

THE
BATTLE OF
STAMFORD BRIDGE
at
HOLTBY

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By
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Introduction

1066 was a hectic year. The Battle of Hastings gets most of the press, but the major events were all linked. William could not have taken the English Crown if Edward the Confessor had not died when he did, or if London and Winchester had chosen to resist, or if Harald Hardrada had not invaded Northumbria. Arguably then, Hardrada's invasion which culminated in the Battle of Stamford Bridge was just as momentous to English history as the Norman invasion.

Like the Battle of Hastings, no one knows exactly where the Battle of Stamford Bridge was fought. Like the Battle of Hastings, no one has found so much as a battle related button – Burne says that “*swords and other battle debris*” get ploughed up from “*time to time*” at Battle Flat, but he provides no examples and we have seen no evidence. Like the Battle of Hastings, we think historians have been misled by local tradition. Like the Battle of Hastings, we think we have worked out a more promising place to look.

Unlike the Battle of Hastings, we cannot be precise, due to the relative paucity of written evidence. There are only a handful of contemporary accounts that describe the Battle of Stamford Bridge. None of them are longer than a few paragraphs. The most detailed are also thought to be the least trustworthy: Norse Sagas that were written primarily to promote Norse culture. Historians are sniffy about them. Professor Freeman once lamented they were: “*hardly more worthy of belief than a battle-piece in the Iliad*”.

Two of the contemporary accounts specifically imply that the battle was at Stamford Bridge, but it can't have been. The Norse are hardly likely to have stood around getting killed, if they could simply walk to safety over the bridge. Most likely, Stamford Bridge was the nearest named place to the action. The main battle could have been anywhere nearby. Using lessons learned from our Hastings battlefield quest, we have tried to resolve the possibilities using wargaming techniques, contemporary geography and common sense. Hopefully, archaeologists can do the rest.

Traditional English Narrative

Simon Mansfield's map (Figure 1) shows what Yorkshire looked like in medieval times. The black lines are Margary's idea of the Roman roads, which provided the main conduits for armies to get around in medieval times. Sea level was roughly 5m higher in 1066. The steel-grey shaded area was a tidal lagoon that covered the southern part of the Vale of York. We have added red labels to four places associated with the traditional narrative: York (Y), Stamford Bridge (S), Tadcaster (T) and Riccall (R).



Figure 1: Medieval Yorkshire; www.saxonhistory.co.uk

There is a reasonable consensus among the contemporary accounts about pre-battle events. In summary, Harold Hardrada, king of the Norwegians, and Tostig, brother of English king Harold Godwinson, brought a Norwegian and Flemish army to the mouth of the Humber. They rowed up the Ouse to moor at Riccall. Then they defeated a Northumbrian army on the outskirts of York. A truce was agreed in which the invaders agreed not to sack York if

its townspeople provided them with food and fighters. Harold Godwinson, king of England, resolved to expel the invaders. He brought the English army up RR2 and RR28a (using Margary's notation for Roman roads), mustering with his naval forces at Tadcaster. On the day of the battle the Norsemen were at Stamford Bridge heading towards York. Harold, having pressed the surviving Northumbrian militias, sortied from York towards Stamford Bridge. Thereafter the English and Norse traditions diverge.

English tradition is based on three contemporary accounts written in England within 60 years of the battle. The earliest, probably written within a year of the battle and therefore the most trusted, is the Anglo-Saxon Chronicle. This is what the D version has to say:

In the midst of this came Harold, king of the English, with all his army, on the Sunday, to Tadcaster; where he collected his fleet. Thence he proceeded on Monday throughout York. But Harald, king of Norway, and Earl Tosty, with their forces, were gone from their ships beyond York to Stanfordsbridge ; for it was given them to understand that hostages would be brought to them there from all the shire. Thither came Harold, king of the English, unawares against them beyond the bridge ; and they closed together there, and continued long in the day fighting very severely. There was slain Harald the Fair-haired, king of Norway, and Earl Tosty, and a multitude of people with them, both of Norwegians and English, and the Norwegians that were left fled from the English, who slew them hotly behind; until some came to their ships, some were drowned, some burned to death, and thus variously destroyed; so that there was little left: and the English gained possession of the field.

In the original manuscript, a later folio has been added in another hand:

But there was one of the Norwegians who withstood the English folk, so that they could not pass over the bridge, nor complete the victory. An Englishman aimed at him, with a javelin, but it availed nothing. Then came another under the bridge, who pierced him terribly inwards under the coat of mail. And Harold, king of the English, then came over the bridge, followed by his army ;

and there they made a great slaughter, both of the Norwegians and of the Flemings.

John of Worcester's account appeared in "Chronicon ex Chronicis", dating from the early 12th century:

Harold Harfaager, king of Norway, brother of St. Olave the king, suddenly arrived at the mouth of the river Tyne, with a powerful fleet of more than five hundred great ships. Earl Tosti joined him with his fleet, as they had before agreed, and they made all sail into the Humber ; and then ascending the river against the current, landed their troops at a place called Richale. As soon as king Harold received this news, he marched with all expedition towards Northumbria ; but, before the king's arrival, the two brothers, earls Edwin and Morcar, at the head of a large army, fought a battle with the Norwegians on the northern bank of the river Ouse, near York, on the eve of the feast of St. Matthew the Apostle [20th September], being Wednesday ; and their first onset was so furious that numbers of the enemy fell before it. But, after a long struggle, the English, unable to withstand the attack of the Norwegians, fled with great loss, and many more of them were drowned in the river than slain in the fight. The Norwegians remained in possession of the field of death ; and, having taken one hundred and fifty hostages from York, and leaving there one hundred and fifty hostages of their own, returned to their ships. However, on the fifth day afterwards, viz. on Monday, the seventh of the calends of October [25th September], Harold, king of England, having reached York, with many thousand well-armed troops, encountered the Norwegians at a place called Stanford-bridge, and put to the sword King Harold and Earl Tosti, with the greatest part of their army ; and, although the battle was severely contested, gained a complete victory. Notwithstanding, he allowed Harold's son Olaf, and Paul, earl of Orkney, who had been left with part of the army to guard the ships, to return to their own country, with twenty ships and the relics of the defeated army ; having first received from them hostages and their oaths.

Henry of Huntingdon's account appeared in "Historia Anglorum", which also dates to the early 12th century:

Then they joined their forces and came up the Humber, as far as York, near which they were encountered by the Earls Edwin and Morcar ; the place where the battle was fought is still shown on the south side of the city. Here Hardrada, king of Norway, and Tostig, his ally, gained the day. When this intelligence reached Harold, king of England, he advanced with a powerful army, and came up with the invaders at Stamford Bridge. The battle was desperately fought, the armies being engaged from daybreak to noonday, when, after fierce attacks on both sides, the Norwegians were forced to give way before the superior numbers of the English, but retreated in good order. Being driven across the river, the living trampling on the corpses of the slain, they resolutely made a fresh stand. Here a single Norwegian, whose name ought to have been preserved, took post on a bridge, and hewing down more than forty of the English with a battle axe, his country's weapon, stayed the advance of the whole English army till the ninth hour. At last someone came under the bridge in a boat, and thrust a spear into him, through the chinks of the flooring. The English having gained a passage, King Harold and Tostig were slain ; and their whole army were either slaughtered, or, being taken prisoners, were burnt.

All of these accounts, plus the other versions of the Anglo-Saxon Chronicle, are pretty unhelpful about the main battle, which they abridge into two sentences that can be paraphrased, “*the fighting was intense, lasting most of the day with many casualties on both sides, including Hardrada and Tostig*”.

As for the battlefield location, English historians (and Canadian DeVries) put their trust in the Anglo-Saxon Chronicle statement that the battle happened “*beyond the bridge*” and local tradition that it happened at Battle Flat, east of Stamford Bridge. In other words, they assume that “*the bridge*” is Stamford Bridge and that “*beyond*” is from Godwinson’s perspective.

Huntingdon’s account says that the initial encounter was west of the river, which seems to contradict the battlefield being at Battle Flat. He does go on to say that the Norse retreated across the bridge, after which battle was renewed to the east of the river. English historians interpret this to mean that the initial encounter was a relatively minor affair on the west river bank.

McLynn's diagram (Figure 2) shows the traditional initial Norse shield wall as an arc.

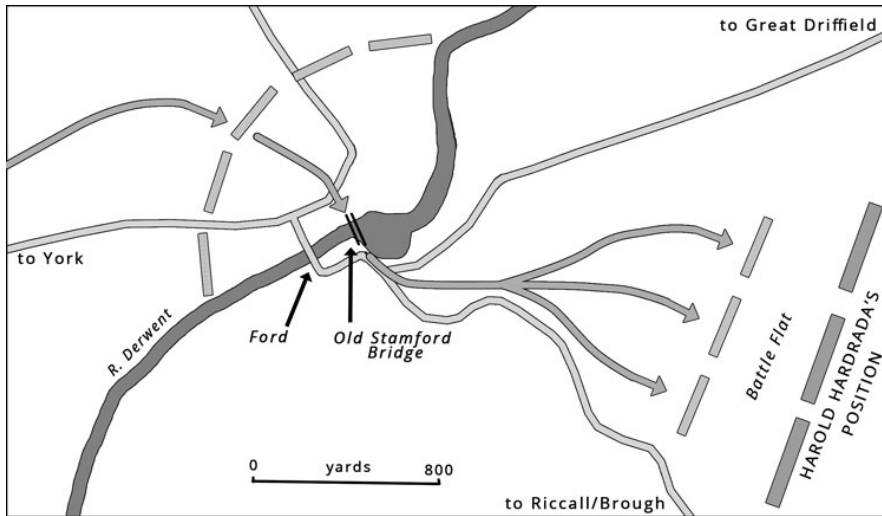


Figure 2: Frank McLynn, battle scenario

Why then was a Norwegian giant holding up the English army at the bridge? Some historians think he was apocryphal. Some think he was buying time for the Norwegians to organise their defence because – as the Anglo-Saxon Chronicle suggests – they had been taken by surprise. Others think he was delaying the English army to give the fleet guard more time to get to the battlefield from their boats.

We find the traditional English battle scenario implausible. There were crossing points upstream, probably as near as Howsham, five miles away. If the Norse were initially protecting the west river bank, English horsemen would have crossed upstream and come back on the eastern side of the river to trap the Norse on the west river bank. Their position would have been hopeless. If, on the other hand, the Norse were not protecting the river bank, they had time to find a much better defensive position than Battle Flat and there was no point in deploying a Norwegian giant on the bridge. If they wanted to delay the English, they had time to smash the bridge, which would have been much more effective.

An alternative narrative

We think a more plausible narrative can be built around Norse tradition, which is based on four Sagas that are known as *Heimskringla*, *Fagrskinna*, *Morkinskinna* and *Orkneyinga*. We will focus on *Heimskringla*, because it includes nearly all the information from the others. As far as we know, historians have not interpreted what the Sagas say into what it might mean on the ground without being heavily influenced by the English tradition. We will try. This is what *Heimskringla* says about the initial encounter:

Now as they came near the castle a great army seemed coming against them, and they saw a cloud of dust as from horses' feet, and under it shining shields and bright armour. The king halted his people, and called to him Earl Toste, and asked him what army this could be. The Earl replied that he thought it most likely to be a hostile army, but possibly it might be some of his relations who were seeking for mercy and friendship, in order to obtain certain peace and safety from the king. Then the king said, "We must all halt, to discover what kind of a force this is." They did so; and the nearer this force came the greater it appeared, and their shining arms were to the sight like glancing ice.

English Heritage say of this passage that *Heimskringla* is: “*confused as to whether the Viking army is making its way towards York or Stamford Bridge*”. We think not, for reasons we explain at the end. It is clear to us that they were approaching York. Laing’s translation of ‘borginni’ to ‘castle’ is questionable. Binns translates it to ‘town’. We are told it normally means ‘city’. It doesn’t matter, because York was the only city or major town in the vicinity, and it had the only castle. They must have been approaching from the east, because they eventually retreat across the Derwent river.

English Heritage then say that, according to the *Heimskringla*, “*Hardrada and Tostig had barely reached Stamford Bridge when they became aware of Harold’s approach*”. *Heimskringla* says nothing of the sort. We can only imagine that English Heritage deduce this from an opinion that the battle happened at Battle Flat.

Rather, we think that the Norse must have been at least two miles west of Stamford Bridge when they first spot the English. That is where a 30m high ridge of glacial moraine - shown in pink and magenta on Figure 3 – crosses between the Derwent and York. If the Norse army was anywhere east of the ridge, they would not first see shields and armour under a cloud of dust. If the wind was from the west, they would first see just a cloud of dust. If the wind was from any other direction, they would first see the vanguard with no dust. It might be 15 minutes or more until they realise it is an army cresting the ridge. It would not be obvious that they were outnumbered until more than half the English army had cleared the crest, by which time the vanguard would be virtually on top of them. Having realised they were outgunned, the Norse would have demolished the bridge to buy time, whether it was to flee or to occupy the best defensive position east of the river, which was at High Catton. None of this fits with any source.

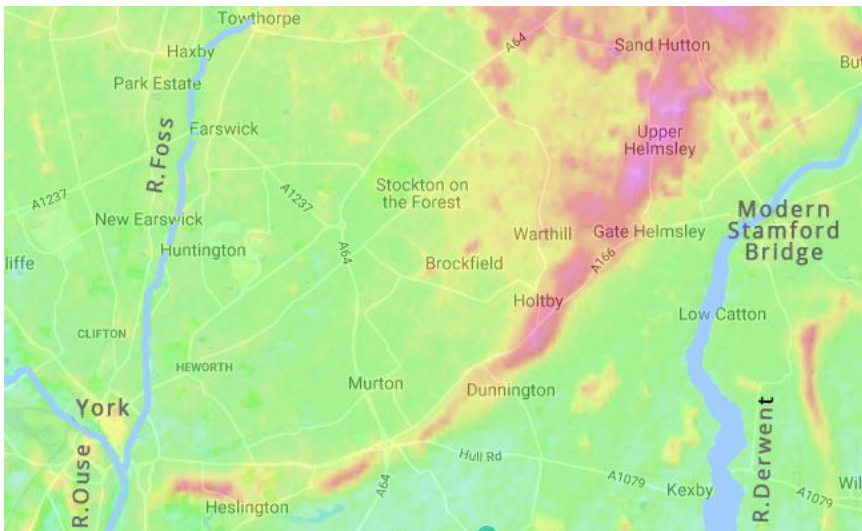


Figure 3: Vale of York, topography heatmap

If Hardrada did not first see the English army crest the moraine ridge, it can only be because he was on the ridge, or west of it, because otherwise it would have blocked his view. The only reason the Norse would not demolish the bridge is if they were west of the river with no intention to retreat and the fleet guard needed it to use it to rescue them.

Heimskringla says that Hardrada and Tostig have a discussion about tactics:

Then said King Harald, "Let us now fall upon some good sensible counsel; for it is not to be concealed that this is an hostile army and the king himself without doubt is here". Then said the earl, "The first counsel is to turn about as fast as we can to our ships to get our men and our weapons, and then we will make a defence according to our ability; or otherwise let our ships defend us, for there these horsemen have no power over us". Then King Harald said, "I have another counsel. Put three of our best horses under three of our briskest lads and let them ride with all speed to tell our people to come quickly to our relief. The Englishmen shall have a hard fray of it before we give ourselves up for lost." The earl said the king must order in this, as in all things, as he thought best; adding, at the same time, it was by no means his wish to fly. Then King Harald ordered his banner Land-ravager to be set up; and Frirek was the name of him who bore the banner.

We interpret this to mean that nothing happens between Hardrada's discussion with Tostig and planting the banner around which the shield wall is formed. If so and we are right that Hardrada was on the moraine ridge, then the battlefield was on the moraine ridge too.

A battlefield west of the Derwent conflicts with English tradition. There are only two sources that support the conjecture: Huntingdon and Heimskringla. We have already said that historians interpret Huntingdon to be saying that the initial west bank encounter was a relatively minor skirmish. They reject Heimskringla on the basis that the Sagas are more propaganda than history. English Heritage also say that Heimskringla confuses events here with the Battle of Hastings. We are more positive. As with Wace's account of the Battle of Hastings, we think one just has to be selective about which bits to trust. We are inclined to believe the details that do not glorify Norse culture. The Sagas were ostensibly created to record the lives of Norse kings. They may well have bigged-up the heroic actions that led to Hardrada's demise, but they had no incentive to create incidental detail or to move its location.

Conversely, the only source that supports the traditional battlefield is the Anglo-Saxon Chronicle. If the Sagas are right, it must either be mistaken or misinterpreted. Perhaps “*beyond*” was not relative to Godwinson or perhaps the bridge was not Stamford Bridge. We guess the latter: that the bridge to which the Anglo-Saxon Chronicle refers was Margary’s RR810 bridge over the Foss (marked with a red X on Figure 4). If so, the Chronicle is saying that the battlefield was somewhere east of the Foss, which is not terribly helpful, but at least it does not contradict the Sagas.

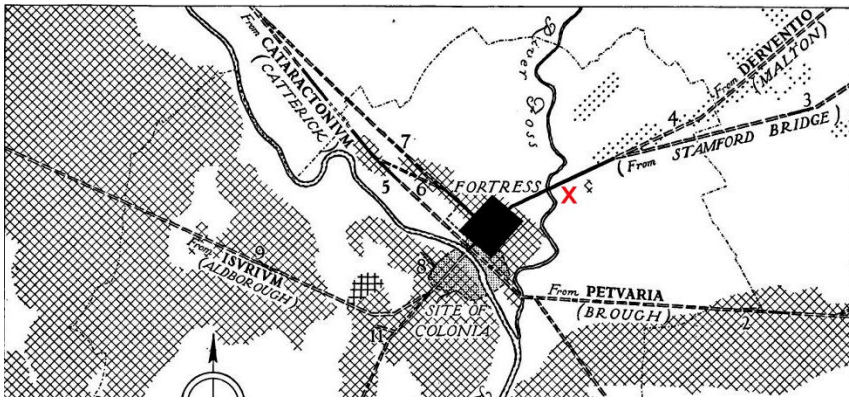


Figure 4: RCHME diagram of York Roman roads

Even if the Anglo-Saxon Chronicle was referring to Stamford Bridge, it could still mean somewhere west of the Derwent. ‘Beyond’ is always relative to something. Thus, Edinburgh is “*beyond Hadrian’s Wall*” relative to London but not relative to Inverness. British historians assume the Anglo-Saxon Chronicle is written from the King’s perspective. He was in York, so “*beyond Stamford Bridge*” would mean somewhere east of the Derwent. We are unconvinced. The Anglo-Saxon Chronicle previously says that Hardrada and Tostig were “*beyond York*”. This cannot be relative to Harold Godwinson, because he was in York. It is perfectly plausible that “*beyond the bridge*” meant relative to somewhere south or east of Stamford Bridge – Worcester perhaps, since that is where the D version was written - so that it meant somewhere west of the Derwent, agreeing with the Sagas.

We trust the Sagas on the location and cause of Hardrada's death. We therefore believe that the main battlefield was on the moraine ridge, two miles west of the Derwent. Quite apart from what the sources say, it is the obvious common-sense place that Hardrada would choose to defend.

Battle Flat

What then of Battle Flat? It is the presumed battlefield of every historical analysis written to date. None of them would claim it is an ideal choice of place to defend, so it is interesting to hear how they justify it. This is easier said than done because there is no consensus on exactly where it was.

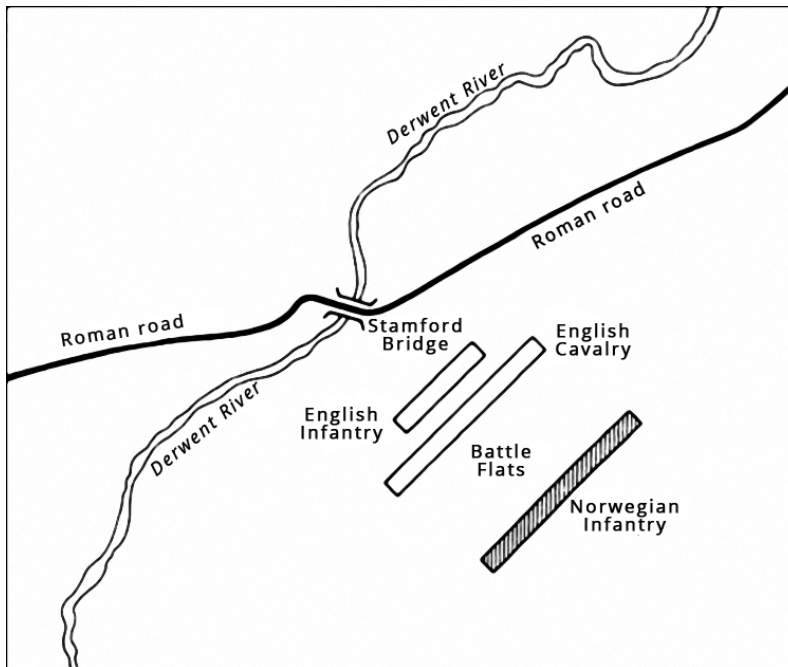


Figure 5: Kelly DeVries, battle scenario

Frank McLynn and Kelly DeVries have independently produced a diagram showing how they think the battle played out (Figure 2 and Figure 5). They are pretty similar, other than that McLynn's diagram shows the Norwegian shield wall at about 800m from the river, which agrees with the OS Battle Flat marker, whereas DeVries shows it at about 400m. McLynn's text, however, says it is about 300m from the river. Burne's diagram shows it at

about 600m. Barrett shows it initially on the east river bank, then retreating back to about 300m from the river.

Battle Flat didn't get its name for nothing. Visiting it is not unlike visiting Battle Abbey. One cannot help but think, "*Why would anyone choose to defend this horrible flat field?*". Burne's theory is that the Norwegians only cared about not being disadvantaged by the battle terrain. He says they: "*considered themselves pre-eminent, and their one thought was to form this shield-wall on a fair battleground*". Or perhaps the English corralled them there somehow. Or perhaps John of Worcester is right that they were fleeing for their lives, and this is where the English caught up with them. Or perhaps, as most historians believe, they thought the rising ground would give them enough of an advantage to hold out until the fleet guard arrived as reinforcement.



Figure 6: Battle Flat topography heatmap

We think the last of these possibilities can be quickly discounted. Slightly raised ground is shown in yellow on Figure 6. The traditional Battle Flat battlefield (red rectangle) is not on rising ground. McLynn's diagram battlefield (magenta rectangle) is worse, backing onto a boggy stream. McLynn's text battlefield and DeVries' diagram battlefield (cyan rectangle) are

on slightly raised ground in what is now the town centre. But the ground is only two metres higher than the river bank and the 'hill' is only 250m wide. The slope is too shallow to effect combat and the raised ground is too small to hold the Norwegian army.

DeVries suggests that the topography might have changed since medieval times. It cannot have changed that much: after all, it hasn't changed since the advent of mechanical earth movers and it would not have been possible to move much earth beforehand with the limited manpower that was available. DeVries tries to make a case that Battle Flat was defensible, but he does say that its main selling point as the battlefield is its name. We think its name is a red herring, probably invented by some sort of Georgian estate agent.

That leaves Burne's theory that the invaders did not care about gaining advantageous terrain. We have never heard this conjecture before or elsewhere. In our limited knowledge of Viking combat, they always looked to defend the most advantageous terrain. Indeed, they took a pride in it. We are convinced that Hardrada would have done the same.

The other possibility, suggested by William of Malmesbury, is that Battle Flat participated in a later phase of the battle. If the main battle was on the moraine ridge, it is possible that the Norse retreated over the river and got caught at Battle Flat. We think it unlikely. The two sources that mention the retreat over the bridge say it was orderly. Perhaps the giant buys more time by holding up the English army at the bridge; by the sound of it, for at least 30 minutes. Having overcome the bridge guard, the English had to cross a one horse wide bridge and organise their attack. If the Norse decided to flee once they had got over the bridge, even if they left it unguarded, they would have got a lot further than 800m before getting caught, and they would flee south towards their boats rather than east. We guess Malmesbury was trying to say that the English were picking off any elderly, injured or overweight stragglers that the main army left behind.

Moreover, there is the position of the bridge. Figure 7 is based on SYO's year 2000 analysis of Roman road finds to the east of York. The red letters show

where parts of Roman roads have been found. Margary thought RR810 followed the northerly black line between Roman road finds at Apple Tree Farm (A) and the McKechnie factory (M), extrapolating a river crossing near the Post Office. SYO found no evidence of a bridge or of a corresponding road to the east of the river. They did however find lots of Roman road evidence on both sides of the river near Low Catton, where Lawton places the Roman town of Derwentio. SYO632 concludes that RR810 probably followed the southerly black line, with the northerly road part of another network that did not cross the river. SYO acknowledge some anomalies in their analysis, most notably that there is no evidence of a road between A and M or between C and D. They suggest that both stretches of road might have been ploughed up. RRRRA think differently.

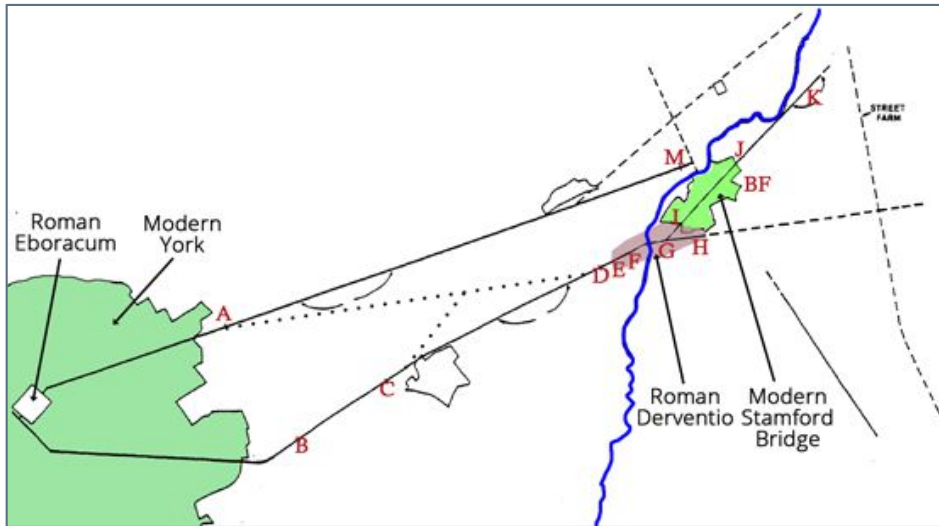


Figure 7: SYO Roman road excavations

RRRA interpret these same finds to mean that RR810 left York through the northern gate, passed through Apple Tree Farm (A), then followed the dotted line to Wilson's Plantation (D), and on to Stamford Bridge just north of Low Catton. This means that M was probably part of another road heading northwest; B and C were probably part of a glacial moraine ridgeway that joined RR810 near Holtby.

If RRRRA's bridge location near Low Catton is right, the invaders would surely not have headed northeast towards Battle Flat (BF) after crossing the river. If they went anywhere, they would have headed south towards their boats and the coming reinforcements.

In our opinion, there is virtually no chance that any significant fighting took place at Battle Flat, or in the modern settlement of Stamford Bridge. If Battle Flat played any part in the battle, it was that the Norse ran in all directions after retreating across the bridge, in order to confuse and separate the chasing horsemen. Perhaps some of them were caught and killed at Battle Flat.

Timing

One fact upon which all the sources agree is that the battle happened on Monday 25th September. According to the standard Forester translation of *Historia Anglorum*, the "*armies were engaged from daybreak until noonday*". At that point, the Norse army capitulates, fleeing over the river. The English chase. This is where Huntingdon says that a Norwegian giant on Stamford Bridge, "*stayed the advance of the whole English army till the ninth hour*". Times were calculated from sunrise in those days. Sunrise on the 25th September was just before 06:00. Something must be wrong.

Medieval melee battles almost invariably lasted less than an hour. This one probably had a couple of breaks, but it still seems implausible that the melee could have lasted a combined six hours. It seems totally implausible that a Norwegian giant held up the English army for nearly three hours. It seems unlikely that the armies could both have got anywhere near Stamford Bridge by daybreak, since one or the other or both would have had to dress for battle and march at least eight miles. The *Anglo-Saxon Chronicle* says that the English army left Tadcaster for York on the day of battle. Traditionally, they were spotted cresting the glacial moraine ridge, 16 miles from Tadcaster including two bottleneck bridges. It would have taken at least five hours. If we are right that the Norse were on the moraine ridge, the English would have been spotted around Apple Tree Farm, 11 miles from Tadcaster, but it would still have taken nearly three hours, which is hardly 'daybreak'.

We think the confusion is caused by the meaning of an ambiguous Latin statement in *Historia Anglorum*, namely “*namque a summo mane usque ad meridiem*”. Forester’s translation to “*from daybreak until noonday*” is viable, but not definitive. We translate it to mean: “*for most of the morning and afternoon*”. If our translation is right, Henry of Huntingdon is probably saying that the English army arrived at the place where they were spotted at around 09:00, which is about right for an 11 mile march from Tadcaster starting at dawn.

Our translation also solves the timing of the river blockade. The giant is overcome at around 15:00. The English army must have been at least three miles from Hardrada when first spotted, because the Norse cannot see Harold’s Standard. Between the sighting and battle, the English had to close the gap, then Harold had to make his peace offer, withdraw after it was rejected, then issue his battle instructions. It must have taken at least 90 minutes. If the armies did not sight each other until 09:00, the battle probably did not start before 10:30. Three battle phases followed with further negotiation. It is quite plausible that the Norse army did not capitulate until 13:30. They shuffled to the river two miles away, which probably took an hour. This means the giant might only have held out for a plausible 30 minutes, or less.

Riccall

It is difficult to work out Hardrada’s thought processes without knowing where his boats were parked. Their location presumably impacted his decision to reject Tostig’s recommendation to flee, as well as the amount of time it would take for the fleet guard to arrive. This was crucial to the outcome of the battle, because *Heimskringla* tells us that a third of the invading army was left at the boats on the day of the battle (not two-thirds as McLynn states). We will refer to those that stayed with the boats as the fleet guard and those that went on land as the land party.

By tradition, the Norse fleet was at Riccall on the day of battle. John of Worcester says that is where they moored before the Battle of Fulford, which makes sense to us. It was an island in those days; the last riverside settlement

before York that was not visible from York (it was hidden by an east-west ridge of glacial moraine between Wheldrake and Stillingfleet). It had inhabitants, so it must have had livestock and stores, which would make it a good place to camp and then launch an attack on York. But this does not mean they were still there six days later on the morning of the Battle of Stamford Bridge.

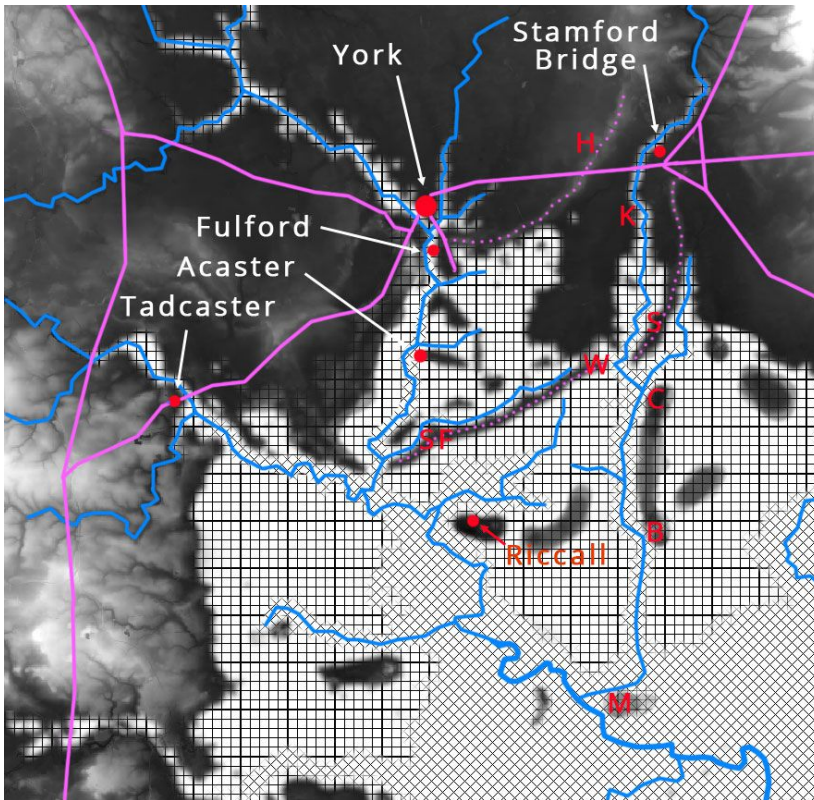


Figure 8: Vale of York, medieval geography

Figure 8 shows our best guess at the geography of the Vale of York in the 11th century. Sea level was 5m or so higher. The southern part of the Vale of York was a tidal lagoon, shown in cross-hatching. North of that was fenland, shown in graph-hatching. The Roman roads, shown as magenta lines, skirted around the boggy ground. In addition, there were two ridges of glacial moraine, shown in dotted magenta lines. Typically, ridges in medieval times

carried ancient ridgeways. These ridgeways together with Roman roads provided the only way for armies to get around the battle theatre on foot.

No source says that the Norwegian fleet was at Riccall on the day of battle. On the other hand, nor do they say that the fleet moved from Riccall before the battle, so most historians assume that they were still there. If so, the Norwegian army spent the night before battle at Riccall, the fleet guard would be coming from Riccall, and battle survivors would try to escape towards Riccall. We can think of half a dozen reasons why this is unlikely.

First and most obvious, Riccall was an island. Heimskringla says that: "*In every division he allowed two men to land, and one to remain behind*". If the boats were moored at Riccall, the land party would not have been able to get off the island. For this same reason, they could not have been moored at East Cottingwith (C), Bubwith (B) or any other island.

Second, even with the revised timing we discuss above, it was not possible for the land party to get from Riccall to the battlefield early enough. Heimskringla says they have breakfast before leaving. They would have had to row 20km downstream to Barnby on the Marsh (M), then 21km upstream to Sutton upon Derwent (S), disembark, muster, then march 14km to Stamford Bridge, cross the bottleneck bridge, and then march another 4km to the glacial ridge. Even with a favourable tide, it would have taken at least five hours; six hours is more likely. They could not have arrived before 11:00 and probably would not have arrived until 12:00. It is not 'daybreak' or 'most of the morning' and it does not leave enough time for the other battle events mentioned in Heimskringla.

Third, Heimskringla says that Hardrada sent his three swiftest riders to summon the fleet guard. There was no land route from the battlefield to Riccall. If the messengers were heading to Riccall, Hardrada is more likely to have sent a boat crew with the strongest oarsmen rather than the swiftest riders. The only possibility is that the messengers crossed the boggy land south to Wheldrake (W), then rode west along the ridge of glacial moraine to Stillingfleet (SF), from where they somehow managed to signal the camp

4km away. Perhaps they had some form of semaphore or a trumpet signalling system. It is possible but, in our opinion, a big risk upon which to place the success of the invasion.

Fourth, having received their summons, the fleet guard would have needed the luck of the devil to arrive in time to affect the battle. Working back from the Norwegian giant blocking the bridge until 15:00, the Norse army must have capitulated no later than 14:00. The Sagas say that the fleet guard arrived beforehand, nearly turning the course of the battle. They probably arrived no later than 13:00. The messengers could not have been dispatched before the initial sighting, which we think was no earlier than 09:00. The 12 mile off-road ride to Stillingfleet must have taken at least an hour. The fleet guard would then have had to dress for battle and row like the clappers. One possibility was to row ten kilometres in very shallow water towards Wheldrake, then wade through a kilometre of fen, build a raft-bridge to cross the river, then jog 14km to Stamford Bridge and on to the battlefield. The other was to row 20km downstream to Barnby on the Marsh, row 21km upstream to Wheldrake, then jog 14km to Stamford Bridge and on to the battlefield. All of this in armour. In either case they would need to catch the perfect tide and enjoy enormous luck to arrive by 13:00. It is difficult to believe that Hardrada would have gambled the fate of his campaign on this.

Fifth, Riccall was a small salty island with only a handful of inhabitants. The Norwegian army was 7,000 to 9,000 strong. They would have needed 200 sheep or 20 cattle a day to eat, plus 9,000 litres of fresh water. Riccall might have had enough livestock, stores and fresh water to sustain the Norwegian army for one day, but it seems implausible to us that it would have had enough to feed them for six days. Indeed, Hardrada was not expecting to fight on the day of the battle and presumably planned to return to his boats later that day. He surely would not have ferried dozens of sheep, cattle and water butts 10 miles back to Riccall every day. Nor would he have wanted to stay somewhere that was so easy to besiege.

Sixth, the Roman road from Castleford to York ran along a 40m high ridge. Harold's arrival at Tadcaster would have been visible to anyone with

reasonable eyesight at Riccall, just 9 miles away. His march to York would have been even more visible, just 7 miles away. Yet it is clear from the sources and subsequent events that the Norwegians did not know that Harold was in the vicinity with a powerful army until it was too late.

Auden has another reason. He thinks that the Ouse would be too easy for Harold to block, thereby trapping the Norse fleet on the fens. He reasons that they withdrew to open water, presumably to Brough, on the day after the Battle of Fulford. We considered this before we knew about his work. Although it has a lot of logical benefits, it does not fit the timing. Brough was connected to Stamford Bridge by RR2e, but it was 23 miles away. We could think of no way the Norse land party could get to the battlefield before noon, no way that the fleet guard could arrive in time to affect the battle, and no way the fleeing Norsemen could get back to their boats before nightfall.

Two or three days before the Battle of Stamford Bridge, the Norse army was at Stamford Bridge, preparing to sack the castle. They can only have got there from Riccall by rowing at least part of the way. As it turned out, the occupants of York did a peace deal, so they stood down. The deal involved a swap of hostages (according to the English sources) or a meeting in York (according to Heimskringla), which would bring them back to York. It makes no sense to us, especially given the inadequacies of Riccall as a camp, that they would row back there in between. We think they rowed to somewhere on the east bank of the Derwent the day after the battle at Fulford and that they stayed there. We guess they ended up at Stamford Bridge on both occasions because it had the lowest bridge on the land route from the fleet to York.

The Derwent was navigable to Stamford Bridge, but we doubt that the fleet was moored that far north. Stamford Bridge could be no more than 3 miles from the battlefield. If the fleet guard was there: 1) It would have been pointless for Hardrada to make a fuss about choosing the fastest horses and the fastest riders to carry the summons; 2) The fleet guard should have arrived at the battlefield before the main battle started; 3) The fleet guard would not have been so exhausted by their jog to the battlefield that some of them died of fatigue.

We calculate above that the fleet guard arrived at the battlefield roughly four hours after the messengers were dispatched. Allowing an hour for the ride and an hour to assemble and dress for battle, we think the fleet could have been no more than a 120 minute walk/jog from the battlefield. Maximum jogging speed with running shoes is roughly 6mph. The Norse would have been barefoot and wearing armour. Fit as they were, surely they could not maintain that speed for two hours. We estimate they would have got somewhere between six miles and ten miles.

Hardrada would have camped at a farming settlement, where there was a fresh water well or stream, and where the locals would provide livestock and grain. The main Saxon era settlements on the Derwent within our maximum target range were Kexby at three miles from Stamford Bridge, Sutton upon Derwent at six, Wheldrake at seven and East Cottingwith at eight. East Cottingwith was an island, which makes it an unlikely place to moor or camp for reasons we explain earlier. Kexby seems too close. It was no more than 4km from any prospective battlefield. It should not have taken the fleet guard two hours to get there and they should not have arrived exhausted. Moreover, it was only three miles from Stamford Bridge. Most of the fleeing Norse survivors would have beaten the English to Kexby, assuming the Norwegian giant delayed them for 30 minutes or more.

The southernmost non-island Derwent river banks were at Wheldrake on the west bank and its bank opposite. The bank opposite was linked to High Catton near Stamford Bridge by a ridge of glacial moraine. In our opinion, they used that ridge - probably with an ancient ridgeway - to get to Stamford Bridge. We guess that the fleet stretched north from Wheldrake. According to Henry of Huntingdon, the combined Norse/Flemish fleet had roughly 350 boats. They would have needed at least one mile of river bank; twice that if they only moored on the east bank. Most of the fleet guard would have been at the southern end of the fleet when their summons came, near Wheldrake if we are right, because that is the direction from which a naval attack would have come.

Revised Narrative

Our revised Battle of Stamford Bridge narrative assumes that all of the contemporary accounts are telling the same story, just that some of them omit or abridge events that the others report in considerable detail. Heimskringla focusses on the main battle. The English accounts focus on the engagement and flight. Together they provide a pretty coherent narrative.

The Battle

According to the Anglo-Saxon Chronicle, the English army leaves Tadcaster at dawn on the day of battle. They march to York, then east towards Stamford Bridge. Meanwhile, according to Heimskringla, the Norse land party has breakfast, disembarks, then marches towards York. If, as we think, they were moored on the Derwent, this would have taken them via Stamford Bridge.

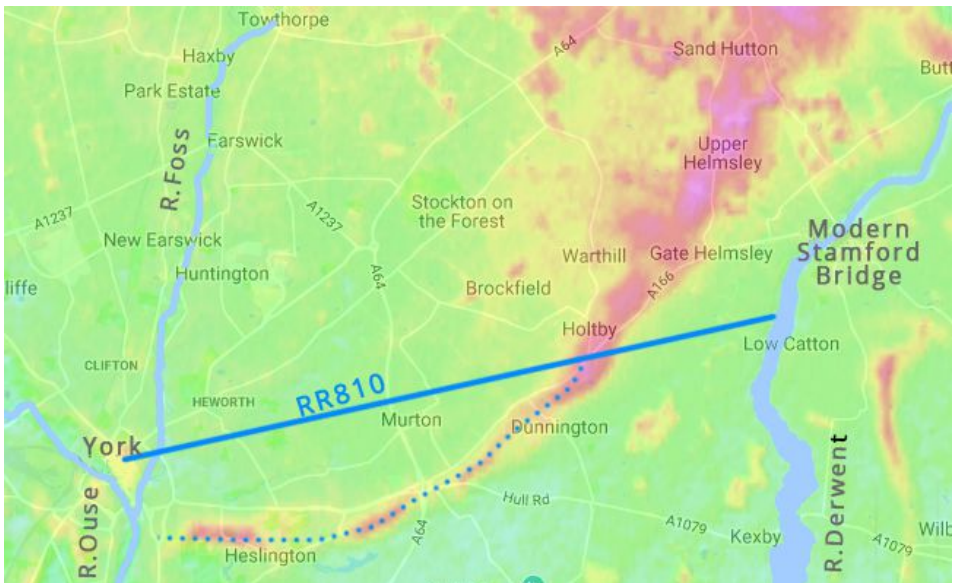


Figure 9: RR810 through the Vale of York

The English must have been on RR810. It was the only Roman road running east from York. We presume Hardrada was also on RR810. It was the only road heading towards York from the east and it had the lowest Derwent bridge crossing. They could not see each other because there was a 30m high

ridge of glacial moraine in between. Hardrada spots an army as he crests the ridge. They were too far away to see the Standards, which means they were no closer than Apple Tree Farm and perhaps still out near the Foss. Hardrada realises it is the English army as they come closer. After some discussion with Tostig he sends messengers to summon the fleet guard and prepares to fight. Hardrada forms an enclosed shield wall, presumably on a nearby hill. Harold approaches in person to negotiate a truce. Hardrada and Tostig reject the deal. Heimskringla picks up the story.

Now the battle began. The Englishmen made a hot assault upon the Northmen, who sustained it bravely. It was no easy matter for the English to ride against the Northmen on account of their spears; therefore they rode in a circle around them. And the fight at first was but loose and light, as long as the Northmen kept their order of battle; for although the English rode hard against the Northmen, they gave way again immediately, as they could do nothing against them. Now when the Northmen thought they perceived that the enemy were making but weak assaults, they set after them, and would drive them into flight; but when they had broken their shield-rampart the Englishmen rode up from all sides, and threw arrows and spears on them. Now when King Harald Sigurdson saw this, he went into the fray where the greatest crash of weapons was, and there was a sharp conflict, in which many people fell on both sides. King Harald then was in a rage, and ran out in front of the array, and hewed down with both hands; so that neither helmet nor armour could withstand him, and all who were nearest gave way before him. It was then very near with the English that they had taken to flight. King Harald Sigurdson was hit by an arrow in the windpipe, and that was his death-wound. He fell, and all who had advanced with him, except those who retired with the banner.

In summary, after a long period of fierce fighting, the English breach the shield wall. Hardrada goes in person to seal the gap. He gets too close to the English archers and gets killed by an arrow in the throat. Heimskringla continues:

There was afterwards the warmest conflict, and Earl Toste had taken charge of the king's banner. They began on both sides to form their array again, and

for a long time there was a pause in fighting. But before the battle began again Harald Godwinson offered his brother, Earl Toste, peace, and also quarter to the Northmen who were still alive; but the Northmen called out, all of them together, that they would rather fall, one across the other, than accept of quarter from the Englishmen. Then each side set up a war-shout, and the battle began again.

In other words, a lull ensues, Tostig takes command of the Norse army and reforms the shield wall. Harold offers another truce. Tostig rejects it again. The English attack again. Just as the English are getting the upper hand, the fleet guard arrive under the command of Eistein Orre, fiancé of Hardrada's daughter Maria.

Eystein Orre came up at this moment from the ships with the men who followed him, and all were clad in armour. Then Eystein got King Harald's banner Land-ravager; and now was, for the third time, one of the sharpest of conflicts, in which many Englishmen fell, and they were near to taking flight. This conflict is called Orre's storm. Eystein and his men had hastened so fast from the ships that they were quite exhausted, and scarcely fit to fight before they came into the battle; but afterwards they became so furious, that they did not guard themselves with their shields as long as they could stand upright. At last they threw off their coats of ringmail, and then the Englishmen could easily lay their blows at them; and many fell from weariness, and died without a wound. Thus almost all the chief men fell among the Norway people.

For a while the English buckle under the onslaught, but the fleet guard run out of puff, exhausted after their jog. The Norse army capitulates, retreating east along the Roman road to Stamford Bridge.

The Battlefield

Where then should archaeologists look for evidence of the battle? There are only two clues, both in Heimskringla. One is that Hardrada does not move far from where he first sees the English army. The other is the shape of the shield wall. Heimskringla explains:

Then King Harald arranged his army, and made the line of battle long, but not deep. He bent both wings of it back, so that they met together; and formed a wide ring equally thick all round, shield to shield, both in the front and rear ranks. The king himself and his retinue were within the circle; and there was the banner, and a body of chosen men. Earl Toste, with his retinue, was at another place, and had a different banner. The army was arranged in this way, because the king knew that horsemen were accustomed to ride forwards with great vigour, but to turn back immediately. Now the king ordered that his own and the earl's attendants should ride forwards where it was most required. "And our bowmen," said he, "shall be near to us; and they who stand in the first rank shall set the spear-shaft on the ground, and the spear-point against the horseman's breast, if he rides at them; and those who stand in the second rank shall set the spear-point against the horse's breast."

The most likely explanation for the inner shield wall is that it was to prevent English archers shooting over the facing shield wall to hit the rear of the opposite wall. If so, the shield wall must have been an eccentric ellipse or sausage shape, probably with a minor axis less than 75m. "Not deep?" It had to be at least three deep: Heimskringla describes the responsibilities of the first and second ranks, and says that the rear rank formed the inner shield wall. If it was three deep and the land party had 6,000 men, the shield wall would have been roughly 1,400m long. If it were sausage shaped or an eccentric ellipse 75m across the short axis, it would have been roughly 600m on the long axis.

Hardrada must have been on the glacial moraine ridge when he first spotted the English army. There is no plausible reason he would drop down from the ridge for the battle. In the unlikely event that he had previously dropped down west of the ridge, he would have gone back up. The Norse shield wall must have been near the Roman road, but no one knows exactly where it crossed the ridge. If RRRRA is right that it was near to Holtby, it probably went through the low point between Mirk Hills to the north and Mill Hill to the south. Both are promising battlefields. Mill Hill is higher, but the A166 runs through its summit. If the battlefield were there, we guess it would have

shown some archaeology. We therefore marginally prefer Mirk Hills, as shown on Figure 10. If the Roman road proves to have crossed the ridge elsewhere, Hungry Hill and Hemsley Hill are also possibilities.

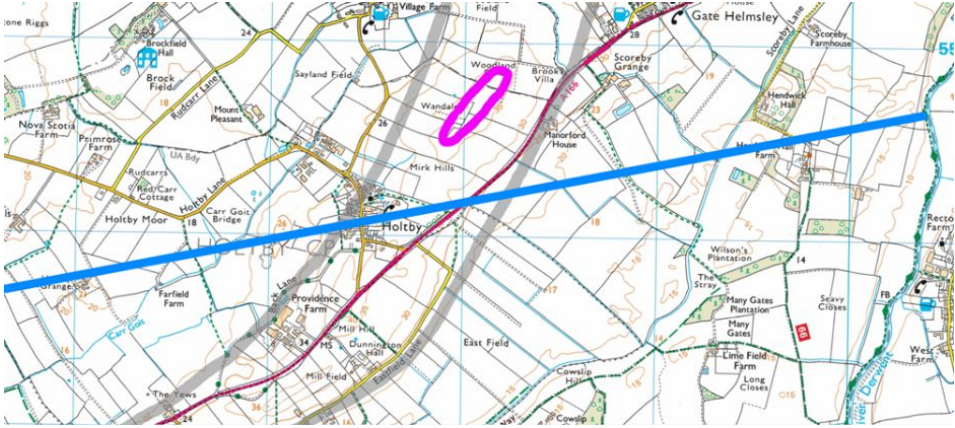


Figure 10: Magenta line, likely battlefield location; Blue line, RR810; Grey lines, glacial moraine ridge boundary

The flight

Henry of Huntingdon picks up the story on the battlefield:

the Norwegians were forced to give way before the superior numbers of the English, but retreated in good order. Being driven across the river, the living trampling on the corpses of the slain, they resolutely made a fresh stand.

The Norse and Flemish survivors evidently retreated across Stamford Bridge. We imagine this retreat must have been like a human millipede - a military column four or five abreast with shields facing outwards - crawling slowly towards the river then across the bridge. This, of course, is where the Norwegian giant comes in. Henry of Huntingdon explains:

Here a single Norwegian, whose name ought to have been preserved, took post on a bridge, and hewing down more than forty of the English with a battle axe, his country's weapon, stayed the advance of the whole English army till the ninth hour.

A single Norwegian, no matter how big, could not hold up the English army indefinitely. He was clearly posted to buy time for the other survivors to do something. Some historians interpret Huntingdon's statement that "*they resolutely made a fresh stand*" to mean that they formed a new shield wall, at Battle Flat, they presume. We disagree. We think the stand referred to a 'forlorn hope' bridge guard, including the giant. We think they were posted to buy time for everyone else to flee. Having skewered the pesky giant from a boat below the bridge, William of Malmesbury says:

The army immediately passing over [the bridge] without opposition, destroyed the dispersed and fleeing Norwegians.

Heimskringla does not mention the forlorn hope or the giant:

This [the death of the Norse leaders at the battlefield] happened towards evening; and then it went, as one might expect, that all had not the same fate, for many fled, and were lucky enough to escape in various ways; and darkness fell before the slaughter was altogether ended.

The Anglo-Saxon Chronicle:

... the Norwegians that were left fled from the English, who slew them hotly behind; until some came to their ships, some were drowned, some burned to death, and thus variously destroyed; so that there was little left.

So the Norse survivors fled towards their boats. We explain earlier why we think their boats were moored on the east bank opposite Wheldrake (W on Figure 11), and for a mile or so north. Some might have fled along the river bank, but we guess that most of them fled along the RR2e Roman road to High Catton (H), then south down the glacial moraine ridge. Doubtless the English slaughtered any stragglers they encountered. If we have got the timings right, most of them would have made it past Wilberfoss.

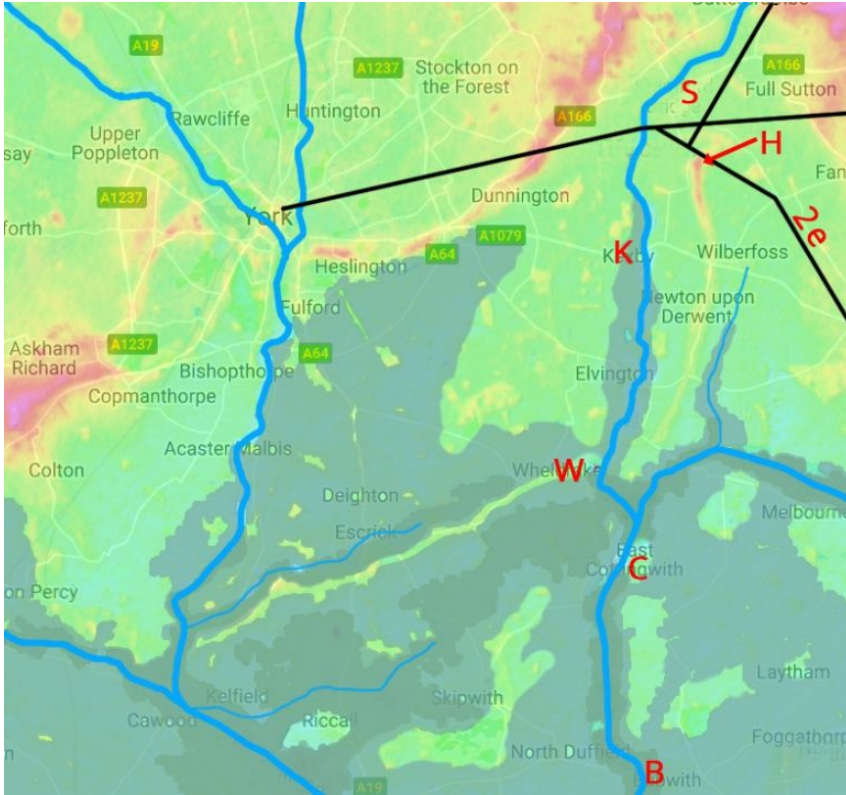


Figure 11: Norse escape route

The English were wearing armour and would have to dismount to fight. The fleeing Norse were presumably not wearing armour. They probably headed for boggy ground when the English horsemen came into sight, hoping they would not follow. If we are right, the best place to look for evidence of fleeing Norwegians getting slaughtered would be south of Wilberfoss and perhaps 20m to 100m away from the crest of the ridge.

Loose Ends

The battle scenario outlined above is simple, logical and militarily sensible. It ties together all the source accounts into a coherent narrative, just leaving what might seem to be an anachronism, a contradiction and an inconsistency.

In addition, there are two interesting military puzzles and English Heritage's criticisms of Heimskringla. This is what we think about it all.

The Anachronism

According to Laing's translation, Heimskringla repeatedly says that the English army had a large contingent of archers and cavalry, and that they started hostilities with a cavalry attack. Historians think that cavalry and archers were only introduced to English warfare after the Conquest. Freeman and others use these apparent anachronisms as evidence that the Sagas are untrustworthy. If the Sagas are wrong, our proposed battle scenario is probably wrong too.

Battle of Hastings accounts make it clear that English horseback troops at the time were mounted infantry rather than cavalry. The difference is not just semantics. Mounted infantry used their horses to get around the battlefield and to outflank their enemy, but dismounted to fight with sword or axe. Cavalry fought on horseback with lances. Cavalry riders and horses were trained to give and take commands by knees and heels. Cavalry horses were bred to be strong and trained to ignore the noise of battle and the smell of blood. Historians are probably right that the English had not developed these skills at the time of the battle, but we think that is not what the Sagas are trying to say.

The original Icelandic Heimskringla script says: "*Haraldur konungur Guðinason var þar kominn með her óvígjan, bæði riddara og fótgangandi men*", which (we are told) is most likely to translate as: "*King Harold Godwinson had come with a hostile army of both horsemen/knights and infantry*". Laing's translation is not wrong, but the original is ambiguous: 'riddara' can mean knights or horsemen. It is generally interpreted to mean knights in recent times, because it is the Icelandic name for the chess piece, but chess terms post-date Heimskringla. If it meant horsemen, it is not anachronistic. Even if Sturluson did mean knights, he might have misunderstood the meaning of the oral saga, because he transcribed it more than a hundred years after the

battle, by which time horseback troops in England and elsewhere were likely to be cavalry.

As for archers, many historians assume that there were no bowmen in England at this time because none are mentioned in the contemporary accounts of the Battle of Hastings and only one is depicted on the Bayeux Tapestry.

We think the English army at Stamford Bridge probably did have a significant number of archers. Many people in Northumbria were of Viking descent. They would have continued to use Viking-style bows, for hunting if nothing else. Indeed, it looks like the practice had spread to Mercia, Wales and parts of Essex because, for instance, “The Battle of Malden”, a 10th century poem, mentions English bowmen several times. Perhaps the reason there were no English bowmen at Hastings is that the practice had not made it as far south as Wessex, London or Kent, which provided most of the fyrds at Hastings.

We accept that the Sagas probably exaggerated the achievements and heroic deeds of the main protagonists, but they had no reason to invent place names, enemy troop composition or enemy manoeuvres. If they are saying that the English army had a significant number of horsemen and archers, we think they are probably right. Thomas Carlyle said that the Sagas were among the greatest works of history ever written. We are inclined to agree.

The Contradiction

Henry of Huntingdon seems to imply that Hardrada was killed after the English cross the Derwent. Heimskringla says that Hardrada was killed at the main battlefield. If that is what both are saying and they are right, the main battlefield was east of the river. We think the main battlefield was west of the river. If we are right, one or other of those sources is either wrong or has been misinterpreted.

The issue is not only the timing. Hardrada is unlikely to have ordered a retreat from the main battlefield, in case it jeopardised his chance of getting into

Valhalla. And, for the same reason, if he was still alive when the Norse were east of the bridge, they would probably have kept fighting. It follows then that if Hardrada was still alive on the east side of the bridge, our entire proposed battle scenario is probably wrong.

Forester's translation of *Historia Anglorum* says:

At last someone came under the bridge in a boat, and thrust a spear into him, through the chinks of the flooring. The English having gained a passage, King Harold and Tostig were slain ; and their whole army were either slaughtered, or, being taken prisoners, were burnt.

We think the confusion is caused by Forester's term 'having' and his semicolon. They make it sound like Hardrada and Tostig were killed as a consequence of the English gaining passage across the bridge, which means they died on the east side of the river. We disagree with the translation.

The Latin original says: "*Transeuntes igitur Angli, Haroldum et Tostig occiderant, et totam Norwagensium aciem vel armis straverunt vel igne deprehensos combusserunt*", which we translate as: "*The English gained passage, Harald and Tostig were killed, and the entire Norwegian army was either slaughtered or burned*". It looks to us like a list of events to conclude the story, with no implication that Hardrada or Tostig died as a consequence of the English gaining passage over the bridge. If so, the main battlefield could be west of the river without contradicting any sources.

The Inconsistency

The Anglo-Saxon Chronicle says that the English army spent battle-eve at Tadcaster; Heimskringla says they were at York:

The same evening, after sunset, King Harald Godwinson came from the south to the castle with a numerous army, and rode into the city with the good-will and consent of the people of the castle. All the gates and walls were beset so

that the Northmen could receive no intelligence, and the army remained all night in the town.

This could impact when the English arrived at the battlefield. We worked out the timings above based on the English leaving Tadcaster soon after dawn, but if they were leaving York soon after dawn, the start of the battle could come forward by two hours. If the battle started significantly before 10:00, it would disrupt our suggested sequence of events and undermine the argument for our proposed Norse camp, battlefield and flight route.

One would expect the Anglo-Saxon Chronicle to be better informed about English troop movements than the Sagas. In this case, we are pretty sure it was. In our opinion, the main English army spent battle-eve in Tadcaster and, if we are wrong, we think they delayed their departure from York until 08:30 the following morning, thereby inserting themselves back into our narrative timings.

Our reason for thinking the English army did not spend battle-eve in York is that it would be too dangerous. Tostig had family and supporters in York and its surrounds. If they saw the English army on the road or enter the city, they may well have tipped him off. Heimskringla says that the city egress points were guarded to prevent intelligence escaping, but the spy might have seen them on the road or might the city have left before the guard was placed.

Premature news of the English army would have been disastrous for Harold. If Hardrada discovered the English army outnumbered and outgunned him, he might have switched to hit-and-run raids, occupying Harold while William took control of the south. Worse, if Hardrada discovered the English army was in York, he could have besieged it. York was on a doab between the Ouse and the Foss. The geography provided a great natural defence, but also made York horribly siege-prone. If the entire English army were within, there would be no one to break a siege. They would have run out of food in days. We cannot believe that Harold would have taken this risk. In his shoes, we would have left the main army at Tadcaster, on the border between

Mercia and Northumbria, where there was unlikely to be any Tostig supporters.

On the other hand, the passage in Heimskringla would be an odd invention and we think Harold did go in person to York castle on battle-eve. He would have wanted to ensure that there were no Norsemen inside, that his army would be well-received and that the defeated Northumbrian militia would join him. It looks then that most of the Heimskringla passage is sound. Harold did come from the south with a numerous army. They were quite close (nine miles from Tadcaster to York) to the castle. We think Harold did ride into the city and that the city was guarded to prevent intelligence getting out. We cannot explain why Heimskringla says: "*the army remained all night in the town*". Perhaps it is just a mistake or perhaps it is trying to say that Harold's professional army – i.e. his huscarls – stayed in the town all night.

If it turns out that the English army did spend battle-eve in York, the reason we think they left no earlier than 08:30 is that it would otherwise upset the timing of the other battle events. So, if the English left York at dawn, Hardrada would have dispatched his messengers around 07:00 and the battle would have started around 08:30. If the giant was killed around 15:00, the fleet guard must have arrived at the battlefield around 13:00. That means the first two phases of the battle – i.e. before Hardrada's death and before the fleet guard's arrival – lasted 4½ hours, which seems implausible. It also means that the fleet guard took five hours to get to the battlefield. Five hours of marching/jogging in armour would surely have taken them 15 miles, but the southernmost Derwent river bank connected to the mainland was opposite Wheldrake, just seven miles from Stamford Bridge and nine from Holtby. The fleet guard might have dawdled for two hours, but it seems unlikely given the urgency.

Military Puzzle 1

If, as Heimskringla says, Hardrada quickly realises that he is outnumbered and outgunned, why did he reject Tostig's advice to flee for the boats?

Heimskringla starts its obituary for Hardrada by saying: "*King Harald never fled from battle ...*", which gives the impression that he was reckless and hot-headed, but he wasn't and that isn't what it means. It is trying to say that, having engaged in a battle, he never fled. Reading back through Heimskringla it is fairly clear that he assiduously avoided battle if he thought he would lose. The rest of the sentence says:

..., but often tried cunning ways to escape when faced with great superiority of forces.

Hardrada was faced by superiority of forces at Stamford Bridge. His only chance of survival, apart from fleeing, came from incompetent English command or the timely arrival of his fleet guard without exhausting themselves. Neither were likely. Moreover, Hardrada had brought an entire generation of Norwegian warriors. If his army was badly defeated, Norway would be left powerless and undefended. One would have thought he would be especially circumspect considering the consequences of defeat, which makes it all the more odd that he rejected Tostig's advice.

The obituary ends by saying:

All the men who followed King Harald in battle or skirmish said that when he stood in great danger, or anything came suddenly upon him, he always took that course which all afterwards saw gave the best hope of a fortunate issue.

We think this was the case at Stamford Bridge. In our opinion, Hardrada worked out that he had a greater chance of surviving the battle than of successfully fleeing, because the latter was fraught with danger too.

Unless the English could be held up for an hour at the river bank, their horsemen would catch the fleeing Norse before they reached their boats.

Even if the English could be held up, Harold might have landed some of his army at Bridlington, so that they could march west along RR810 to trap the Norse army on one or other river bank if they tried to flee. This possibility would have been fresh on his mind because it is how he had defeated the Northumbrian army five days previously. It might also be that English saboteurs had holed the undefended boats, or that Harold had blocked the Derwent, thereby trapping a fleeing Norse fleet on brackish mudflats until they ran out of fresh water.

Hardrada's risk assessment would have been influenced by his 'religion'. He would have believed to his bones in Valhalla and Tiwaz, the magical spear that Odin wielded to control battles. If he chose to fight and fought valiantly, he would have hoped that Odin would use Tiwaz to deliver a Norse victory. If Odin's attention was elsewhere, choosing to fight would at the very least guarantee him reaching Valhalla. Fleeing could not be influenced by Odin or Tiwaz. If he chose to flee, his survival and his place in Valhalla would depend on factors outside of his control. If we were Hardrada, we would have chosen to summon the fleet guard and fight too.

On the other hand, if we were Tostig, we would want to flee. Tostig was Christian. He would not have believed in Valhalla or Tiwaz, and he had led an immoral life. His inclination would have been to fight another day on more favourable terms, then to buy salvation by building monasteries when he gained power.

Military Puzzle 2

Why did the Norse not try to defend the river bank until nightfall, then flee for their boats under the cover of darkness?

Nearly all historians that have written about the Battle of Stamford Bridge, albeit that they assume the Norse were on the east bank when they first spotted the English army, note this enigma. Considering that a single Norse warrior, admittedly a big one, held the entire English army at bay for 30 minutes or more, even a diminished Norse army could easily have held the

river bank until darkness. Each historian speculates about unlikely reasons it didn't happen. We think they have not yet come up with the right reason.

If, as we think, the battle happened west of the river, defending the river bank would give Harold's saboteurs more time to sink the boats and/or to block the Derwent. We hint at the other reason earlier. It is that English horsemen could cross the river upstream, probably at Howsham five miles away, and get back to Stamford Bridge on the east side of the river long before nightfall. If the Norse were defending the river bank – regardless whether it was after the main battle or before the initial encounter - they would be trapped on disadvantageous terrain. If they then chose to flee, they would have no head start.

In our opinion, whoever was leading the Norse after the retreat over the bridge had to calculate a handicap race. The English horsemen could trot at roughly 9mph. The fittest Norsemen could jog cross country at roughly 5mph without armour. They could get to Wheldrake, where we think the fleet was moored, in perhaps 90 minutes. The English horsemen could trot the same distance in perhaps 45 minutes. Thus, the fittest of the Norse survivors could have made their escape, as long as they had an hour head-start. Given the chance, they would have dropped the bridge, but the English were hot on their heels denying them the opportunity. We guess that a 'forlorn hope' blocking the bridge was the only way to buy their head-start. It certainly seems to us a more promising tactic than trying to hold the river bank until nightfall.

English Heritage on Heimskringla

Our analysis relies on the accuracy of Heimskringla's account, at least about the initial engagement, Norse troop movements, and Hardrada's death. English Heritage express all the concerns we have seen about its veracity. In our opinion, all the apparent inconsistencies are caused by historians working back to front: Trying to match Heimskringla to a Norse camp at Riccall and a battlefield at Battle Flat, rather than trying to find a camp location and

battlefield location that fits all the sources. We will quickly respond to their concerns. Note that EH are using the A.H. Binns 1968 *Heimskringla* translation. We will switch to that for this section. It says about the days before the battle:

Now King Harald began his expedition to conquer York, and the army lay at Stamford Bridge, and because the king had won such a great victory against great chieftains and superior force, everyone was afraid, and did not think there was any hope of withstanding him. The townsfolk decided to send an offer to Harald, yielding themselves and the town to him, and on the Sunday King Harald went with his troop and all the army to York, and had a meeting outside the town, and all the great men agreed to submit to King Harald and gave him hostages, rich men's sons whom Tostig could pick out for the king, because he knew who were the worthiest men in the town. They went back in the evening to the ships with an undisputed success and were contented. It was decided that there should be a meeting in the morning in the town, when King Harald was to appoint governors of the place and give them offices and areas.

EH: "*Heimskringla states that Tostig and Hardrada waited with their army at Stamford Bridge. However, due to an understandable confusion concerning local topography, Sturlasson [Heimskringla's transcripctor] is less precise in identifying Stamford Bridge as the actual site of the battle.*"

MB: *Heimskringla* actually says that Tostig and Harold were at Stamford Bridge several days before the battle, preparing to conquer York. This is irrelevant to the day of battle, because *Heimskringla* says that they returned to their boats and that they slept on their boats on battle-eve. *Heimskringla* does not say or imply - imprecisely or otherwise - that Stamford Bridge played any other part in the battle. This seems to us a slightly disingenuous attempt to tie *Heimskringla* into the traditional narrative.

EH: "*Sturlasson was ignorant of the topography of both the battlefield and East Yorkshire, seeming to believe that the geography of Hardrada's campaign was condensed into a very limited area with Stamford Bridge, Fulford and Riccall all located close to the walls of York.*"

MB: Fulford was close to the walls of York. Heimskringla does not imply Stamford Bridge was near the walls of York. It does not mention Riccall. It seems to us that EH deduce their concerns based on the assumption that the fleet was moored at Riccall on battle-eve and that the main battle happened at Battle Flat. We think that both assumptions are wrong. The Heimskringla statements that Hardrada cannot initially see the English Standards, that Hardrada orders the fastest riders be put on the fastest horses to be sent as messengers, and that the fleet guard arrives so exhausted that some die from weariness, implies to us that Sturlasson knew there was considerable distance between York and the battlefield and the fleet.

EH: *“It is also apparent that Sturlasson could have confused events that occurred at the Battle of Hastings with those of Stamford Bridge.”*

MB: We cannot see any examples in Heimskringla where events are confused between Hastings and Stamford Bridge. It is true that both battles featured shield walls that were breached when troops ran out to chase retreating attackers. However, there are only two ways that a determined shield wall can be defeated, both by getting inside: 1) By killing everyone in a section of the wall; 2) For everyone in a section of the wall to leave their position. The latter would be quicker and less casualty prone. We guess that attackers always tried to goad parts of a shield wall out of place and that ill-discipline was just a common problem with inexperienced troops.

EH: *“The Heimskringla is confused as to whether the Viking army is making its way towards York or Stamford Bridge early on the morning of Monday 25 September 1066.”*

MB: Heimskringla says that on Sunday: *“It was decided that there should be a meeting in the morning in the town”*. Then on Monday: *“They were very happy, with no thought of any attack, and when they were getting near the town they saw a great cloud of dust and under it bright shields and shining mail.”* We are told that ‘city’ is a better translation; Laing translates as ‘castle’. It clearly refers to York, which is the only city or town or castle in the vicinity. We guess that EH have got confused because they think the Norse fleet was moored

at Riccall and have forgotten that it was an island. Thus, they assume that the Norse army would approach York from the south, which makes it unlikely that they would ever be close to Stamford Bridge. We think that the Norse fleet moved to Wheldrake on the day after the battle at Fulford, in which case Stamford Bridge was on the way to York. Even if the fleet was still at Riccall, the Norse land party would still have needed to row to somewhere that was not an island. The only choices were Tadcaster to the west and Wheldrake to the east. The English fleet was moored at Tadcaster, so we think they would row to Wheldrake, from where Stamford Bridge is on the way to York.

EH: *“According to the Heimskringla, Hardrada and Tostig had barely reached Stamford Bridge when they became aware of Harold’s approach”.*

MB: Heimskringla says no such thing. We explain how we think EH got confused in the main text.

EH: *“The Heimskringla states that as the Viking army neared Stamford Bridge it became aware of Harold’s army approaching from the west along the north bank of the Derwent.”*

MB: We have no idea how EH came to this conclusion. Heimskringla never says that the Norse army was nearing Stamford Bridge and the Derwent was predominantly a north-south river when downstream of Malton. The only reach that is east-west is up near Huttons Ambo, more than 8 miles north of Stamford Bridge. The English were definitely not coming from there and they couldn’t have been heading west even if they were.

EH: *“For the detail of the fighting on Battle Flat we are forced to rely upon the Heimskringla with all its anachronisms”.*

MB: Heimskringla describes the battle, but does not say or imply that it happened at Battle Flat. As far as we know, the only claimed anachronism is the presence of English ‘cavalry’ and archers. We have mentioned these in the main text. In short, we think the ‘cavalry’ is a mistranslation of ‘horsemen’ and that the archers were there.

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