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THE MEDIEVAL ARMOURY AT THE TOWER OF LONDON

Introduction

The Tower of London has been a UNESCO World Heritage Site since 1988.¹ [Figure 2] Built in the late 11th century on the remains of the old Roman fort that had protected the first city of London, the Tower remained a potent symbol of monarchic and state power for centuries thereafter. Although still technically a royal palace the Tower no longer serves as a residence to the monarchy; nor does it house a military garrison. A target for German bombing during WWII, the Tower survived with only minor damage from enemy strikes and has remained a potent reminder of London's royal past.²

From its late 11th century roots the Tower of London grew in size over the following centuries, with the castle complex reaching its greatest extent by the mid-to-late 14th century. During the course of its history the Tower has fulfilled a number of functions: as palace, mint, prison, zoo, record repository and, of course, armoury that held stores of arms, armour and other military equipment. Castles have always held stores of armour and weapons, located in a room which historians now refer to as an armoury, but which were often called storerooms in contemporary documents. Some castles which were thought to be strategically more important probably held larger stores. The English fortresses at Calais in France, for example, held substantial stores into the later 15th century.³

This article will describe and discuss the medieval armoury at the Tower of London during a very significant period of its development. It will firstly provide a brief explanation about how an armoury came to be located at the Tower and how it was organised. Secondly, it will consider the objects that were actually stored at the Tower, the relative importance of different types of equipment

¹ <https://whc.unesco.org/en/list/488/> [Accessed 06.07.2020]

² Parnell G. *The Tower of London. Past & Present*. Stroud, 1998. P. 84, 88-89.

³ Grummitt D. *The Calais Garrison: War and Military Service in England, 1436-1558*. Woodbridge, 2008. pp. 119-122, 172.

during this period. The discussion will concentrate on the 14th and early 15th centuries where the documentary evidence is strongest. Thirdly, and finally, the article will examine the nature and role of the King's Armourer, how and why he came to be based at the Tower of London, and what role he played in the activities of the armoury.

The Development of an Armoury at the Tower

In order to understand how the armoury at the Tower of London came into being and what its role was it is first necessary to understand how the king's possessions were organised. In Norman and Plantagenet England of the late 11th century onwards these items were managed by a department called the wardrobe. In its simplest form wardrobe means a store. From at least the mid-13th century the king's main wardrobe at the Tower of London, called the great wardrobe, was situated on the ground floor of the Wakefield Tower. In this building were kept furniture, tapestry and hangings, clothing, cloth and other materials, as well as non-perishable foodstuffs. By the later 13th century it was also storing arms, armour, artillery and ammunition. It was probable that the king's personal stores of arms and armour, and those used to equip royal armies were also kept in and next to the Wakefield Tower, directly underneath the king's great chamber and royal apartments⁴. [Figure 1]

During the mid-14th century, however, the great wardrobe moved out of the Tower of London and stored goods across London instead. It was at this moment that responsibility for arms and armour, including the king's own personal items, came to be managed by a new department called the privy (or private) wardrobe. As well as the storage space in the Wakefield Tower the privy wardrobe occupied rooms in St Thomas's Tower which was located just opposite. There is documentary evidence from the mid-14th

⁴ Mercer M. King's Armourers and the Growth of the Armourer's Craft in Early Fourteenth-Century London // Fourteenth-Century England. ed. Hamilton J. S. Woodbridge, 2014. pp. 11-13; Richardson R.T. The Medieval Inventories of the Tower Armouries 1320-1410, unpublished PhD thesis, University of York, 2012. pp. 16-25. This thesis is available at https://etheses.whiterose.ac.uk/3919/1/Thom_Richardson_thesis_final.pdf

century for boards to place the king's weapons on 'in the chamber over the water-gate' with rails also fitted to hang crossbows.⁵ [Figure 3]

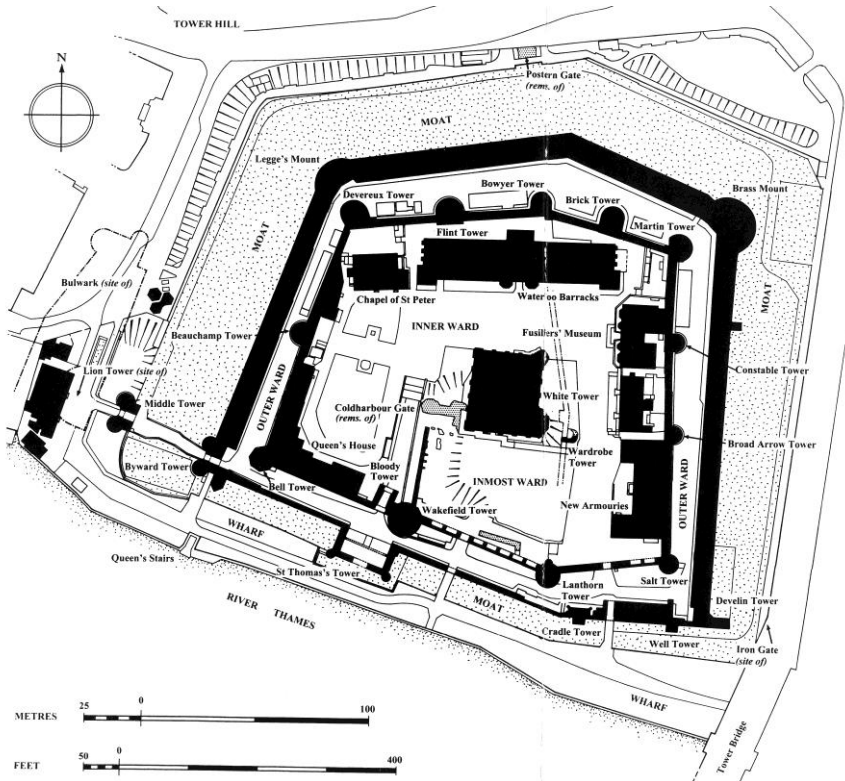
There had been keepers, or custodians, of the king's armour and weapons within his household from at least the 1270s. In about 1278 to 1279 this responsibility was performed by a man called Albin who was entrusted with making purchases and for arranging the repair and maintenance of the king's arms and armour. It is not known whether he ever lived at the Tower. Like so many people all that has survived is his name. From 1323 a clerk of the King's Chamber called John Fleet became keeper of the king's privy wardrobe. However, it is only in 1338, after Fleet began to live permanently at the Tower, that the story of the Tower armoury really begins. It made perfect sense to combine the keepership of the privy wardrobe with the keepership of the kings (personal) armour and weapons. From 1339 he was thus referred to as keeper of the king's armour as well.⁶

Surviving manuscripts of the privy wardrobe show a more organised armoury operating in the Tower of London from this time onwards. The history of the Tower armoury under the control of the privy wardrobe can be divided into four main phases of development. From 1338 to 1360 it mainly provided armour, weapons and equestrian (horse) equipment for men-at-arms, and large quantities of bows and arrows together with a limited amount of armour for the much more numerous archers. This happened because large armies were being sent to France and Flanders (in modern-day Belgium) for the military campaigns of Crécy (1346) and Poitiers (1356). As the documents reveal, much of the armour distributed from the Tower was imported from north-west Europe, though some was undoubtedly also made in England.⁷

⁵ Richardson R.T. *The Medieval Inventories*, p.127.

⁶ Mercer M. *King's Armourers*, pp. 12-13; Richardson R.T. *The Medieval Inventories*, p. 17.

⁷ Richardson R.T. *The Medieval Inventories*, pp. 33, 55, 253.



*Figure 1 - Plan of Tower of London
(Tower of London London, HMSO, 1984)*

From about 1360-1380 the armoury largely stopped supplying armour and weapons to men-at-arms, apart from that given to members of the royal family and their closest followers. At the same time the remaining stores of armour were gradually reduced. Some armour was now being made within the Tower for the privy wardrobe re-equipped a new workshop for the king's armourer who was now based there. The quantity of armour produced onsite, though, is completely unknown. During this same period the armoury continued to provide substantial quantities of longbows and arrows to archers and sent them mainly for the defence of Calais. There was also increased provision of armour for archers, in the form of mail shirts, gauntlets (gloves) of plate, bacinets (helmets) and

aventails (mail for neck, throat and shoulder protection), and quilted jacks (a body defence coat).⁸

From about 1380-1410 the stocks of weapons and armour in the Tower remained largely the same, although equipment for archers was still being purchased, manufactured and occasionally delivered from the English regions. This period is more important, however, for it also witnessed an increase in the use of gunpowder weaponry across Europe. By the early 15th century the main function of the Tower armoury was as an artillery store. An artillery storehouse had been built by the beginning of the new century. [Figure 4] Alongside ordnance it is also possible to find supplies of equipment essential for siege operations stored at the Tower. The armoury did provide some weapons for men-at-arms in the early 1380s, including in large numbers long lances and short lances but that was not its main focus. During the fourth, or last, phase between about 1410-22 it is fair to say that military expeditions to France maintained the demand for weapons from the Tower and reinforced its central role as a working armoury and store.⁹

2. Tower Armoury Stores

What was the Tower armoury holding in its stores and to whom did it issue armour and weapons? Manuscript survival has meant that Information is most plentiful for 1338 to 1360. Much of the armour came from the Low Countries (Belgium/Netherlands/Rhineland Germany). The cities of Cologne and Maastricht were also important armour-making centres at that time. In fact, the overwhelming majority of armour was imported from these two centres. The price of imported armour could vary considerably as well. For a body defence known as a pair of plates, a fabric coat made with iron plates attached inside, those made with

⁸ Richardson R.T. *The Medieval Inventories*

⁹ For an overview of these phases of development, see Richardson, 'Medieval Inventories', pp. 250-270. For the final phase see of development in the Tower armoury, see Mercer M. *Henry V and the Tower of London // The Battle of Agincourt* / A. Curry A. & Mercer M. eds.. New Haven and London, 2015. pp. 65-70.

velvet or other silks and decorated with gilded rivets (studs) were about four times more expensive than the basic model.¹⁰

Armour was usually issued from the Tower stores as one or more pieces, not as complete suits. Armour was only given to men-at-arms as complete sets, like the one given by the king to Sir Thomas le Brut in 1338. For the first time these were being called ‘complete armours’ (*hernesia integra*) in the accounts. The issue of armours with great helms and horse armour in the 1330s and 1340s is also interesting. The commonly-held idea that English armies always fought on foot was probably not the case in the mid-14th century.¹¹

By the 1330s knights were wearing a mail headpiece, the coif, which could be worn under a helmet. The favoured form was the bacinet. As the manuscript accounts show, most were supplied without visors. A flap of mail, the aventail, could be laced to one side, protecting the mouth and chin. The mail hauberk, or haubergeon, protected the body and arms. It was often worn over a quilted jacket, called an aketon, and on top of this was placed a pair of plates. A man -at-arms was therefore protected by three layers. Mail leggings might also be worn. What these documents show is that mail sleeves, mail collars and pants (paunces), were also being used in preference to full mail shirts from the moment plate armour was being introduced. Mail made from steel links was differentiated from that of iron links and cost twice as much. The fronts of the lower legs were protected by greaves (shin-guards) and the feet by sabatons (shoes). The arms were protected by a a rerebrace and vambrace. The elbows were also protected by discs called couters. By the mid-14th century small circular plates called besagews protected the armpits, while the thighs were also now protected by metal plates called a cuisse. Plate gauntlets protected the backs of the hands and by the middle part of the century were of a design we call hour-glass. Cuisses protecting the thighs were made from overlapping plates but by the end of the century were of a single metal plate. Solid breastplates appeared in the 1360s and 1370s. By the turn of the 15th century the entire body was covered by moving

¹⁰ Richardson R.T. *The Medieval Inventories*, p. 252.

¹¹ *Ibid.*, pp. 56, 254.

plates of steel with only a few vulnerable areas of the body protected by mail.¹² [Figure 6: 3]

The issue of arms and armour to the knightly contingent for the Flemish (Belgian) campaign of 1338-39 shows that complete armours, including great helms, were given to new knights such as Sir Thomas le Brut, to established household knights like Sir John Stirling, Sir William Frank, and Sir Robert Dalton, to holders of important household offices like Sir John Darcy, steward of the household, and to significant men-at arms such as William Hadham, the king's herald and falconer. Some of the gifts were symbolic, like the issue of swords and mail shirts to the most senior nobles involved, or the gift of a kettle hat to the Flemish knight, Sir John Levedale. Some gifts were of individual pieces 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.¹³

Most of the remaining equipment supplied to men-at-arms was in groups or batches. The 1338-39 Flemish campaign shows that 1,642 bacinets (helmets), 664 aventails (mail defence for neck, throat and shoulders), 685 aketons, 434 mail shirts, and so on, were sent out. We should not assume, however, that the Tower armoury was simply about supplying armour to men-at-arms and knights. Although defensive armour does not seem to have been given to the archers at this stage, some appear to have received pairs of plates and mail collars for their personal protection. Nevertheless, the equipment issued to longbowmen was starting to become a more

¹² There are numerous publications which explain the development of armour during this period, including Blair C. *European Armour c. 1066 to c. 1700*. London, 1958. pp. 37-111. See also Oakeshott E. *European Weapons and Armour from the Renaissance to the Industrial Revolution*. Woodbridge, 1980, reissued 2000. pp. 75-124. The guide by Woosnam-Savage R. C. *Arms and Armour of Late Medieval Europe*. Royal Armouries, 2017. *passim* provides a concise introduction to the subject of arms and armour in this period. For a much briefer summary of developments, see also Richardson T. Armour in England, 1325-99 // *Journal of Medieval History* 37:3, 2011. pp. 304-41; Richardson T. & Watts K. Armour at the Time of Agincourt // *The Battle of Agincourt*. pp. 110-126.

¹³ Richardson R.T. The Medieval Inventories. pp. 256-7.



Figure 2 - View of White Tower from the South-East



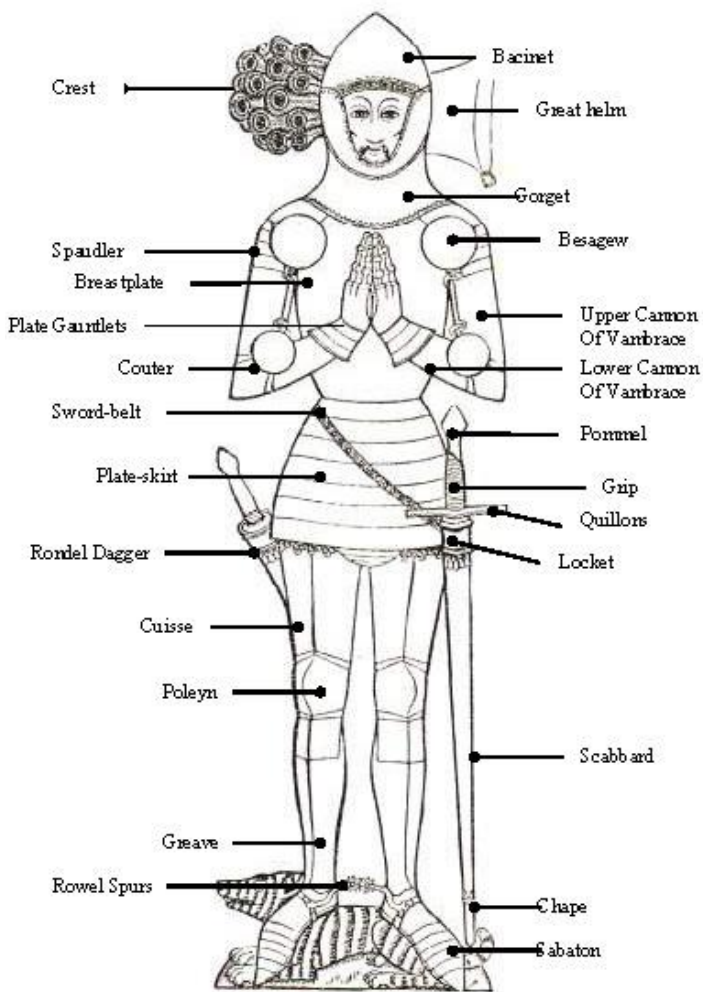
Figure 3 - Wakefield Tower (Left) and St Thomas's Tower (Right)



Figure 4 - Grand Storehouse standing on site of former medieval Artillery House



Figure 5 - Author holding Poleaxe



Brass (1425) at Merevale, Warwickshire

ARMOUR TERMINOLOGY

Figure 6 - Armour Terminology (<https://churchmonumentsociety.org/resources/illustrated-armour-terminology-guide>)

important aspect of the Tower's military business. The documents describe painted bows and white bows (unpainted), the former costing double the price. It seems most likely that bow length and draw weight, the amount of force needed to pull a bow, were also standardised. Arrows were the same, generally supplied in containers called sheaves, of twenty-four. The Tower issued arrow heads too, which we must assume are the common military barbed type, some steeled, some not. Some arrow shafts were made of wood from the ash tree, but most seem to have been made from pine.

The numbers of arrows issued is actually worth thinking about for a moment because it helps us to understand how archers operated in Western Europe during the Hundred Years War (1337-1453). It seems highly probable that an archer entered battle with a single container of twenty-four arrows, making a few carefully aimed shots at the closing enemy, rather than combining as a group to shoot the 'arrow storm', an idea first made popular in Laurence Olivier's film, 'Henry V'.¹⁴

From the early 1340s, bowyers (bow makers) and fletchers (arrow makers) were employed at the Tower to make repairs and maintain the condition of bows and arrows brought back from the wars in France. Bows were also purchased from London bowyers and produced in the Tower by buying bowstaves and employing bowyers to finish them by attaching the string. The purchase of large quantities of archery equipment required for the early phases of the Hundred Years War showed that local areas in England known as counties could only provide a small part of what was needed; most had to be found elsewhere. Original manuscripts provide a wealth of names of these makers, like the bowyer, Adam Hackett, and the fletchers, John Patyn and John Bonett. These documents also show how activity at the Tower helped encourage the formation of the early craft and trade companies. Furthermore, the concentration of

¹⁴ Richardson R.T. *The Medieval Inventories*, pp. 258-9; Bennett M. *The Battle // Agincourt, 1415: Henry V, Sir Thomas Erpingham and the triumph of the English archers* / Curry A. ed. Stroud, 2000. pp. 21-36. See also Woosnam-Savage R. C. *Olivier's Henry V (1944). How a Movie Defined the Image of the Battle of Agincourt for Generations // The Battle of Agincourt*. pp. 250-62.

bowyers, fletchers and longbowstringmakers in the suburbs around the Tower increased over time as well.¹⁵

What also becomes evident from manuscript evidence is the early use of artillery and ordnance. Ten guns, two large and eight small, all firing lead bullets rather than the arrows with which these early guns were commonly associated, were shipped to France in 1346.¹⁶ Tension-powered artillery still remained important. Springalds, bolt-shooting engines, shot bolts fletched usually with copper-alloy feathers. There were standard sizes of springalds in the first half of the 14th century, shooting bolts 56 & 69cm in length. Crossbows, generally considered a continental weapon after the widespread introduction of the longbow in England, were regularly issued to ships and for the purposes of siege warfare at this time. Documentary evidence shows that most crossbow bolts were fletched with feathers from hawks, probably intended for hunting. The crossbows that were supplied had different spanning mechanisms, that is to say, how the string was pulled back to fit the bolt for shooting. The belt (baldrick) and hook remained the most common; but a goat's foot lever, a lever is placed on the bow that hooks onto the string and is pulled back to span the crossbow, was used for the larger of the hand-held crossbows. Even larger crossbows were spanned with screw winders. It is probably safe to say that a 30cm crossbow shot a 30cm bolt, and a 60cm crossbow a 60cm bolt.¹⁷

The armoury continued to manufacture and build up supplies of weapons during the 1360s and 1370s. The practical supply of armour for men-at-arms stopped during this period. Very little was

¹⁵ Richardson R.T. *The Medieval Inventories*, pp. 260-62. The Bowyers and Fletchers were granted ordinances to regulate their crafts in 1371: Unwin G. *The Gilds and Companies of London*. London, 1908. p. 89.

¹⁶ Smith R. D. *Artillery and the Hundred Years War: Myth and Interpretation // Arms, Armies and Fortifications in the Hundred Years War* / Curry A. & Hughes M. eds. Woodbridge, 1994. pp. 151-60; Spencer D. *The Development of Gunpowder Weapons in Late Medieval England*. Unpublished University of Southampton PhD thesis, 2016. pp. 23-4.

¹⁷ Woosnam-Savage R. C. *All Kinds of Weapons // The Battle of Agincourt*. pp. 147-150; Prestwich M. *Armies and Warfare in the Middle Ages*. New Haven & London, 1996. pp. 129-31; Contamine P. *War in the Middle Ages* / trans. M. Jones. Oxford, 1984. pp. 71-2, 193-5, 202-3.

issued out of the Tower, and what was purchased or made was added to the stores of the armoury instead. Towards the end of this period a small number of suits of armour were issued to men-at-arms 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 (equipment designed for fighting at close quarters on foot) but without plate leg defences. In contrast to men-at-arms, the provision of mail shirts together with bacinets and aventails and quilted jacks and doublets do show a sustained attempt to provide body protection for archers. Some mail shirts were also purchased for protection. The accounts indicate that London craftsmen were involved in their manufacture, though some of the suppliers were merchants who could have been supplying imported armour, and the names of some of the suppliers indicate that they were from the Low Countries.¹⁸

By the later 14th century there appears to have been a shift from buying to making equipment at the Tower of London. The provision of longbows, strings and arrows had also become a priority. London bowyers provided a constant supply of bows, and London fletchers providing arrows, or working in the Tower. One account shows a fletcher paid at his standard daily rate could assemble an average of 187 arrows in that time. The use of the Tower as a working armoury can be seen in the employment of workmen to assemble pollaxes and lances too. Pollaxes featured regularly in the accounts from this period onwards, but in small numbers, whereas long and short lances continued to be issued in large numbers. [Figure 5]. The same change can be seen with the manufacture of ordnance and artillery at the Tower. Though guns were still mainly purchased from London makers the manufacture of gunpowder and lead bullets in the Tower began in the early 1370s, from that time workmen were regularly employed there in the making of ordnance supplies. The details regarding the casting of bullets for the smaller handguns which first appear in the 1380s show that they had a calibre of about 26mm and that they were originally fitted with ash wood handles. Gunpowder, too, was produced at the

¹⁸ Richardson R.T. *The Medieval Inventories*, pp. 55-6, 77, 159, 264.

Tower. Several accounts even provide the exact proportion of saltpetre to sulphur (c.80:20).¹⁹

The continuous production and purchase of ordnance throughout this period resulted in a store of thirty-nine cannon of copper and iron by 1399. The provision of gun stones for larger cannon also starts towards the end of the 14th century. There is no reason to suppose that the total numbers of cannon declined significantly before the reign of Henry V (1413). In a 1415 manuscript by the royal official, Gerard Sprong, an iron cannon with two chambers called 'Clyfs', three other iron cannon, and a cannon called a Fowler were all listed. There were also two iron cannon, called 'Bristowe' and 'George' on Tower Wharf. It was common practice to name cannon.²⁰

The maintenance and repair of arms and armour at the Tower continued during the late 14th and into the 15th centuries. The documents record bacinets being relined inside in the 1390s and mail shirts were repaired by specialist mail-makers. Some manufacture is recorded such as the making and decorating of 500 pavises (shields) for Richard II's last military expedition to Ireland in 1399. Despite the increasing importance of firearms and ordnance, springalds continued to be maintained and manufactured, and in the late 1370s and 1380s, and were issued for the defence of Portchester Castle and Berwick. By 1393 they had clearly become obsolete, although a small number were kept in store and some of their quarrel heads were turned into lance heads for short lances.²¹

Crossbows continued to be issued as well to Calais, Portchester Castle, Windsor Castle, Hadleigh Castle, and Corfe Castle, to various Welsh castles in the 1370s, and to Berwick, Dover Castle, Southampton and Odiham Castle in the 1380s. Their importance to castle defence 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. Like that of springalds, the declining importance of crossbows to English

¹⁹ *Ibid.*, pp. 264-5.

²⁰ Mercer M. Henry V and the Tower of London, p. 66.

²¹ Richardson R.T. *The Medieval Inventories*, p. 183.

armies is shown after 1393, where there is very little evidence for their purchase or issue.²²

The provision of longbows and arrows continued throughout this period. Most were purchased from London bowyers and fletchers and the work had by this time become so regular that craft guilds were formed among the bowyers, fletchers, and longbowstringmakers to regulate the trade. The bowyers established their workshops near St Pauls Cathedral and continued to supply the Tower from there. A large proportion of the issue of longbows, arrows, strings and other equipment was for defensive purposes, such as that given to the garrison at Calais in the late 1370s and 1380s. Smaller quantities were sent to castles in England and Ireland, to Dublin, Corfe Castle and Windsor Castle. The exact size of Richard II's expeditionary force taken to Ireland in 1399 is unknown, although it is known to have been small. The issue of 1,500 bows to the army strongly suggests, however, that it included about 1,500 archers.

The return to military campaigning in France by Henry V, and then in the name of Henry VI, once again saw the Tower continue in its role as a working armoury, store, and distribution centre.²³ Throughout 1414, in preparation for Henry V's invasion, large quantities of arms and armour were gathered by officials of the privy wardrobe and by the king's personal craftsmen and artisans. It was very much a planned and coordinated effort. These items were specifically described as being made for the king's stores. Once the French port of Harfleur surrendered to Henry V on 22 October 1415 the privy wardrobe was active in obtaining and sending supplies for the town's defence and security including pieces of ordnance. Supplies for other captured towns and cities were organised by the privy wardrobe too.

Henry V was, in fact, stockpiling money, armour, munitions and weapons at the Tower from the very beginning of his reign. Royal officials were empowered to commandeer all the necessary skilled labour around London in order to meet military requirements.

²² *Ibid.*, pp. 128, 147, 267.

²³ The following paragraphs are based on Mercer M. Henry V and the Tower of London, pp. 64-70.

Large quantities of bows and ordnance were obtained for the campaigns. Simon Fleet, keeper of the privy wardrobe, made purchases of bows, bowstrings, arrows, and pavises. Much attention is generally paid to the success of the English longbow at the battle of Agincourt in 1415. It was, after all, instrumental in the victory. The construction and purchase of significant numbers of bows were made through the London craftsman, Henry Bowyer. Other bows were made and supplied by Stephen Flexner. Yet the first phase of Henry's campaign is also notable for the extensive use of ordnance. The Tower and London artisans played a direct role in capturing the town of Harfleur through the use of ordnance. William Gerardson, gunner, is recorded making guns for the king on at least four occasions. So, too, were the king's smith, William atte Mersh and his son, Stephen. Large purchases of gunpowder or its ingredients were also made. A number of these purchases were organised through the royal clerk, Nicholas Merbury, others were made by men described as founders, gunners, and even armourers, and some through foreign suppliers like 'Herr William van Isendore knight' possibly from the Low Countries. The artillery storehouse at the Tower, probably located to the north of the White Tower from the beginning of the reign of Henry IV, was home to some of these stores. Wherever its precise location at the Tower, ordnance was being purchased and stored onsite, like the great gun made on Tower Hill in 1418.

3. The King's Armourer or 'Armourer of the King' at the Tower of London²⁴

Surviving evidence suggests that a formal relationship had developed between particular armourers and the Crown by the beginning of the 14th century. These favoured men were referred to as "king's armourers" or "armourers of the king". It had long been the custom for the crown and the aristocracy to retain armourers for military service within the British Isles and abroad and London armourers had provided large amounts of armour for the wars of Edward I and Edward II in Scotland. By retaining the services of armourers the king was doing what any aristocrat might do. The first

²⁴ Unless otherwise stated the following paragraphs are based on Mercer M. King's *Armourers*, pp. 8-20.

clear evidence of an actual armourer in the king's household is Hugh de Bungay, who was described as a sergeant in 1310. From the reign of Edward I (1272), men with particular levels of expertise were being retained in royal service and given the rank of a sergeant within the king's household. The term did not have the military associations that the modern-day word 'sergeant' has. It really meant a specialist in a particular department. In the second decade of the 14th century the role of the king's armourers and their relationship with the king's household becomes clearer. De Bungay worked under the direction of the great wardrobe so when the great wardrobe moved out of the Tower in the mid part of the 14th century and established its presence more firmly within the city, king's armourers stayed resident outside of the Tower's walls too. They did not live inside. By the beginning of the reign of Edward III (1327), king's armourers, especially those who were also sergeants in the royal household, probably had two functions: first, to make and supply armour for the king, his household and other royal servants; and second, to help obtain additional quantities of armour for military campaigns. In this second role there was no real difference from other armourers periodically employed by the crown. In common with other armourers, the items were delivered to the keeper of the king's arms and armour.

Up until the mid-14th century the preferred skills of king's armourers were tailoring skills. These are what we would call linen armourers because they worked mainly with cloth and fabric. If metal products were required a king's armourer could either purchase them or employ metal-working specialists to complete a particular task. Hugh de Bungay was a tailor rather than a metalworking specialist. Records show that he supplied armour to the crown as well as repairing items when asked to do so. Alongside de Bungay and other king's armourers there was a much larger group of armourers who were subcontracted to work for the king's household. A single payment, for example, was made to the linen armourer, Robert de Lindsay, who had worked on the production of aketons (defensive jackets) in 1324-25. In 1329 Agnes, the wife of Richard le Heaumer (helmet maker), was paid for supplying a range of items for the king's use including a helmet and a leather box for his bacinet. In the same year, the armourer, William de Skelton, was

paid for supplying armour for the joust and tournament. In none of these instances was the supplier formally attached to the king's household.

As the privy wardrobe became the dominant royal department at the Tower of London managing the purchase, supply and distribution of arms and armour to the king's forces under Edward III, king's armourers came to enjoy a closer relationship with the keeper of the privy wardrobe, John Fleet, and his staff. Like all armourers contracted to supply goods to the king, king's armourers then delivered their finished items to John Fleet. At the beginning of his reign the number of armourers attached to the royal household rose dramatically. There are perhaps several interlinked reasons for the sudden increase. On the one hand there was the new king's obvious interest in chivalric activities. Linen armourers were crucial to supplying the practical as well as luxury and decorative items needed for these events. Secondly, alongside the renewed interest in these activities there was also an apparent desire to promote and encourage the domestic production of armour for the king's use. By retaining the skills of foreign armourers directly the king perhaps hoped to increase the skills of English armourers too.²⁵

After Edward III succeeded to the throne in 1327 his principal armourer was the Englishman, Thomas de Copham. However, he died on 5 March 1332 which allowed a new, more dynamic group of foreign armourers to enter royal service. Contemporary documents show that the group of king's armourers changed throughout during the 14th century, as much through natural causes as anything else. The marriage of Edward III to Philippa of Hainault in 1328 might have reinforced a liking for Low Countries specialists, from modern-day Belgium, Netherlands, and Rhineland Germany, who were skilled in the production of both linen armour and metal armour. Amongst the new group were John de Cologne, Peter de Valenciennes and Gerard de Tournay. As his name suggests, John de Colonge was from the Rhineland. Peter de Valenciennes and Gerard de Tournay were from the queen's own homeland of Hainault

²⁵ Mortimer I. *The Perfect King: The Life of Edward III, Father of the English Nation*. London, 2008. pp. 114-6; 457; Barber R. *Edward III and the Triumph of England*. London, 2013. pp. 50, 58-9.

(Belgium/France). Expertise was also acquired from other European centres as well. Sayer de Bonet, otherwise Sayer de Valence was almost certainly from the centre of armour production in France based around Lyon. By the mid-1330s John de Cologne seemed to be the dominant figure amongst this group of armourers and remained influential up until his death in 1357. Amongst his most significant commissions were multiple items for the king's new chivalric fraternity, the Order of the Garter.

During the course of the 14th century the king increasingly employed metal-working specialists. This group included John Daundeigne, Gerard de Tournay and William le Hauberger. Daundeigne was the king's first identifiable helmet maker. After his death he was replaced by de Tournay. William le Hauberger supplied metal armour. There is also reason to believe that king's armourers like Gerard de Tournay were able to produce quality pieces of metal armour by the 1330s and 1340s. In 1334 de Tournay supplied a refurbished (restored) helm for the tournament with the eyes gilded. Moreover, in his financial accounts he submitted for the period up to 1341 he was also recorded delivering items including one bascinet from Lombardy polished and decorated. [Figure 7]

The relatively small quantities of armour stored at the Tower at this stage seems to suggest that most king's armourers, other than those that were part of the king's household, were not based regularly inside. Certain king's craftsmen and artisans such as the attilator (supplier or maker of artillery), bowyer, fletcher and smith had accommodation at the Tower and were often described in official documents as 'smith of the king in the Tower of London' or 'attilator of the king in the Tower of London'. The accommodation of the king's craftsmen was obviously spread about different parts of the Tower site. In the early 1330s the attilator, or artillery maker, Nicholas Conrad, was based in one of the north-eastern Towers close to the queen's wardrobe. Nevertheless, it would seem likely that most kings' artisans were located close to the royal apartments in the Wakefield Tower. During the mid-15th century the king's fletcher had a dwelling between that of the clerk of works and the Wakefield Tower, while the king's bowmaker was provided with accommodation between the Wakefield and Westsmithfield Towers.

However, it was not until the final third of the 14th century that a leading royal armourer for the king was formally placed at the Tower and referred to as ‘armourer of the king in the Tower of London’ or ‘armourer of the body of the king’. This was a reflection of the changes that had taken place in the manufacture of armour and the changing requirements of the king. When the ‘armourer of the king’ started to work and live at the Tower direct, personal contact with the royal household was re-established and he then resumed custody of the store of arms and armour for the king’s personal use. Moreover, the ‘armourer of the king’ was now also able to produce metal armour to a much higher quality in the completely refitted workshop that was provided for William Snell, appointed king’s armourer in 1377.²⁶ This was also the situation at the beginning of the 15th century when Henry V’s personal armourers, Martin Pull and John Hill, very clearly supplied the personal needs of the King. John Hill was armourer for the king’s body by 1408 and seems to have worked in partnership with Martin Pull who was first appointed an armourer for the king’s body in July 1413. Entries concerning Hill and Pull show them supplying various items for the king’s personal use, particularly breastplates, vambraces, rerebraces, helmets, and bacinets. They were gilded in copper and covered in velvet. In one particularly long manuscript entry Pull is also recorded as making, supplying and transporting a particularly large quantity of arms and armour to various and secret locations – probably in readiness for Henry V’s French invasion.²⁷ There seems little reason to doubt that arms and armour were being produced at the Tower into the 15th century. With the death of Henry V and the disastrous reign of Henry VI, however, the level of manufacture of armour for the king’s use at the Tower almost certainly declined. While the workshops remained, there is no indication that they were used to supply royal needs for a very unwarlike king. A list dated 1455 for the goods remaining in the custody of John Stanley, Sergeant of the Armoury, described much of it as broken, damaged, or of little use. A sorry situation for the King of England to be in on the eve of the Wars of the Roses.²⁸

²⁶ Richardson T. *Armourers’ Tools in England // Arms and Armour*, 9:1, 2012. p. 27.

²⁷ Mercer M. *Henry V and the Tower of London*, p. 70.

²⁸ *Calendar of Patent Rolls, 1452-61*. London, 1910. pp. 247-8.

Et de .i. peye de plâtes cote de camoed lide en la garderoie
 le Roi a Costin le dit mois de ffouez quide n'est le Roi
 dona a grant Henri de ffouez .po. ~~xxij. s.~~ Et de .viij.
 blancs pbatuz deluiez en la garderoie le Roi a Costin
 le dit mois de ffouez plus .xxij. s. Et de .viij. chapel
 blancs pbatuz deluiez en la garderoie le Roi a Costin le dit
 mois de ffouez .po. la piece .xxij. s. viij. s. .ij. l. viij. s.
 Et de .viij. chapel blancs pbatuz deluiez en la gard
 le Roi en la ro^m de Londres le .viij. iouy de may des
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 scalpes doyez lidez en la garderoie le Roi le dit mois de
 may .ij. s. Et de .vne peye de guffay coupey de camoed
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 en la gard le Roi a Costin le .xx. iouy d'aveyl .po. ~~xxij. s.~~
 Et de .vne peye de plâtes cote de blancguy oue scalpes
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 Costin .po. ~~xxij. s.~~ Et de .viij. chapel blancs pbatuz
 deluiez en la gard le Roi a Costin le dit mois d'aveyl
 quel le Roi dona a peps de Binchump .po. ~~xxij. s.~~ viij. s.
 Et de .viij. chapel blanc pbatuz deluiez en la garderoie le Roi a
 Costin le dit mois d'aveyl .po. ~~xxij. s.~~ viij. s. Et de
 un blanc pbatuz deluiez en la

Figure 7 - Extract of financial account of Gerard de Tournay,
King's Armourer (TNA, E 101-388-11)

Conclusion

What, therefore, can be concluded about the Tower of London armoury in Late Medieval England? During the course of the 14th century the Tower gradually transformed from being a place that mainly supplied armies going on campaign with arms and armour to being the kingdom's principal working armoury, that undertook storage and shipping but also production and repair. The high point of this activity was the end of the 14th and first half of the 15th centuries before then declining during the Wars of the Roses – the dynastic struggle that tore England apart in the mid-to-late 15th centuries. The armoury's central role from the early 14th century had probably been much greater because of the lack of other major armouries in the kingdom.

The role and development of king's armourers reflect that process of change very closely too. They were at first based in London rather than the Tower and acted like any other armourer supplying a range of goods. Their main links were to the city rather than the Tower. It was just that they had a special relationship to the King that other armourers did not enjoy; but as the role of the armoury changed from being one that supplied armour and weapons to men-at-arms and archers to one that supplied archers and ordnance, the role of the King's Armourer also changed. King's armourers continued to supply goods to the privy wardrobe, but by the late 14th century the king's principal armourer had become settled at the Tower and largely devoted himself to maintaining the king's most personal stores. By the reign of Henry VI (1422) responsibility for the king's arms and armour had been placed into the hands of a person called the Sergeant of the Armoury who used the services of specialist armourers when required. The Wars of the Roses (c.1455-1487) largely ended the Tower's role as a working armoury and when Henry VIII established royal armour workshops at Greenwich Palace the Tower reverted to being primarily a storehouse.