ROMAN·ROADS·RESEARCH ASSOCIATION

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No.18 NEWSLETTER SPRING 2021

MILLE·VIAE·DUCUNT·HOMINES·PER·SECULA·ROMAM

FROM THE EDITOR

Our Association is growing and widening out in terms of both membership numbers and locations, but also in what we have now achieved. Release of our annual journal *Itinera* is a big step forward for us in the archaeological world. I hope you are enjoying the downloads of the various papers on our subject - or you may have ordered a more tactile printed copy. Similarly, our on-line seminars are now up and running, details of how to book your place for each monthly seminars will be released to members soon. Seminars are continuing with longer, fuller versions of David Ratledge and Rob Entwistle's Royal Archaeological Institute lectures that were condensed into 20 minutes each. Details are on Page 18 of this newsletter.

There are more things to come; work is going on to release a RRRA Guide to GIS mapping and LiDAR after the previous Guide hit problems and then didn't keep pace with the rapidly changing versions of QGIS. A draft written by Paul Smith and Neil Buckley is being tested and reviewed by some members, further information for those who are interested in taking this up is coming soon.

Without wishing to sound like an Oscar winner, I'd like to thank my new assistant editor Hannah Collingridge who has helped typeset *Itinera* papers and then put together parts of this newsletter (coping with the various peculiarities I've built into that!).

Thank you to our contributors, please continue sending me good material.

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IN THIS EDITION

RRRA Projects; Latest Updates

Other Road news

RRRA Projects, update

The Buxton to Little Chester Roman Road, Margary RR71a – Part 2

Final Missing Link Located

By David Ratledge davidr@deep-sky.co.uk

In the previous newsletter I reported on the finding of The Street (Margary RR71a) between Carsington and Little Derby. Unfortunately too late for publication, DEFRA decided to release additional LiDAR data for the area north of Carsington. This has

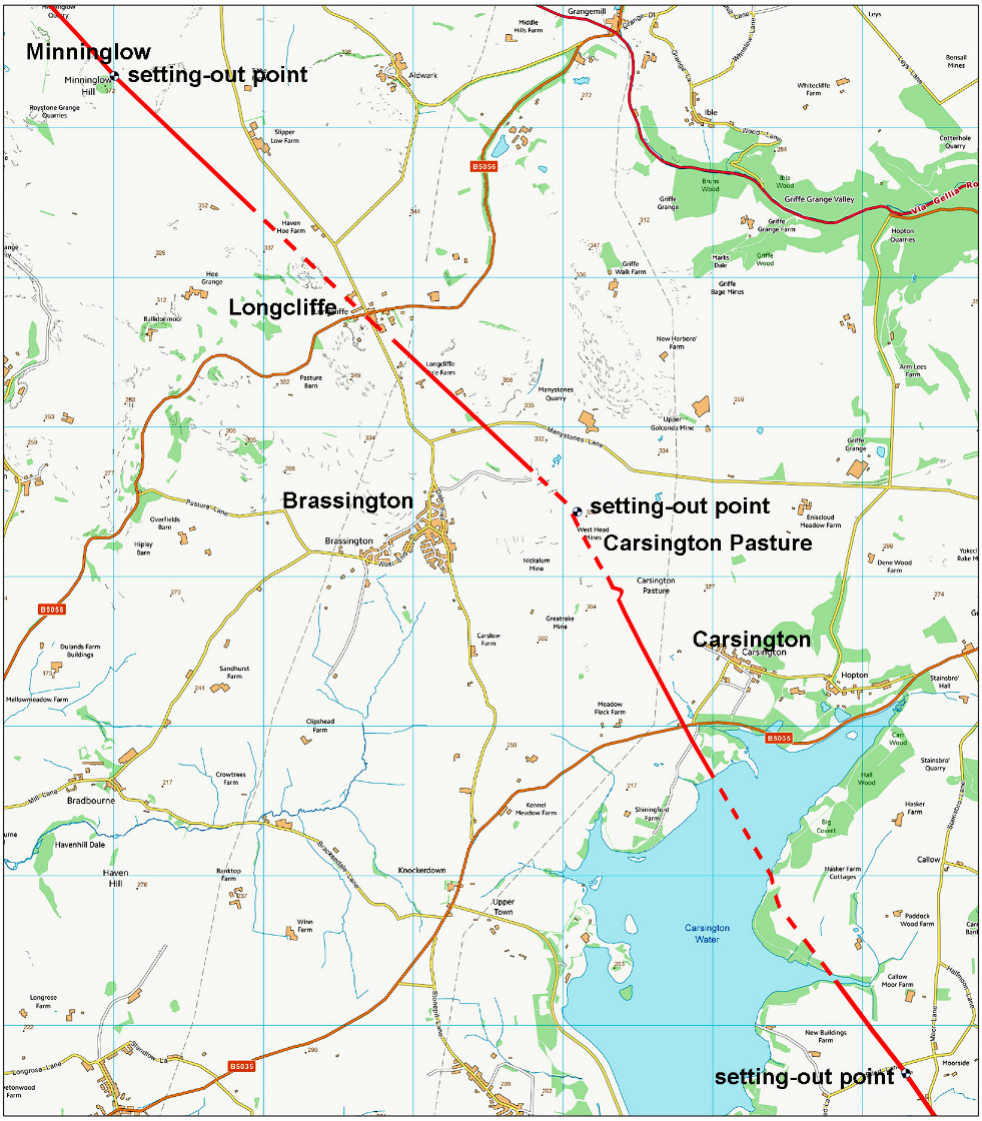

Figure 1: The Roman road alignments north of Carsington Reservoir. The high point of Carsington Pasture was clearly the setting out point for the road both south and north of there. Base mapping contains OS data, reproduced under Open Government Licence v3.0.'

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Buxton to Little Chester, RR71a, continued

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enabled the final gap to be filled in and it wasn't where I had guessed! The proving of this missing link has perhaps provided some strong evidence as to where the lost Roman mining centre of *Lutudarum* was located.

The Route from Carsington Reservoir to Minninglow

In my map accompanying last issue's article I had shown a dashed route north of the reservoir via Brassington to Longcliffe. This, to me, was the logical and easiest way to climb up to the limestone plateau. However, Roman logic had different priorities and took a very direct line over the hills (figure 1). The evidence for the route the road took climbing up from the reservoir is very subtle but definite. It cleverly used a tongue of high ground to ease the gradient up to the heights of Carsington Pasture (figure 2). There was just one steep section that required a zig-zag to ease the climb up to the high point of Carsington Pasture. Without the zig-zag it would have been around 1 in 4.5 but with one then the gradient would have been eased to about 1 in 7.5 – much more manageable.

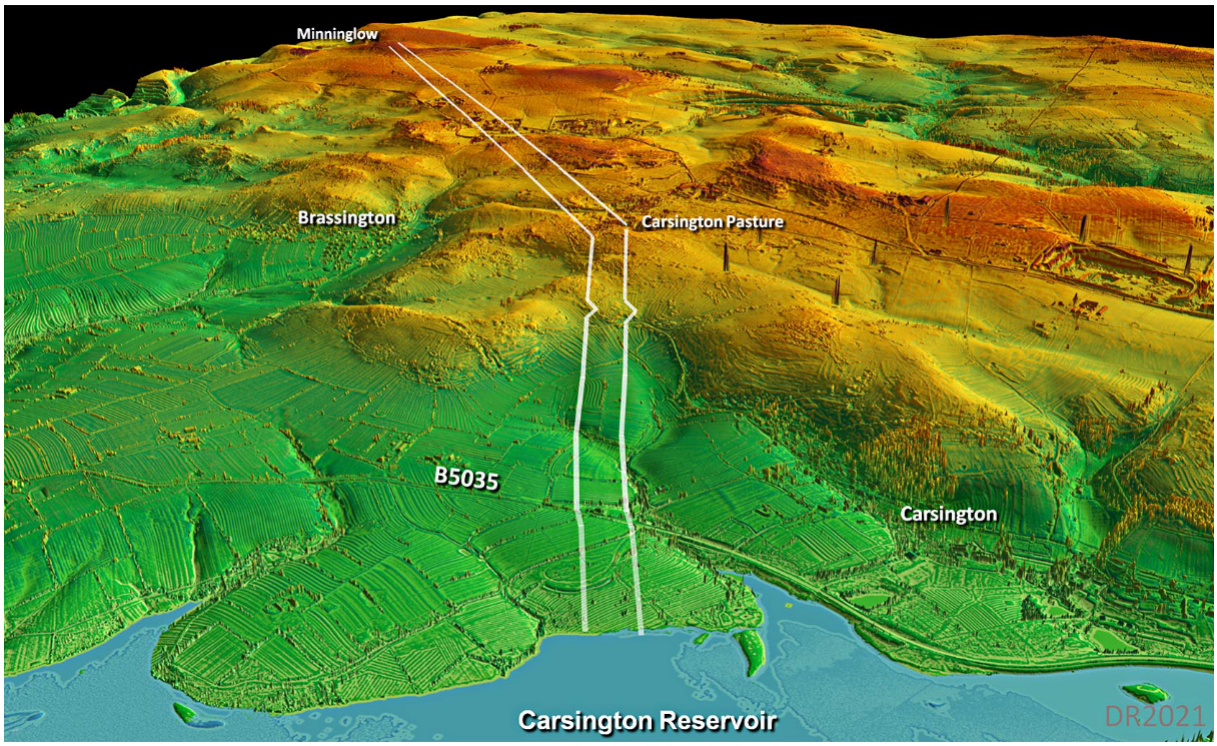

Figure 2. Oblique 3D LiDAR view looking north across the reservoir to Carsington Pasture. The route up to the high point is faint but certain. There appears to have been just a single zig-zag to ease the climb. The easier route through the Brassington natural valley (left) was shunned for a direct route over the hill tops. However, Carsington Pasture is where the old lead mines are located so there is a logic to the road's route. Base LiDAR data is © Environment Agency copyright and/or database right 2020. All rights reserved.

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Buxton to Little Chester, RR71a, continued

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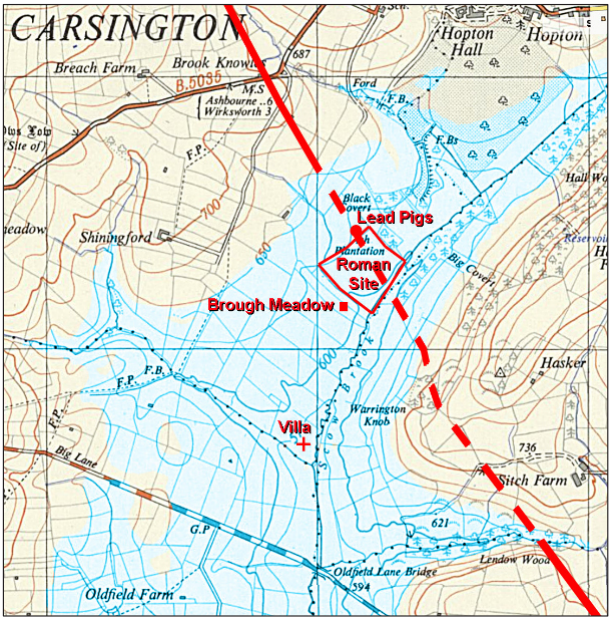

Figure 3 The Roman sites from Derbyshire's HER have been overlaid on a historic OS map. The blue shaded area is the extent of Carsington Reservoir. Brough Meadow is a suggestive field name. Six Inch OS mapping courtesy of National Library of Scotland under CC-BY-NC-SA licence

Figure 4. Is this the site of Lutadarum? Carsington before the reservoir. We are on Oldfield Lane looking towards the villa site and known Roman settlement. The Roman road ran right to left in the middle distance. Image by Chris Stait.

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Buxton to Little Chester, RR71a, continued

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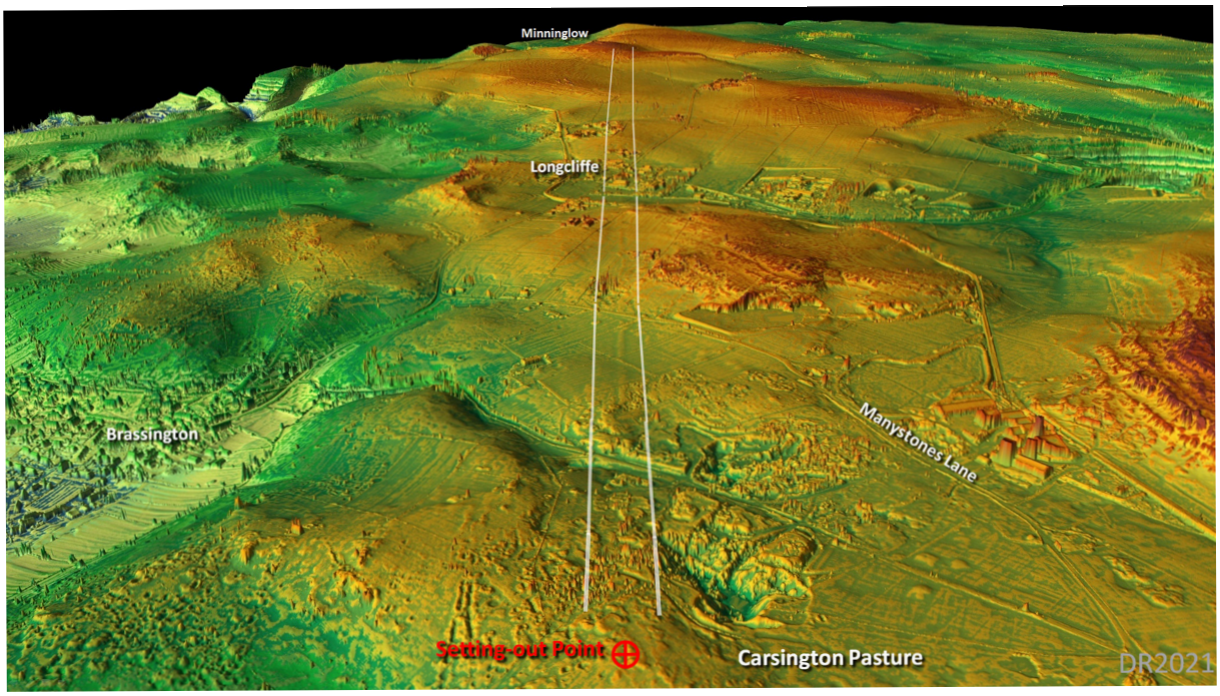

Figure 5. Oblique 3D LiDAR view looking north from Carsington Pasture towards Minninglow and Buxton. Despite extensive mining sufficient of the road survives to plot its course with high confidence. Base LiDAR data is © Environment Agency copyright and/or database right 2020. All rights reserved..

Having located the road north of the reservoir we can now interpolate its probable course across the reservoir with reasonable confidence (figure 3). The location of the various Roman sites recorded in Derbyshire's HER have been added to the map including the settlement area (Derbyshire HER 3379). This would seem to support Carsington as probably the lost site of *Lutadarum*, one of the country's leading Roman lead production sites. Carsington Pasture is covered in old lead mines but it is above the spring line. Smelting lead requires water and this known Roman site alongside Scow Brook and sitting astride the road would seem the perfect location. However its present location under the waters of the reservoir will keep it out of reach for many years to come.

The high point of Carsington Pasture was clearly a setting-out point for the road (SK42100 54420, 331 metres AOD). Carsington Pasture is much disturbed by mining over the centuries but enough of the *agger* survives to confirm the route (figure 5). It is likely the road did not pass through the very highest point but would have skirted around it, a little to its west. However, from this setting out point a very straight alignment was used all the way to the east side of Minninglow (SK 21000 57356, 365

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Buxton to Little Chester, RR71a, continued

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Figure 6: The line of the Road crossing Manystones Lane. The hump in the wall as it passes over the agger is a clear confirmation of the route. Google Streetview.

metres AOD). There are very clear surviving lengths of *agger* either side of Manystones Lane (figure 6). The line passes about 30 metres to the west of Longcliffe crossroads and once clear of the buildings the *agger* is again clear all the way to, and passing, Minninglow. There was slight change of direction on the side of Minninglow and we leave the road heading off towards Buxton along its known course.

Reference

Ratledge, D, 2021, forthcoming, *The Roman road between Little Chester and Longcliffe*, Derbyshire Archaeological Journal, Vol. 141.

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RRRA Projects, update

Roman Roads in East Anglia ;

A LiDAR Reappraisal - Part 5, Some Essex Roman Roads

By David Ratledge davidr@deep-sky.co.uk

Introduction

In the last issue we looked at the Roman roads centred on Colchester. This time will be in the Essex countryside and look at least one "new" road and several missing links. However, there are still several annoying gaps. A Long Melford to Braintree looks obvious and there are some clues but nothing definite - yet. A road to the north-west from Colchester would seem obvious too but again nothing so far looks convincing.

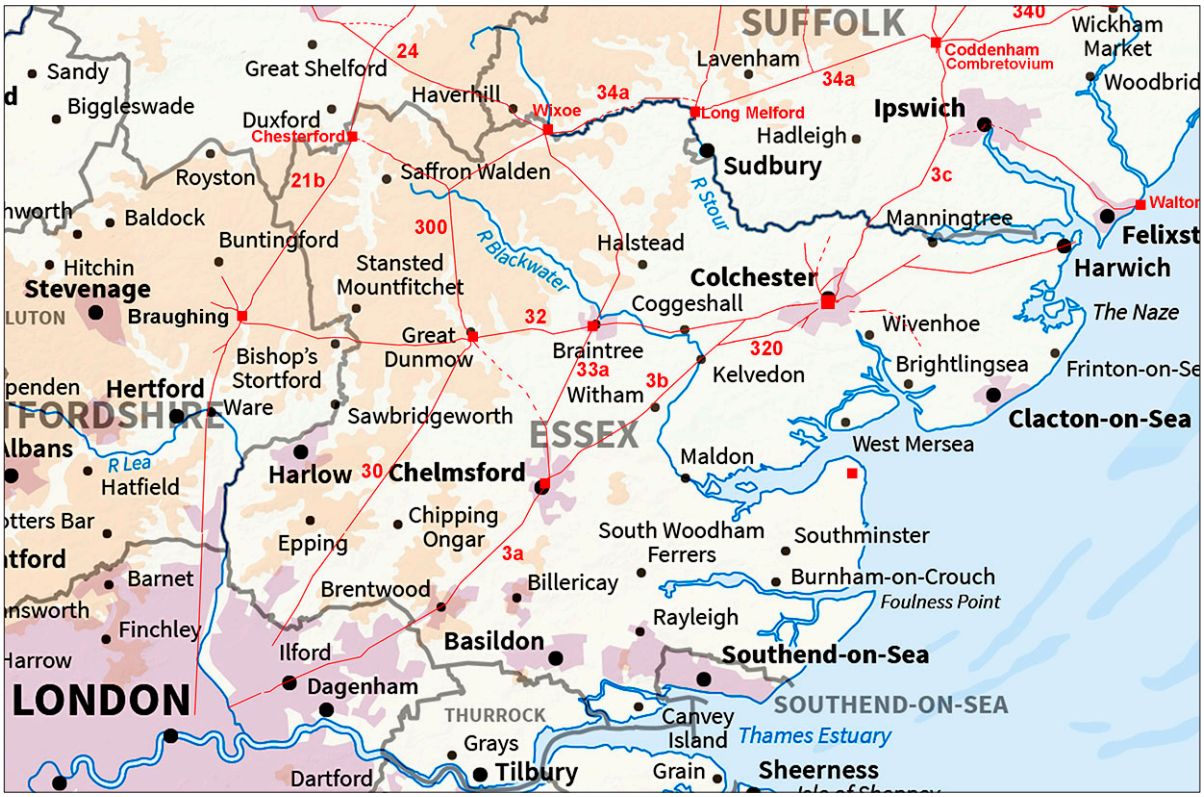

Figure 1. The Roman Road network of Essex compiled following a LiDAR reappraisal. More of the network has been completed but south-east Essex is still suspiciously empty. Base mapping is derived from OS data, reproduced under Open Government Licence v3.0.

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Roman Roads in East Anglia; continued

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Wixoe to Braintree

Margary Number: none, Distance: 15 miles

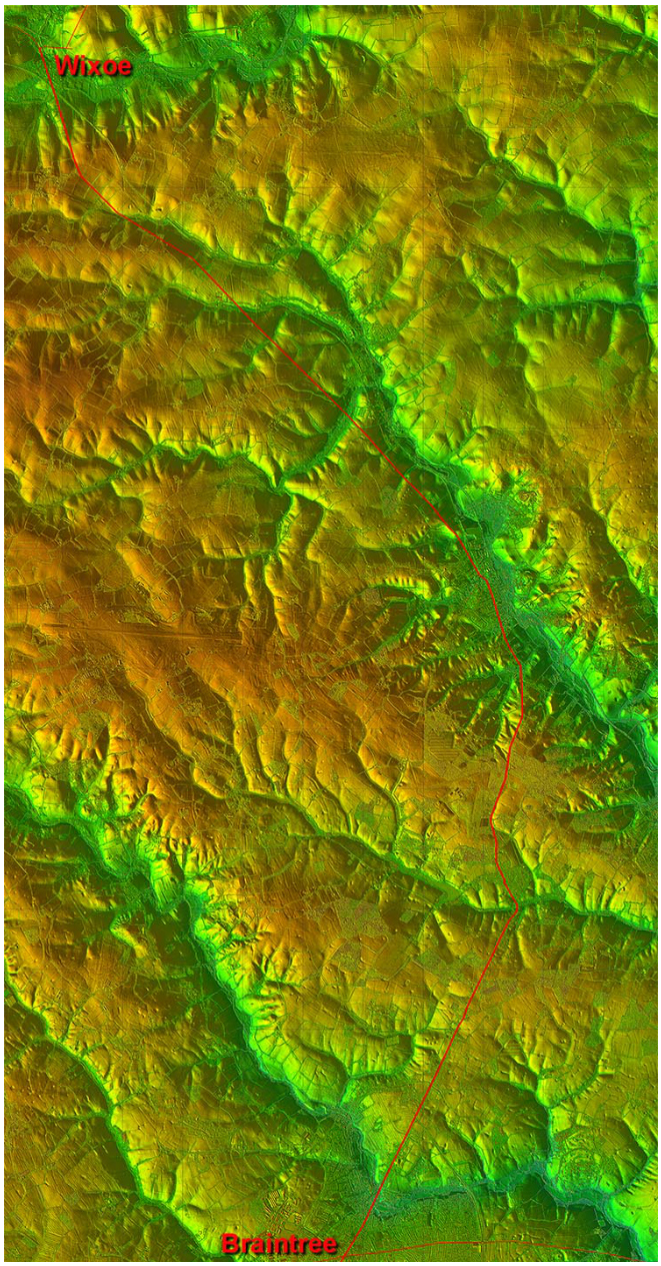

Figure 2. LiDAR view of the full route. The indirect nature of the route would perhaps indicate that this road was possibly a branch off a Braintree to Long Melford Roman road but so far locating such a road has proved fruitless. Base LiDAR data is © Environment Agency copyright and/or database right 2020. All rights reserved.

Wixoe Roman settlement or small town is actually just over the Suffolk border but this road is entirely within Essex as it begins just west of the River Sour, the county boundary.

I was actually looking for a road to Colchester from Wixoe but it soon became obvious its destination must be Braintree. It is a road of two halves. The first from Wixoe to Sible Hedingham is traceable in LiDAR imagery – subtle but sure. The second half is overlain by modern roads, mainly the A1017. The straight stretch into Braintree has long been known as Roman but we now know its destination.

The *agger* heading south then south-east from Wixoe was spotted in a LiDAR search around the area. Our road initially heads to the hills rather than taking the much easier valley route. This was presumably the reason it fell out of favour for modern travellers. The modern road is extremely circuitous and yet it replaced a much more direct Roman road. The disused railway took a much similar route to the Roman one. The Roman line merges into the A1017 at Sible Hedingham.

As this route is anything but direct it would seem likely that it was a branch off a direct road from Braintree to Long Melford. I have searched several times for such a route – there are plenty of possible clues – too many in fact – and deciding which are real is the problem.

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Roman Roads in East Anglia; continued

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Wixoe to Radwinter

Margary Number: none

Distance: 7.5 miles

A long suspected Roman road which thanks to LiDAR we can now confirm and complete its full route. The first 100 metres or so is in Suffolk but from then on it is Essex all the way. It takes a very direct route to Radwinter village where it meets up with the Great Chesterford to Great Dunmow Roman road (figure 3). At Wixoe, the modern bridge and the Roman bridge almost certainly crossed the River Stour at the same place. Today it is the county boundary between Suffolk and Essex and it is a local beauty spot.

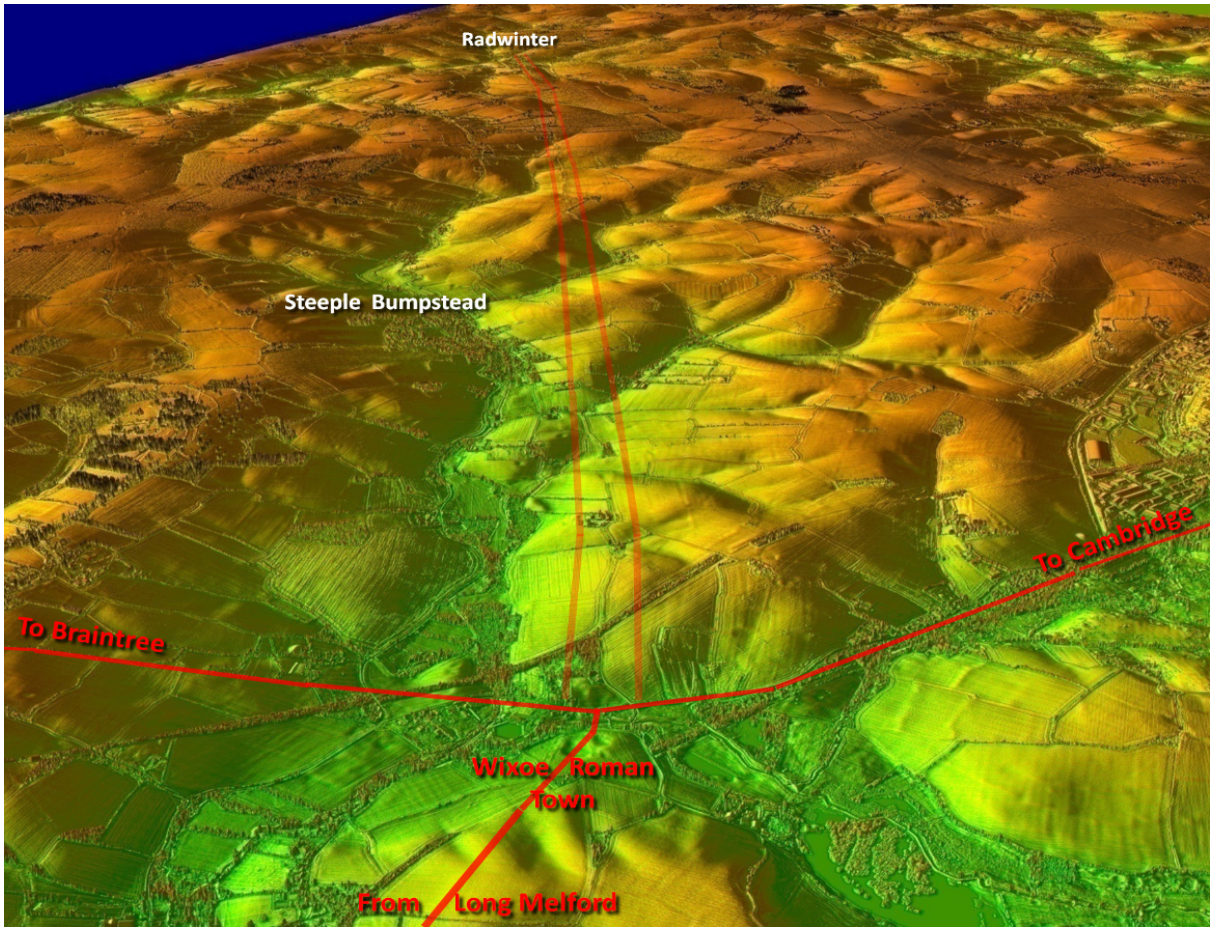

Figure 3. Oblique 3D LiDAR view of the full route. A long-suspected connection that had to await the arrival of LiDAR to be solved. At Radwinter the road made a junction with the Great Chesterford to Great Dunmow Roman road. Base LiDAR data is © Environment Agency copyright and/or database right 2020. All rights reserved..

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Roman Roads in East Anglia; continued

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The sensible alignment adopted keeps out of the valley bottom and runs along its north side. The first mile or so is walkable from the Wixoe site. Just under one mile from Wixoe then the modern road Hill Lane is "captured" by the Roman line (figure 4).

There are signs of the *agger* passing to the north of Steeple Bumpstead at TL 68154 41935 and TL 67298 41449. Near Boblow Hill, the Roman line is followed by a public footpath and parish boundary for around one mile. This is the length that was suspected of being Roman but with no known connection either east or west and that was how it remained until the advent of LiDAR.

Towards Radwinter the *agger* is evident at TL 61759 38082 and TL 60753 37430. This alignment indicates that it formed a junction with the Chesterford to Dunmow Roman road (Margary RR300) just to the north of the present day cross roads in thevillage,close to the village school. There is no evidence of Roman occupation in the village so it appears to have been just a simple junction. Perhaps some test pits in the school grounds might turn up some finds!

Figure 4. The short length of the modern road Hill Lane has been "captured" by the Roman line. The modern lane is dwarfed by the size of the Roman agger. *Image Google Streetview.*

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Roman Roads in East Anglia; continued

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Great Chesterford to Radwinter

Margary Number: RR300

Distance: 7.25 miles

The initial direction of this road towards Radwinter, where as we have seen, there does not seem to have been a Roman settlement, is at first glance a little odd. However, it does connect Great Chesterford to both the known settlements at Wixoe and Great Dunmow. Two birds with one stone?

This road was covered in a presentation by John Peterson "*How was the course of a Roman Road in Essex predicted by a land survey hypothesis?*" given to the RRRA conference 4th September 2016. However, this predated the use of LiDAR and we are now able to plot the route of the road based on actual visible evidence i.e. LiDAR + aerials. He also examined the road layout at Radwinter and proposed a “Y” junction with the arms at specific angles (ratios). Unfortunately LiDAR has revealed the road junction was not where he had proposed and also it was not a "Y" junction so that interpretation is no longer valid.

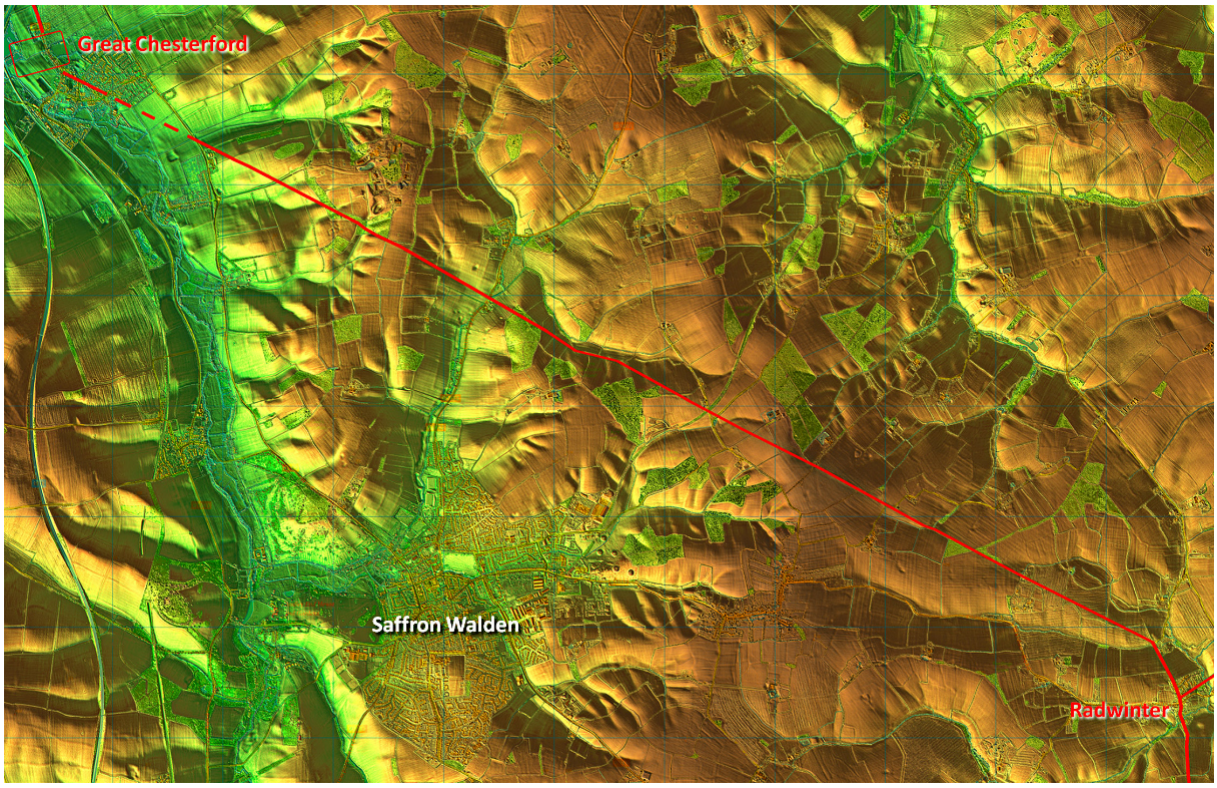

Figure 5. The road was aligned not on Radwinter but around 500 metres to its north. This provided a route with fewer valleys to negotiate. Base LiDAR data is © Environment Agency copyright and/or database right 2020. All rights reserved.

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Roman Roads in East Anglia; continued

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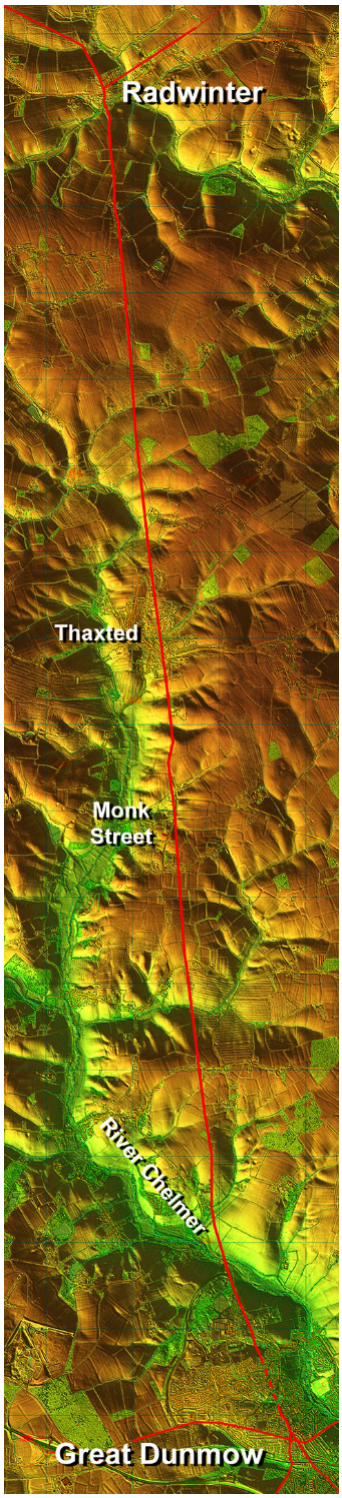

The alignment chosen by the Romans was not exactly on Radwinter but around 500 metres to its north requiring a dog-leg to reach the village. John Peterson proposed centuriation as the explanation but there is probably a simpler reason. By aiming for a dogleg north of Radwinter the road avoided many valleys and kept to high ground. Logical and sensible engineering by the Roman surveyors.

The first kilometre from Great Chesterford is difficult to pin down as ploughing has removed the Roman *agger*. All that remains are the faint traces of the ditches on aerial photos – John Peterson was perhaps the first to draw attention to these. After this first mile or so LiDAR evidence becomes visible and the route to Radwinter can be completed with high confidence.

Radwinter to Great Dunmow

Margary Number: RR300, Distance: 10 miles

In reality this is the continuation of the Roman road from Great Chesterford. Another sensible route keeping out of the Chelmer river valley passing through Thaxted is the aptly named Monk Street.

From Radwinter the route is very clear in the Lidar imagery all the way to Thaxted. The Roman line is mostly overlaid by the modern lane aptly named "Roman Road". Today it is quite narrow and only its straightness gives away its Roman origin. Across Thaxted I have had to interpolate but this is almost certainly the route the road would have followed.

About one mile south of Thaxted there is a slight dog-leg just before Monk Street. Beyond Monk Street there is surviving cutting just north of Little Cambridge – this looks huge in the LiDAR imagery but is virtually invisible on the ground (TL 61615 27292). However, probably the best surviving *agger* is approaching Great Dummow just north of the River Chelmer (TL 61973 24103). The road then heads pretty directly into the centre of Great Dunmow and there is an impressive cutting (TL 62444 22760) on the way in.

Figure 6. Very straight forward alignment down the east side of the Chelmer valley. Base LiDAR data is © Environment Agency copyright and/or database right 2020. All rights reserved.'

Other road news

Hipposandals, horses and Roman roads

By Paul Smith

May I suggest "horizontal experimental archaeology" as a home remedy for RRRA members who struggle to sleep? Simply close your eyes, consider a simple question and let your mind flow through the 5 W and 1 H questions: Who, What, When Where, Why and How. You will probably be asleep before you have solved your problem.

Take as an example the following problem: "The Governor of a new Roman province has given you the task of setting up a *Cursus Publicus* for the province". Your task involves ensuring that everything is in place to ensure that accredited travellers can travel in comfort and the state courier service will operate effectively. You might start with some high-level thinking: perhaps relating to the distance between the newly constructed forts and where you might locate a new *Mansio*. Eventually you will get round to considering the needs of the couriers: food, shelter, a bed and perhaps a change of clothing. At some point you are almost certain to get round to the question of horses.

If we could go back 2,000 years I feel confident that we would recognise the weather – on occasions cold, damp - undeniably British. We would find much that was strange to us (fish sauce, sponges in communal toilets etc) but a Roman horse would be very recognisable to us as a horse. Now it is highly unlikely that the physiology of a horse has changed much in the last two thousand years. Horse hoofs are made of keratin (the same stuff as your fingernail) and a horse walking or running on a hard surface would always have experienced wear to the hoofs. Horseshoes are now used to help keep the hoof of working horses in good condition. I understand that horseshoes are even more necessary in damp climates where water will soften the keratin and make wear more likely. So, what did the Romans do?

In 2018 a group of four *hipposandals*, were found in a ditch at the fort at *Vindolanda* Behind Hadrian's Wall in Northumberland. They had been discarded in the fill of a ditch as two sets of two and dated to AD 140-180. Roman 'horseshoes' found in a ditch: problem solved you might think. But you only have to look at an image of the

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Hipposandals, horses and Roman roads, continued

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Fig 1. Hipposandals on display at Roman Army Museum © Vindolanda Charitable Trust 2019

hipposandals on display at Roman Army Museum (i) to make the judgement that these Roman 'horseshoes' don't look like an awfully elegant solution.

Hipposandals, along Hadrian's Wall, are described by The Vindolanda Trust as a "rare find". However, a brief search on the internet found that 17 *hipposandals* were found during excavation as part of London's Cross Rail project. Twenty-two definite or possible *hipposandal* fragments were found during excavations at Elms Farm, Heybridge, Essex and there are *hipposandals* on display at Saffron Walden Museum and at the British Museum. RRRA members will no doubt know of others.

The article from the Vindolanda Trust website which follows the image above offers various theories regarding what *hipposandals* were used for:

- Temporary horseshoes
- Hobbles (leg restraints)

or

- Medicinal, offensive or traction horseshoes

Most important in understanding whether horses of the *Cursus Publicus* could have worn *hipposandals* to obviate damage to their hoofs whilst being ridden on Roman

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Hipposandals, horses and Roman roads, continued

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roads is the following quote:

> *All horses' gaits (but mostly trot, canter and gallop) involve the 4 legs collecting close together under the body of the animal, either 2 by 2 on the ground or all 4 in the air. Any horse may have damaged its own legs if maneuvered at pace while wearing such heavy sandals*. (ii)

The Unofficial Blog for the Lunt Roman Fort, near Coventry (iii) makes the same point:

> *Horses can't walk in them. Well, they can – but they teeter along as if wearing high heels. And a reluctant, faltering walk is all you are going to get. Forget about trotting, let alone galloping!*

Those at the the Lunt have an extra interest in horse related equipment as it is the location of the only known *gyrus* in the Roman Empire. A *gyrus* is a circular structure which is believed to have been used for training horses,

Fortunately we don't have to imagine how a horse might walk when wearing *hipposandals* for a pair were manufactured and tested on Time Team. You can judge for yourself by watching: Time Team Season 13, Episode 12 "The Taxmans' Tavern Alfoldean, Sussex." This is available on Youtube - about 28 minutes into the programme. The horse takes about 16 paces before the experiment is stopped.

A reluctant faltering walk would have been of no use whatsoever to the Roman state courier service. A search on the Internet offers an estimate of speed from about 50 miles per day up to 170 miles in a period of 24 hours; not achievable with a faltering walk.

Now I know from my brief experience at Lullingstone Roman Villa that Roman iron objects are easy to identify; I found any number of Roman nails while excavating on the slope immediately below a circular building 5.4 metres in diameter, possibly a shrine, which had burnt down. The important thing here is that if I as a rank amateur could identify a nail then a Roman horseshoe would not have escaped notice. By now at least one horseshoe should have been found in a position where it could be securely dated. To the best of my knowledge no horseshoes as we know them have been found so it is seems very unlikely that the Romans used them.

There are various theories as to when horseshoes were introduced but the first piece of solid evidence comes from the 5th century AD with the reported finding of a horseshoe, complete with nails, in the tomb of the Frankish King Childeric I at Tournai, Belgium. Now, if the Romans did not use horseshoes, they were clever enough to have found an alternative solution to the problem. Is it possible that there they developed a less abrasive yet still solid surface at the side of Roman roads to solve the problem?

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Hipposandals, horses and Roman roads, continued

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Excitingly, this is a solution that might have been touched on by the RRRA excavation at Dere Street (see RRRA Newsletter 11, page 9):

> *Phase 2. The scoop ditches were either filled or removed (the south western one in Trench AB was certainly filled) and a layer of small cobbles some 3m wide added either side of the agger, but not extending quite to the outer ditches. There was no sign of these cobbles being intended as a surface, rather it seems they acted as a solid base for a layer of sand which was then applied above. Such belts of sand to the side of Roman roads are not unknown, and are usually interpreted as providing a surface for the movement of animals.*

Further down the account continues:

> *It is worth noting that clay shoulders found during excavation of the so-called Roman Ridge, RR28, near Wentbridge, retained hoof prints (Eric Holder, 2017, pers.comms.). It is the layer of cobbles, combined with the sand above, which causes the parching visible on aerial photographs and the appearance of possible outer carriageways.*

Just suppose the artist who drew the first diagram of the *agger* did not know that there might have been a surface for use by the *Cursus Publicus* to one side of the drainage ditch. Then just suppose we all know what the cross section of the *agger* of a roman road looks like because we have all seen a diagram. Perhaps excavations in the past have been too focused on just finding the *agger* of a road and not considered the hinterland of the road. Perhaps future excavations need to keep the possibility of a separate surface for horses firmly in mind and excavate beyond the immediate *agger*. If such a surface is found, then we know how the Romans solved one particular problem. If not, archaeologists need to keep a sharp eye open for a different solution.

Ivan D. Margary described a number of “three lane roads” including sections of RR3b Chelmsford to Colchester, RR15 Stane Street, London to Chichester and RR180 Birmingham to Gloucester. On page 288 of *Roman Roads in Britain* he described the last of these roads thus:

> *On Shuthanger Common to the south of the village clear traces of the road appeared on air photographs upon an alignment pointing to Stratford Farm. A section showed a substantial road 57½ feet wide in all, but in three parts. The central road was on a clay agger 32 feet wide whose base only remained, but the side roads, 9 and 14 feet wide, were surfaced with compacted gravel 6 inches thick.*

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Hipposandals, horses and Roman roads, continued

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Many of the three lane roads started with soft sand or clay shoulders, which were later metalled – which would beg the question as to whether horseshoes were introduced earlier than we think. The compacted gravel surface described above may have been laid over the softer clay/sand surface that was present for the passage of animals, horses specifically - the solution the Romans found to the problem before horseshoes?

Oh. And the most effective "horizontal experimental archaeology" I have found is to try constructing an Iron Age round house. I have never yet managed to even start fitting the roof.

Notes

i Press release from The Vindolanda Trust. Available at: https://www.vindolanda.com/news/hipposandals-on-display?gclid=Cj0KCQiA-aGCBhCwARIsAHDI5x-GlaVpq3NYEpHoau0-TWXtD7DCokkcuXzRuK6Gr-p9QNPjhO_nJDQaAm2LEALw_wcB

ii Press release from The Vindolanda Trust. *Op Cit*

iii https://luntfort.wordpress.com/2011/09/23/the-lunt-hipposandal/

Other road news

RRRA On-line Seminars

By the time you read this, our first on-line seminar *Ivan Donald Margary (1896-1976): An Officer, Gentleman, Scholar and Philanthropis*t presented by David Rudling, will have happened. There was certainly a lot of interest in this leading up to the event with many tickets being taken. For those who missed it a recording of the seminar will be made available soon on our site. Carrying on from this we intend holding a seminar every month, generally on the last Thursday evening of each month. Talks specifically about Roman roads will be for members only while others will be open to all. Below is our schedule commencing with interesting talks by David Ratledge and Rob Entwistle. These are the subjects that they presented to the Royal Archaeological Institute recently but, although since our presentations are not limited to the 20 minutes the RAI allowed, David and Rob will be able to cover their fascinating subject matter in much greater depth. Thank you to those in the seminar team who have made this happen. We will be in touch with booking arrangements.

Date	Speaker	Subject
Thursday 24th June 2021	David Ratledge	Changing the Map; How LiDAR has transformed our understanding the Roman Road network in NW England
Thursday 29th July 2021	Rob Entwistle	Watling Street, Stane Street, and the origins of London
Thursday 26th Aug. 2021	Dave Armstrong	On-Line Book launch; THE HADRIAN'S WALL MILITARY WAY: A Frontier Road Explored
Thursday 26th Sept. 2021	Mike Haken	How to identify a Roman Road
Thursday 28th October 2021	Geoff Lunn	Roads around Colchester

Publication of *Itinera*

The recent publication of the digital version of *Itinera* has seen our Association take a big step forward in the world of archaeology in having its own focused journal. A massive amount of work been put into this, not only with the archaeology and authoring but also by the publishing and review teams; thank you to all concerned. You can download the papers through our website with your generic user ID and password (http://www.romanroads.org/Itinera/itinera_vol1.html). However if you prefer to read a printed volume which you can display proudly on your bookshelf, these are available from our sales expert, Gary Whitaker. We did run an early bird deal of £20 including UK P&P. Post publication copies are now priced at £24 including UK P&P. Please get

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Other road news, continued

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in touch with Gary at intinerasales@romanroads.org if you need an international delivery rate or have other delivery queries. Ordering is via our website at ITINERA Purchase (romanroads.org) which will process your order and accept a Paypal payment.

Other interesting snippets

Recently, it has been heads down at RRRA HQ getting seminars underway and *Itinera* completed and issued but we haven't lost sight of Roman road and other related activities currently going on. Here's a summary of current things from our members that you may find interesting.

Vinticulture in Roman Britain

From Philip Mulholland

Over the past twelve months we all have probably become more familiar with the produce of vinticulture. But what was the climate like in *Britannia* and would it have supported the growth of vines and wine making? A paper, Brown, Tony & Meadows, Ian & Turner, S.D. & Mattingly, David. (2015). *Roman vineyards in Britain: Stratigraphic and palynological data from Wollaston in the Nene Valley, England*. Antiquity. 75. 745-757. available on-line through Research Gate here, suggests from the analysis of various data that wine would have been produced in the Province.

Time Team returning …

From Mark Bletchly

You may have heard that Time Team is returning to the TV. One of the sites that is proposed to be investigated is the large Romano British courtyard Villa in the Broughton Castle estate, 2 miles south west from Banbury, Oxfordshire. RR56a runs right next to the Villa site. The Time Team project here is apparently going to be a little different, as it is going to be more of a legacy project and whilst they will do their 'traditional' 3 day dig later in the year, they are going to be re-visiting in the coming years and also going to be looking at the bigger landscape in this part of the world which may impinge on the road? Looking forward to it.

More historic mapping

From Peter Kemp

Further to the mapping sites highlighted in the last issue, Peter has pointed out the availability of the British Library's mapping initiative, they're recently put a lot of maps online where you can overlay them on current maps:

https://britishlibrary.georeferencer.com/compare#

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https://www.bl.uk/collection-guides/digital-mapping and

https://www.bl.uk/subjects/maps

Mike also got really excited by the McMaster University in Ontario when he came across the main website http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A21508 by chance whilst looking for a map. Anyway, lots of old digitised maps including this one (Jefferys) http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A81058 which shows Dere Street (marked as Watling Street). They also have Armstrong's 1769 Northumberland maps which shows Watling Street, the Devil's Causeway, the Stanegate (marked as Military Way!) and the Maiden Way on sheet 3. http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A92703 There's so much on here he daren't look any more – eg Ptolemy's map printed in 1486 http://digitalarchive.mcmaster.ca/islandora/object/macrepo%3A81029

As usual watch out for citation and copyright requirements.

Mansio location

From David Brear

David, who is really adept at searching and locating relevant, interesting material, noticed this 2018 article by Martin J Dearne from London Archaeologist ; *How do we recognise a mansio? Some thoughts from a London region viewpoint,* available from ADS on-line here. The process of assessing where the distances along the roads would suggest there could perhaps be a *mansio* at Romano-British settlement sites, maybe near river crossings, is equally as applicable elsewhere along Roman roads. Have a read and consider for the roads you are interested in.

Book: Finding the Limits of the *Limes*

From David Brear

Another spot by David is this open access book edited by Philip Verhagen, Jamie Joyce and Mark Groenhuijzen, available on-line through OApen via this link. Whist focusing on the Dutch area of *Limes* it is written in English and the concept is transferable to *Britannia*. From the summary, this demonstrates the application of simulation modelling and network analysis techniques in the field of Roman studies. It summarises and discusses the results of a 5-year research project carried out by the editors that aimed to apply spatial dynamical modelling to reconstruct and understand the socio-economic development of the Dutch part of the Roman frontier (*limes*) zone, in particular the agrarian economy and the related development of settlement patterns and transport networks in the area. The project papers are accompanied by invited chapters presenting case studies and reflections from other parts of the Roman

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Empire focusing on the themes of subsistence economy, demography, transport and mobility, and socio-economic networks in the Roman period.

Building a Roman road at the Chalke Valley History Festival

From Dave Armstrong

One of the field events at the popular Chalke Valley History Festival near Salisbury in Wiltshire this year is the building of a Roman road. As there are only two half hour sessions on the Thursday and Saturday programmes it seems unlikely to be a full construction, we can only hope that they don't attempt to recreate something based on the incorrect, but often cited idea, of four layers of construction. But it is good to see the subject being covered alongside all the other interesting history subjects. Other Festival days have the construction of a Roman temporary camp scheduled. The Festival is well worth a visit, I'm going to be there camping with my son, I hope the weather is kind.

Potential closure of Sheffield University Archaeology Department

David Inglis has writen asking for support as the University of Sheffield has undertaken a review of the Archaeology Department which could possibly result in the closure of the department (made even more likely by government cuts to the Arts and Humanities). A final decision is to be made on Tuesday (25th May) and the department's only line of defence in these bleak times is public support. RRRA have many Yorkshire members and there may be others who have contributed to departmental research over the years in a variety of ways. David would like to ask if you could possibly take the time over the next few days to email the university and express your disapproval at this move and if possible spread the word to anyone else in our circle who is as shocked and saddened by this as we all are. Mail addresses to respond to are vc@sheffield.ac.uk dvc@sheffield.ac.uk ueb-admin@sheffield.ac.uk Please copy in archaeology@sheffield.ac.uk

Royal Archaeological Institute lectures

If you missed the successful RRRA lectures at the RAI on 15th April, recordings are available from the RAI site through this link.

David Ratledge, *Changing the Map: how lidar data is transforming our understanding of the Roman road network in North West England*,

Rob Entwistle, *New light on old roads; Watling Street, Stane Street, and their children*

Mike Haken *Pushing forwards; new evidence for pre-Flavian penetration into*

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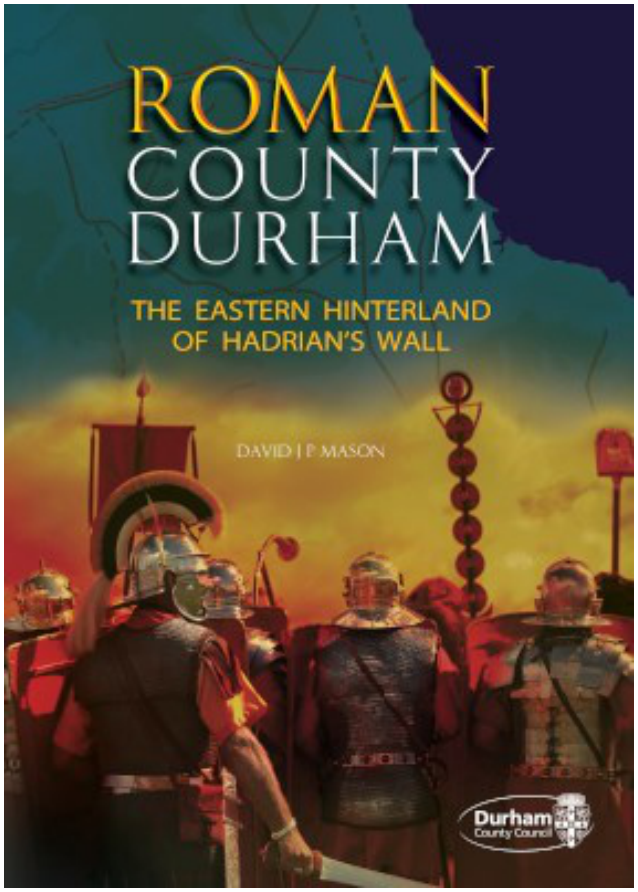
Brigantia.

Note that these were limited to 20 minute sessions and longer, fuller versions of David and Rob's presentations will be coming in the June and July RRRA on-line seminars.

Book release, Roman County Durham, The Eastern Hinterland of Hadrian's Wall

By Dr David JP Mason, County Archaeologist



This is the first comprehensive study in print of County Durham during the Roman period. Perhaps overshadowed by Hadrian's Wall, the network of roads, forts and farming communities in its eastern hinterland formed a vital part of the infrastructure that supported the linear frontier and its garrisons, exerting a major influence upon the county's history and development.

The county's wealth of Roman military archaeology comprises seven forts with their attendant civilian settlements - including some of the best-preserved Roman buildings in Britain. Discoveries made in the last twenty years have transformed our understanding of life beyond the military communities.

Following publication on 17 May the book, of 557 pages, is priced at £37.50 (including packaging and delivery) from the Durham County Council Archive on-line shop. UK orders only. Orders will be despatched in batches from the publisher so there may be a short delay between ordering and delivery.

Inca roads

From John Poulter

John has long been interested by tales of the Inca roads in South America, but never felt able to rely upon the many scattered reports about them, mainly because the accounts have come from tourists, journalists, or other people visiting the area but who

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were not serious students of the subject of road building. He doesn't profess any in depth knowledge of these roads, his curiosity is largely built on what the following lectures have imparted, and they are 8 years old. Readers may have further expertise that they could share. John recently began watching a set of lectures about them on YouTube, under the title of Inka Engineering Symposium, linked here for the first lecture, and for the first time has been able to see something of the roads himself. Lectures 2, 6, 7, and 8 offer the best pictures of them, and perhaps lecture 9 offers the best analysis.

Where visible, the roads appear to have been impressively well engineered, especially to cope with rains and flooding, and to have survived remarkably well too. The road planners and builders certainly seem to have been well aware of what they were doing, in considerable depth. All the elements of serious road construction are there: drains, culverts, rock cuttings, terraceways, embankments, and even a tunnel. Unlike Roman roads in Britain, however, the construction of the roads – where sampled so far – appears to have been much simpler, consisting of a single layer of stones about 8 inches thick just laid on the ground, rather than being composed of separate foundation and then bedding layers beneath a gravelled surface.

The widths of the roads are not standard. Where the terrain allows it, they can be quite wide – wider than the Military Roads of Scotland, for instance – and they often have similar widths to the main Roman roads in Britain, and occasionally are even wider. Elsewhere, where the landscape is steep, they can be just flights of steps, often quite narrow, and even in some places no more than a 2 feet wide scratch across a vertical rock face. They were, of course, not engineered for wheeled traffic – the Incas didn't have any – and I'm not sure that pack animals (e.g. llamas) were much used either. Most carriage along the roads may have been on human backs and shoulders.

Although the roads are known as Inca roads, the Incas as a tribe don't seem to have occupied the Cuzco area in Peru until about AD 1200, and it appears that they didn't seek to expand from that area and create an empire until the 1430s. This empire-building then continued for 100 years until stopped by the Spanish conquest in the AD 1530s. Some of the roads which the Incas used were already in existence by the start of their expansion, having been created by earlier people, possibly from as far back as AD 600. Thus the development of road engineering practices and skills in South America may have taken place over several centuries and probably cannot be attributed to the Incas particularly, but the spread of road construction appears to have been fundamental to the growth and consolidation of the Inca empire. Therefore it

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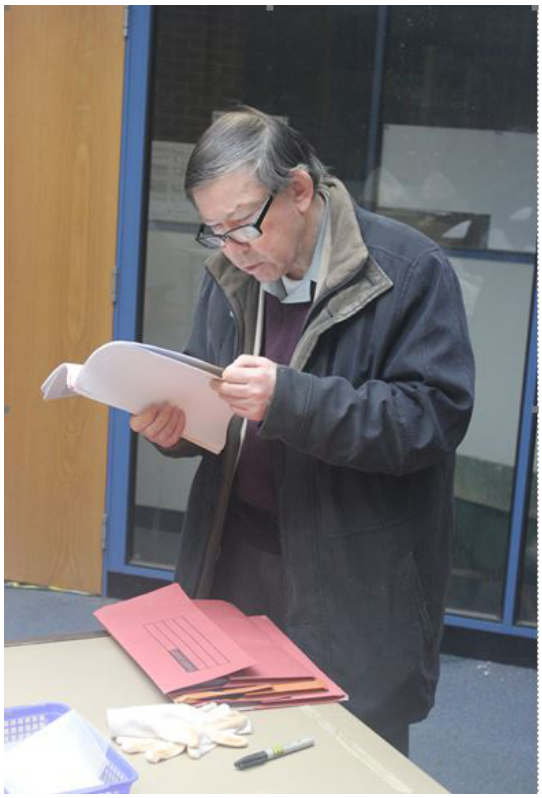
seems that the vast extent of the road network by the time of the Spanish conquest can indeed largely be put down to the Incas. Hence the creation of much of that network, said to amount to 25,000 miles in total, seems to have taken place within 100 years, which is a quite amazing achievement.

Compared with the centuries of investigation and scholarship which has gone into the story of Roman roads, the study of the Inca roads appears – from the lectures in the symposium – to be in its infancy. Some of the studies still seem to be at the "Cor, look at that" stage, but a few of the investigations appear to have been more penetrating. John's own awareness of the state of research into Inca roads currently extends no further than this symposium, and no doubt there will be many more such lectures and literature on the subject, and of course some of you may already know much more about the Inca roads than is posted here. Nevertheless John hope that these YouTube videos would enable you to see some of the Inca roads yourselves, and maybe foster your interests in them.

Ernest Black (1951-2021)

From David Rudling. Photo courtesy of Dr Ian Betts



On Friday 12th February 2021, Ernest Black of Colchester died in hospital of Covid and underlying illnesses, just two days after his 70th birthday. Born at West Ham, Ernest grew up in Thames Ditton in Surrey and went to Kingston Grammar School before reading Classics and Ancient History at Wadham College, Oxford, and then studying for a Masters degree in the History and Archaeology of Roman Britain at Keele University.

Ernest's professional career was the teaching of classics in schools, a career he chose according to one of his former Oxford tutors, Professor Martin Henig, because he thought it *would allow him to have more time for research*. Thus, both during and after retiring from teaching, Ernest investigated without excavating various aspects of Roman Britain, especially in the south-east,

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using site reports and other literary sources, and also primary sources (finds) with regards to the study of Roman tiles. He was a prolific author about his discoveries and conclusions, and published in various county and national journals, and produced two important British Archaeological Report volumes, the first in 1987 (BAR BS 171) on *The Roman Villas of South-East England*, the other in 1995 (BAR BS 241) entitled *Cursus Publicus, The infrastructure of government in Roman Britain.* Ernest was for many years especially interested in the recording and analysis of Roman tiles and he was a co-author of *A Corpus of Relief-Patterned Tiles in Roman Britain* (Journal of Roman Pottery Studies Volume 7, 1994).

Of particular interest to those interested in Roman roads will be Ernest's BAR on the *Cursus Publicus.* This term was given to the government authorised system of accommodation (*praetoria* or *mansiones*) and provisions (including vehicles and animals for those of high enough rank) for travellers, both officials and soldiers, on government business on the main road network. At the time of his death Ernest was writing a sequel to his *Cursus Publicus* book, *The development of second century civilian defences in southern Roman Britain*. Another roads related paper, *The Antonine Itinerary: aspects of government in Roman Britain*, was published in 1984 in the *Oxford Journal of Archaeology* 3(3), 109-121.

Ernest had a sharp mind and looked at the archaeological evidence very logically. In addition to his own major achievements, he was always very generous with his knowledge, help and encouragement. He will be much missed.