*, 2; *1381–5*, 242; *1385–9*, 297; *CFR 1356–68*, 320–1; *1368–77*, 262; Tout, *Chapters*, iv, 331–2 (as William); v, 189–90.

Whittney, John

John Whittney (Whitney, Whyteney), yeoman of the king's chamber in 1402, keeper of the meadow outside Sandwich Castle in 1403, issued with crossbows and guns 1403–6.

E 101/404/25; *CPR 1401–5*, 35; *1405–8*, 259; *CFR 1399–1405*, 215.

William III

William I, duke of Bavaria-Straubing (1330–89), second son of Louis IV the Bavarian, William V count of Holland, William III count of Hainault, William IV count of Zeeland. After his father's death he ruled Holland, Hainault and Bavaria, fought his mother Margaret of Holland and Hainault, sister of Queen Philippa, over Holland 1349–56, married Matilda, daughter of Henry Grosmont, duke of Lancaster, in 1352, became insane in 1357 and was confined for the rest of his life.

‘L’inventaire de Guillame Comte de Hainaut’, ed. de Premeaux de la Nieppe.

Winchcombe, Geoffrey

Geoffrey Winchcombe, armourer of London in 1342, supplied armour to the privy wardrobe 1338–44.

BL Add. MS 60584, ff. 45r, 73; *Year book 16 Edward III*, ed. L.O. Pike (London, 1900), 73.

Winchcombe, John

John and Simon Winchcombe, armourers of London 1375–7.

CPR 1374–7, 120, 448.

Wodeward, William

William Wodeward, gunfounder 1382–8, member of the Great Council of London for Portsoken (adjacent to Aldgate) 1382–8, appointed guardian of William, son of the late Thomas Codham, also a founder, in 1386, appointed keeper of the great clock in the palace of Westminster in 1395, king's esquire, keeper of land in Essex in 1405.

E 101/400/22; *CPR 1377–81*, 134; *1391–6*, 648; *CFR 1399–1405*, 312; *CLBH*, 240, 281, 333.

Wycombe, Richard

Richard Wycombe, appointed to seize Hanseatic merchants' goods 1351, and recorded as a cresser, supplying hemp in 1353–60.

E 101/392/14, *CCR 1349–54*, 321, 323, 385, 441, 475.

Wydemer John

John Wydemer, member of a commission of Henry IV to dispose of defective arms in the Tower in 1399.

E 101/404/4; *CPR 1399–1401*, 214; Megson, *Such Goodly Company*, 30.

York, Robin

Robin of York, engineer of London, supplied screws and hancepes 1353–60.

E 101/392/14; not recorded in *CCR*, *CPR* or *CLB*.

A Robert of York is recorded in London in 1360–2.

CLBG, 126, 137.

References

Manuscript sources

London, British Library

Add. MS 60584: privy wardrobe account roll, 1325–44

Add. MS 47680: *De secretis Secretorum*, 1326

Kew, The National Archives

E 101: Exchequer, king's remembrancer: various accounts

E 361: Exchequer, pipe office, enrolled wardrobe and household accounts

E 364: Exchequer, pipe office, foreign accounts

E 372: Exchequer, pipe office: pipe rolls

Oxford, Bodleian Library

MS Bodl. 264: *Romance of Alexander*, 1338–44

Oxford, Christ Church

MS 92: Walter Milemete, *De nobilitatibus, sapientiis et prudentiis regum*, 1326–7

Paris, Bibliothèque Nationale

MS français 95: *Roman arthurien*, thirteenth century

Printed primary sources

‘Accounts of the constables of the castle of Dover’, ed. A. Way, *Archaeological*

Journal, 11 (1854), 31–8

- A Descriptive Catalogue of Ancient Deeds*, ed. H.C. Maxwell Lyte, 6 vols (London, 1890–1915)
- ‘A knight’s armour of the early XIV century being the inventory of Raoul de Nesle’, ed. F.M. Kelly, *Burlington Magazine*, 6 (March 1905), 457–69
- Chroniques de Froissart*, ed. S. Luce, 15 vols (Paris, 1869–1975)
- ‘Copy of a roll of purchases made for the tournament of Windsor Park in the sixth year of King Edward the first’, ed. S. Lysons, *Archaeologia*, 16 (1814), 297–310
- Documents Illustrative of English History of the Thirteenth and Fourteenth Centuries, Selected from the Records of the Queen’s Remembrancer of the Exchequer*, ed. H. Cole (London, 1844)
- ‘Extracts from the pipe roll of the exchequer, 27 Edw. III (ad 1353), relating to the early use of guns and gunpowder in the English army’, ed. J. Burtt, *Archaeologia*, 19 (1862), 68–75
- Foedera, Conventiones, Literae et Acta Publica*, ed. T. Rymer, 7 vols. (London, 1816–69)
- ‘Inventaire et compte de la succession d’Eudes, Comte de Nevers’, ed. M. Chazand, *Mémoires de la Société Nationale des Antiquaires de France*, 4th series, 2 (1871), 164–206
- ‘Inventory of crown jewels, 3 Edw. III, from a record in the exchequer’, ed. C. Ord, *Archaeologia*, 10 (1792), 241–69
- ‘Inventory of the effects of Roger de Mortimer at Wigmore Castle and Abbey Herefordshire dated 15 Edward II, ad 1322’, ed. A. Way, *Archaeological Journal*, 15 (1858), 354–62

- Issue Roll of Thomas de Brantingham, Bishop of Exeter, Lord High Treasurer of England: Containing Payments Made out of His Majesty's Revenue in the 44th year of Edward II, AD 1370*, ed. F. Devon (London, 1835)
- Letters and Papers Foreign and Domestic of Henry VIII, 1509–47*, ed. J. S. Brewer, J. Gairdner and R. H. Brodie, 28 vols (London, 1864–1920)
- Liber Quotidianus Contrarotulatoris Garderobae Anno Regni Regis Edwardi Primi Vicesimo Octavo*, ed. J. Topham (London, 1789)
- ‘L’inventaire de l’armurerie de Guillaume III comte de Hainaut en 1358’, ed. E. de Premeaux de la Nieppe, *Annales de la Société Archéologique de L’arrondissement de Nivelles*, 7 (1900), 1–10
- Oeuvres de Froissart*, ed. K. de Lettenhove, 25 vols (Brussels, 1867–77)
- Premier registre aux plaids de la cour féodale du comté de Hainaut 1333 à 1405*, ed. F. Cattier (Brussels, 1893)
- Records of the Wardrobe and Household 1286–1289*, ed. B.F. and C.R. Byerly (London, 1986)
- The Inventory of Henry VIII, i: the Transcript*, ed. D. Starkey (London, 1998)
- The War of Saint-Sardos (1323–1325): Gascon Correspondence and Diplomatic Documents*, ed. P. Chaplais (Camden Society, 3rd series, lxxxvii, 1954)
- The Wardrobe book of William de Norwell, 12 July 1338–27 May 1340*, ed. M. and B. Lyon and H.S. Lucas (Brussels, 1983)
- ‘The will of Humphrey de Bohun Earl of Hereford and Essex with extracts from the inventory of his effects 1319–1322’, ed. T.H. Turner, *Archaeological Journal*, 2 (1846), 339–49
- Year book 16 Edward III*, ed. A.J. Horwood & L.O. Pike (London, 1900)

Printed secondary sources

- Ailes, A., 'Heraldry in medieval England: symbols of politics and propaganda', *History, Pageantry and Social Display in Medieval England*, ed. P.R. Coss and M.H. Keen (Woodbridge, 2003)
- Alexander, J. and P. Binski, *The Age of Chivalry* (London, 1987)
- Allington-Smith, R., *Henry Despenser: the Fighting Bishop* (Dereham, 2003)
- Ashdown, C.H., *British and Foreign Arms and Armour* (London, 1909)
- Ayton, A. and P. Preston, *The Battle of Crécy, 1346* (Woodbridge, 2005)
- Ayton, A., 'Arms, armour and horses', *Medieval Warfare: a History*, ed. M. Keen (Oxford, 1999), 186–208
- Ayton, A., 'English armies in the fourteenth century', in *The Wars of Edward III*, ed. C. Rogers (Woodbridge, 1999), 303–20
- Ayton, A., *Knights and Warhorses* (Woodbridge, 1994)
- Bachrach, D.S., 'Crossbows for the king: the crossbow during the reigns of John and Henry III of England', *Technology and Culture*, 45 (2004), 102–119
- Barber, M., 'John Norbury (c. 1350–1414): an esquire of Henry IV', *EHR*, 68 (1953), 66–76
- Barber, R. and J. Barker, *Tournaments* (Woodbridge, 1989)
- Barker, J., *The Tournament in England, 1100–1400* (Woodbridge, 2003)
- Beabey, M. and T. Richardson, 'Hardened leather armour', *Royal Armouries Yearbook*, 2 (1997), 64–71
- Benker, G., *Ludwig der Bayer, ein Wittelsbacher auf dem Kaiserthron, 1282–1347* (Munich, 1997)
- Bennett, M., J. Bradbury, K. DeVries, I. Dickie and P. Jestice, *Fighting Techniques of the Medieval World AD 500 – AD 1500* (Staplehurst, 2005)

- Binski, P., *The Painted Chamber at Westminster* (London, 1986)
- Blackmore, H.L., *Hunting Weapons* (London, 1971)
- Blackmore, H.L., *The Armouries of the Tower of London, i: Ordnance* (London, 1976)
- Blair, J. and N. Ramsay, *English Medieval Industries* (London, 1991)
- Blair, C., 'The wooden knight at Abergavenny', *Church Monuments*, 9 (1994), 33–52
- Blair, C., *European and American Arms* (London, 1962)
- Blair, C., *European Armour circa 1066 to circa 1700* (London, 1958)
- Boccia, L.G. and J. Godoy, *Museo Poldi Pezzoli Armeria*, 2 vols (Milan, 1985–6)
- Boccia, L.G., *Le armature di S. Maria delle Grazie di Curtatone di Mantova e l'armatura Lombarda del '400* (Busto Arsizio, 1982)
- Bonfield, M.D., *Monuments and Tombstone Inscriptions of St Michael's Church, Aveley, Essex* (Aveley, 2007)
- Brayley, E.W., and J. Britton, *The History of the Ancient Palace and Late Houses of Parliament at Westminster* (London, 1836)
- Brush, K., 'The recepta jocalium in the wardrobe book of William de Norwell, 12 July 1338 to 27 May 1340' *Journal of Medieval History*, 10 (1984), 249–270
- Burgess, E.M. and H.R. Robinson, 'A 14th-century mail hood in the Royal Scottish Museum, Edinburgh', *Journal of the Arms and Armour Society*, 2 (September 1956), 59–65
- Burgess, E.M., 'A mail shirt from the Hearst Collection' [Said to be that of Rudolph IV, Duke of Austria], *Antiquaries Journal*, 38 (1958), 197–204
- Burgess, E.M., 'A reply to Cyril Stanley Smith on mail making methods', *Technology and Culture*, 1 (1960), 151–5

- Burgess, E.M., 'Further research into the construction of mail garments', *Antiquaries Journal*, 33 (1953), 193–202
- Burgess, E.M., 'The mail shirt from Sinigaglia', *Antiquaries Journal*, 37 (1957), 199–205
- Burgess, E.M., 'The mail-maker's technique', *Antiquaries Journal*, 33 (1953), 48–55
- Burke, J., *A General and Heraldic Dictionary of the Peerages of England* (London, 1831)
- Cavanaugh, S.H., 'Royal books: King John to Richard II', *Library*, 10 (1988), 304–16
- Charlton, J., *The Tower of London: Its Buildings and Institutions* (London, 1978)
- Christie's, *Antique Arms and Armour from the Collection of Dr & Mrs Jerome Zwanger* (London, 12 December 2006)
- Clark, J., *The Medieval Horse and its Equipment* (London, 1995),
- Clayton, M., *Victoria and Albert Museum Catalogue of Rubbings of Brasses and Incised Slabs* (London, 1929)
- Coales, J., *The Earliest English Brasses* (London, 1987)
- Collura, D., *Cataloghi del Museo Poldi Pezzoli, ii: armi e armature* (Milan, 1980)
- Curtis, E., *Richard II in Ireland, 1394–5, and the Submission of the Irish Chiefs* (Oxford, 1927)
- Cosson, Baron de and W. Burges, 'Catalogue of the exhibition of ancient helmets and examples of mail', *Archaeological Journal*, 37 (1881), 455–597
- De Ville, O., 'The Deyvilles and the genesis of the Robin Hood legend', *Nottingham Medieval Studies*, 43 (1999), 90–109
- De Vries, K., 'The introduction and use of the pavise in the Hundred Years War', *Arms and Armour*, 4 (2007), 93–100

- De Vries, K., *Infantry Warfare in the Early Fourteenth Century* (Woodbridge, 1996)
- De Vries, K., *Medieval Military Technology* (Pereborough, Ontario, 1992)
- Denkstein, V., 'Pavises of the Bohemian type', *Sbornik Narodniko Muzea u Praze*, 18 (1964), 104–97
- Dillon, H., 'An armourer's bill, temp. Edward III', *Antiquary*, 20 (1890), 148–50
- Dillon, H.A., *Illustrated Guide to the Armouries* (London, 1910)
- Doherty, P., *The Great Crown Jewels Robbery of 1303* (London, 2005)
- Eaves, I. and T. Richardson, 'The Warwick shaffron', *Journal of the Arms and Armour Society*, 12 (1987), 217–22
- Eaves, I., 'On the remains of a jack of plate excavated from Beeston Castle in Cheshire', *Journal of the Arms and Armour Society*, 13 (1989), 81–154
- Emery, A., *Great Medieval Houses of England and Wales 1300–1500, iii: Southern England* (Cambridge, 2006)
- Evans, J., E.T. Leeds and A. Thompson, 'A hoard of gold rings and silver groats found near Thame, Oxfordshire', *Antiquity*, 21 (1942), 197–202
- ffoulkes, C.J., 'A carved Flemish chest at New College, Oxford', *Archaeologia* 15 (1914), 113–28
- ffoulkes, C.J., *Inventory and Survey of the Armouries of the Tower of London* (London, 1916)
- Fleury, M., 'La resurrection du casque brisé de Charles VI', *Connaissance des Arts*, 439 (1988), 150–5
- Fleury, M., *Si le roi m'avait donné Paris, sa grand'ville* (Paris, 1994)
- Frame, R.F., 'Thomas Rokeby, sheriff of Yorkshire, the custodian of David II', *The Battle of Neville's Cross, 1346*, ed. D. Rollason and M. Prestwich (Stamford, 1998), 50–6

- Frame, R.F., 'Thomas de Rokeby, sheriff of Yorkshire, justiciar of Ireland', *Peritia*, 10 (1996), 274–96
- Fryde, N., 'A medieval robber baron: Sir John Molyns of Stoke Poges, Buckinghamshire', in *Medieval Legal Records* ed. R.F. Hunnisett and J.B. Post (London, 1978), 197–221
- Fryde, E.B., *William de la Pole: Merchant and King's Banker* (London, 1988)
- Fuller, T., *The Worthies of England*, 3 vols (London, 1840)
- Gaier, C., *Armes et combats dans l'univers médiévale*, (Brussels, 1995)
- Gaier, C., *L'industrie et le commerce des armes dans les principautés Belges* (Paris, 1973)
- Gay, V., *Glossaire archéologique*, 2 vols (Paris, 1887–1928)
- Gilmour, B., 'Iron Age mail in Britain', *Royal Armouries Yearbook*, 2 (1997), 26–35
- Given-Wilson, C., *The Royal Household and the King's Affinity* (Yale, 1986)
- Gorski, R., *The Fourteenth-century Sheriff* (Woodbridge, 2003)
- Gravett, C., 'Tournament courses', *Ridderlek och tornerspel*, ed. L. Rangstrom (Stockholm, 1992), 334–6
- Gravett, C., *Tewkesbury 1471: the Last Yorkist Victory* (London, 2003)
- Grose, F., *A Treatise on Ancient Armour and Weapons* (London, 1786)
- Haines, H., *A Manual of Monumental Brasses* (repr. Bath, 1970)
- Hall, E.T., 'The Courtrai chest from New College, Oxford, re-examined', *Antiquity*, 61 (1987), 104–7
- Hardy, R., *The Longbow: a Social and Military History* (3rd ed., Sparkford, 1992)
- Harvey, J.H., *English Mediaeval Architects* (2nd ed., Gloucester, 1987)
- Hewitt, J., *Ancient Armour and Weapons in Europe*, 4 vols (London, 1855–60)
- Hewitt, J., *Official Catalogue of the Tower Armouries* (London, 1859)

- Hewitt, H.J., *The Organization of War under Edward III, 1338–62* (Manchester, 1966)
- Hildred, A., *Weapons of Warre: the Armaments of the Mary Rose* (Portsmouth, 2011)
- Jessop, O., ‘A new artefact typology for the study of medieval arrowheads’, *Medieval Archaeology*, 40 (1996), 192–205
- Johnston, D., ‘Richard II’s departure from Ireland, July 1399’, *EHR*, 98 (1983), 785–805
- Jones, P.N., ‘The metallography and relative effectiveness of arrowheads and armour during the Middle Ages’, *Materials Characterisation*, 29 (1992), 111–17
- Kaister, R.E., ‘The medieval English longbow: characteristics and origin’, *Journal of the Society of Archer Antiquaries*, 23 (1980), 21–8
- Kessen, A., ‘Over de wapenindustrie te Maastricht in vroeger tijden’, *De Maasgouw*, 56 (1936), 18–21
- Kohlmorgen, J., *Der mittelalterliche Reiterschild, historische Entwicklung von 975–1350* (Alzey, 2002)
- La Rocca, D.J., ‘Notes on the mail chausse’, *Journal of the Arms and Armour Society*, 15 (1995) 69–84
- Latham, R.E., *Revised Medieval Latin Word-list* (London, 1980)
- Leach, M., ‘The Skeftington case of 1298’, *Journal of the Society of Archer Antiquaries*, 53 (2010), 81–3
- Liebel, J., *Springalds and great crossbows* (Leeds, 1998)
- List of Escheators for England and Wales*, List and Index Society, 72 (1971)
- List of Sheriffs for England and Wales*, PRO List and Indexes, 9 (repr. New York, 1963)

- Lodge, S., *Scrivelsby: Home of the Champions* (London, 1894)
- Lot, F., *L'art militaire et les armées au moyen âge en Europe et dans le proche-Orient*, 2 vols (Paris, 1946)
- Madox, T., *Baronia Anglica: an History of Land-honours and Baronies, and of Tenure in Capite* (London, 1736)
- Maxwell-Lyte, H.C., *Historical Notes on the Use of the Great Seal of England* (London, 1926)
- McHardy, A.K., *The Church in London, 1375–92* (London, 1977)
- Megson, B., *Such Goodly Company: a Glimpse of the Life of the Bowyers of London, 1300–1600* (London, 1993)
- Melikian-Chirvani, A.S., 'The westward journey of the kazhagand', *Journal of the Arms and Armour Society*, 11 (1983), 8–35
- Michael, M., 'The little land of England is preferred before the great kingdom of France: the quartering of the royal arms by Edward III', *Studies in Medieval Art and Architecture Presented to Peter Lasko*, ed. D. Buckton and T.A. Heslop (Stroud, 1994), 114–26
- Mills, D. and J.G. Mann, *Edward, the Black Prince: a Short History and the Funeral Achievements* (Canterbury, 1975)
- Morris, J.E., 'Mounted infantry in medieval warfare', *Transactions of the Royal Historical Society*, 8 (1914), 77–102
- Nickel, H., 'Der mittelalterliche Reiterschild des Abendlands', inaugural dissertation (Freie Universität Berlin, 1958)
- Nickel, H., 'The seven shields of Behaim: new evidence', *Metropolitan Museum Journal*, 30 (1995), 29–51
- Nickel, H., S.W. Pyhrr and L. Tarassuk, *The Art of Chivalry* (New York, 1982)

- Nicolas, N.H., 'Observations on the institution of the most noble Order of the Garter, illustrated by the accounts of the great wardrobe of King Edward III',
Archaeologia, 31 (1846), 1–163
- Nicolas, P.H., *The History of the Royal Navy* (London, 1847)
- Norman, A.V.B., 'Notes on a newly discovered piece of fourteenth-century armour',
Journal of the Arms and Armour Society, 8 (1975), 229–33
- Norman, A.V.B., 'Notes on some early representations of guns and on ribaudekins',
Journal of the Arms and Armour Society, 8 (1975), 234–7
- Norman, A.V.B. and G. Wilson, *Treasures from the Tower of London* (Norwich, 1982)
- Norris, H.T., 'The hauberk, the kazaghand and the 'Antar romance'', *Journal of the Arms and Armour Society*, 9 (1978), 93–101
- Norris, H., *Church Vestments: Their Origin and Development* (London, 1949)
- Norris, M., *Monumental Brasses: the Memorials* (London, 1975)
- Oman, C., *A History of the Art of War in the Middle Ages*, 2 vols (London, 1924)
- Ormrod, W.M., 'The protecolla rolls and English government finance 1353–64',
EHR, 102 (1987), 622–31
- Ormrod, W.M., 'The king's secrets: Richard de Bury and the monarchy of Edward III', *War, Government and Aristocracy in the British Isles, c. 1150–1500: Essays in Honour of Michael Prestwich*, ed. C. Given-Wilson, A. Kettle and L. Scales (Woodbridge, 2008)
- Ormrod, W.M., *Edward III* (New Haven and London, 2011)
- Oxley, J.E., *The Fletchers and Longbowstringmakers of London* (London, 1968)
- Paggiarino, C., *The Churburg Armoury* (Milan, 2006)

- Palgrave, F., *The Antient Calendars and Inventories of the Treasury of His Majesty's Exchequer*, 3 vols (London, 1836)
- Parnell, G., *The Book of the Tower of London* (London, 1993)
- Parnell, G., 'The early history of the Tower Armouries', *Royal Armouries Yearbook*, 1 (1996), 45–52
- Partington, J.R., *A History of Greek Fire and Gunpowder* (Cambridge, 1950)
- Patterson, W.F., *A Guide to the Crossbow* (London, 1990)
- Payling, S., *Political Society in Lancastrian England* (Oxford, 1991)
- Payne Galway, R., *The Crossbow* (London, 1903)
- Peine, H.-W. and D.H. Breiding, 'An important find of late 14th and early 15th century arms and armour from Haus Herbede, Westphalia', *Journal of the Arms and Armour Society*, 19 (2007), 1–28
- Pounds, N.J.G., *The Medieval Castle in England and Wales* (Cambridge, 1990)
- Prestwich, M., *Edward I* (New Haven and London, 1988)
- Prestwich, M., *Armies and Warfare in the Middle Ages: the English Experience* (New Haven and London, 1996)
- Prestwich, M., *Plantagenet England 1225–1360* (Oxford, 2005)
- Purton, P., 'The myth of the mangonel: torsion artillery in the Middle Ages', *Arms and Armour*, 3 (2006), 79–90
- Pyhrr, S.W., D.J. LaRocca and D.H. Breiding, *The Armoured Horse in Europe, 1480–1620* (New York, 2005)
- Rastall, G.R., 'Secular musicians in late medieval England' (unpublished Ph.D. thesis, University of Manchester, 1968)
- Richardson, D., and K.G. Everingham, *Magna Carta Ancestry: a Study in Colonial and Medieval Families* (Baltimore, 2005)

- Richardson, T., 'The introduction of plate armour in medieval Europe', *Royal Armouries Yearbook*, 2 (1997), 40–5
- Richardson, T., 'The Bridport muster roll of 1457', *Royal Armouries Yearbook*, 2 (1997), 46–52
- Richardson, T., 'An early poleyn', *Royal Armouries Yearbook*, 7 (2002), 9–10
- Richardson, T., 'The royal armour workshops at Greenwich', in G. Rimer, T. Richardson and J.P.D. Cooper, *Henry VIII: Arms and the Man 1509–2009* (Leeds, 2009), 148–154
- Richardson, T., 'Springald sizes in 14th-century England', in *ICOMAM 50: Papers on Arms and Military History 1957–2007* ed. R.D. Smith, (Leeds, 2007), 326–31
- Richardson, T., 'Royal Armouries acquisitions 2011,' *Arms and Armour*, 9 (2012), 89–95
- Richardson, T., 'Armour in England, 1325–99', *Journal of Medieval History*, 37 (2011), 304–20
- Richardson, T., 'Armourers' tools in England', *Arms and Armour*, 9.1 (2012), 25–39
- Richardson, T. and D. Starley, 'The helmet from Stratton Village, Bedfordshire', *Royal Armouries Yearbook*, 7 (2002), 15–21
- Riley, H.T., *Memorials of London and London Life* (London, 1868)
- Rogers, C., 'Edward III and the dialectics of strategy, 1327–1360', in *The Wars of Edward III*, ed. C. Rogers (Woodbridge, 1999), 265–84
- Rogers, C.J., 'The age of the Hundred Years War', *Medieval Warfare: a History*, ed. M. Keen (Oxford, 1999), 136–60
- Rokewode, J.G., *An Account of the Painted Chamber in the Royal Palace at Westminster* (London, 1842)

- Roxburgh, D.J., *Turks: a Journey of a Thousand years, 600–1600* (London, 2005)
- Saul, N., *Death, Art and Memory in Medieval England: the Cobham Family and Their Monuments 1300–1500* (Oxford, 2001)
- Saul, N., *Knights and Esquires: the Gloucestershire Gentry in the Fourteenth Century* (Oxford, 1981),
- Saul, N., *Richard II* (London, 1997)
- Scalini, M., *L'armeria Trapp di Castel Coira* (Udine, 1996)
- Schmidt, E.D., 'Link details from articles of mail in the Wallace Collection', *Journal of the Mail Research Society*, 1 (2003), 2–20
- Scott-McNab, D., 'The treatment of assegai and zagaie by the OED, and of assegai by the Dictionary of South African English', *Neophilologus*, 96 (2012), 151–63
- Scott, M., *Medieval Clothing and Costumes* (New York, 2004)
- Shenton, C., 'Edward III and the symbol of the leopard', in *Heraldry, Pageantry and Social Display in Medieval England*, ed. P.R. Cross (Woodbridge, 2002), 69–82
- Shenton, C., 'The English court and the restoration of royal prestige 1327–1345' (unpublished D.Phil. thesis, University of Oxford, 1995)
- Shepherd, T.H. and J. Eames, *Metropolitan Improvements: or London in the Nineteenth Century* (New York, 1978)
- Sherborne, J.W., *War, Politics and Culture in Fourteenth-century England* (London, 1994)
- Simpson, W.S and G.S., *The Life and Legend of St Vedast* (London, 1896)
- Smith, R.D. and K. De Vries, *The Artillery of the Dukes of Burgundy, 1363–1477* (Woodbridge, 2005)

- Smith, R.D., 'The technology of wrought-iron artillery', *Royal Armouries Yearbook*, 5 (2000), 68–79
- Soar, H.D.H., *The Crooked Stick: a History of the Longbow* (Yardley, Pa., 2005)
- Southwick, L., 'The great helm in England', *Arms and Armour*, 3 (2006), 5–79
- Spaulding, D., 'An unrecorded English helm of c. 1370', *Journal of the Arms and Armour Society*, 9 (1977), 6–9
- Spufford, P., *Power and Profit: the Merchant in Medieval England* (London, 2002)
- Steel, A., 'English government finance, 1377–1413', *EHR*, 51 (1936), 577–97
- Steel, A.B., *The receipt of the exchequer, 1377–1485* (Cambridge, 1954)
- Stokes, P., *Craven County: the History of Hamstead Marshall* (Guildford, 1996)
- Storey, R.L., 'Gentlemen bureaucrats', *Profession, Vocation and Culture in Late Medieval England: Essays Dedicated to the Memory of A.R. Myers*, ed. C.H. Clough (Liverpool, 1982), 90–129
- Storey, R., 'Technology and military policy in medieval England, c.1250–1350' (unpublished Ph.D. thesis, University of Reading, 2003)
- Storey, R., 'The Tower of London and the garderobae armorum', *Royal Armouries Yearbook*, 3 (1998), 177–183
- Strickland, M. and R. Hardy, *The Great Warbow* (Stroud, 2005)
- Sumption, J., *The Hundred Years War, i: Trial by Battle* (London, 1990),
- Sumption, J., *The Hundred Years War, ii: Trial by Fire* (London, 1999),
- Sumption, J., *The Hundred Years War, iii: Divided Houses* (London, 2009)
- A Survey of London, by John Stow, Reprinted from the Text of 1603*, ed. C.L. Kingsford (London, 1908)
- Taylor, S.M., 'In defence of larceny: a fourteenth-century French ironic encomium', *Neophilologus*, 15 (1981), 358–65

- Terjanian, P., 'The armorers of Cologne: organization and exports markets of a foremost European armor-making center, 1391–1660', *Journal of the Armour Research Society*, 1 (2005), 23–48
- Thomas, B. and O. Gamber, *Katalog der Leibrückkammer, i, der Zeitraum von 500 bis 1530* (Vienna, 1976)
- Thordemann, B., *Armour from the Battle of Wisby 1361*, 2 vols. (Uppsala, 1939)
- Thursfield, S., *The Medieval Tailor's Assistant* (New York, 2001)
- Topsell, E., *The Historie of Serpents* (London, 1608),
- Tout, T.F., 'Firearms in England in the fourteenth century', *EHR*, 26 (1911), 666–702, repr. with an introduction by C. Blair and illustrations (London, 1968)
- Tout, T.F., *Chapters in the Administrative History of Medieval England*, 6 vols. (Manchester, 1920–33)
- Trapp, Count O. and J.G. Mann, *The Armoury of the Castle of Churburg* (London, 1929)
- Tweddle, D., *The Anglian Helmet from 16–22 Coppergate* (London, 1992)
- Vale, J., *Edward III and Chivalry* (Woodbridge, 1982)
- Vale, M.G.A., *The Princely Court, Medieval Courts and Culture in North-West Europe, 1270–1380* (Oxford, 2001)
- Verbruggen, J.F., 'De godendag', *Militaria Belgica*, 1 (1975), 65–70
- Verbruggen, J.F., *The Art of Warfare in Western Europe During the Middle Ages, from the Eighth Century to 1340* (2nd ed., Woodbridge, 1997)
- Vero, M., 'Bemerkungen zu den Beinsätteln aus der Sigismundzeit', *Sigismundus Rex et Imperator*, ed. I. Takács (Budapest, 2006), 270–8, 356–63
- Wadge, R., *Arrowstorm, the world of the archer in the Hundred Years War* (Stroud, 2007)

- Wagner, J.A., *Encyclopedia of the Hundred Years War* (Westport, Conn., 2006)
- Waller, J. and J. Waller, 'The personal carriage of arrows from Hastings to the Mary Rose,' *Arms and armour*, 7 (2010), 155–177
- Waller, J.G., 'The hauberk of chain mail and its conventional representations', *Archaeologia*, 59 (1904), 1–18
- Ward Perkins, J.B., *London Museum catalogues, vii, medieval catalogue* (London, 1940)
- Watts, K., 'Une selle médiévale d'Europe centrale au Royal Armouries', *Cahiers d'études et de recherches du musée de l'Armée*, 6 (2005–6), 47–64
- Way, A., 'The will of Sir John de Foxle of Apuldrefeld, Kent, dated November 5 1378,' *Archaeological Journal*, 15 (1858), 267–77
- Wilson, G., 'Pavises in England', *Royal Armouries Yearbook*, 2 (1997), 53–4
- Wilson, G., 'What's in a name? One foot and two-foot crossbows', in *ICOMAM 50, Papers on Arms and Military History 1957–2007*, ed. R.D. Smith (Leeds, 2007), 300–25
- Wilson, G., *European crossbows: a survey by Joseph Alm* (London, 1994)
- Wilson, D., *The Tower 1078–1978* (London, 1978)
- Wrottesley, G., 'Crécy and Calais from the public records', *Collections for a history of Staffordshire*, 18 (1897), 1–282
- Wylie, J.H., *History of England under Henry the Fourth*, 4 vols (London, 1898)
- Zijlstra-Zweens, H.M., *Of his array telle I no longer tale* (Amsterdam, 1988)
- Zupko, R.E., *A dictionary of weights and measures for the British Isles* (Philadelphia, 1985)