

Later Medieval warfare: 1066-1500

There are 31 later medieval actions on the database which have been classified as battles. A further 17 are classified as possible battles where the scale or nature of the action is to some degree unclear, with some probably sieges and others perhaps no more than skirmishes. The possible battles vary between events such as Bramham Moor and Fornham, where more detailed study may lead to reclassification as a battle, through to events such as Clitheroe where there is little more than a vague reference. The present analysis focuses on the 31 certain battles, though it can be seen that in the earlier part of the period the uncertain actions could have a significant impact on the number of sites. Even so, the reality is that the detail available is often so poor that there is little chance that the site could be located even if it survives undeveloped. Sites of lesser actions are far more common, and require a level of enhancement of the database that has not yet been possible at a national scale. This is well shown by Cumbria, a sample area that was researched to a higher intensity.

Action name	Year	Type of action	War type	War
Hastings	1066	battle	international	Norman Conquest
Fulford	1066	battle	international	Norman Conquest
Stamford Bridge	1066	battle	international	Norman Conquest
<i>Southwark</i>	1066	<i>battle?</i>	<i>international</i>	<i>Norman Conquest</i>
<i>Hereford</i>	1067	<i>battle?</i>	<i>international</i>	<i>Anglo-Welsh</i>
<i>York</i>	1069	<i>battle?</i>	<i>international</i>	<i>Norman Conquest</i>
<i>Durham</i>	1069	<i>battle?</i>	<i>international</i>	<i>Norman Conquest</i>
<i>York</i>	1069	<i>?</i>	<i>international</i>	<i>Norman Conquest</i>
<i>Alnwick I</i>	1093	<i>battle?</i>	<i>international</i>	<i>Anglo-Scottish</i>
Northallerton	1138	battle	international	Anglo-Scottish
<i>Clitheroe</i>	1138	<i>battle?</i>	<i>international</i>	<i>Anglo-Scottish</i>
Lincoln I	1141	battle	civil war	Civil War of Stephen & Matilda
<i>Stockbridge</i>	1141	<i>battle?</i>	<i>civil war</i>	<i>Civil War of Stephen & Matilda</i>
<i>Salisbury</i>	1143	<i>battle?</i>	<i>civil war</i>	<i>Civil War of Stephen & Matilda</i>
<i>Wilton</i>	1143	<i>battle?</i>	<i>civil war</i>	<i>Matilda</i>
<i>Wichum</i>	1146	<i>battle?</i>	<i>international</i>	<i>Anglo-Welsh</i>
<i>Fornham</i>				
<i>St. Genevieve</i>	1173	<i>battle?</i>	<i>civil war</i>	
		<i>siege/battle</i>		
<i>Alnwick II</i>	1174	<i>?</i>	<i>international</i>	<i>Anglo-Scottish</i>
Lincoln II	1217	battle	civil war	First Baron's War
Lewes	1264	battle	civil war	Barons' Revolt 1258-1267
Evesham	1265	battle	civil war	Barons' Revolt 1258-1267
<i>Chesterfield</i>	1266	<i>battle?</i>	<i>civil war</i>	<i>Barons' Revolt 1258-1267</i>

Myton	1319	battle	international	1st Scots War of Independence
Boroughbridge	1322	battle	civil war	
Halidon Hill	1333	battle	International	2nd Scots War of Independence
Neville's Cross	1346	battle	international	2nd Scots War of Independence
Otterburn	1388	battle	international	unclassified
Homildon Hill	1402	battle	international	unclassified
Shrewsbury	1403	battle	civil war	Percy rebellion
<i>Woodbury Hill</i>	1405	<i>battle?</i>	<i>civil war</i>	<i>Glyndwr Revolt 1400-1408</i>
<i>Bramham Moor</i>	1408	<i>battle?</i>	<i>civil war</i>	<i>Percy Rebellion</i>
Piper Dene	1435	battle	international	Anglo-Scottish
St Albans I	1455	battle	civil war	Wars of the Roses
Blore Heath	1459	battle	civil war	Wars of the Roses
Wakefield	1460	battle	civil war	Wars of the Roses
Northampton	1460	battle	civil war	Wars of the Roses
Mortimer's Cross	1461	battle	civil war	Wars of the Roses
St Albans II	1461	battle	civil war	Wars of the Roses
Towton	1461	battle	civil war	Wars of the Roses
Hexham	1464	battle	civil war	Wars of the Roses
Hedgeley Moor	1464	battle	civil war	Wars of the Roses
Edgcote	1469	battle	civil war	Wars of the Roses
Empingham	1470	battle	civil war	Wars of the Roses
Tewkesbury	1471	battle	civil war	Wars of the Roses
Barnet	1471	battle	civil war	Wars of the Roses
Bosworth	1485	battle	civil war	Wars of the Roses
Stoke Field	1487	battle	civil war	Wars of the Roses
<i>Deal Beach</i>	1495	<i>battle?</i>	<i>civil war</i>	<i>Perkin Warbeck's Rebellion</i>
<i>Blackheath</i>	1497	<i>battle?</i>	<i>civil war</i>	<i>Cornish Revolt</i>

The chronological spread of battles across the British Isles reflects the rarity of these sites compared to most other types of archaeological site. The addition even of a small number of further actions to the list could thus be significant. The list also shows how important it is, in this period especially, for research to be conducted on a European scale. Different countries underwent major phases of warfare at different times, one such grouping of battles being those of the Wars of the Roses, which may provide a valuable range of physical evidence for warfare at the eve of the transition to firearms. Other stages in the development of warfare may be similarly reflected at other periods and in other parts of Europe. An integrated international approach, already demonstrated a century ago for military history by authors such as Delbruck and Oman, is the only way to gain a consistent chronological perspective of the physical evidence.¹

¹ Delbruck, 1923; Oman, 1898

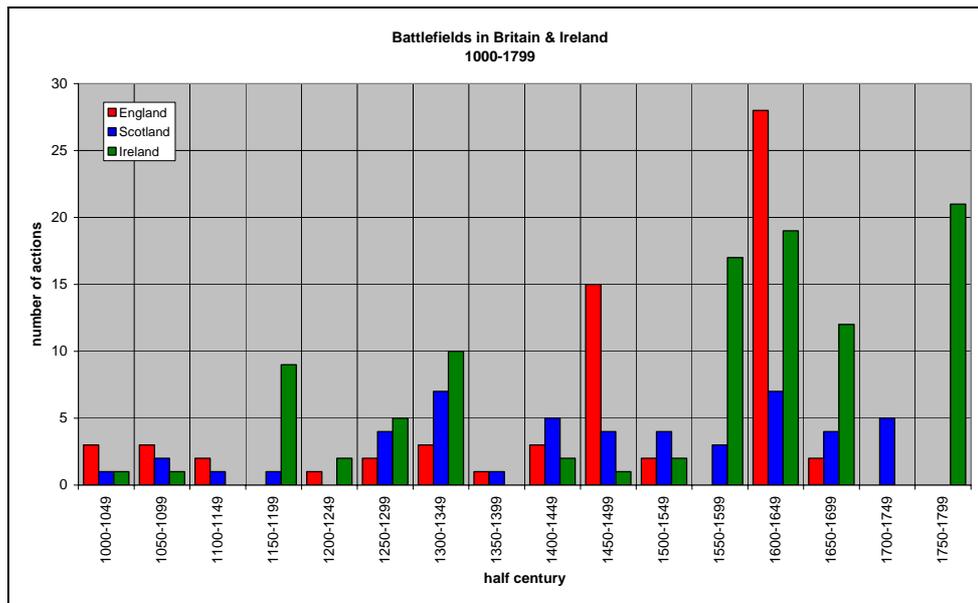


Figure 24: Battles in England, Scotland and Ireland 1066 - 1799

The period has been defined from 1066, simply because the first battles to be well located by written records are those of 1066, notably Hastings. From then onwards the documentary record tends to improve, though only a handful of battles before the 17th century matches the detail available for Hastings. However, while the sites of many later medieval battles can be identified in general terms, uncertainty persists about the detailed placing of actions within the landscape.

Where information about numbers taking part exists, the figures typically vary widely; medieval chronicles often give numbers far greater than seen in well-documented later battles, or indeed in contemporary medieval battles fought by English armies on the continent.² For most battles, detail is provided by a few sources. Rarely are these first hand accounts; very often, the written records are distant in both time and space from the events themselves. Not surprisingly, then, topographical detail in those accounts is often sparse.

The end date (1500) has also been chosen for practical reasons, for although it does not correlate exactly with the first introduction of firearms to the battlefield, in a European context it is close to the critical turning point when the ferrous arrowhead or crossbow bolt begins to give way to the lead bullet, with all the implications that flow from this for archaeological investigation.

² Information from Anne Curry

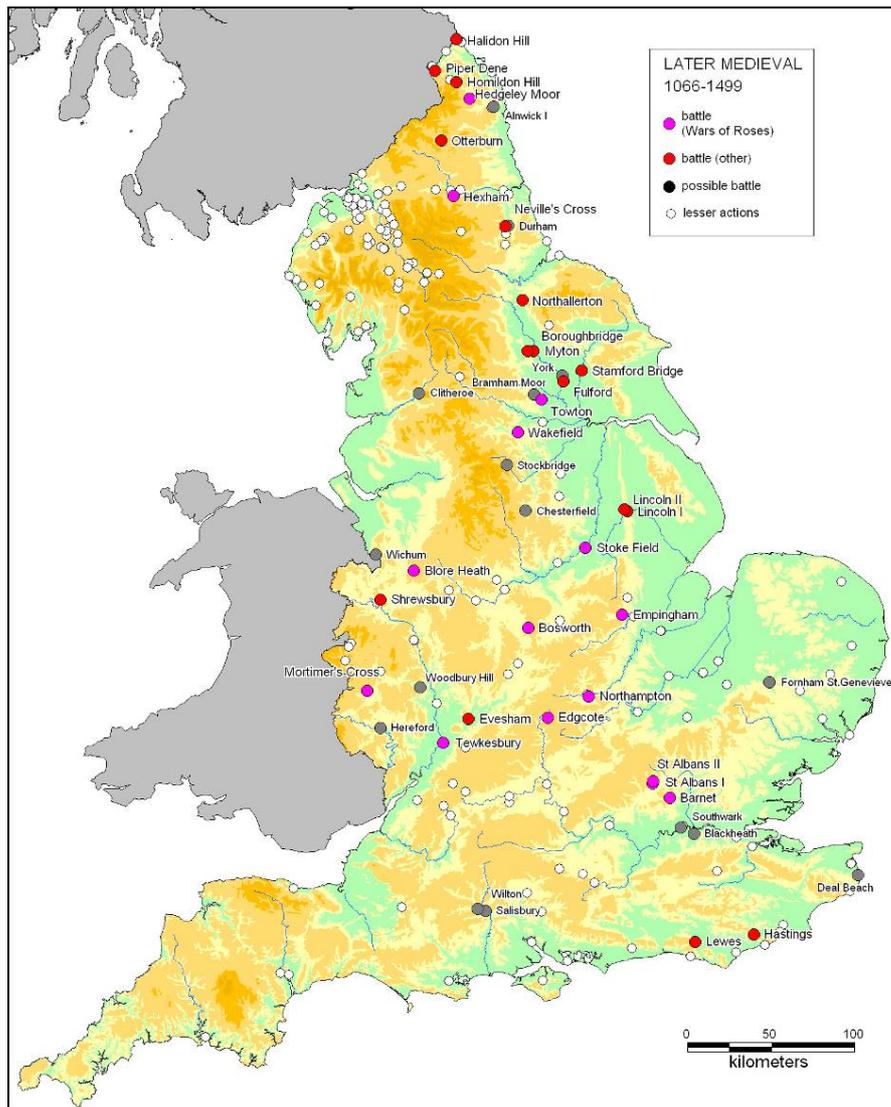


Figure 15: Later medieval battlefields and other actions

Later medieval battles can be divided into three main groups. Fifteen fall during the Wars of the Roses (1455-1487), a period of discontinuous warfare that was dominated by brief periods of intense action and by battles rather than sieges. Scottish invasions along the eastern corridor, penetrating as far south as Myton, just 20km from York, account for a further seven battles. The third group comprises the three great actions of 1066.

Other battles relate to various civil wars, including those of Stephen and Matilda (Lincoln I) and of Simon de Montfort (Lewes and Evesham). Given the small number of battles before 1455 each one is potentially of high importance as representing important aspects of warfare of its period. Thus Stamford Bridge and Fulford are the only two reasonably securely located battlefields where Danish armies were engaged, and such actions might be expected to differ significantly from that at Hastings, and later battles, where both the technology and tactics change in

many ways. If there is battle archaeology on pre-Norman battlefields then these two sites may provide an important insight into the character of the evidence which could then be applied to the investigation of the many Anglo-Danish battles of the preceding two centuries, none of which has yet been securely located.

This is an issue with other important tactical transformations. Thus dominance of the heavy cavalry charge is represented by only a handful of battles, such as Lewes and Evesham. It is true that after the devastating defeat at Bannockburn the reversion to action where almost the whole army dismounted to fight, but now supported by the devastating arrowstorm, is represented by several battles from Halidon Hill onwards, but it is really to northern France that one must look for the main evidence for its use.

A related factor that needs to be taken into account is that, the Wars of the Roses aside, siege warfare was far more common than open battle. This means that concentration purely on battles will give a biased view of warfare in the period, and very possibly miss or misinterpret important aspects of it. Comparison of the number of battles with the number of sieges so far recorded on the database, despite the very incomplete nature of the data on sieges, demonstrates this:

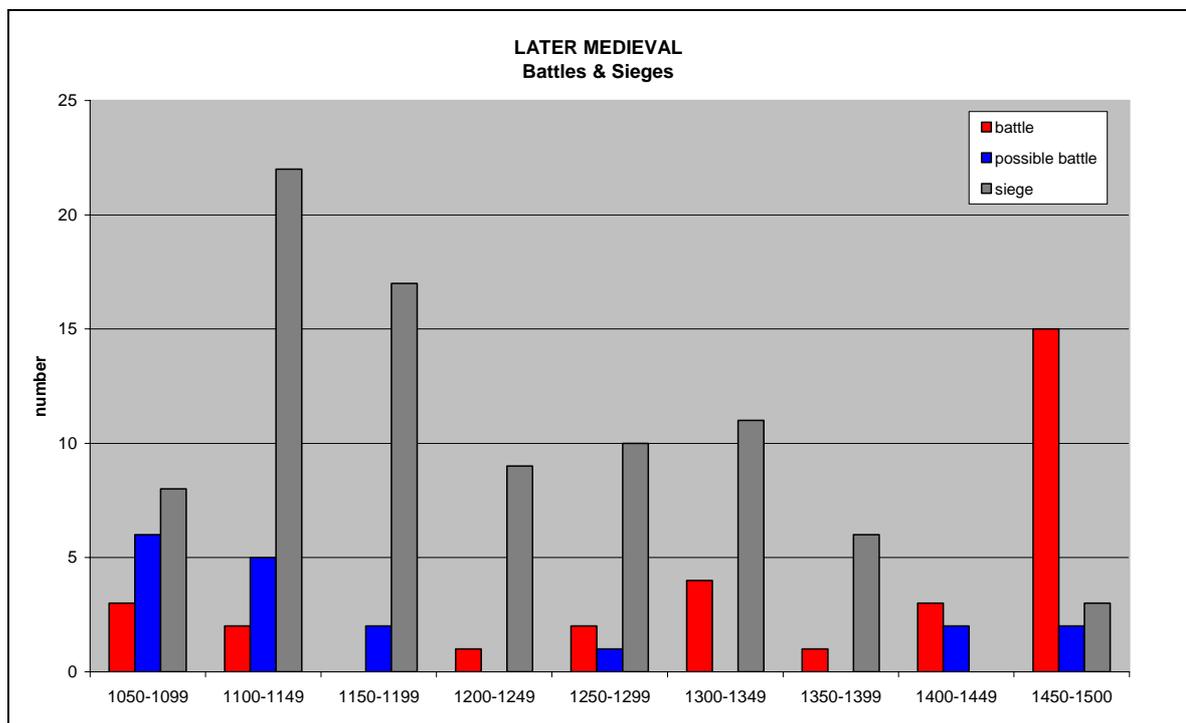


Figure 26: Later medieval battles and sieges

Physical evidence for medieval sieges, as with every other aspect of the archaeology of medieval fields of conflict, is probably in many aspects far more ephemeral than that for the early modern period. Impact scars such as those

discussed below for Early Modern sites are not to be expected on a medieval battlefield but it is possible that assaults on fortified positions using siege engines such as the mangonel or trebuchet may have left impact scars. No example has been identified in the current assessment, but then, medieval siege sites have not been prioritised for examination. Large calibre stone balls from the major siege of Kenilworth castle in 1266 have been recovered from the site, and are now displayed there, but no impact scars are reported. The potential presence of impact scars on medieval masonry has large implications for strategies of conservation management and repair.



Figure 27: One of several large stone balls from Kenilworth Castle, presumed to be trebuchet missiles fired during the 1266 siege. 130mm scale

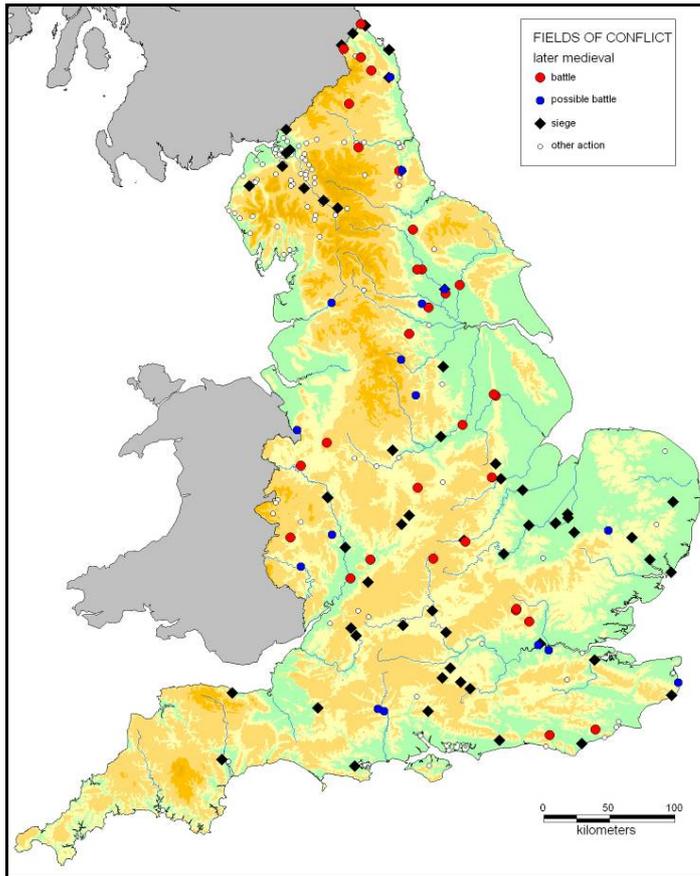


Figure 28: Later medieval battles and sieges

The Anglo-Scottish frontier is taken here to illustrate the depth of evidence below the level of the battle that can exist and of which account needs to be taken in the study of medieval warfare. It also demonstrates the need to work at an international level, integrating evidence of actions fought by English armies in Scotland as well as those of Scottish armies in England.

This was a heavily fortified region, with large garrisons and supply bases in Carlisle, Berwick and Newcastle, other great castles like Norham, Bamburgh and Prudhoe, and then a vast number of lesser defended pele towers.³

Conflict was on a number of levels. At the lowest, and grossly under-represented in our data, was the raid. Raids extended from localised cattle rustling through to large military incursions. The latter could end in substantial engagement, which explains several border battles such as Piper's Dene. Greater incursions could involve substantial sieges – not practicable to identify here – and long distance sorties. Some culminated in major battles, as at Otterburn where a Scottish force was engaged during retreat along one of several major cross-border routes, or at Northallerton where an opposing English force intercepted the enemy to halt their advance.

³ Rowland, 1987; Ryder, 2004, with further references

While the risk of the Scots taking control of the border regions was a real possibility, with Carlisle and Berwick changing hands several times, it was only the English invasions of Scotland, particularly under Edward I, that had a realistic potential for conquest. While castles such as Stirling, in the heartland of Scottish power in the lowland regions, lay less than 150km from Berwick or Carlisle, such a distance would not bring a Scottish army even to the gates of York.

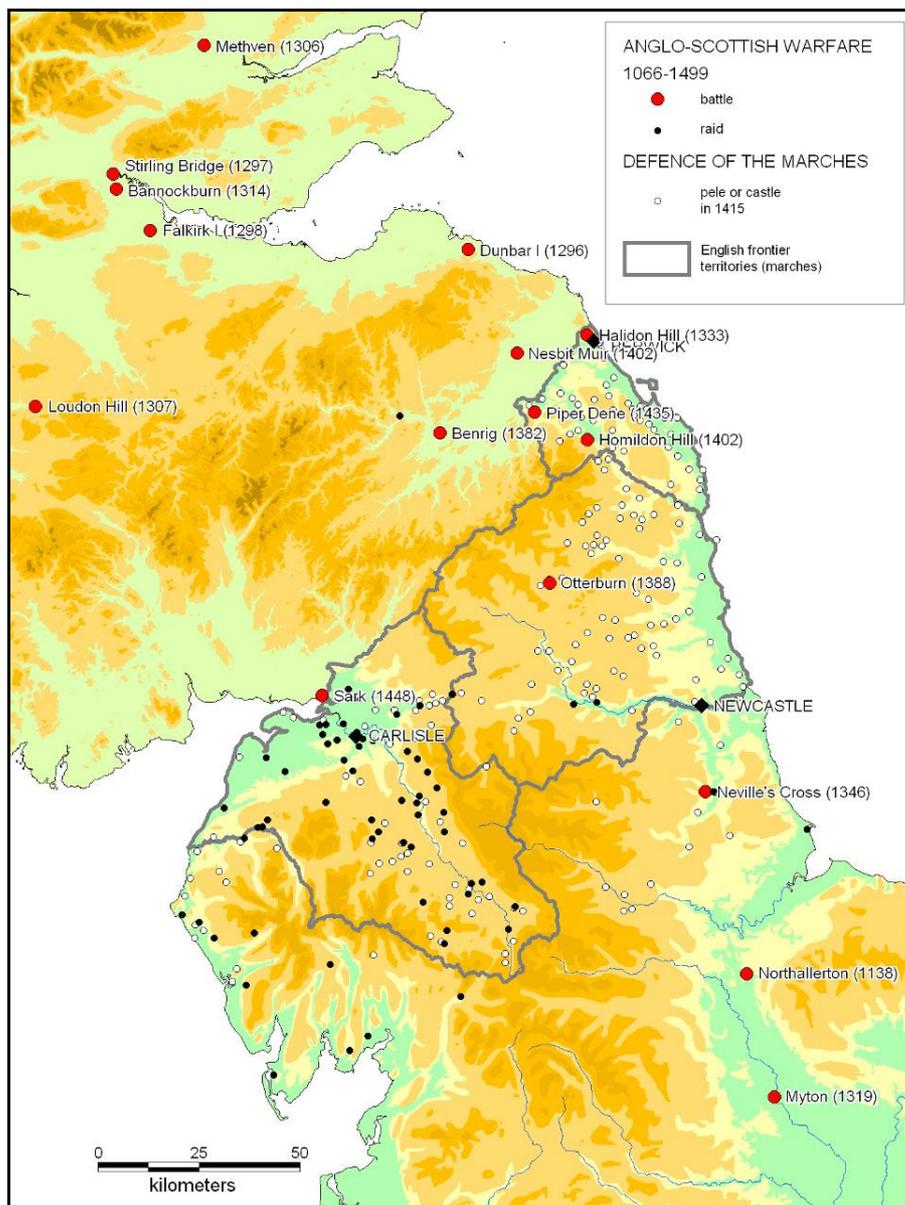


Figure 29: Warfare on the Anglo-Scottish border showing battles on both sides of the border. Fortified sites are only depicted in England. Cumbrian data are enhanced, with consequent greater representation of raids by Scottish forces

Of the 31 medieval battles just 19 are Registered. A further three (St Albans I & II, and Wakefield) were assessed but excluded from the Register because they were too heavily developed, and four were omitted because their sites were too poorly located (Mortimer's Cross, Hexham, Edgcote, Empingham). Two – Lincoln I

and Hedgeley Moor – included in the initial assessment were excluded at an early stage. Lincoln I has alternative sites, one of which is fully developed but the other largely intact; Hedgeley Moor is undeveloped. Another three appear not to have been considered: Fulford is not securely located but the probable site is heavily developed (though until recently a substantial area remained intact and with a high potential for investigation); Lincoln II is wholly developed; it is unclear why Piper Dene was excluded, given the numbers supposedly engaged and the fact that the site is undeveloped. Of the possible battles only Bramham Moor was assessed for the Register but was excluded at an early stage for unknown reasons. Of the remainder most are poorly located and some likely to be heavily developed, but a number appear to be worth re-examination, including Fornham St. Genevieve and Alnwick I.

Uncertainty about exactly where medieval battles took place is often not evident from historical studies or the Register reports, which normally consider in depth the problems of location. There are also cases where more recent information has cast doubt on locations hitherto assumed to be secure. This is most clearly demonstrated for Barnet, reviewed below, where three distinct sites are now in contention thanks to detailed documentary research on the historic terrain and the appearance of the first possible faint traces of battle archaeology.

Unless unregistered battlefields are located with sufficient accuracy to be added to the Register, and the precision of existing Registered areas is confirmed or refined, then medieval battlefields will never be effectively managed as a cultural resource. However, as has been shown over the 12 years since the Register was compiled, independent research to resolve the problems of location is unlikely. Before any attempt is made to review all but the most easily located of unregistered sites, the first need is for the refinement of methodology for medieval battlefield investigation.

Historic terrain

A great deal relating to the interpretation of later medieval battlefields depends upon two things: the numbers of troops present, and the tactical deployments that were employed. It is from these that the width of the frontages can be determined. The only military manual known to have been consulted during the period was that of Vegetius, from early 5th century Byzantium, who provided a conspectus of key aspects of Roman classical military practice.⁴ This was reworked by several medieval authors and used by military commanders throughout the period. However, the

⁴ Vegetius, *Epitome of military science*, ed. Milner, 1993

various versions contain little that assist understanding of the apparently very different tactical formations that were in use during the later Middle Ages. In result, there is debate about the forms that battle arrays took at different times. It may be that archaeology will settle this.

In some cases, more sophisticated analysis of historic terrain will enable the location of deployments and action. Although most information in written records is limited and rarely first hand, there are sites for which the topographical detail is highly specific, and where the terrain is otherwise distinctive then there is scope for pinpointing sites. Where the extent of woodland clearance, drainage of fen or enclosure of open field or other open land is the central issue then problems can arise over their extent and dating in relation to a battle.

Elsewhere, neither of these requirements is fulfilled and the battle may be located no closer than to a broad area. Improvements in knowledge may sometimes demand revisions of long-held assumptions. Hence at Stamford Bridge the mapping of the Roman road system, as part of the Vale of York project of the National Mapping Programme, has demonstrated that the Roman river crossing was a considerable distance to the south west of the normally accepted location. This may have important implications for the location and geographical context of the Stamford Bridge battlefield, but it is likely that the Roman crossing had long since been abandoned and replaced by a separate crossing, the Stam–ford by 1066.⁵ The repercussions of the investigation of historic terrain can be seen most clearly from the continuing travels of Barnet battlefield.

Barnet



On the 13th April 1471 a Lancastrian army of some 15,000 troops under the Earl of Warwick took up position about a mile north of Barnet. Edward VI arrived at Barnet that evening with a force of 10,000-12,000, and in the dark he deployed to the south of the Lancastrians, very close to Warwick's lines, in a marshy valley. As a result the artillery bombardment that Warwick launched passed over their heads. In deep mist

⁵ Bewley, 2003

the next morning the two armies advanced but with the Yorkist left having deployed short of the Lancastrian right, whilst their right extended past the Lancastrian left flank. The Lancastrians quickly took advantage on their right flank, the troops under the Earl of Oxford pushing back the Yorkist left, and driving them from the field. The Yorkists fared better on their right flank where they successfully pushed the Lancastrian left flank back towards the centre. The battle was fiercest in the centre and as the Lancastrian troops faltered Edward launched his reserve. The Lancastrians broke and fled.

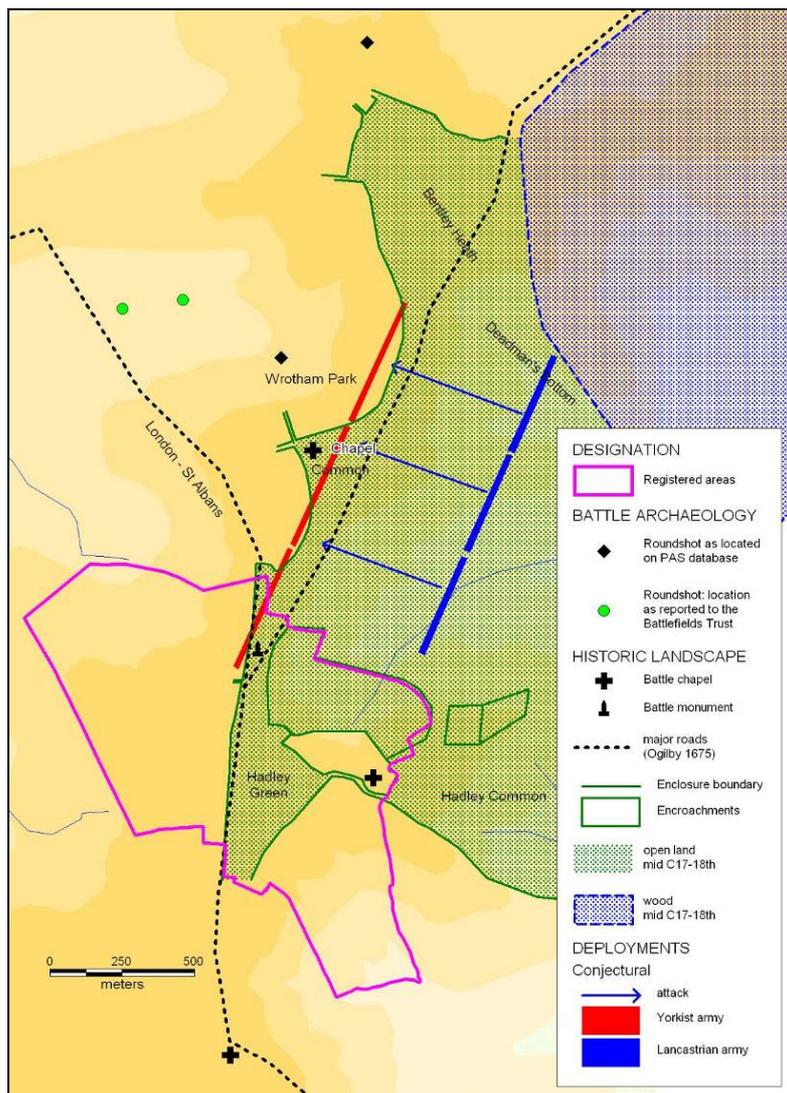


Figure 30: Barnet: conflicting evidence for location and extent

The location of the battlefield is disputed. From at least the early 17th through to the 19th century it had been depicted on maps to the north of Monken Hadley. William Smith's 1602 map of Hertfordshire shows the main road system and is very specific in locating the action of the battle, with the two armies, one on either side of the road branching north east from the Great North Road towards Potters Bar. In the

mid 18th century Taylor shows a similar location and appears to describe this as Gladmore Heath.⁶ The monument to the battle, constructed in the late 18th century, lay at the southern edge of this area. This location was accepted by Barrett and other 19th century authors.⁷ However, by 1898 when Oman discussed the battle the site had shifted to the ground between Monken Hadley and Chipping Barnet, an interpretation followed and developed by Burne, providing the site which is now Registered.⁸ However, research by Warren has located the battle chapel at Barnet and shown that it stood on the very western part of Enfield Chase, known at Enclosure in 1777 as South Mimms Common. This is exactly where the 17th- and 18th-century sources placed the battle.

A simplified reconstruction of the historic landscape is presented here, derived from historic map evidence: the extent of Enfield Chase is defined on an unimplemented enclosure proposal map of 1656 with further detail before enclosure provided by Rocque's county map of 1754.⁹ A far more detailed analysis, as yet unpublished, has been undertaken by Warren, though there may still be the need for an accurate reworking in map form of the evidence he has amassed.¹⁰

The combined evidence has led to a re-interpretation of the possible location of the deployments and action with a conjectural interpretation presented here, showing the deployments some distance to the north of the Registered area in the traditional site adjacent to the chapel site. Unfortunately the first ephemeral evidence of battle archaeology, comprising two lead roundshot (tested for but lacking iron cores seen at Flodden and Pinkie) have been found with a Burgundian jetton and a medieval purse bar.¹¹ This site lies in the small valley to the north of the chapel site, presenting a third possible location for the battle which also fits the few topographical details we have for the battle. In the absence of extensive systematic survey for the battle archaeology, compounded by the general problems for investigation of medieval battle archaeology, it is currently not possible to define the exact location or extent of Barnet battlefield.

⁶ Taylor's Map of Middlesex, 1759

⁷ Barrett, 1896

⁸ Burne, 1950; National Army Museum, 1995b

⁹ Foard, 2004, <http://www.battlefieldstrust.com/media/573.pdf>

¹⁰ Information from Brian Warren; Warren, 2002

¹¹ Information from Andrew Coulston, Hendon & District Archaeological Society. The metal detectorist states that the incorrect locations were reported to the Portable Antiquities Scheme.

Bosworth

Even when the full range of techniques of historic landscape reconstruction is applied and written accounts of military events are integrated, a medieval battlefield may yet remain unlocated.

The battle of Bosworth, originally known as the battle of Redmore, has disputed sites ranging over nearly 10 square kilometres, with a further site some 6km away.¹² A research project, funded by the HLF as part of the rejuvenation of the Bosworth battlefield interpretive centre, is investigating the battle in an attempt to locate it.¹³ The survey, scheduled for completion in August 2008, has had considerable success in reconstructing the historic terrain; however, the project shows how limitations in the documentary record for the historic landscape can make it impossible to say with certainty the neighbourhood of battle might lie.

Historical research has demonstrated that Redmore lay, at least in part, in Dadlington township: *'They will that Redmore dyke should be scoured before All Saints on pain of 12d.'*¹⁴ This record, from 45 years after the battle confirms that at the time of the battle Redmore lay within Dadlington lordship, or possibly in lands where Dadlington shared common rights, for Foss had noted a 13th century document referring to Redmore in Dadlington. The reference in 1530 to the dyke also suggests that the 'pallius' or marsh referred to by Polydore Virgil had by then been drained. The other evidence presented by Foss has also been confirmed, namely that the chantry established under Henry VIII in memory of the dead of Bosworth, to which the bones were to be moved, lay in Dadlington, so demonstrating that the main burial sites were in the chapelry of Dadlington.

Jones and Austin argue, in support of a site 6km away, that the Redmore name was given to the battle from the location of mass graves, not the battlefield, because the bodies were carried there with the victorious army as it marched towards Leicester. This can be dismissed, as the battle name is recorded in York within 24 hours of the battle, and when the rider who carried the news departed the bodies could not yet have been in the ground. In addition, there is the fact that no documented case is known from any battle in England of such large scale transfer of bodies over such a distance for burial.

In the absence of a specific location for Redmore from the documents it has been necessary to ascertain where marsh could and could not have existed in Dadlington and its environs. The marsh mentioned by the historian Virgil is the only

¹² Foard, 2004b

¹³ Foard, 2004a

¹⁴ Dadlington Court Roll: 30 May 1530, LRO 2D71/1/56

topographical detail other than Redmore that is likely to be identifiable, for in this landscape marsh or fen are not common. Virgil records that: *'There was a marsh betwixt both hosts, which Henry of purpose left on the right hand, that it might serve his men instead of a fortress, by the doing thereof also he left the sun upon his back...'*

The enclosed and open field systems at Bosworth have been reconstructed from a combination of documentary research and archaeological fieldwork to establish what land was not covered by open field furlongs, and soils survey has been undertaken to identify which soils developed in a waterlogged context. These two data sets were found to be closely complementary, with only a small overlap of furlongs over areas of alluvially derived soils. This has shown that Ambion Hill, where the battle has been placed since at least the 1770s, was covered by furlongs while the narrow floors of the adjacent streams where no furlongs existed had no evidence of peat deposits. The conclusion of the specialists is that there never has been a marsh on or in close proximity to Ambion Hill. There were, however, substantial areas to the south west, partly in Dadlington, where there was high potential for marsh. Intensive augering was undertaken to complement sampling undertaken in the soils survey. This analysis was complemented by a fieldnames search, which developed Foss's assessment, and shows that only two areas had clear place-name evidence of fen conditions within the medieval period, although several other scattered 'bog' and 'moor' names existed elsewhere in Dadlington and Stoke Golding. More intensive augering in the target areas then identified just two locations with peat deposits which correlated with the fen names. One was shown to be so small as to be very unlikely to answer to the marsh in Virgil. The other, on Fen Meadow, proved to be more extensive, being some 90m across. C¹⁴ dating has shown that peat accumulation proceeded from the late glacial through to the 7th or 8th century AD but it is believed that the area would have remained waterlogged until drainage took place.

Thus in the whole only one candidate site has been located that fits the description in the primary accounts, but in the absence of a location for the Redmore name it is not possible to claim certainty. Archaeology is left as the arbiter.

Battle archaeology

To resolve the remaining Bosworth problems an intensive metal detecting has been undertaken. The survey used a strategy based on the interpretation of the Towton results current in 2005 and designed with the advice of the Towton team. The first stage was a systematic survey to seek a concentration of copper alloy artefacts

comparable to that at Towton. One this was identified, an intensive all-metal detecting survey to seek arrowheads would follow.

The first stage of survey has failed to recover an artefact distribution comparable to Towton. This posed a problem, as one interpretation could be that the site lay elsewhere. Such a conclusion demanded comparative data from other battlefields of the period where there is little doubt as to the general location. Thus fieldwork was undertaken at Flodden, where the accuracy of the battlefield location was confirmed by recovery of two lead roundshot of typical 16th century form, and at Shrewsbury where the battlefield church provides a clear focus. This work returned similar negative results to the more intensive but localised detecting previously undertaken on both sites.¹⁵ Such results correlate well with the very low density of copper alloy artefacts from early modern battlefields, where the bullets demonstrate clearly the focus of different elements of the action, although the status of the troops engaged and the nature of their equipping may be so different from that of a later medieval battle as not to represent a valid comparison. Before 1500, with the possible exception of St Albans II (now lost to development and mineral extraction) and Barnet, where companies of Burgundian handgunners were deployed, there were few firearms and thus few lead munitions to be deposited on the battlefield.

Two decades of the intensive metal detecting by Richardson at Towton has produced just one roundshot from artillery or lead ball from small arms fire, a composite lead/iron ball which weighs 225g. The other bullets recovered at Towton appear consistent with background noise from later sporting activity, as seen elsewhere.¹⁶ If Barnet can be securely located then it may offer a unique potential in England of a battle where one component of the battle archaeology closely linked to part of the action will survive, the lead bullets, complemented by small numbers of small calibre lead roundshot. In one sense, therefore, Barnet can be grouped with the battlefields of the transitional period discussed below, with all the potential they offer for the investigation of lead alongside ferrous and copper alloy artefacts, giving a secure location for the latter two classes to be searched for. However, this means that for all other 15th century battlefields lead munitions are unlikely to provide an indicator as to where the action took place.

¹⁵ Pollard & Oliver, 2003; Pollard & Oliver, 2002

¹⁶ Foard, 2008a

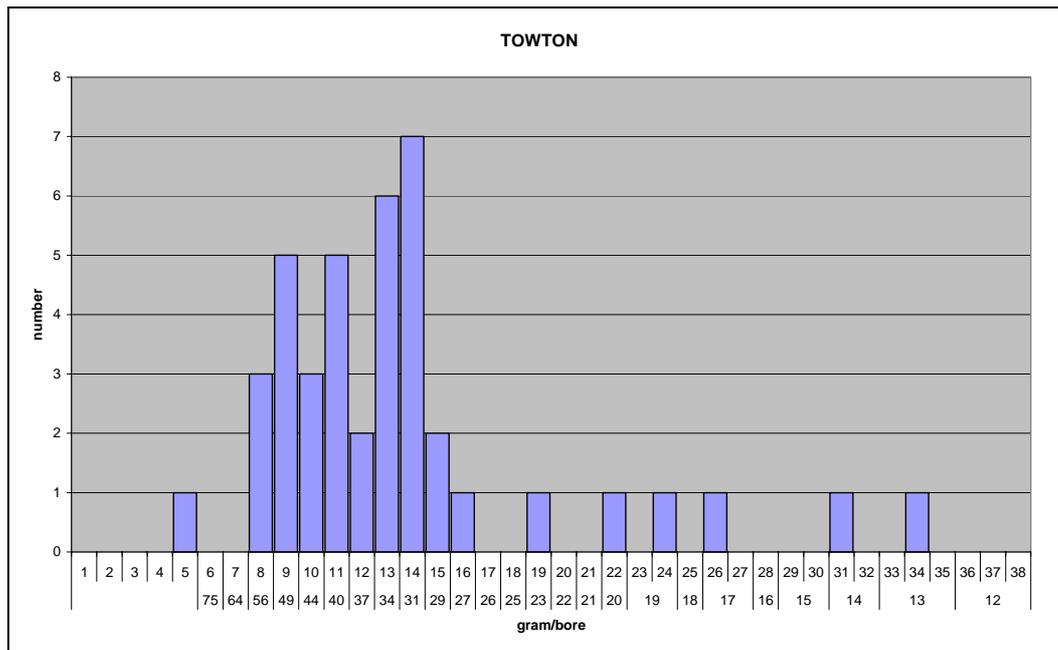


Figure 31: Towton: calibre graph for all smaller calibre lead munitions, which give a signature compatible with background noise deriving from sporting activity in later centuries

A further possible explanation for the failure to recover copper alloy artefacts comparable to those seen at Towton may be one of survey intensity. Systematic monitoring of data collection at Edgehill has demonstrated that on that site with an experienced team an intensity of survey of 10m transects with a reconnaissance speed of c.8-12 metres per minute was only just adequate to identify case shot locations, and that 2.5m transects were the minimum for tracing the orientation of the case shot scatters.¹⁷ While absolute densities of artefacts will vary between battlefields, and leaving aside the problem of depletion caused by previous retrieval of artefacts, the Edgehill data provide an order of scale by which to compare surveys on other 17th century battlefields. In the absence of similar data from Towton, or indeed any other medieval battlefield, we cannot know whether 10m or even 2.5m transect survey is sufficient to recover a distinctive signature.

On present evidence, moreover, it would appear that Towton's high density battle-related copper alloy assemblage is exceptional. If so, it is not alone: a similar conclusion on the investigation of another medieval battlefield has been independently arrived at through field investigations in Sweden.¹⁸ The Bosworth project has now been forced into intensive all-metal detecting to find ferrous arrowheads and other ferrous artefacts. All-metal detecting is far more time consuming because of the vast quantity of ferrous junk that lies in most fields in

¹⁷ Foard, 2008a

¹⁸ In formation from Bo Knarstrom

England, with the core area at Towton producing something of the order of 40 pieces of junk to every arrowhead. Such survey is only practicable for a tightly constrained site, not a wide landscape, and so is only practicable for the prime location now identified at Bosworth, where analysis has shown the soil chemistry is less favourable to the preservation of ferrous artefacts than at Towton.

The difficulties encountered at Bosworth raise questions about the character, significance and representativity of the evidence from Towton (discussed further below), and cast doubt on the potential for investigating medieval battlefields elsewhere in England. In particular, it is coming to appear likely that medieval battle archaeology alone may be insufficient to prove, and therefore disprove, a hypothesis about battle location.

This has additional implications, for in land-use planning there is a danger that inappropriate conclusions will be drawn from a failure to recover battle archaeology from a specific area of a medieval battlefield. It may be taken as demonstrating it to be the wrong site, or even that the absence of battle archaeology demonstrates that the site does not have conservation importance. This is seen to some degree at Fulford, where the absence of a template for what battle archaeology to expect, and hence for how to assess it, was a major stumbling block.¹⁹

¹⁹ Artefacts of the relevant period recovered from Fulford do not appear to have an obvious military character, including, for example, metalworking debris. It is not clear whether this is because this was the wrong location or that site conditions of deposition, soil chemistry and land use history meant that no significant archaeology survived. Information from Charles Jones

Towton

To date, Towton (1461) has provided the only substantial medieval battlefield assemblage to have been found in the UK. Towton is thus doubly significant – in its own right, and as the lens through which we are tempted to view everything else.

To assist here, additional work has been undertaken by David Hall on reconstruction of the historic terrain. Initially an analysis was made of the Enclosure Award and 19th century map for Saxton, defining the areas of ancient enclosure with their names, approximate extents and names of the Great Fields or the land then being enclosed. Hall then reconstructed Towton's open field system and that of the greater part of Saxton township.²⁰ This included the use of field survey for headlands, slades, and surviving ridge and furrow, all complemented by examination of 1940s RAF vertical air photos in the NMR, and interpretation from the 1st edition Ordnance Survey six inch mapping and the Tithe Map together with the information from the Enclosure analysis. Unfortunately, a rapid search in the Borthwick Institute and other Yorkshire archives did not produce terriers or related documents that would provide information on the medieval furlong names and land use. However, a limited number of potential sources remain unconsulted.²¹ Hall's work shows that the vast majority of both townships were under open field cultivation at least by c.1300, although it is not possible to say how much of this land, if any, might have reverted to pasture by 1461.

On the eastern edge there is no evidence for open field furlongs – a lacuna that coincides with an area of silt and clay geology associated with several carr names where woods existed in the 19th century. This ground was undoubtedly boggy in the later Middle Ages, and possibly also partly under trees.²² On the western periphery, likewise, there were no furlongs on the very steepest land falling into the dale of the Cock Beck and the deepest parts of Towton Dale. The area on the adjacent plateau, which some authors have suggested was wooded in 1461, is according to Hall's work highly unlikely to have been wooded at that time, any woodland here being limited to the steepest slopes.

Towton is the UK's only later medieval battlefield where mass graves have been located using modern archaeological methods. Even when located, however, a mass grave cannot be assumed to be at the heart of the action. The first mass grave

²⁰ This followed methodology applied in the Bosworth project and in Hall's long term research in Northamptonshire: Foard *et al*, 2005; Hall, 1995

²¹ The glebe terriers for Saxton in the Borthwick are an augmentation of Saxton with land in Collingham. Further records identified but not consulted include Court Rolls for Saxton 1463-1465 and 1480, West Yorkshire Archives Service, Leeds: Gascoigne GC/M4/1

²² Saxton-cum-Scarthingwell, 1849 Tithe map (Borthwick Institute); Enclosure Award and map (West Yorkshire Archives Service QE 2/6); Ordnance Survey 1st edition 6 inch

to be examined at Towton lay in the area of the rout, in Towton village, a mile to the north of the primary deployments and the initial engagement.

The difficulties of locating mass graves are further demonstrated here: for some years there were doubts about the validity of post medieval records of the mass grave locations on the field, because of the failure of geophysics to locate them. It was only as a result of chance discovery of human remains on the surface that trial excavations could be targeted to locate these graves, from which the bodies had been moved in the later 15th century to Saxton churchyard. The presence of these mass graves in Saxton parish as opposed to Towton chapelry may explain why the burials were transferred to Saxton churchyard later in the 15th century and not moved to the battle chapel at Towton. The mass grave and other burials there presumably only represent troops killed in that chapelry. Indeed given this and the apparent focus of the action in Saxton it is perhaps surprising that the battle was named after the village of Towton and that the battle chapel was located there.

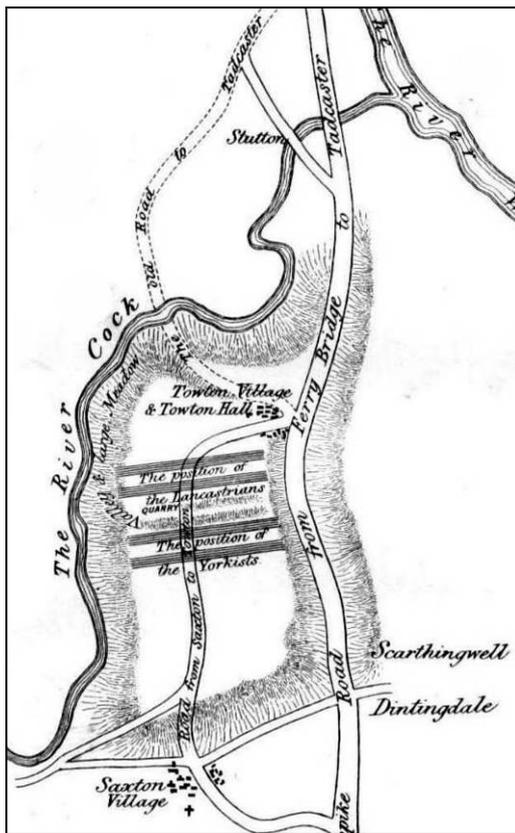


Figure 32: Towton: Brooke's plan of 1857 showing the deployments within the tightly constrained topography, demonstrating how securely located the site has always been

To summarise thus far, Towton emerges as a battlefield where quite good and topographically concise primary sources show the action to have been fought between Towton and Saxton, in a definable area that is constrained by distinctive

elements of relief and topography. In memory, Towton's location has been constant. Thus, unusually for a later medieval battle, minimal terrain reconstruction is required to enable the deployments to be exactly located, either side of Towton Dale. Moreover, this is one of the few battlefields where such an identification is repeated by independent 18th-century mapping and earlier records of the main location of the mass graves, lying on the lowest part of the northern (Lancastrian) slope of Towton Dale, roughly central (east-west) to the two presumed battle arrays. The unusual precision of the identification in turn enabled intensive exploration using archaeological techniques with a high level of confidence

A dense scatter of copper alloy artefacts appears to reveal the clash between the two armies and then the Lancastrian rout running northward past Towton village. In addition, the far more restricted scatter of arrowheads has been interpreted as a trace of the great arrowstorm loosed into the Lancastrian lines by the Yorkist archers (though no comparable scatter has been demonstrated from the Yorkist lines).

A number of problems exist with these data that make extrapolation to later medieval battle signatures inadvisable.

First, there has been extensive metal detecting by different individuals across the battlefield. Just one, Simon Richardson, has been drawn into the formal archaeological investigation of the site. While Richardson's material is without doubt the product of most intensive detecting, the available data thus form part of an unquantified assemblage that has been removed.

Second, while Richardson has worked within a formal survey framework at least since 2000, the survey method has not collected data which enable calculation of recovery rates for copper alloy artefacts or ferrous arrowheads in terms of man hours per artefact in different parts of the battlefield. Without such data it is impossible to predict how intensive a survey might need to be to recover a significant distribution on another site. A partial proxy for intensity data might be provided by the quantification of other artefact classes that form background noise – such things as cauldron feet or crotal bells which are not battle related. This can only be ascertained if all such finds or at least given classes of pre-industrial artefact have been consistently retrieved and distributionally recorded. Although this background noise may vary between battlefields, as a record of other landscape uses it provides a rough baseline against which to measure other distributions.

Most importantly, as yet there is no comprehensive catalogue or mapping of all the artefacts recovered by Richardson. Hence, published distribution plans are incomplete. Neither is it possible to seek patterning within the overall scatter by breaking distributions down into component classes of artefact (see below). Analysis

may enable some conclusions to be drawn as to what the artefact assemblage actually represents in terms of type and status of troops. A partial explanation for the apparently atypical character of the Towton assemblage might rest with the numbers of high status individuals killed on the field. The subjective view of the finder is certainly that the majority of the copper alloy artefacts appear to be of higher status and thus support this idea. Equally, the finds may confirm the exceptional intensity of the action, as reported in primary sources, even if we doubt their quantities.²³ In some ways, therefore, Towton may offer similarities to our other exceptional early battlefield assemblage – Kalkriese, where the sheer immensity of destruction caused such a large and unique assemblage to be deposited.

The present analysis is based on the published data and must be considered in the light of stated limitations. The two published plans, one showing all copper alloy artefacts catalogued and mapped up to 2005, the other showing all ferrous arrowheads recovered up to 2006, have been digitised and placed in a terrain context.²⁴ While there is clear pattern within the artefact scatter, the absence of a survey boundary makes it impossible to say whether the blank areas represent absence of evidence or absence of survey. Similarly, lack of data on survey intensity (above, p.00) makes it impossible to determine the degree to which concentrations of artefacts relate to their actual density in the ground as opposed to the intensity of survey. For example, the absence of material on the eastern part of the site could relate to important information about the character of the deployments and the distribution of the action.

It seems inconceivable that the two armies would deploy leaving their flanks unprotected, especially with a major road present, for they would be vulnerable to an outflanking manoeuvre. If this is a genuine gap in the scatter then it is probably where cavalry were deployed. A cavalry action on one flank is documented in which with the Lancastrian army (on the north) drove off and pursued the Yorkist cavalry to the south. Such a quick clash is unlikely to have deposited a significant number of finds compared to the intense and sustained infantry engagement further west. In contrast, on the west there is no such gap until the steep scarp down to the Cock Beck, which would have provided the Lancastrians, who deployed first, with protection for their right flank. The gap in the scatter on the western spur has been suggested as the location of a wood, but Hall's reconstruction of the open field system suggests that the only woodland here will have been on the steep scarps and

²³ Boardman, 2000; National Army Museum, 1995

²⁴ Sutherland, 2005; Sutherland, 2007

that the absence of finds could simply be an absence of action due to the nature of the deployments, not the terrain.

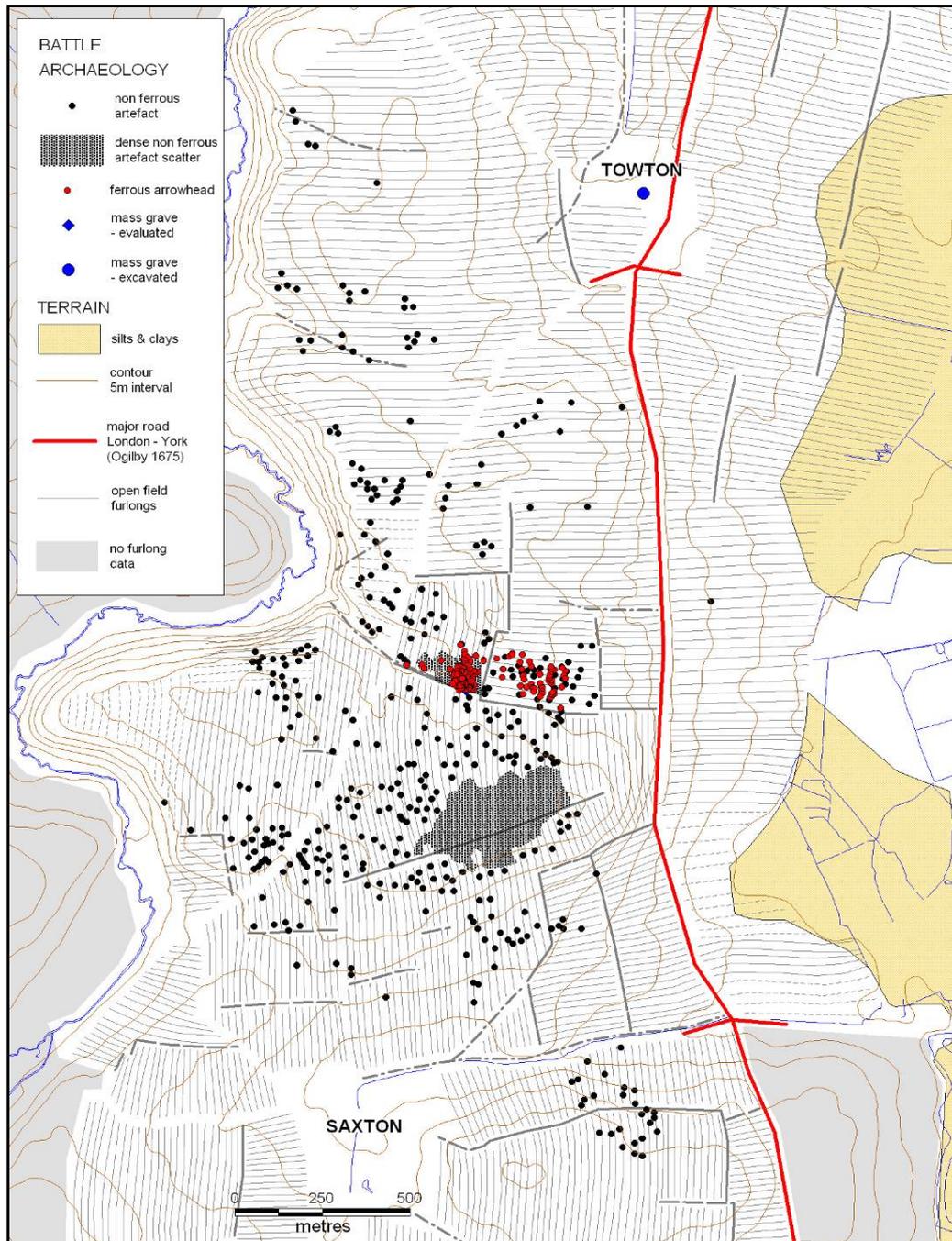


Figure 33: Towton: published artefact distribution viewed against historic terrain

Given the problems with the apparent absence of copper alloy artefacts on other battlefields, it is especially to the ferrous arrowheads that we must look. In this period when the iron arrowhead was the dominant projectile, there are questions to consider about the nature of the evidence and its survival. Such arrows were typically

used in their thousands, but it was practicable for them to be recovered for re-use, both during and immediately after the action, unless they had been broken. Thus at Towton the Yorkist archers are said to have stepped forward and retrieved many of the Lancastrian arrows which had fallen short because the Yorkists had the wind at their backs.²⁵ This shows that the pattern of survival on a battlefield may not fully reflect the pattern of use. Another factor to be taken into account is the ground conditions at the time. Towton was fought in intermittent snowstorms and it is likely that in the intense infantry action many artefacts were easily trodden into the ground, something that would perhaps have been less likely in drier conditions or on grassland.

Far greater is the problem of post-depositional decay. The projectile points were of iron and in many soil conditions these are very vulnerable to decay through oxidisation, which then makes them highly vulnerable to mechanical damage especially where the ground is under sustained cultivation. These post-depositional factors need to be assessed so that their potential distortion of the original patterns can be understood and to some degree be catered for.

²⁵ Accounts differ. The near-contemporary account by the Burgundian Jean de Waurin is controversial, but corroborated by the 15th-century 'Brief Latin Chronicle'; Edward Hall's Chronicle was completed in the later 1530s

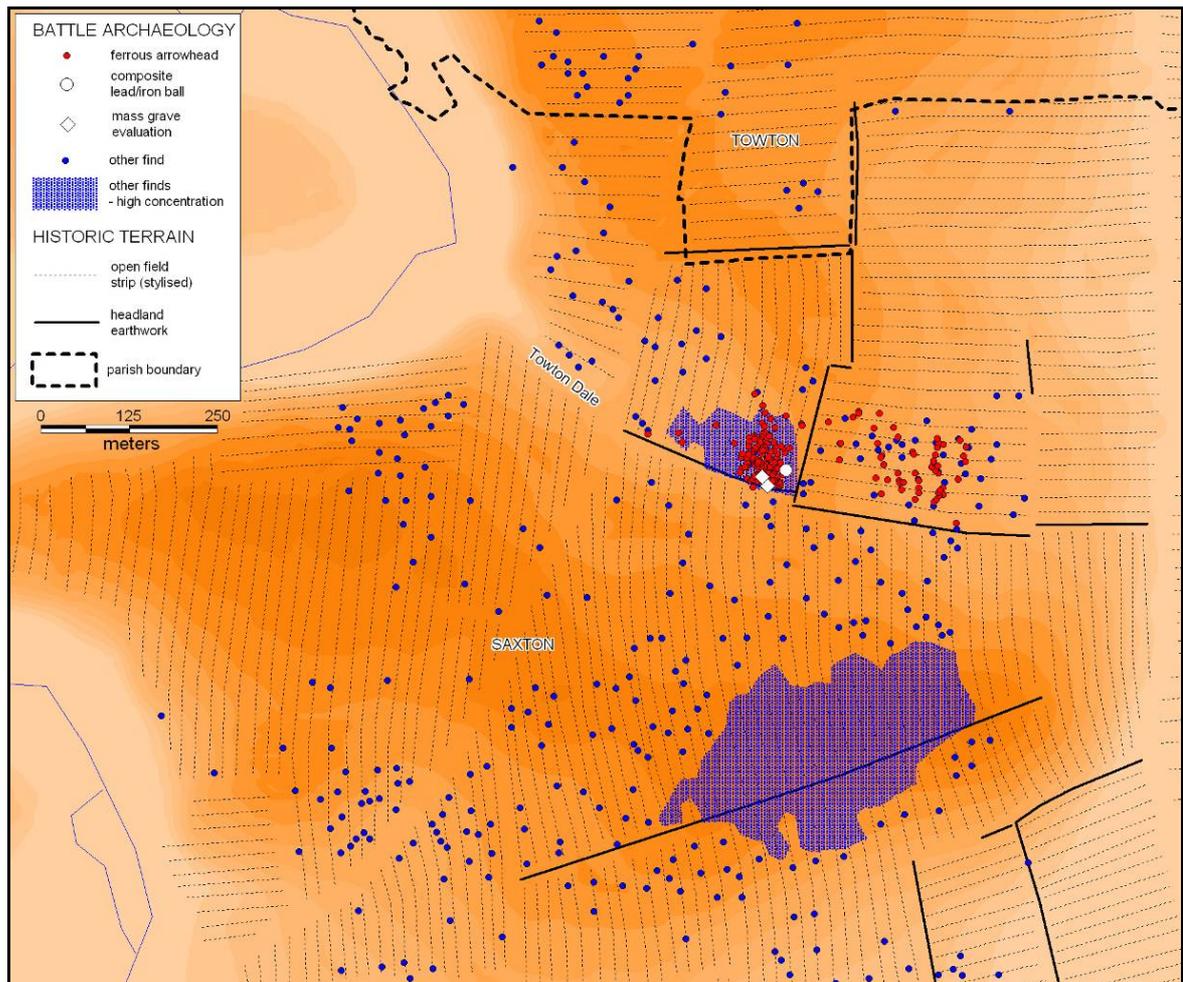


Figure34: Towton: distribution of published evidence of arrowheads and other finds distribution against a background of historic terrain and relief (10m interval contours

Towton shows that iron arrowheads can survive in topsoil, but it is not yet clear to what degree the pattern is determined by exceptional conditions of preservation. While the copper alloy artefact spread covers some 200 ha the ferrous arrowheads extend across just 5ha. Indeed the concentration is yet more focused, with 111 arrowheads from just one hectare, concentrated around the mass graves, with a second but far less intense concentration to the east.

Soil analysis undertaken by Janaway²⁶ to ascertain why ferrous arrowheads survive on part of the Towton battlefield shows that Towton has a highly alkaline soil wherein ferrous artefacts should survive well. Land use history, in contrast, shows that in both the 1840s and 1930s, as well as today, almost the whole of Towton, including the area producing the arrowheads, was under arable cultivation.²⁷ Thus though the chemistry of the Towton soils is conducive to preservation, current and recent land use have been aggressive.

²⁶ In conjunction with the Bosworth project

²⁷ Saxton Tithe map; Land Use Classification 1931-5

Additional factors may have been at work. The arrowhead distribution appears closely related to two particular furlongs and lies in an area of substantial colluviation. It is possible, therefore, that the scatter results from preservation in reservoirs beneath the topsoil. Such a sheltering effect may have been created by colluvium, furrows, or even by a remnant of the burial mound that was incorporated into the topsoil by a documented episode of deep ploughing in the 1990s. All but a handful of the arrowheads lie on sloping ground, with the main group at the head of Towton Dale in an area where there appear to be deep colluvial deposits. The highly mobile nature of the soils at Towton, noted during the open field survey, is clearly seen in the substantial lynchet on the north-south headland immediately adjacent to the main arrowhead concentration, representing soil movement down-slope along the strips of the furlong to the east. The boundary between the two groups is a narrow strip of slightly higher ground along which runs a headland, the latter possibly also providing a context for burial of artefacts and, as it is followed by a modern hedge, where there has been no context for modern cultivation to remove arrowheads from this deposit.

The complete absence of arrowheads elsewhere on the battlefield reinforces the hypothesis of special conditions of preservation. So does the history of detecting, which has taken place across a wide area of the battlefield seeking arrowheads but not finding them outside the area depicted on the plan. Just one has come from the Yorkist side of Towton Dale and this was very close to the others. The discontinuity in the artefact scatters along the two main headlands is distinct and certainly argues for post depositional factors affecting survival or recovery.

Excavation of the mass graves has shown arrowheads in relatively good condition stratified within the features. It is believed that it is primarily these that are being incorporated into the topsoil because the farming regime on the north side of Towton Dale includes occasional deeper ploughing and it is this that brings the human remains and the fresh arrowheads to the surface. It is possible that the remnant furrows from open field ridge and furrow, which have been demonstrated in the geophysical survey, and also some colluvial deposits, are acting as further reservoirs of arrowheads. It is possible that on the south side of Towton Dale and elsewhere on the battlefield such deposits exist in small areas, determined by the topography, which are not being actively eroded and thus where further arrowheads may survive, but at a depth that cannot be recovered by detecting with standard detectors.

Once incorporated in the topsoil the arrowheads appear to have a very short life. Where they are found at the surface later in the year when they have been

subject to months of frequent drying and wetting then they are typically in very bad condition. All the arrowheads, but especially the more heavily decayed ones, are so heavily oxidised that very little solid metal remains and thus cannot be detected at more than circa 150-180mm, with the deepest recovery being of the very largest and most intact arrowheads. The vast majority are only found at a much more shallow depth. The manufacture of the arrowheads with the braising to fix tip and socket together appears to be a major factor in their survival; without this they probably would decay even more quickly.

There are other ferrous artefacts that are thought to be battle related that have been recovered: five spurs and two spur rowels, but all these are believed to have survived in good condition because they are tinned. There have been one or two other ferrous items that might have been battle-related but where analysis or condition makes this inconclusive.

If we extrapolate from the special factors that appear to be at work at Towton, we can predict that arrowheads are only likely to survive on a small number of other later medieval battlefields, and only in areas where particular conditions obtain. Further, if such conditions are changed (e.g. by an episode of deep ploughing), the signal will quickly fade.

When these factors have been fully explored it should be possible to identify other battlefields where comparable evidence can be sought. The urgency in this is demonstrated by the rapid decay of Towton's arrowheads. Both here and on any other battlefields with similar preservation it is urgent that arable reversion is promoted if the remaining battle archaeology is not to be destroyed.

Other questions which need to be addressed include determining what percentage of the total population of arrowheads is being recovered for what intensity of detecting. This can be addressed by trench-sampling, to ascertain the carrying capacity of the soil. Within sample trenches, all artefacts are recorded in spits of 10cm or less, with intensive detecting at each stage (both of the next spit and then of the soil removed) to ensure that nothing is missed. It is also important to determine the rate of decay of the Towton arrowheads, and to ascertain and quantify the co-varying influences of different factors that cause it.

Unless or until all these questions are answered, it will be impossible effectively to interrogate the Towton evidence, or to apply its lessons to the investigation of other battlefields. It must also be noted that highly corroded condition

of the ferrous artefacts calls for specialist metal detecting techniques to recover them.²⁸

There is therefore a clear case for systematic survey at Towton to identify colluvial deposits, furrows and other potential reservoirs. This should be complemented by a programme of detecting with a pulse induction detector, which enables far greater penetration than any other detector. This should initially be undertaken in collaboration with American battlefield archaeologist Chris Adams, who is highly skilled in the use of such specialist equipment, who could also provide training in the use of the equipment to enable further work, if the initial survey is able to identify arrowheads at depth, beneath the topsoil in the protected reservoir.

If such signals can be identified in the area where such deposits have been demonstrated then small-scale excavation should be undertaken to confirm the signals and test the viability of the method. Ideally this work should be undertaken in collaboration with Simon Richardson and Bo Knarrström in an attempt to pool the skills and knowledge of the only people in the world who possess the relevant experience and expertise. In this way it may be possible more fully and objectively to quantify the factors that influence survival and recovery at Towton, and thereby provide both a methodology and a nucleus of expertise that will be capable of examining and conserving other battlefields to best effect.

Wider issues

In tackling the later medieval battlefield it may be necessary to look to earlier 16th century sites, when elements of the medieval troop and equipment and aspects of the tactical deployments were still in use alongside the new firearms and large scale use of artillery. Hence, as will be demonstrated at Flodden and Pinkie (p.00), there is a limited lead bullet/roundshot archaeology that can prove the location and help to delineate certain elements of the action, and so in turn provide a context for study of copper alloy and ferrous battle related artefacts.

A second strategy lies in the investigation of later medieval battlefields in arid locations where ferrous survival should be better than in north-west Europe. In this way it may be possible to determine what would typically have been deposited right across a battlefield and then to draw conclusions as to the way in which northern Europe's discontinuous scatters and fainter signals relate to an overall artefact distribution. Potential areas for such modelling include Mediterranean countries (especially Spain) and also the Americas where Spanish conquistadors fought with

²⁸ Information from Simon Richardson, supported by experience of Bo Knarstrom in Sweden

crossbows alongside firearms at the very end of the period of the bow, as for example with Coronado's expedition of 1540-2 into what is now New Mexico. In the New World the investigations are further assisted by the fact that the bolt heads used by the Spanish were typically of copper, not iron.

Third, and developing the international point, there is a case for seeking the optimal preservation conditions (colluvium, furrows, 'reservoirs': see above) in other areas where English armies fought in the later Middle Ages. The obvious place to start is France, with a survey of battles and sieges of the Hundred Years War.

Battle archaeology where English troops were engaged is likely to be somewhat different from that of other European armies of the 14th to early 16th centuries, because of English dependence on the longbow as opposed to the crossbow. However, as one moves back beyond the mid 14th century there may be a substantial reduction in the quantities of arrows deposited.²⁹ In the 11th century and before iron spearheads will also need to be taken into account, and because of their size they are more likely to remain retrievable.

If significant projectile survival can be demonstrated on battlefields other than Towton then there will need to be comparison of arrow distribution between well-preserved 14th/15th century and earlier battlefields. Changes in the nature of warfare may also have had significant influence: for example, the use of tactics in the 13th century which saw the dominance of the heavy cavalry charge compared to earlier and later dependence upon tactics in which most cavalry dismounted to fight. Cavalry action might be expected, as in the 17th century, to provide far less artefactual evidence than intensive hand to hand fighting on foot, especially as it is the high status troops whose equipment includes substantial use of metalwork and copper alloy fittings. Finally there is the greater the length of time since deposition. Hence, irrespective of soil chemistry, Hastings fought 942 years ago may prove to have poorer preservation than Towton fought 547 years ago. What is at present unclear is the degree to which such decay, though initiated by chemical action, is determined by the levels of mechanical damage from cultivation. This is therefore *the* critical issue that needs to be investigated.

Strategy

If there is to be progress in releasing archaeology's contribution to the history of medieval battle, it is best addressed from both ends. Firstly, at Hastings as probably the most securely located of all England's battlefields before the 15th century, with

²⁹ Prestwich in Chandler, 1994

arguably the most detailed documentary record. The first step should be a pilot all-metal detecting survey over several days using an experienced team, ideally in autumn 2008, supported by specialist analysis of any finds and advice on arms and equipment from the Royal Armouries. In parallel there should be analysis of soil chemistry to assess the potential for survival of ferrous artefacts. This work could incidentally test the degree of contamination by modern re-enactment before modern artefacts decay to a point where they cannot be distinguished from the originals. Thereafter should follow

- a more detailed assessment of the physical geography of the battlefield involving one or more augering sections across the valley to identify if alluviation or colluviation may have preserved a battlefield surface and whether waterlogged conditions exist in the valley in areas unaffected by later pond construction
- a review of the records of all previous investigations on the site of Battle Abbey, to ascertain whether any material recovered in the past might be battle related, to examine evidence for the major ditch reported from one excavation, which could represent the *malfosse* of the battle accounts
- work to establish where terracing in the construction of the Abbey may have preserved a battlefield surface and where destroyed it
- an assessment of potential for further work as an exemplar of best practice

Working backwards, the first need is to address the large group of battles from the Wars of the Roses. The Towton data require:

- full analysis and mapping of the Richardson finds, supported by
- an approach to other detectorists to recover information that they may hold on the artefact distribution which can be compared to and possibly enhance the key data set provided by Richardson
- detailed investigation of taphonomy
- intensive systematic survey to establish recovery rates (although there are limitations because so much of the copper alloy assemblage has already been removed)³⁰

Once these results are available there should be an intensive study of another battlefield which can be located with confidence. This may be Barnet, because of its

³⁰ Information from Chris Hall

exceptional potential among 15th century battlefields for the existence of lead bullets in sufficient numbers to provide a template for the exact area of the action, so enabling intensive detecting for both ferrous and copper alloy artefacts.

Aside from their significance as archaeological bellwethers, Hastings and the Wars of the Roses represent key stages in the formation of England and English identity.