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ROMAN ROADS RESEARCH ASSOCIATION

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About the Association

by Mike Haken



The late Hugh Toller and I founded the Roman Roads Research Association to provide a focal point for what we thought was a fairly small group of individuals with an interest in the study of Roman roads and connectivity throughout the former Roman province of Britannia. I'm not sure that Hugh, who sadly died in 2016, could have imagined that at the end of April 2024 we would have an international membership totalling 556, a figure that continues to grow. We are a very broad church, ranging from those with just a general interest in the Roman period, through to professional archaeologists from both commercial and academic sectors, not forgetting those those like myself who have had a lifelong passion for the subject (some might say obsession!). The Association welcomes all new members, whatever their background.

The continuing growth in membership may well have been fuelled, at least in part, by some of the things we have achieved. For example, we have just concluded the fourth season of our online lecture series, which we launched in 2021 during the pandemic. As part of our key policy of ensuring that our work is always made as accessible as possible, our talks are open to everyone, are always free of charge, and regularly attract audiences of 200 people or more from across the world. Another excellent programme for our fifth season is being prepared by our Secretary, Dave Armstrong, and details will be released soon. You can catch up with previous seasons on our YouTube channel.

Since 2018, we have conducted over 200 Ha of geophysical survey with our own gradiometer cart, accurately identifying the course of many roads and examining Roman period sites along them. Our most recent survey, assisted by a group of local volunteers from Southwell (SCAG), was near East Stoke (*Ad Pontem*) in Nottinghamshire. This confirmed the location of the junction of RR59(x) from Ancaster with the Fosse Way, making the existence of RR59(x) now beyond dispute. We always welcome suggestions for other potential survey sites, no matter where in the country they might be.

Above all, however, our greatest achievement is *Itinera*, the only journal in the world dedicated to the study of Roman roads and transportation infrastructure. Published entirely in house by our large team of volunteers, we are proud that our standards are as high as most academic publishing houses. Indeed, As Rob Entwistle points out in the following Editorial, it is a measure of our growing credibility that *Britannia*, a journal of the Roman Society, guides authors of reports on Roman roads that would have previously been published in *Britannia* towards *Itinera* instead.

Looking forwards, the wealth of new research and discoveries that have been reported by *Itinera* have, if nothing else, highlighted the urgent need for an accurate map that reflects the true state of knowledge of the Roman road network in Britain, and the sites it served, since the national maps that do exist are either decades out of date or simply inaccurate and misleading. To rectify this situation we will soon be recruiting volunteers to assist with a nationwide project which aims to accurately redraw the map. In line with our Open Access policy, the results will all be made freely available.

Finally, I am sure that our enthusiastic membership will enable us to continue to expand and develop our activities, ensuring that the next decade is even more productive than our first decade has been.

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Editorial

Robert Entwistle



The late Hugh Toller, co-founder of the RRRA with Mike Haken, was sadly lost to Roman road research when the Association was only a year old. Earlier I had become aware of his work through his part in identifying the long-sought line of the Lune valley Roman road out of Lancaster, my native town. Identifying it through Lidar and on foot, he followed its route up and over Lancaster Ridge towards Caton and the southern flank of the Lune valley.

It is therefore a pleasure to see David Ratledge's contribution to this volume of *Itinera*, a memorial to Hugh's work in the Exeter region, developed in the light of further studies. It is appropriate that this same volume contains a significant paper by Mike Haken identifying *viae vicinales* in the north-east Midlands which perhaps should no longer be regarded as somehow 'lesser' or 'minor'.

Itinera has a record of examining different aspects of Roman road studies, not necessarily restricted to our corner of the Roman empire. The 2024 volume sees a new contribution from the Spanish archaeologist and presenter, Isaac Moreno Gallo: the first publication in English of his work analysing road construction methods and transport development. His trenchant views provide a counterbalance to other accounts, reminding us that the evidence of the trowel is always subject to interpretation.

A new departure for this volume is the incorporation of a 'Focus' section with multiple papers exploring a single theme. The subject is the Devil's Causeway – a road which branches off Dere Street just north of Hadrian's Wall to head (via Learchild fort) determinedly towards modern-day Berwick and the mouth of the Tweed – where no Roman site is known. This theme originated in a 2023 conference held in Berwick-upon-Tweed and coordinated by Dr Lindsay Allason-Jones and the Border Archaeology Society with support from the RRRA, exploring the riddle of the road. Expert presentations have been developed into these papers. We would be happy to repeat, in future volumes, similar suites of papers focused upon a single theme or aspect: suggestions for themes and contributors would be welcomed by the Editor.

As always, this volume treats different geographical parts of Britannia, ranging from the south-west (Exeter) to the north-east (Berwick). Paul Booth explores aspects of the Roman road network in the Oxford area, Mike Holmes considers issues around the River Glynde in East Sussex, and Nigel Rothwell examines the possibilities for a Thames crossing linking St Albans and Silchester.

In a full volume, however, we regret the lack of papers on Wales and Scotland, even though these countries are represented in our annual round-up across Britain. Potential contributors suggesting interesting papers on these areas of would find us warmly receptive. *Itinera* continues to welcome every submission from contributors established or new, and if necessary, will endeavour to advise authors where further work is needed for key improvements. A short proposal to the Editor of what is intended, before making a full submission, is often helpful.

Editorial

We take pride in a professional standard of production maintained entirely through the work of volunteers: our editorial board (Mike Haken, Dave Armstrong, Mike Bishop and Paul Booth, all of whom contribute endless hours to the production of each volume); our academic advisor (Pete Wilson); our index compiler (Chester Forster); and postmaster (Chris Webb). Without the dedicated work of the whole team Roman studies would be the poorer.

We are greatly heartened by the respected position that *Itinera* has achieved in the short period of its existence. The long-established journal, Britannia, acknowledges this in specifying that submissions on Roman roads for their annual update section should be limited to brief summaries of the main points of interest if accounts are also published in *Itinera*, with our journal cited for those fuller reports.

An important part of our role, alongside publicising research, is (through the RRRA) the regulation and classification of new discoveries, as Margary's original system of nomenclature strains to adapt to an expanding known road network. This volume therefore contains a list of newly attributed numbers and a proposal from Mike Haken on the classification of non-standard Roman roads.

This year we have taken the decision to slightly reduce the font size to bring *Itinera* more into line with other similar journals and to control printing costs. Even so, readers will find that 2024 marks a bumper issue: the largest volume we have yet produced.

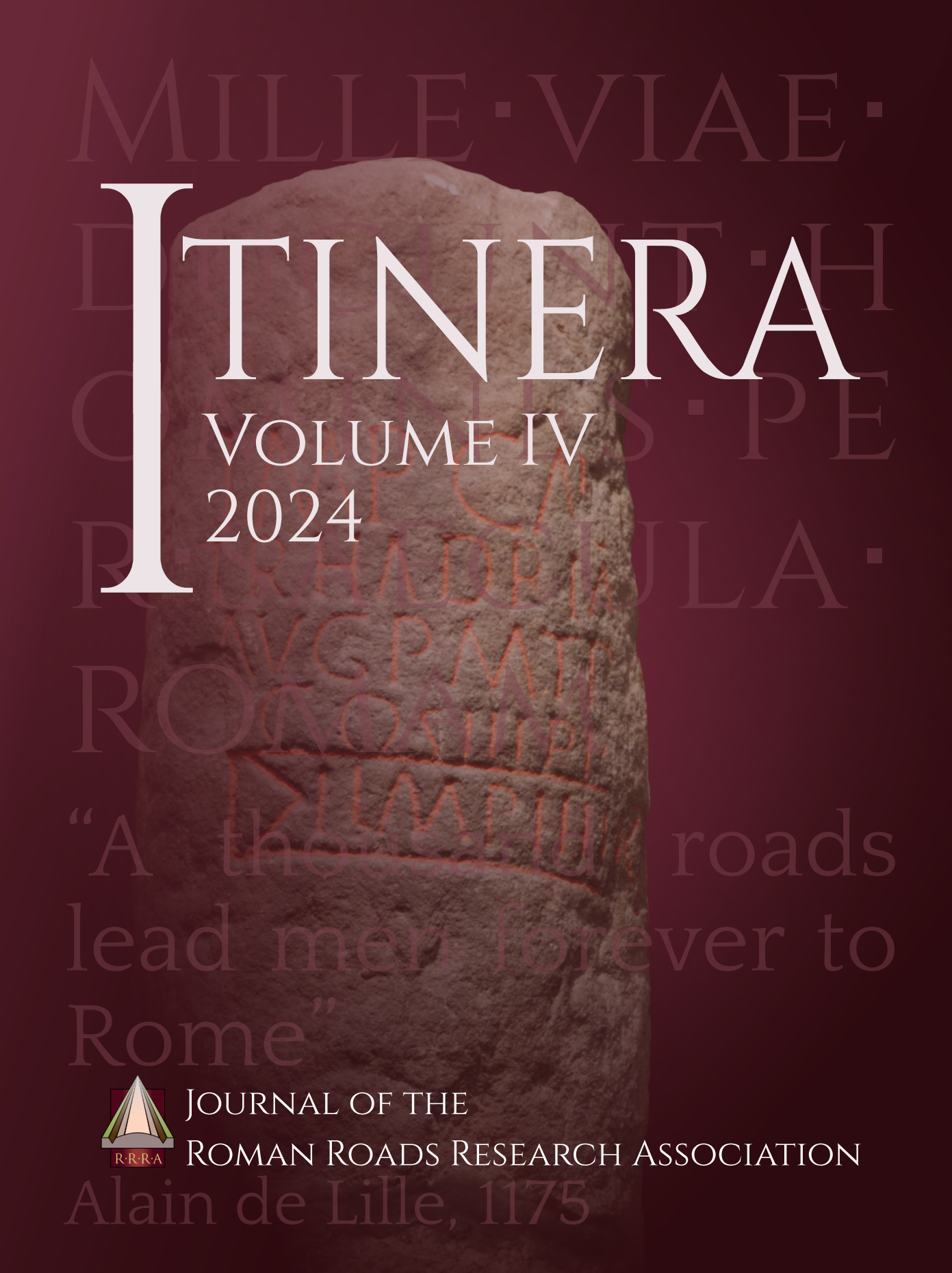
We trust that RRRA members and all readers will enjoy and profit from this 2024 volume of *Itinera*.

Robert Entwistle

(Hon Editor, *Itinera)*

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"A thousand roads lead men forever to Rome"

Alain de Lille, 1175

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A Focus on: The North End of the Devil's Causeway

by Lindsay Allason-Jones
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Questions as to the exact route of the Devil's Causeway at its northern end have been asked for many years. There are also several subsidiary questions to be answered: where is the most northerly confirmed sighting of the road? Does it cross the Tweed between Tweedmouth and Berwick-upon-Tweed and, if so, how? If the road heads purposefully to Tweedmouth, why was this its destination and is there a fort waiting to be discovered there?

In an attempt to answer these questions, the Border Archaeological Society invited members of the Roman Roads Research Association and the Northern Roman Frontiers Seminar to join them for a day conference in Berwick-upon-Tweed in October 2022. Sadly, this event had to be postponed due to 'works on the line' effectively making train journeys to Berwick from Newcastle and Edinburgh impossible on our chosen day. A second attempt was made in May 2023 and this time, despite a rail strike, a very successful conference was held, with lectures followed by a walk along the banks of the Tweed to allow people to familiarise themselves with the terrain.

Much that was new was discussed and it was suggested that the papers should be published so those who could not attend might discover what was discussed and those who did attend could digest the contents at their leisure. The members of the Border Archaeological Society are very grateful to the Roman Roads Research Association for allowing these contributions to be inserted into *Itinera IV*. Sadly, not all the speakers were able to prepare their papers for publication, but it is hoped that the following will provide much food for thought and move on the debate about the purpose of the Devil's Causeway.

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The Planning of the Devil's Causeway in Northumberland

by John Poulter
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Abstract

The author has been studying the planning of the Devil's Causeway Roman road in Northumberland since the close of 2011, and has published twice on the subject. This paper presents an evolution of the author's thinking, not only about the planning of this Roman road but also about the Long-distance Alignments which have been found to underpin the courses of some of the major Roman roads in Britain.

Introduction

The author's attention to the planning of the Devil's Causeway Roman road had been prompted by a question posed by the late Paul Bidwell towards the close of 2011. Paul had been convinced that there must have been a Roman road running from Newcastle to Berwick – a predecessor of today's A1 – and he wondered if the author had seen any indications of one. As a result, in 2012 the author undertook a study of the area between Newcastle and Berwick, which was conducted via maps and on the ground. A report was prepared for Paul personally, but not published, although Humphrey Welfare and Dr Nick Hodgson now also have copies of it.

Subsequently, in his BAR 598 monograph *Further Discoveries about the Planning of Roman roads in Britain* (Poulter 2014, 76-85) the author used the planning of the Devil's Causeway as one of his three detailed examples of how particular Roman roads appear to have been set out. This carried forward the author's thinking about the planning of the Devil's Causeway, and, in particular, discussed the possibility that the southern arm of the road had been aligned exactly upon the location of the Portgate, where Roman Dere Street crossed Hadrian's Wall.

This thinking was developed in the author's article about Long-distance Roman Alignments which was published in *Itinera* in 2022 (Poulter 2022, 27-32)[1]. The present paper brings the thinking up to date, offering not only the latest evolution of the author's reflections about the Devil's Causeway but also about the nature of Long-distance Roman Alignments and their implications for Roman mapping practices, about which little is known with any certainty.

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Throughout all this period of study, reliance has had to be placed almost entirely upon the line of the Roman road which is shown, commendably clearly, on modern Ordnance Survey maps. Virtually nothing of the Roman road can be seen on the ground nowadays, and in fact the Ordnance Survey's line has been largely derived from Henry MacLauchlan's survey of the Devil's Causeway in the 1860s. Recently Mike Haken of the Roman Roads Research Association has used lidar to detect some differences from the Ordnance Survey's line near the Roman fort at Low Learchild (Mike Haken pers. comm., see Haken and Armstrong 2023, 15-17), but these observations have not affected the author's interpretation of the overall planning of this Roman road.

Investigation

In Northumberland, apart from Dere Street, the Devil's Causeway is the only north-south Roman road which is known at present, and as can be seen in Figure 1 it bears no relationship to the course of the A1.

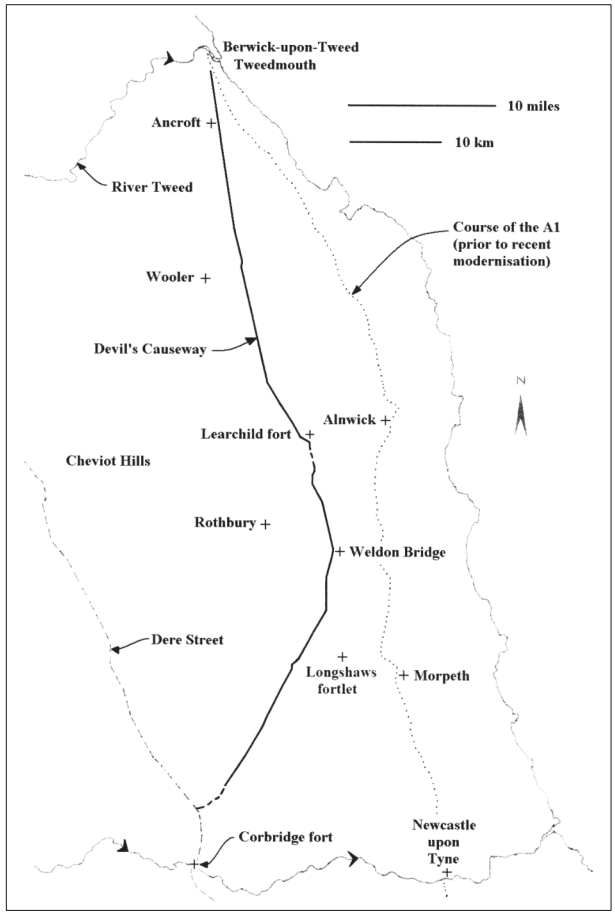


Figure 1. Course of the Devil's Causeway in comparison with that of the A1 (The Great North Road). Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

Instead, in its central part the Devil's Causeway possesses a closer relationship with the A697 road from Morpeth to Wooler and Coldstream. In fact the latter road runs upon the course of the Roman road in one place, as can be seen in Figure 2, although this is likely to be a fortuitous factor of the landscape rather than evidence that the road had survived from the Roman past.

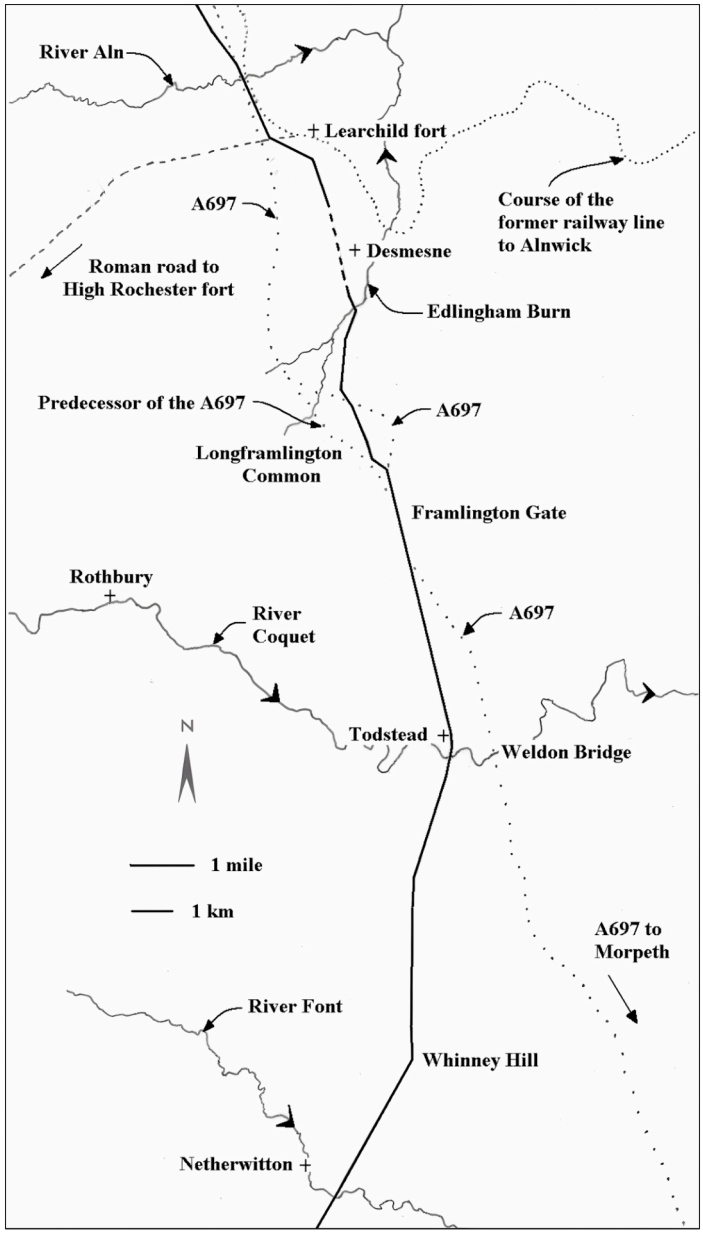


Figure 2. Course of part of the Devil's Causeway in relation to the A697 road from Morpeth to Wooler and Coldstream. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

Clearly, in terms of their courses, the Devil's Causeway was not a predecessor of the A1 (the Great North Road). Moreover, a study of the line of the A1 revealed no trace of Roman planning along its length, with a possible single exception close to Newcastle – to be described in the Discussion section below. Nevertheless, as the sole Roman road heading in the same general direction it seemed sensible to begin to try to answer Paul's question by examining the planning of the Devil's Causeway – if only to gauge what the Romans' intentions may have been in the area.

As readers of the author's previous publications on the planning of Roman roads (Poulter 2009; 2010; 2014 and 2022) will be aware, it appears that, for some of their roads, the Romans:

1. began by laying out a series of Long-distance Alignments, to set the general direction of the road
2. and then, probably when the time came to build the road – which might have been several years later, in some cases – they would set out deviations from the Long-distance Alignments, in order, for instance, to reach suitable river crossing-points, or to avoid unsuitable ground, or maybe to service forts or settlements which had been established away from the Alignments, etc. Typically, they would then return their deviations to the Long-distance Alignments afterwards.

Figure 3 illustrates the process.

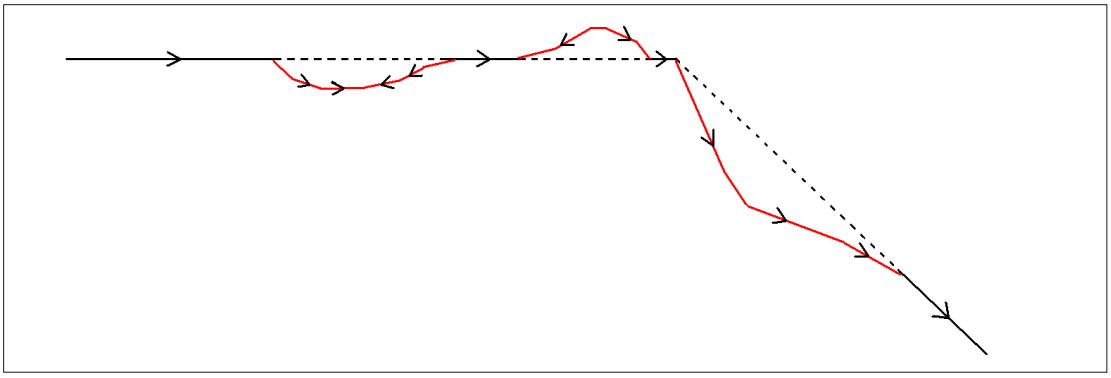


Figure 3. Planning of a Roman road by (a) laying out Long-distance Alignments, and then (b) setting out deviations from the alignments to reach local targets and then return to the Alignments. The arrows indicate the directions of planning, which tended to be in a continuous direction for the Long-distance Alignments but arbitrary for the deviations. © Copyright John Poulter.

Hence, the examination of the planning of the Devil's Causeway began with a search for Long-distance Alignments, and, to the author's surprise, he found not one but two quite separate ones. One of them set the course of the southern part of this Roman road, and the other directed the line of its northern end.

The southerly alignment ran from Whinney Hill to the Portgate area, which is where Roman Dere Street crosses Hadrian's Wall. See Figure 8. As usual, before committing to a conclusion that this had indeed been a Long-distance Alignment, the author sought to understand how the Romans could have set out such an alignment, because it is more than 27km (17 miles) in length and the two end points are not intervisible. It turned out to have been very easy. As can be seen in Figure 4, there is a single high point across the intervening landscape, near Kearsley farm, from which both end points are visible. Therefore, using lights at night it would have been simple to move a brazier near Kearsley farm until it stood in a single straight line between lights at each end[2].

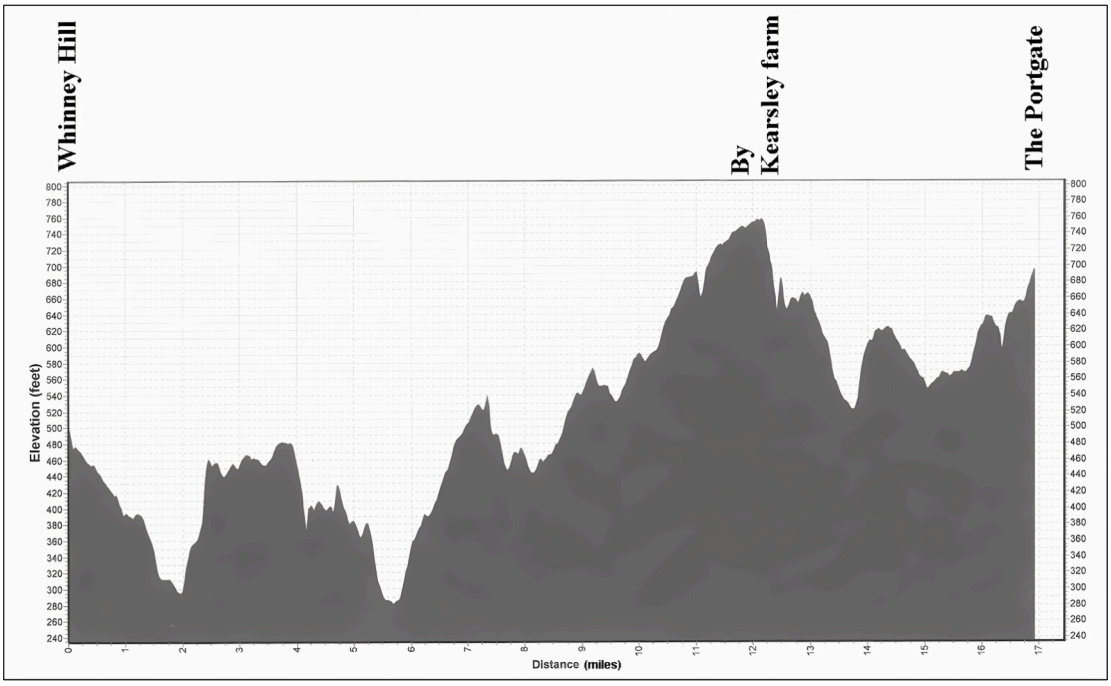


Figure 4. Profile of the landscape between Whinney Hill and the Portgate, showing a single high point by Kearsley farm from which both end points would have been visible. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

As Figures 5 and 8 show though, this Roman road, as built, strays slightly from the Long-distance Alignment via a series of kinks. This is unusual. Normally, when Roman roads follow an alignment they do so with notable rigidity. Since the starting and end points of each Long-distance Alignment are likely to be out of sight of the teams constructing any road between them for much of their time, it would appear that the only way for the Romans to have achieved such consistent conformity with an alignment would have been for them to have set up marker posts on each intermediate high point along the alignment so that the construction teams would have local targets at which to aim and so stay on course.

The impression given by the behaviour of the southern part of the Devil's Causeway is that such intermediate marker posts had not been set up in this case. Hence the team or teams building the road would have had to sight upon the end points of the Long-distance Alignment when weather conditions permitted. Over a distance of up to 19km (12 miles), and with any visibility likely to be handicapped by showers of rain, distant haze and mist, and wind blowing the smoke of a bonfire around, such sightings are likely to have been unreliable and in need of correction from time to time. This appears to have been what was happening when this part of the Devil's Causeway was being constructed.

This deduction seems to be supported by the locations of the slight changes of direction along the way. These are marked as points A to G in Figure 5, and Figure 6 shows that, apart from point G and possibly A, these are always facing towards the terminus of the Long-distance Alignment on Whinney

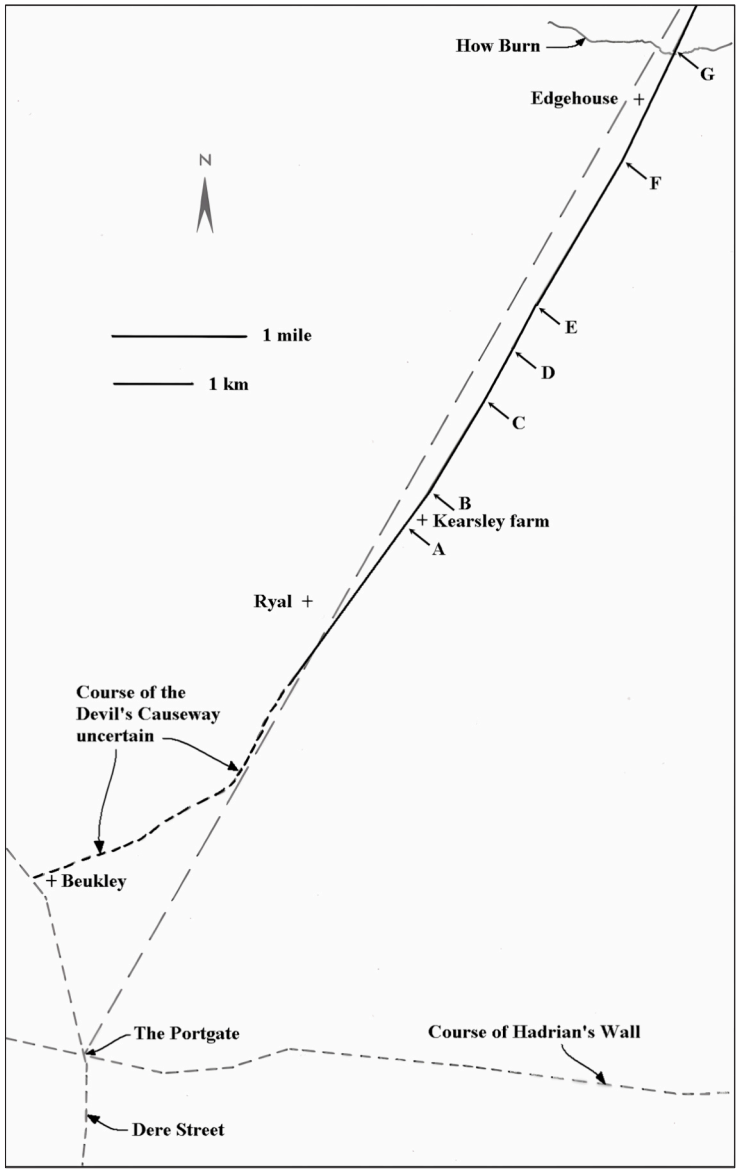


Figure 5. Course of the southern part of Devil's Causeway in relation to its Long-distance Alignment. The letters A to G mark each of the slight changes of direction of the road as built. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

Hill. It would appear from this that the leader of the road construction gang had stopped at these points to check and correct the course that his team was taking.

Overall, the impression gained is that the setting-out and the construction of this part of the Devil's Causeway had been something of a "rush job"; in other words, the tasks had been undertaken in a hurry. This impression is reinforced by the way in which the road, as built, breaks off from the Long-

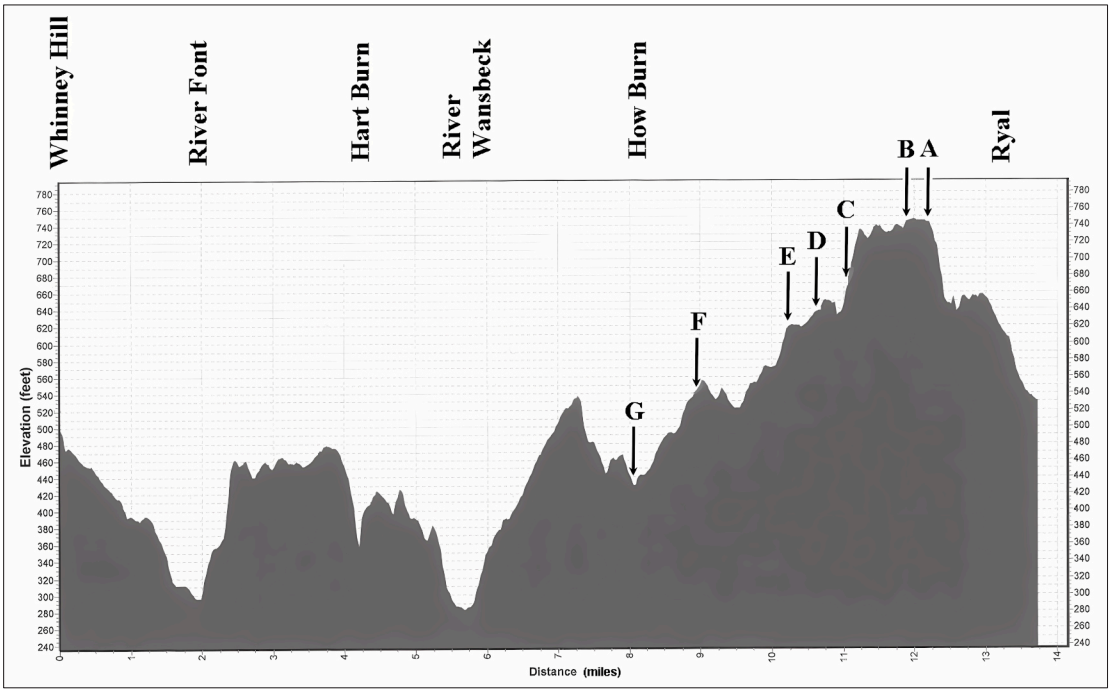


Figure 6. Profile of the landscape between Whinney Hill and near Kearsley farm showing the positions of each of the slight changes of direction which are indicated in Figure 5. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

distance Alignment near Ryal to run to meet Dere Street near Beukley. See Figure 5 again. This would have saved having to build some 6.5km (4 miles) of new road to the Portgate area – although it must be admitted that the saving would not have been that great because the detour to Beukley would have required some 3km to 5km (2 to 3 miles) of road construction anyway. Lindsay Allason-Jones (pers. comm.) wonders if the detour to Beukley might also have been intended to forestall possible congestion from the convergence of two routes upon the single gateway at the Portgate.

It remains to consider where the southern terminus of this southern Long-distance Alignment might have been located. Although such alignments might have been marked out on the ground in Roman days, no such makers remain today. Hence the exact course of a Long-distance Alignment has to be judged from where the road or roads which might have adopted it can be seen to have run. This can be especially difficult where, as in the case of the southern part of the Devil's Causeway, the Roman road persistently wanders off line. However, experience shows that, in such cases, the original alignment tends to be followed most closely near the termini of the alignment. This is only to be expected, since it is from these points that the Long-distance Alignment would have been set out.

Hence, as can be seen in Figure 7, the author simply took the first two miles of the Devil's Causeway from Whinney Hill to the River Font and extended the line south-westwards to see where it landed. To his astonishment, the line headed not only to the Portgate area but landed exactly upon the Portgate itself. Since, as already mentioned, the location of the Portgate is where Roman Dere Street crosses Hadrian's Wall, this means that this part of the Devil's Causeway could not have been laid out, let alone constructed, before at least the line of Hadrian's Wall had been marked out.

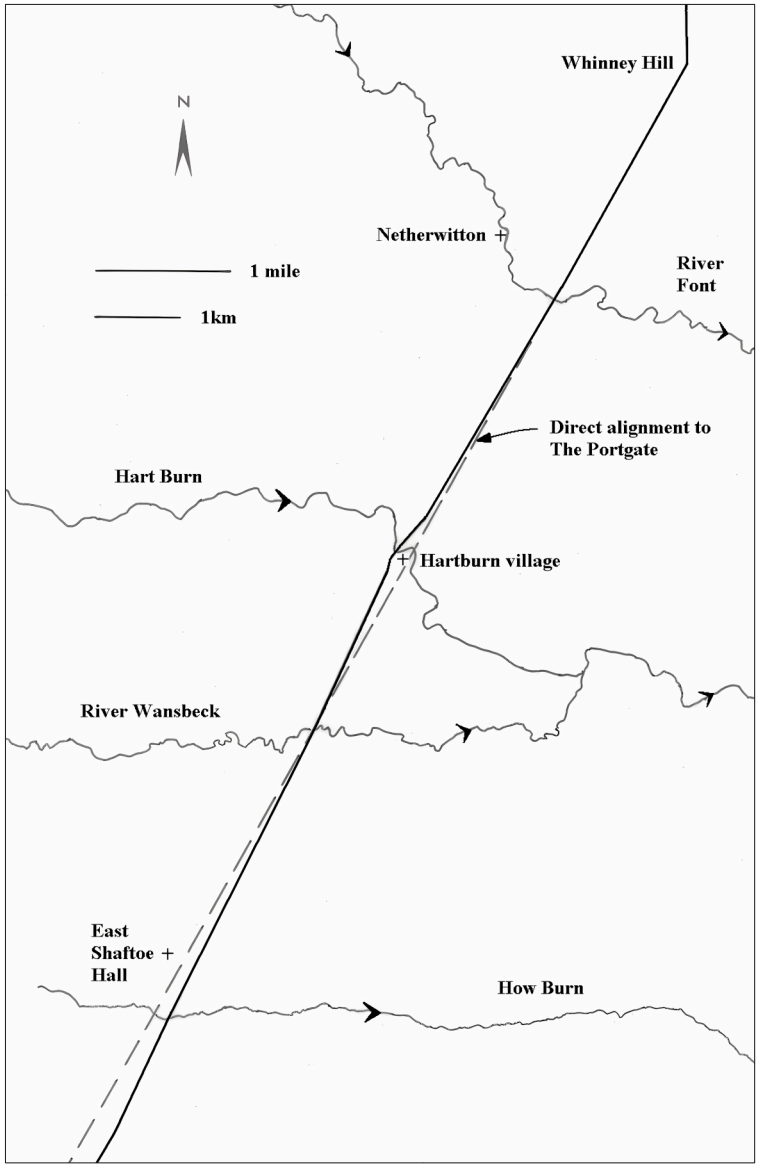


Figure 7. Course of the northern end of the southern part of the Devil's Causeway, showing the Long-distance Alignment derived from the first two miles of the road from Whinney Hill to the River Font. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

This challenged the then current interpretation of the life of the Devil's Causeway, based upon evidence from elsewhere along its course. This interpretation was that this Roman road had been in existence before Hadrian's Wall but had probably been abandoned not long after the Wall had been built. As a result, both Humphrey Welfare and Nick Hodgson (pers. comms.) suggested that the southern terminus of the southern Long-distance Alignment had been located where Dere Street,

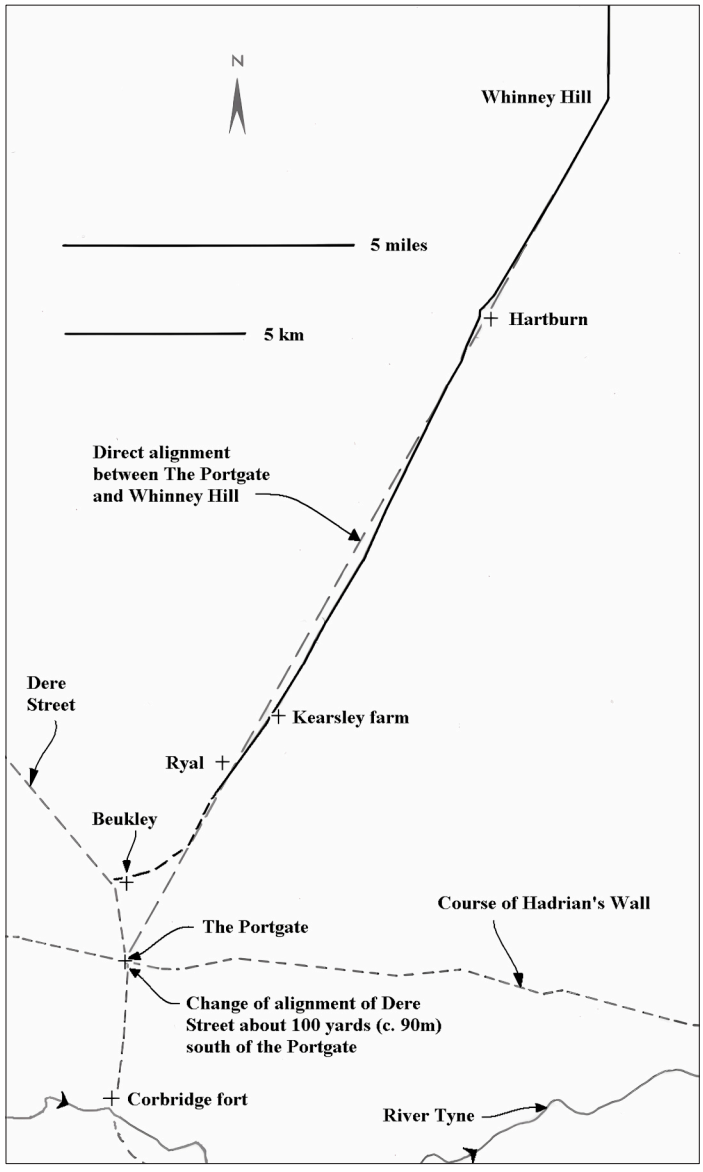


Figure 8. Course of the Devil's Causeway showing two possible options for the southern terminus of the Long-distance Alignment to be at either the Portgate or at a point on Dere Street about 90m (100 yards) south of the former. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

after breasting one last rise in the climb up from Corbridge, had then turned more north-northwestwards about 90m (100 yards) south of the Portgate.

This point can be seen on Figure 8, and this proposition is an entirely realistic one. If Hadrian's Wall had not been in existence, this point would have been a natural one from which to have set out a

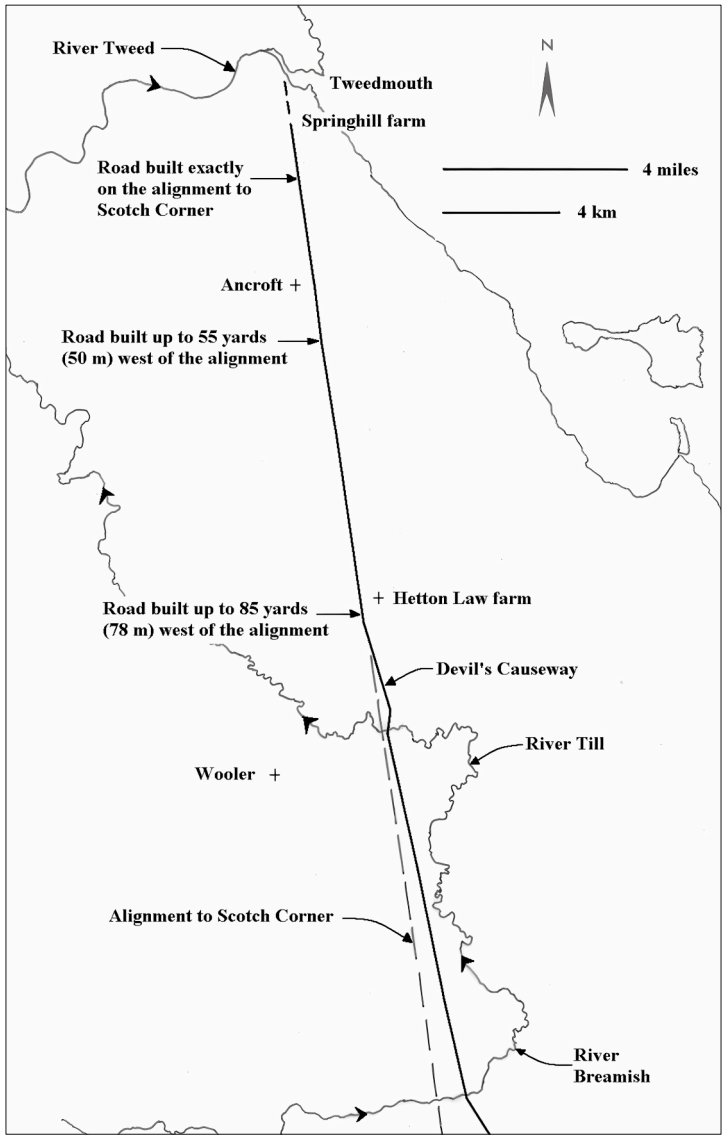


Figure 9. The course of the Devil's Causeway in relation to a direct alignment from Roman Scotch Corner. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

Long-distance Alignment towards or from Whinney Hill. Moreover the process for doing so would have been just the same as that already described above, exploiting a single high point near Kearsley farm.

Accordingly, although the author was unwilling to forego entirely what he had discovered by observation he was prepared (in Poulter 2022, 30-31) to credit Welfare's and Hodgson's proposal as being the more likely of the two. However, Mike Haken recently repeated the author's exercise of extending the alignment from Whinney Hill to the River Font and although his preferred alignment

ran marginally to the north of the author's he concluded that in his opinion an alignment to the Portgate was the more likely of the alternative possibilities (Mike Haken pers. comm.). In addition, the author had been coming to the conclusion that since the southern part of the Devil's Causeway appeared to have been a "rush job" it might have been the result of a late change of plan from the rest of the Devil's Causeway, possibly occurring during the very early phases of the planning of Hadrian's Wall. This would have made an alignment targeted upon the Portgate not only feasible but very plausible. The possible reasons for such a change of plan are addressed in the Discussion section.

If the southern part of the Devil's Causeway had been laced with surprises, the northern end proved to be even more remarkable. This was because the final 5.6km (3½) miles approaching Tweedmouth (as suggested by MacLauchlan and implied by subsequent Ordnance Survey maps[3]) were found to be exactly aligned upon the Roman site at Scotch Corner, more than 144km (90 miles) distant. Moreover, the final 16km (10 miles) of the Roman road, northwards from Hetton Law Farm, were found to have run increasingly close to the alignment too, as can be seen on Figure 9.

This gradual convergence of the Roman road upon an alignment, and the apparent exactness of the road upon the alignment for the final 5.6km, appear to rule out any chance that this could have been a coincidence. As a result it seems clear that the line from Scotch Corner had been a Long-distance Alignment and that the final part of the Devil's Causeway had been constructed to conform with it.

The immediate question which then arose was: how had the Romans managed to set out a Long-distance Alignment over such an immense distance? Unlike the southern Long-distance Alignment, there is no single intermediate high point between Scotch Corner and Tweedmouth, from which both end points would have been visible. In any case, even the use of lights at night would not have been practical over such a great distance. At this juncture, therefore, it is pertinent to turn once more to the nature of Long-distance Alignments.

When the Long-distance Alignments were first discovered – several of them underlying the course of Roman Dere Street – it was assumed that they had been created for the purpose of setting the general direction of the Romans' roads, and, at times, the locations of the military installations along them. Since then what has gradually emerged is that the Romans had been setting such alignments out for other purposes as well. Rob Entwistle, for instance, has proposed (Entwistle 2019, 48-75; 2022) that they were sometimes set out to delineate territory for administrative or political purposes. The author has also come to think that they were sometimes set out for surveying purposes (Poulter 2022, 44-47).

Surveying by setting out dead straight lines at set angles is a well-established surveying technique, used for gaining a rapid grasp of unfamiliar territory. General Roy (then just Mr Roy), for instance, employed this technique for his survey of the whole of Scotland (except the Western Isles) between 1747 and 1755 (Anderson and Fleet 2018, 118-124). What is also becoming apparent is that these long-distance Roman administrative and survey lines seem to have been set out on constant bearings, unlike the line-of-sight alignments which appear to have been used simply for planning road lines. (The Long-distance Alignment from Whinney Hill to the Portgate area is an example of a line-of-sight alignment.) The difference is that lines at constant bearings take gentle curves across the spherical surface of the Earth, as shown in Figure 10, below. This is because the lines of longitude taper towards the Earth's poles. In contrast, alignments set out by line-of-sight run in straight lines across the surface, as is also shown in Figure 10.

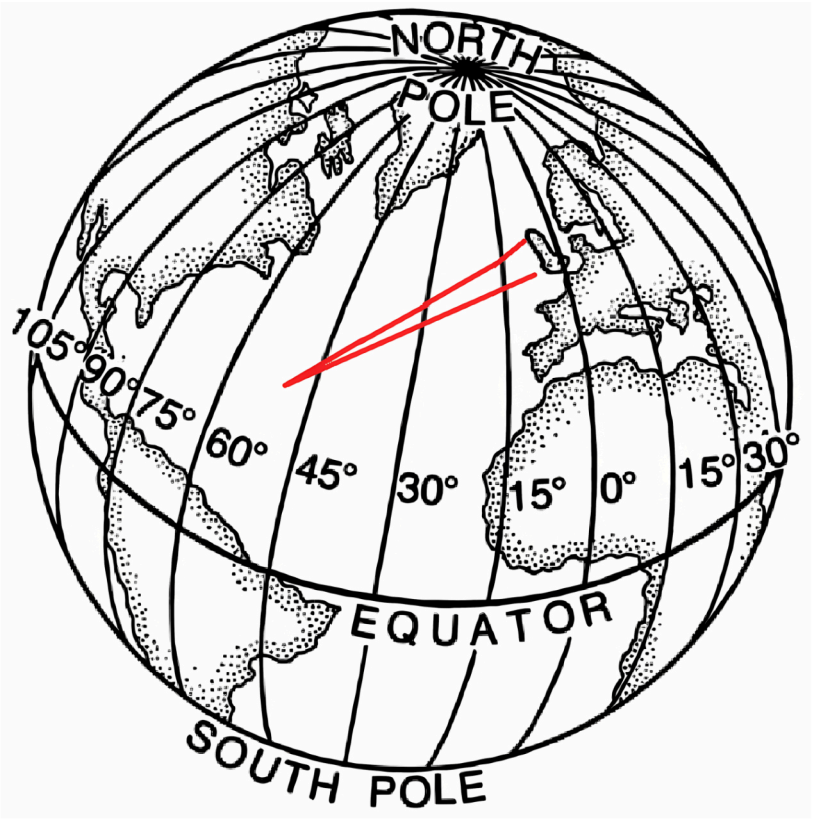


Figure 10. Comparison of a constant bearing line (the upper red one) curving across the surface of the Earth whereas a line set out by line-of-sight (the lower red one) would run straight across the surface of the planet. © Copyright John Poulter.

On the other hand, once the surface of the Earth is projected flat, as on a map, the lines at constant bearings would appear to run dead straight across the map. This is because, on a typical map – for instance, an Ordnance Survey map – all the lines of longitude are shown running in parallel, north-south. Therefore a line running across them at a constant bearing would strike them all at the same angle. In contrast, over significant distances, lines set out by line-of-sight would show a slight downward curvature over the same kind of map (unless the lines happened to be running due north-south or due east-west). Because of the latitude of the British Isles, it is unlikely that the two kinds of alignments would show any significant difference on a map over distances of up to, say, 40km (25 miles), but over any distances greater than that the difference would be noticeable.

Figure 11 shows that the alignment from Tweedmouth to Scotch Corner is dead straight on the map, whereas if it had been set out by line-of-sight it would undoubtedly have shown some curvature over such a distance. This suggests that it had been a survey line, set out on a constant bearing.

As a by-product, this may tell us something about Roman mapping. It is generally assumed that the Roman administrators and planners must have had and used maps, but little is known about their

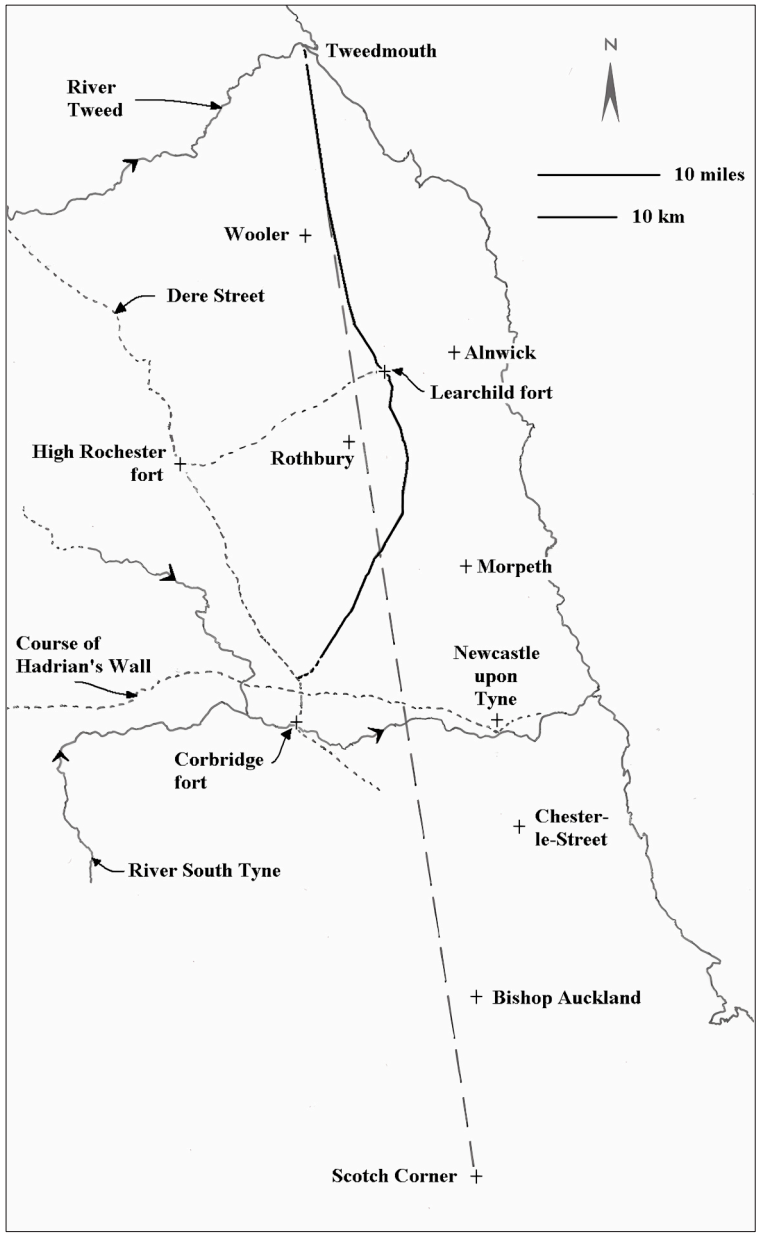


Figure 11. The northern part of the Devil's Causeway falling in with the Long-distance Alignment from Scotch Corner. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

mapping practices (Poulter 2014, 37-38). If their survey lines were being set out on constant bearings, it implies that the Romans would have been using projections similar to those of our modern maps, in which the lines of longitude would have been straightened out to run in parallel and across which their survey lines would therefore have appeared to run dead straight.

To provide reliable frames of reference, such survey lines would need to have been kept as straight on the map as possible. On the planners' table-tops, they would then have been used to record both topographic and demographic information, as witnessed by the surveyors both on and from the survey lines. Then, since the survey lines would have served as the only common frames of reference, they would have been used to direct actions to be taken by the troops on the ground. This could explain why such survey lines were subsequently often employed to set the directions of Roman roads and the locations of fortifications along them.

For setting the angles between such survey lines, the Roman planners and surveyors (unlike General Roy) appear not to have used degrees (Lewis 2001, 226-228). Instead they seem to have resorted to using simple geometrical angles such as right angles, 45˚, and the angles of 3:4:5 and 8:15:17 Pythagorean triangles (Entwistle 2019). These angles could all be easily constructed on table tops using set squares and then reproduced by rods or possibly chains on the ground.

The Roman planners would sometimes seem to delight in playing sophisticated tricks with such tools, though. At Whittlestone Head, for instance, between Manchester and Ribchester, they seem to have accomplished a change of angle of only 8.3˚ in the alignments of their Western Main Road. They

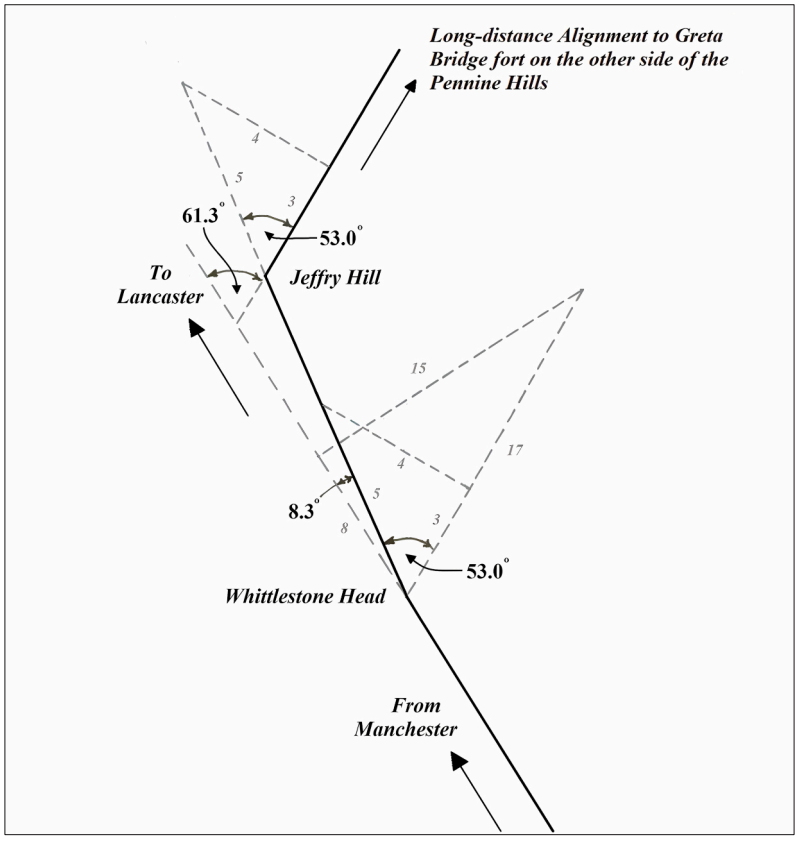


Figure 12. Use of a geometrical subtraction to achieve a change of angle of 8.3˚ in the alignment of the Romans' Western Main Road near Whittlestone Head. © Copyright John Poulter.

achieved this by means of the geometrical subtraction of one Pythagorean angle (53.0˚) from another (61.3˚), as shown in Figure 12. It may, therefore, be no coincidence that the bearing of the alignment from Scotch Corner to Tweedmouth is 8.5˚ west of true north.

Between its northern and southern ends the course of the Devil's Causeway appears not to have been underpinned by any Long-distance Alignment. Instead, the road proceeds in a series of short straight stretches which were clearly designed to service the Roman fort at Low Learchild and to cross the intervening landscape and the Rivers Breamish, Aln, and Coquet at convenient locations. Figures 2 and 11 show that the fort at Low Learchild was also served by a Roman road running from the Roman fort at High Rochester on Dere Street. As previously mentioned, Mike Haken has recently examined the area in and around the fort at Low Learchild using lidar and shown that the course of the Devil's Causeway as published on Ordnance Survey maps is not quite correct (Mike Haken pers. comm.). He was also able to show, from their intersection, that the road from High Rochester appeared to have been constructed earlier than the Devil's Causeway. This should not seem surprising. If Low Learchild had already been served by the Devil's Causeway there would have been little incentive to have built a road to it from High Rochester.

As can be seen in Figure 1, the course of the Devil's Causeway in its central section does seem to have been generally heading southward towards the Newcastle area – that is, until it reaches Weldon Bridge over the River Coquet. There it rather abruptly branches south-westwards and climbs awkwardly across sloping ground, seemingly so as to reach Whinney Hill, from which the southern Long-distance Alignment appears to have been set out towards the Portgate. The fact that a line of electricity pylons changes direction at the same place helps to illustrate what a fine vantage point Whinney Hill does offer.

Discussion

It was the rather sudden change of direction at Weldon Bridge, coupled with the impression that the Devil's Causeway from Whinney Hill to the Portgate had been planned and constructed in something of a hurry, which prompted the thought that the southern part of this Roman road might have been the result of a change of plan. In other words, that the road had originally been planned to run to the Newcastle area, as Paul Bidwell felt would have been necessary, but that it had then been switched to run to the Portgate instead. The possibility is indicated on Figure 13, below.

Accordingly, a search was made, on the ground and via maps and aerial photographs, for any signs of a Roman road between Weldon Bridge and the Newcastle area. However, only one slight and rather indirect indication was detected, and this is shown on Figure 14. Figure 13 indicates that between Newcastle and Morpeth the A1 (the former Great North Road) adopts a course which is not dissimilar to that of a direct line from Weldon Bridge to Newcastle. Figure 14 shows that, approaching Gosforth, to the north of Newcastle, the (former) course of the A1 is exactly aligned upon the northern bridgehead of Newcastle's medieval bridge over the Tyne. It is believed that this had also been the location of the Roman bridge over the Tyne, and if so this would have been a typical example of Roman planning. In contrast it is unlikely to have held any great relevance in medieval times. Thus it might appear that construction could have been started on the Devil's Causeway from the Newcastle area to Weldon Bridge, only to have been aborted, rather hastily, in order to adopt a new line from Weldon Bridge to the Portgate.

Two reasons can be suggested for such a change of plan:

(a) a decision had been made that, once Hadrian's Wall had been completed, the Portgate should be the only main/civilian gateway through the eastern side of the country[4]

(b) a decision had been made that, although Hadrian's Wall would terminate on the Tyne at Newcastle (or possibly Wallsend), the main troop concentration supporting the eastern flank of the Wall would remain at Corbridge, at least initially; therefore communication would have been required with Corbridge rather than Newcastle.

Although it would have involved no hasty change of plan, it has been suggested (Hodgson 2017, 36) that the Devil's Causeway might have been planned as an eastward continuation of the Stanegate Roman road from Carlisle to Corbridge, so extending the concept of a 'Stanegate Frontier' to the North Sea coast. As it happens, an independent researcher, Steve Hedworth, recently claims to have

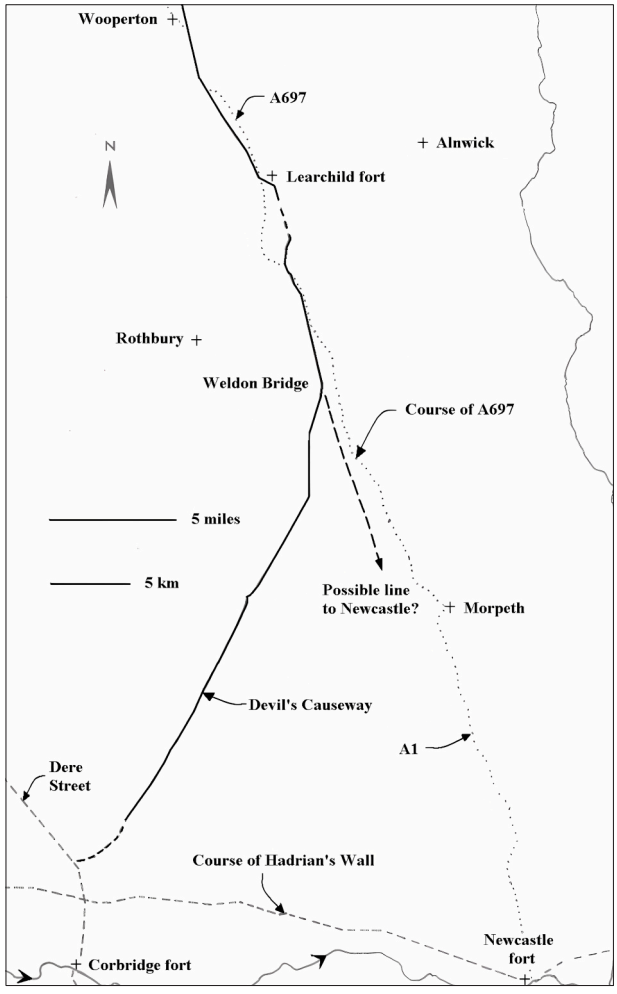


Figure 13. The possibility of a direct line from Weldon bridge to Newcastle. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

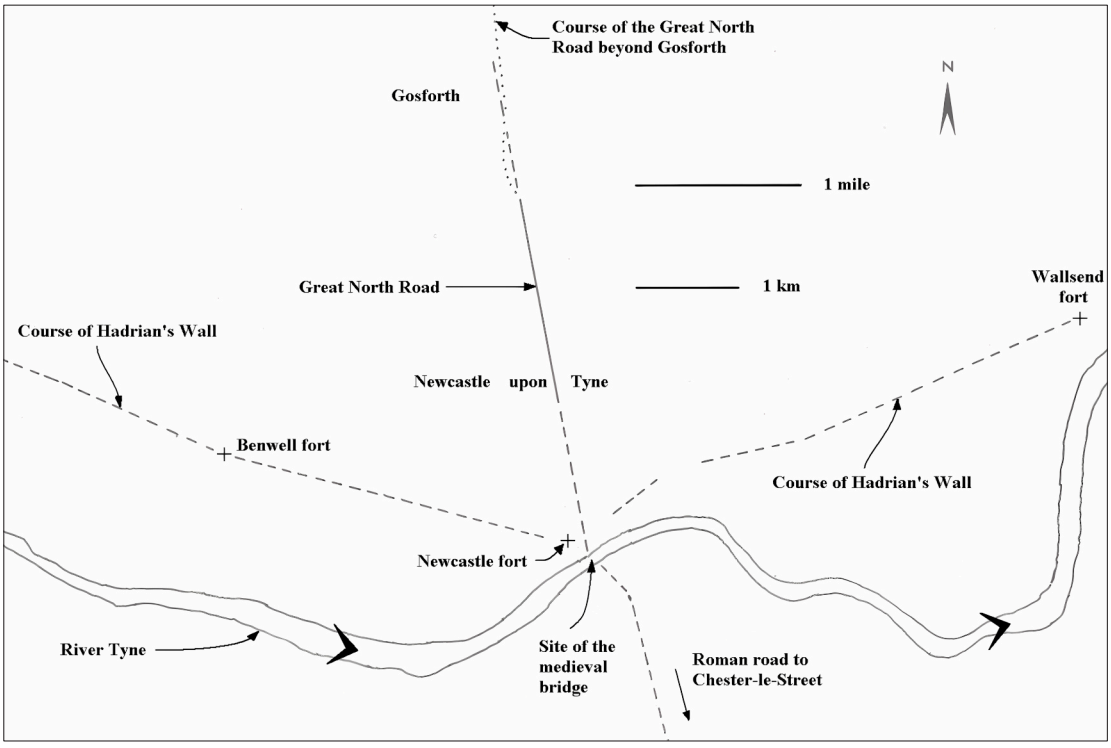


Figure 14. Alignment of the former course of the Great North Road towards Gosforth with the northern bridgehead of the medieval bridge and possible location of the Roman bridge over the River Tyne. Reproduced with agreement of BAR Publishing, www.barpublishing.com. © Copyright John Poulter.

detected traces of a continuation of the Devil's Causeway to the west of where it meets Dere Street at Beukley (Hedworth pers. comm.). He proposes that it would then have continued in the direction of the village of Wall and then crossed the River North Tyne to link up with a branch of the Stanegate which has been found to have run around the northern flank of Warden Hill. Figure 15 shows this projected course.

This is an interesting suggestion which would fit in well with the notion of a Stanegate extended eastwards. Unfortunately, although the author has not examined this possibility on the ground he has not found anything to support such a line on either lidar or Google Earth. A suggestion made by a local landowner, Mr Pennie, at the Berwick meeting was that this might have been part of a prehistoric routeway across the area, of which the planners of both the Stanegate and the Devil's Causeway might have made use, in certain places and at different times. It is therefore possible that what had been traces of this routeway are what Steve Hedworth had picked up.

On balance, though, the indication that the southern part of the Devil's Causeway had been the result of a somewhat hasty change of plan does seem more persuasive. Moreover, the likelihood that its Long-distance Alignment had been aimed at the Portgate, means that, at the earliest, the change of plan could not have taken place before the planning of Hadrian's Wall had begun. Hence, although certainly worthy of further investigation, the foregoing possibility is really only included here for the sake of completeness.

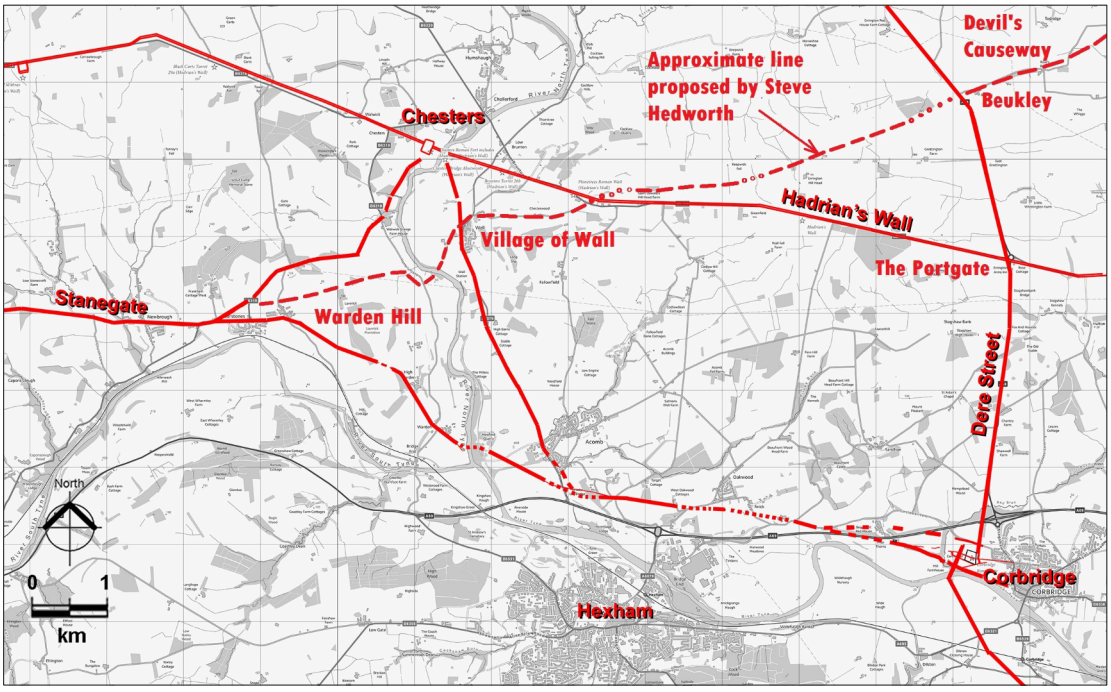


Figure 15. Plot of a possible continuation of the Devil's Causeway running westwards from Beukley to link up with a branch of the Stanegate running around the northern flank of Warden Hill. The dots show where Steve Hedworth reports observing traces; the dashes are where the course is conjectural. The solid lines show where lidar traces are clear. Base map © copyright Ordnance Survey Open access data; lidar lines © copyright David Ratledge; plot of Steve Hedworth's line © copyright John Poulter.

There is at least one further curiosity about the Devil's Causeway, though, and that is the absence of fortifications along it – on the basis of current knowledge, at least. The author has tended to assume that once the Romans had planned a line of fortifications, priority would have been given to erecting the fortifications first, with perhaps just a lightly-built track running between them to support communications. Only afterwards, it was assumed, when time and resources permitted would efforts be devoted to constructing a properly-engineered road between the fortified points. Instead, along the Devil's Causeway, although there are known to have been camps beside it – probably for the construction of the road – the only firm evidence for a fort or fortlet at present is the site at Low Learchild, and this seems to have been in existence before the road was built. It is understood that Roman artefacts have been found at Wooperton (see Figure 13), but that there are no signs of fortification there.

Perhaps the most striking omission is the absence of any Roman structure at Tweedmouth. Up to now the assumption has been that the Devil's Causeway had been built to service a Roman station at Tweedmouth, whereas it now appears that the Roman road, as it approaches the Tweed, had simply been set out to follow the end of a Roman survey line. Hence it is perhaps not surprising that nothing substantially Roman has been found beside the Tweed as yet. It is possible that the Romans intended to construct some kind of base at Tweedmouth, otherwise there would have been no point in building the road to there. However, it looks as if the road got there first and that whatever plans the Romans had had were then abandoned before construction beside the Tweed had started (see Allason-Jones and Osler, this volume).

It is therefore quite possible that the Roman authorities had had plans for the creation of several fortifications along the line of the Devil's Causeway, but that an early abandonment of the road meant that these plans remained unfulfilled. However, there is a need to be cautious about an absence of evidence. As Nick Hodgson pointed out at the Berwick meeting, formerly unknown Roman forts and fortlets continue to be discovered in Britain quite frequently, and so the unfortified nature of the Devil's Causeway may eventually turn out to be an illusion.

Apart from the military installations along Dere Street, there is one other Roman fortification which is known in Northumberland north of Hadrian's Wall, and that is a seemingly isolated fortlet and annex at Longshaws (NZ 134884), overlooking the River Font between Morpeth and Whinney Hill. See Figure 1. Although there is no firm dating evidence for the fortlet, it is considered likely to have been established in the Flavian period (Welfare 2011, 128) and thus to be earlier in date than the Devil's Causeway.

Nevertheless, the fortlet stands at the head of a stretch of the Font which happens to lie exactly on a direct line from Whinney Hill to Newcastle. Therefore, just to be sure that the fortlet had not been positioned to oversee traffic from and to Newcastle, David Ratledge was invited to search, via the latest lidar data, for any sign of a road in the area. The result was negative, not just beside the Font but also on any other line into Newcastle (David Ratledge, pers. comm.).

This, therefore, seems to conclude the attempt to answer the question which Paul Bidwell had posed in 2011. In brief, there appears likely to have been a plan to build a Roman road from Newcastle to the Tweed, but that before construction had got under way (if at all) at the Newcastle end, the plan had been altered to redirect the southern part of the road to run from Corbridge **i**nstead.

Acknowledgements

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Endnotes

1 In *Itinera* (2022), both the author and Rob Entwistle published articles based upon the recognition that Long-distance Roman Alignments had physically existed and had not just been figures of speech. To avoid confusion in terminology, the two authors agreed that Long-distance Alignments (with capital letters) should be the spelling of the physical Roman entities, to distinguish them from any general alignments or indications of direction. Some authors refer to Long-distance Roman Alignments as LDAs, but in this paper the preference has been to use the full form.

2 This would not have been possible over such a distance in daylight. As General Roy found out when embarking upon the Ordnance Survey of Britain, using lights at night can increase the distances being surveyed manyfold. See Roy, W. 1790, several pages, but especially 265-6. I am indebted to Humphrey Welfare for this reference.

3 It appears that MacLauchlan had not actually seen the road at this point (Lindsay Allason-Jones pers. comm.) but that he had evidently relied upon the reports of others, including people working in the fields. At the same time MacLauchlan appears to have been completely unaware of any relationship between his

line, as speculated, and an alignment from Scotch Corner, so that their exact correspondence here seems highly unlikely to have been a coincidence.

4 It is envisaged that there would have been an equivalent main/civilian gateway through Hadrian's Wall at Carlisle for the western side of the country, but that, although there would have been gateways through each of the Wall's milecastles, these would have been intended for military use only (even if, later, that intention may well have been forgotten).

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