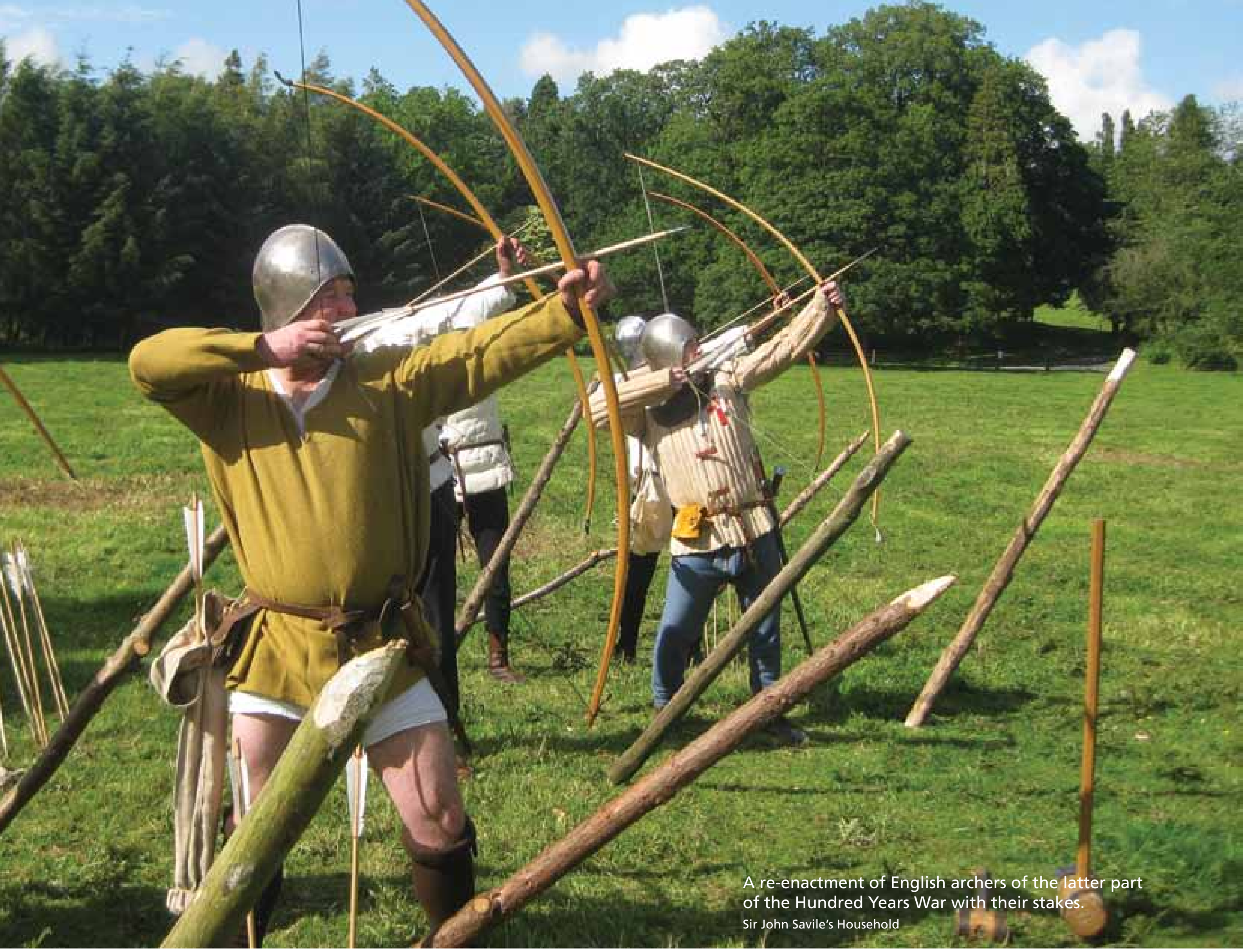


A re-enactment of English archers of the latter part of the Hundred Years War with their stakes.
Sir John Savile's Household

Playing for high stakes:

the archer's stake and the battle of Agincourt

Our perspective on how archers performed in battle is enhanced by **Mark Hinsley's** research into their use of protective stakes.

On the approach to Agincourt in 1415 a small skirmish took place at Corbie, on the Somme. A force of French men-at-arms sallied out from the town and cut up some of the English archers, but were driven back by English men-at-arms, and several French prisoners were taken. From these it was learned, according to an account of the campaign (*Gesta Henrici Quinti*) written by a chaplain with the army:

> That the French had appointed many companies of horsemen, in hundreds, on armed horses, to break through the battle and strength of our archers…[1]

Such tactics were not new; two elite cavalry contingents had attacked at the battle of Poitiers (1356). Their attacks down the roads in the centre of the English position were intended to break through the hedge and ride down the archers behind, as a precursor to the main attack on foot. Similar tactics had been tried at the battles of Mauron (1352) and Saintes (1351), but had been unsuccessful, as had earlier mass mounted attacks, at Crécy (1346).

English commanders knew that unsupported archers were vulnerable to cavalry: the Scots had ridden down unsupported English archers as far back as the battle of Bannockburn (1314). They took care to fight from well-chosen positions utilising natural obstacles, such as slopes and rough ground (Crécy, Poitiers), hedges (Poitiers), woods and brambles (Mauron) and marshes (Poitiers). Where such natural obstacles did not exist, artificial obstacles could be created, including hand-dug pits and trenches, as at Crécy and Aljubarotta (1385).

The problem with these features was that they were static. From the intelligence gained at Corbie, it seems that the French intended to strike the army on the march, at a time and place of their choosing. Furthermore, Henry' Vs army was short of men-at-arms, who were outnumbered five to one by the archers.

The chaplain's account also specifically refers to a select French force on 'armed' horses. The end of the fourteenth century had seen major changes in the smelting of iron, allowing the construction of larger steel plates. This led to improved plate armour for men, but also extended its use to horses. At this stage its use was not widespread and was limited to the most vulnerable areas of the horse – the head (protected by the shamfron), the neck (by the crinet) and the chest (by the peytral). Such armour, supplemented bardings of mail or brigandine construction, leather and fabric padding gave horses a better chance of surviving archery, particularly from the front.

Even with the armour of their day, the cavalry attacks at Poitiers and Mauron had come close to success. At Poitiers the attack of the Comte de Clermont was only defeated by the prompt action of the Earl of Oxford, who deployed archers in a marsh to their flank, directing them to shoot at the unarmoured sides of the horses. At Mauron French horsemen broke the English archers on the right flank: the English commander Walter Bentley subsequently executed several archers for cowardice.

The solution

Henry realised that he needed a defence that was portable and could be placed quickly. The chaplain continues:

> ...therefore the king gave orders that each archer should provide himself with a pole or staff, six feet in length of sufficient thickness, and sharpened at each end; directing that whenever the French should approach to battle with troops of horse of that sort, each archer should fix his pole before him in front and those who were behind other poles intermediately; one end being fixed in the ground before them, the other sloping towards the enemy higher than a man's waist from the ground.

The oldest surviving plate horse armour, a Milanese armour of about 1450, now in the Vienna Museum.

Henry may have got his inspiration for the stake from the French themselves, as stakes had been routinely used in the Hundred Years War to block fords or roads, as at the ford at Blanchetaque where Henry had attempted to cross the Somme a few days earlier. Medieval military manuals, based on earlier Roman texts, may also have referred to the stake that each legionary carried for the construction of their camp. Stakes had also been used by the Turks to protect their own archers at their crushing victory over the French, Burgundian and Hungarian crusaders at Nicopolis in 1396. Over 10,000 crusaders were captured and the majority executed, causing a sensation across Europe.

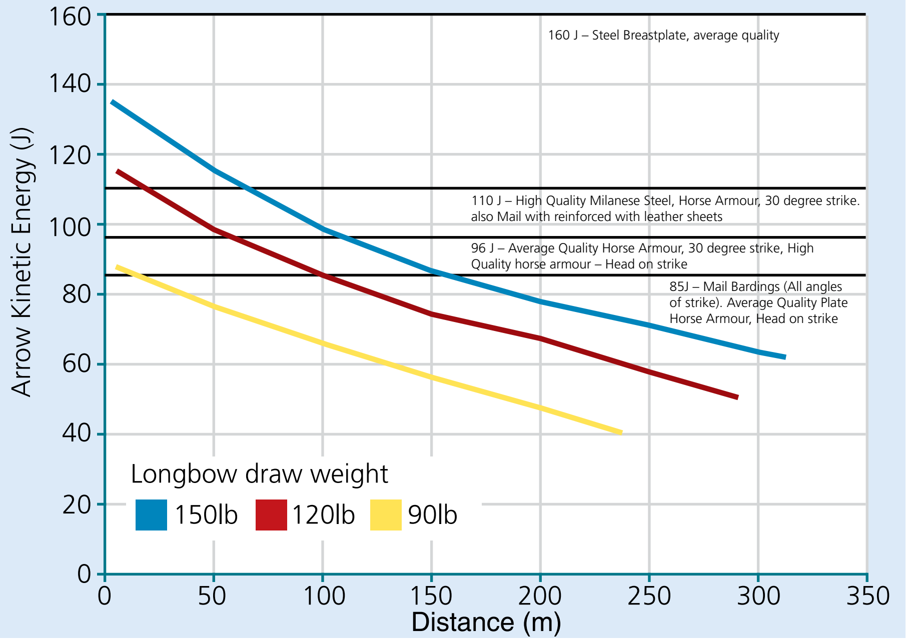
How were the stakes deployed?

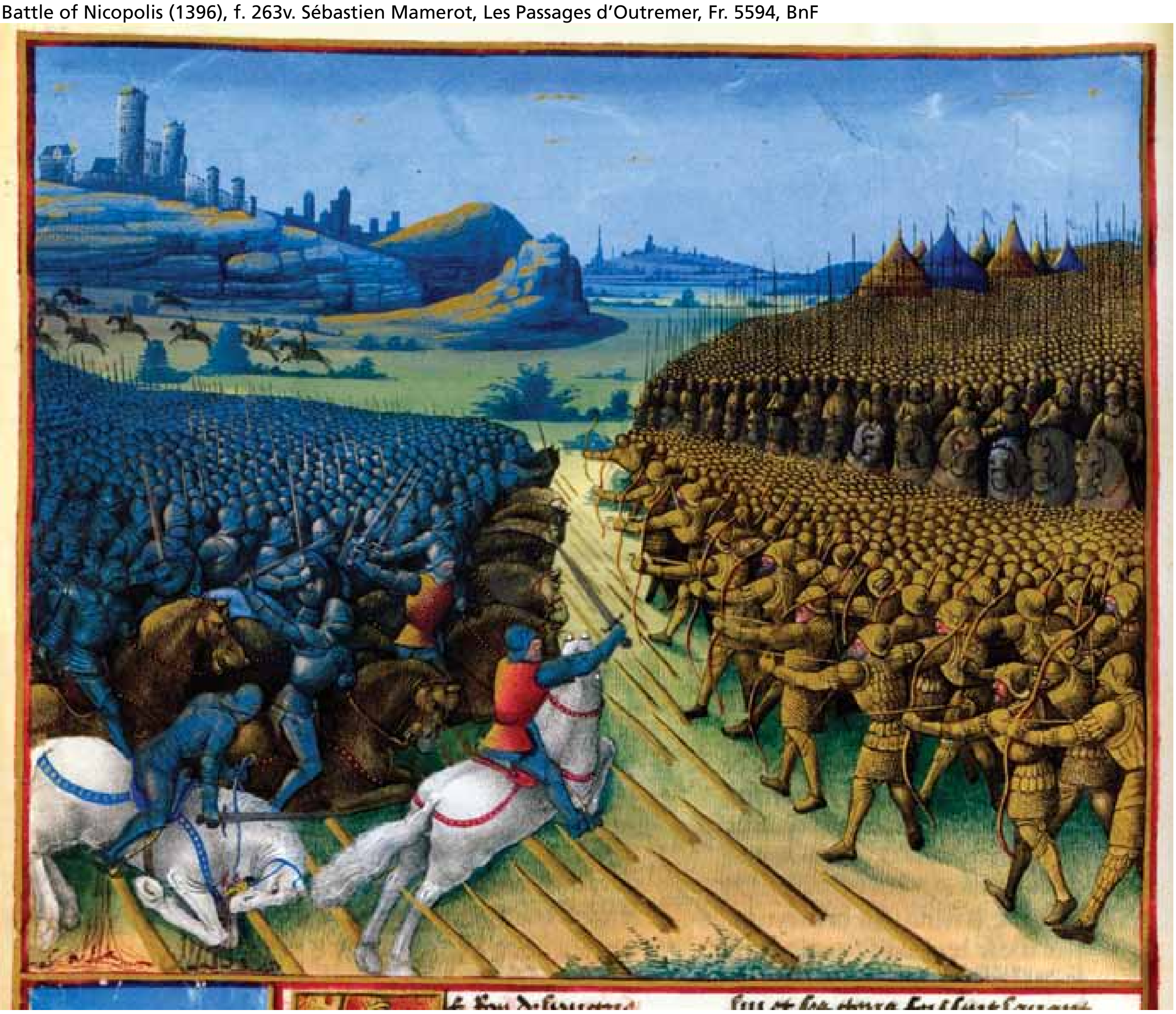
The optimum stake thickness is between two and three inches in diameter, sufficient to allow it to be hammered in without breaking, but light enough to carry. From practical trials using period tools, a maul or mallet to hammer in the stake, and a handbill or large knife to re-trim the point, a stake can be placed in soft ground in less than two minutes. These tools also make handy improvised weapons.

The chronicles give differing descriptions of the stake barrier, referring to it variously as hedge or fence. The chaplain's comments have been interpreted by modern historians in different ways.

Col. A. H. Burne postulated in *The Agincourt War* (1956) that the stakes were placed to form a continuous fence,

Figure 1: Penetration of Armour with Range





Battle of Nicopolis (1396), f. 263v. Sébastien Mamerot, Les Passages d'Outremer, Fr. 5594, BnF

a view challenged by John Keegan in his account in *The Face of Battle* (1976). Keegan made the practical point that such a continuous barrier made it difficult to place the stake as this would have involved standing on the 'enemy' side to hammer it in, with the result that you would then not be able to return to your own side. He suggested a chequerboard arrangement of stakes, easy to move through for the archers, whom we know sallied out from the stakes during the battle. Clifford Rogers in his account of the battle in 2008 suggested a mixture of the two.

The use of the stakes at Agincourt

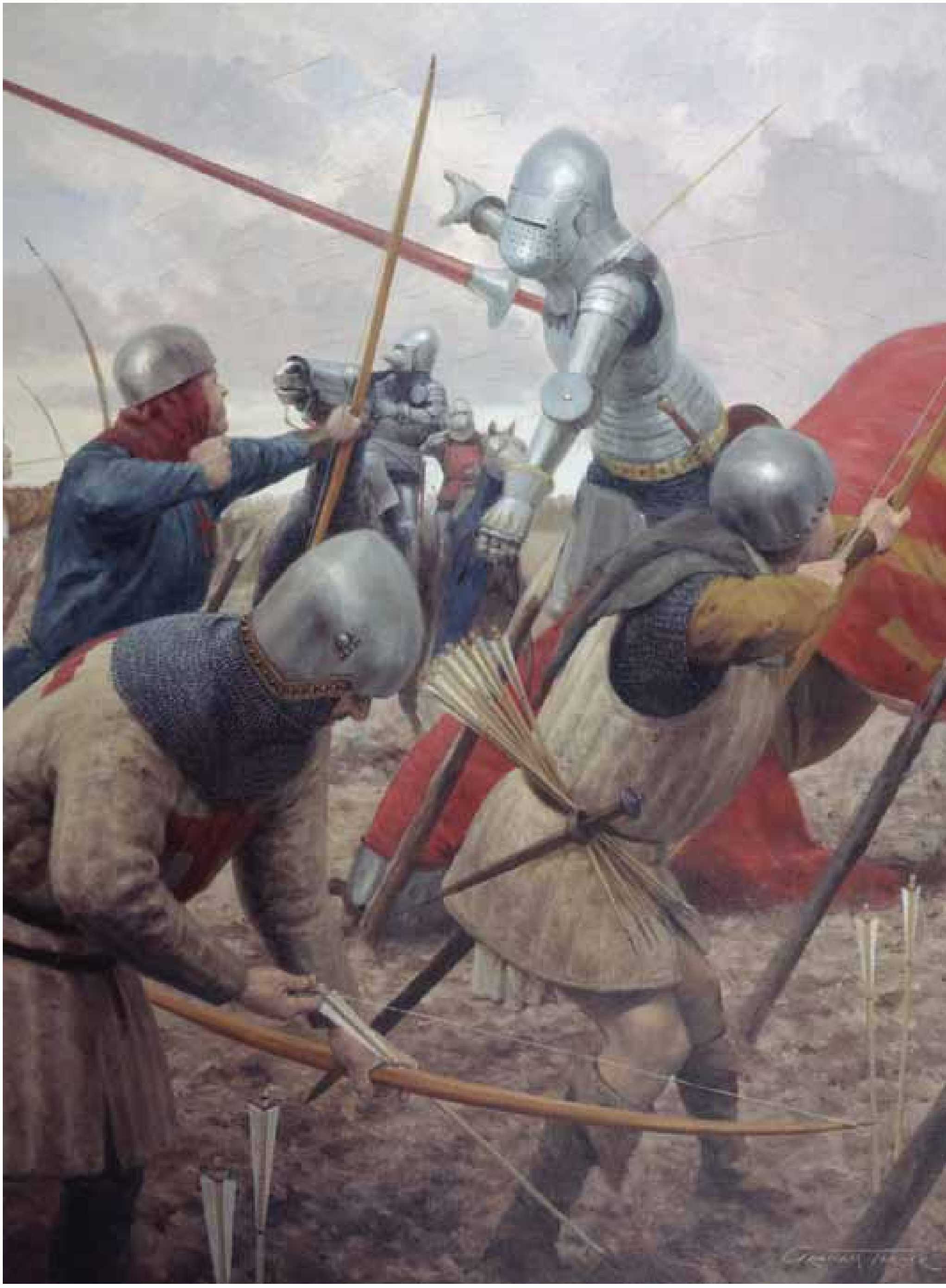
Henry V drew up his army with his men-at-arms, probably about 1,500, in the centre, flanked by two wings of archers each about 3,000 strong. Time was not on Henry's side and accordingly he advanced his army from its initial position to within extreme bow shot of the French (~250m), re-planted the stakes and pushed forward his archers to shoot the French, with the desired effect of provoking them to attack.

The French plan was to attack primarily on foot with their first two battles – the vanguard and main body (6,000-9,000 men-at-arms). These were flanked by two bodies of mounted men, each 600 strong. The purpose of the latter was specifically to attack and disrupt the archers on the English flanks, preventing them shooting at the French foot as it advanced. Unfortunately for the French, both of these bodies of cavalry were under strength, with less than half the required men-at-arms being present.

The main advantage of a mounted attack was that it could cross the danger zone from archery (~262 yards, 240m), in a short period of time. Assuming that the French cavalry were charging at an average speed of 13mph (6 m/s) they could cross this distance in approximately 40 seconds. An archer shooting with a heavy bow could loose approximately 6-8 aimed shots in a minute, approximately six shots in this time at 220m, 186m, 143m, 100m, 57m and 14m respectively.

It is generally accepted that the variation in draw weights of medieval warbows fell between 90 and 150lbs. Figure 1 shows the arrow energies for an 'average' 120lb longbow and the two extremes, as they decline with range. Compared against these are the energies required to penetrate different armours to a depth sufficient to cause a serious injury or kill (a penetration of 40 mm into flesh), for a variety of armour combinations and qualities. The energies are measured at both a 30° angle of strike (typical of an arrow at longer ranges, where the arrow is 'lofted' or shot in a parabola) and at 0°, a head-on impact, only likely to be achieved at very close ranges (where the arrow is shot directly at the target, in a flat trajectory). Arrows would start to penetrate the armour, possibly causing minor wounds at approximately two-thirds of these values; even arrows that did not penetrate would cause severe bruising, so-called 'blunt trauma', through flexible armours such as mail, cumulatively debilitating.

From this we can see that even if the first four shots at the French cavalry at



Archers at Agincourt, French men-at-arms being brought down by the stakes.
Painting by Graham Turner © the artist, www.studio88.co.uk

230m, 186m, 143m and 100m were lucky enough to hit (less than 3% probability), an arrow from our average bow is unlikely to cause a serious injury or kill. The fifth shot at 57m would still have a relatively low probability of hitting, approximately 16%, but the energy of the arrow at 95J (joules) would penetrate mail bardings causing serious injury, and partially penetrate plate causing a galling minor wound.

The final shot delivered from 14m would have the highest chance of hitting the target (about 50%) and the archer would be flat shooting, making a head-on shot more likely. The energy of the arrow at this point would be 110J: this would penetrate armour for the horse, inflicting a serious or fatal wound and partially penetrate a man-at-arms' breastplate, though probably not fatally. It would need a confident archer to shoot at this range, however, as if he missed, the men-at-arms would be on him in less than three seconds. The temptation to run must have been very great, but the psychological security of the stakes may have tipped the balance, allowing this final, most effective, shot.

On the receiving end, those men-at-arms in the front ranks of the French cavalry, with several ranks behind them, may have had little choice but to charge home into the stakes (particularly if these were hidden from them in their approach by archers standing before them). We know that at least three French knights did penetrate the stakes (several of which fell down, due to the softness of the ground, so their protection may have been more illusory than real). These included Guillaume de Saveuse, one of the French commanders of the left wing: all were speedily dispatched by the archers.

Those men-at-arms in the rear ranks were able to pull up and turn, but this slowed them, increasing the time that the defending archers would have to shoot them. As they turned, they exposed the flanks of their horses, presenting a larger and less well-protected target, within the optimum 30m killing zone. Further shots would be directed at their rear as they fled.

The fleeing French horses, maddened by arrow wounds, crashed into the flanks of the advancing French infantry, disordering them and causing them to shy in towards the centre.

The archers now shot their arrows into the flanks of the French foot. While they may not have been able fully to penetrate the breastplates, the chronicles refer to arrows penetrating the limbs and visors where the armour was thinner, causing numerous wounds. The rain of arrows into their flanks caused the French men-at-arms subconsciously to move towards their centre, away from the archers, creating the 'crowd-crush' conditions which were to contribute to the English success.

Finally, having exhausted their arrows, the archers erupted from the stakes, with whatever weapons were at hand (including stakes as improvised clubs) to assail the French flanks.

Later use of the stake

Following Agincourt, stakes became a standard feature of English tactics. The earl of Salisbury, before the battle of Cravant (1423), stated that each archer, both English and Burgundian, should carry a stake. John Talbot, earl of Shrewsbury, 'The English Achilles', is said to have commanded each of his archers to carry two stakes 11 feet in length. Sir John Fastolf used stakes and a wagon laager to defeat the French and Scots at Rouvray (1429).

Without stakes English archers fared badly; at Verneuil (1424) the archers were slow to place their stakes, perhaps because of the hardness of the ground, and were swept away by the heavily armoured French and Lombard cavalry. At Patay (1429) the English archers were surprised and the whole army overrun in a matter of minutes. Finally at Formigny (1450) the initial French attacks made no impression on the English line (furnished with stakes), but a fresh force of French cavalry attacked their (unstaked) flank, leading to their defeat.

Stakes continued to be used in the early battles of the Wars of the Roses. The Yorkists at Blore Heath (1459) are known to have placed stakes before the battle and defeated two mounted attacks by a larger Lancastrian force. The Yorkists are known to have deployed stakes at Ludford Bridge (1459) and the Lancastrians at Northampton (1460), but thereafter their recorded use declined, perhaps because of their ineffectiveness in these battles and the prevalence for both sides to fight on foot, without, in the main, using cavalry charges.

The stake was also used abroad by those armies exposed to English archers: the Burgundians and French. At the battle of Bulgneville (1431), the Burgundians imitated the formation of Agincourt, with equal success. Before the battle of Montlhery (1465), Philippe de Commynes, in his memoirs, records Burgundian archers, possibly English mercenaries, taking their ease with a barrel of beer, their boots off and their stakes set before them. The French 'franc archiers' were using stakes before 1444.

The destruction of the Burgundian army at the battles of Grandson (1476), Morat (1476) and Nancy (1477) by the Swiss, using pikes, led to the abandonment of the use of archers on the continent in favour of pikemen supported by crossbows and handguns in the Swiss fashion. Only in England did the bow remain in widespread use.

In his younger years Henry VIII was a fine bowman, who did much to encourage archery; bowmen were a prominent part of early Tudor armies. When Henry VIII invaded France in 1513, his army took 5,000 stakes with them, carried in wagons. A year later, 300 stakes were recorded in the inventory of the *Mary Rose*, suggesting that its soldiers and sailors were expected to act as marines, as sailors of the fleet had done at the battle of Flodden the year before.

The stake had now become 'an issue item' rather than the improvised defence at Agincourt. In 1529 we hear that one Richard Rowley, blacksmith of London, was to provide 2,500 sockets, rings and staples of iron to garnish archers' stakes and provide a further 5,000 stakes 'ready garnished with heads, sockets, rings and staples', presumably to allow them to be chained or roped together.[2] An Italian commentator in 1531 describes the English as 'fighting in the old fashion, with bow, sword and buckler, celata (sallet) and a two pronged iron stake.[3]

At Henry's death in 1547, the inventory of his possessions records 15 bundles of archers' stakes at Pontefract and 150 at Hammes castle in the Calais Pale. Three years later the stock at Pontefract had reduced to eight bundles (perhaps through use in the war with Scotland) and 350 are recorded at Berwick.

English Archers of the latter part of the 100 years war placing stakes.
Sir John Savile's Household

Despite Henry's support of the bow, the proportion of men armed with guns and pikes in the continental fashion increased inexorably, the musket replacing the bow and the pike replacing the stake's defensive function against cavalry, the 'shotte' sheltering within the pike formation. In addition, further improvements in the production of iron allowed mass production of cheap 'munition' plate armours, proof against arrows. Consequently, in 1588 the Elizabethan government was encouraging the county militias to phase out the 'country weapons' (the bill and the bow), in favour of handguns and pikes.[4] There were various proposals to revive the bow, including the ingenious 'Double Armed Man', a combined bow and pike-armed soldier, as late as 1625, but nothing came of them.[5]

The last documented issue of stakes is in the reign of Charles I in 1627 when 300 stakes were issued to 200 Highland archers. These men were reinforcements for the army led by the duke of Buckingham, besieging the Isle de Ré, in support of the French Huguenot rebels in the nearby city of La Rochelle (an event which figures prominently in Dumas' novel *The Three Musketeers*). The siege collapsed before they arrived, however. In 1635, just eight years later, only '48 palisadoes, three without heads' remained in the Tower of London. The day of the archer, and his stake, was over.[6]

Further reading

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Mark Hinsley has been a re-enactor of the Wars of the Roses for over 25 years. He is the Research Officer for the Blore Heath Heritage Group and Battlefield Custodian for Blore Heath for the Battlefields Trust. His 'day job' is as a consulting civil engineer specialising in the remediation of contaminated land.