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Archaeology on the Stainmore Pass

The A66 Project

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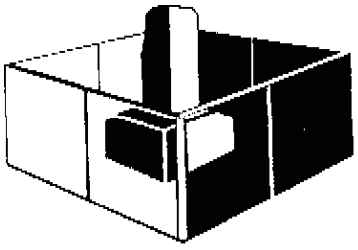
Archaeology on the Stainmore Pass

The results of archaeological
investigations carried out
in advance of the improvement of the
A66 trans-Pennine road

A66
ARCHAEOLOGY
PROJECT



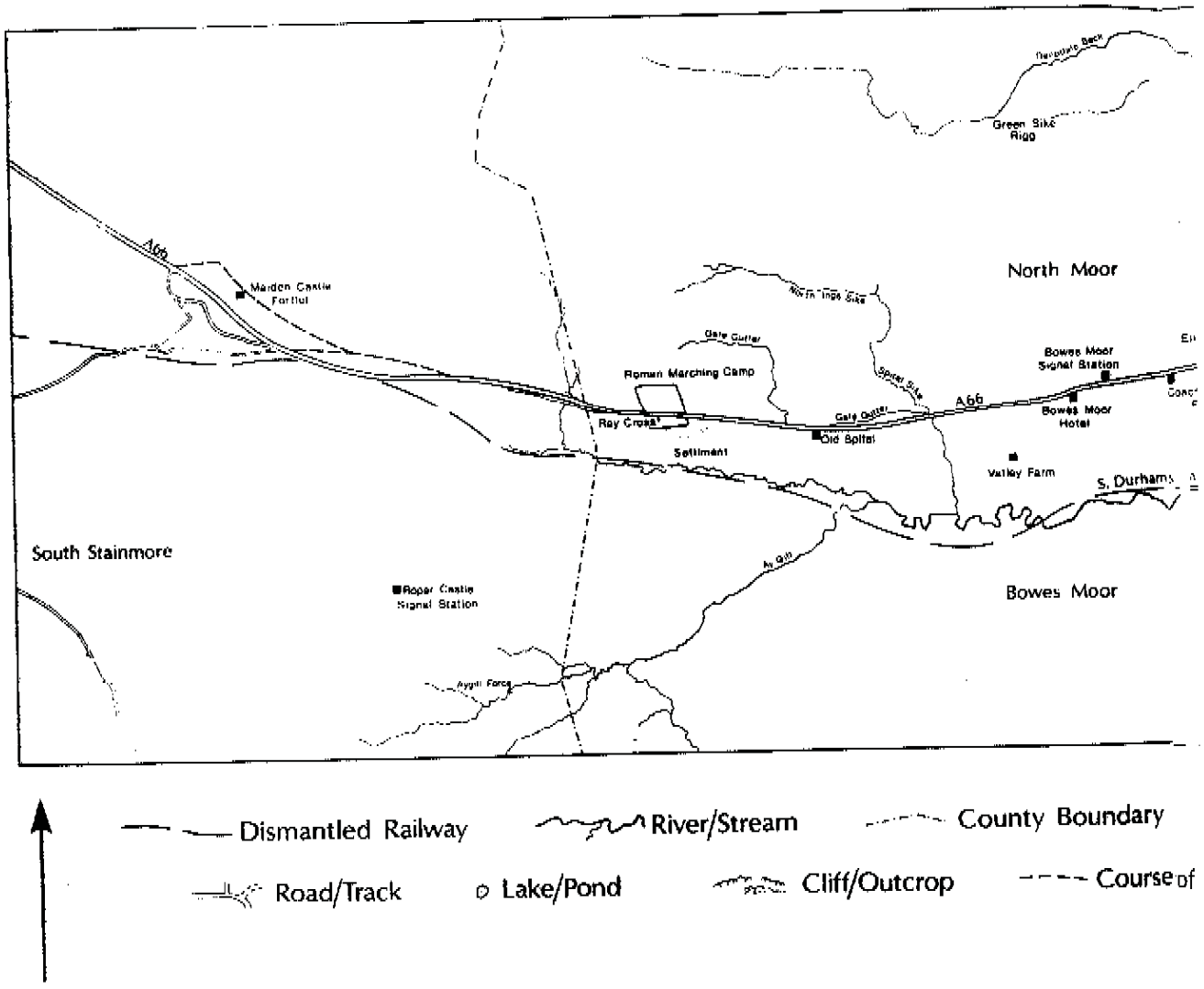
English Heritage
in association with Durham County Council Arts, Libraries
and Museums Department and Cleveland County Archaeology Section
1993

Background to the project

The Stainmore Pass stretches across the northern Pennines from the village of Bowes, six miles west of Barnard Castle in County Durham, westwards for thirteen miles to Brough in Cumbria. The pass is today crossed by means of the A66 trans-Pennine route. To the north of this road is rough moorland, grazed by sheep and managed for grouse shooting. To the south, in the more sheltered valley of the River Greta, much of the land has been improved and provides pasture for sheep and cattle. The road is today much used by traffic travelling across the north of England from one side of the country to the other, and from the south-east up to west Scotland. In the past also the route seems to have been an important one, as many sites of archaeological and historical interest can be seen in the pass. The widening of the A66 between Bowes and the Durham/Cumbria county boundary at the summit of the pass created an opportunity to examine the archaeological sites in more detail.

Those in the immediate corridor of the new road were excavated and included some of the better known sites like the Roman marching camp at Rey Cross and the Roman signal station at Bowes Moor. Many sites outside the road corridor were surveyed to provide a record of the archaeology for background information. A number of new sites were discovered from the air when low sunlight and light snow cover made them more easily visible. A programme of systematic field walking was also undertaken and lumps and bumps on the ground were in some cases recognised as archaeological sites. The archaeological project was funded by English Heritage and run jointly by Cleveland County Archaeology Section and the Arts, Libraries and Museums Department (The Bowes Museum) of Durham County Council.

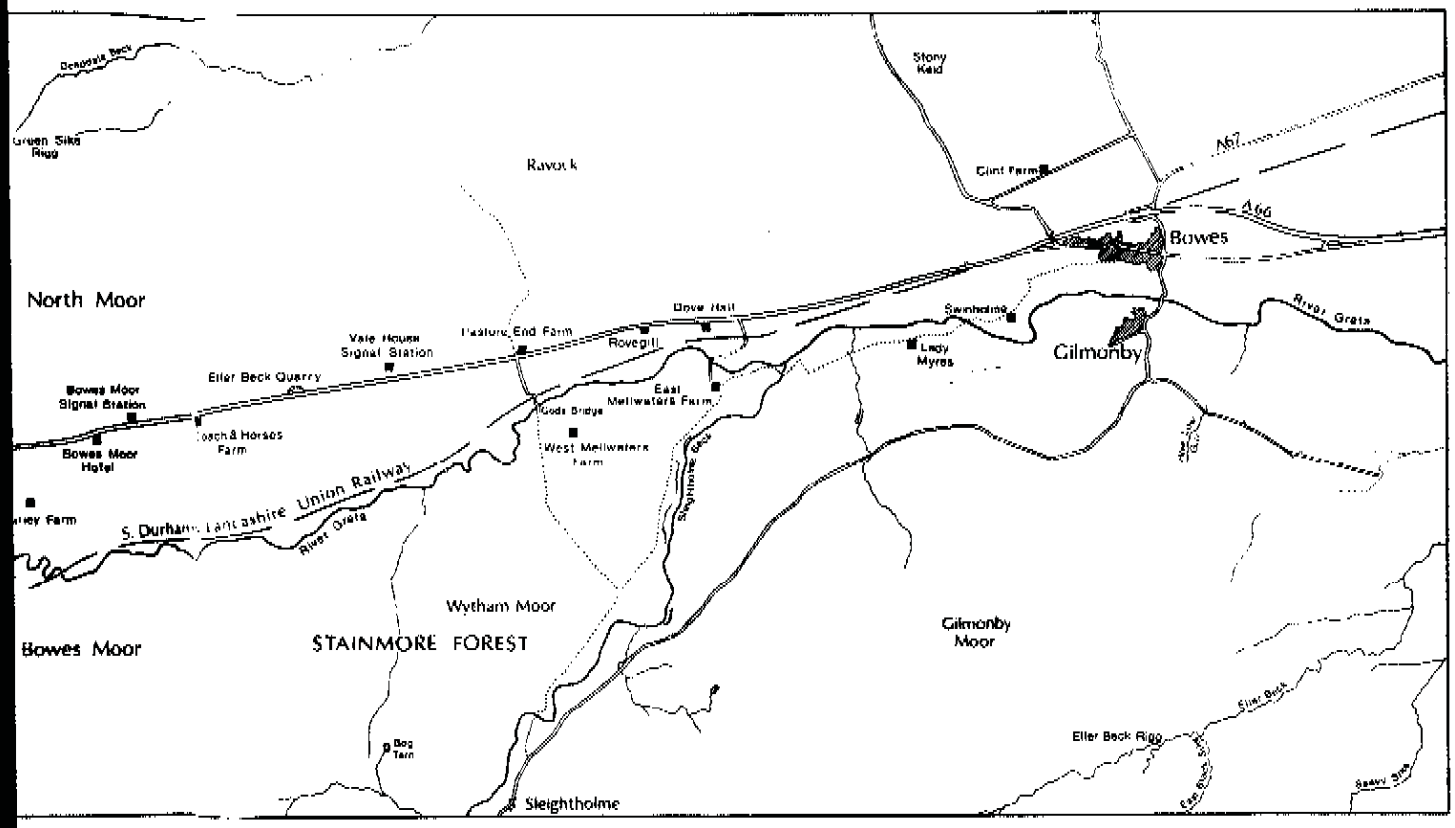
Most of the archaeological fieldwork was carried out in advance of the road works and began in October 1989, but some of the work outside the road corridor was able to continue into the summer of 1991. Road construction work was monitored throughout its duration so that anything of archaeological interest uncovered in this way could be recorded. This booklet is intended to give a general picture of the archaeology of the Stainmore Pass; a full archaeological report is to be published by English Heritage. There is no public access to the sites mentioned in this booklet unless specifically stated.



The Stainmore Pass.

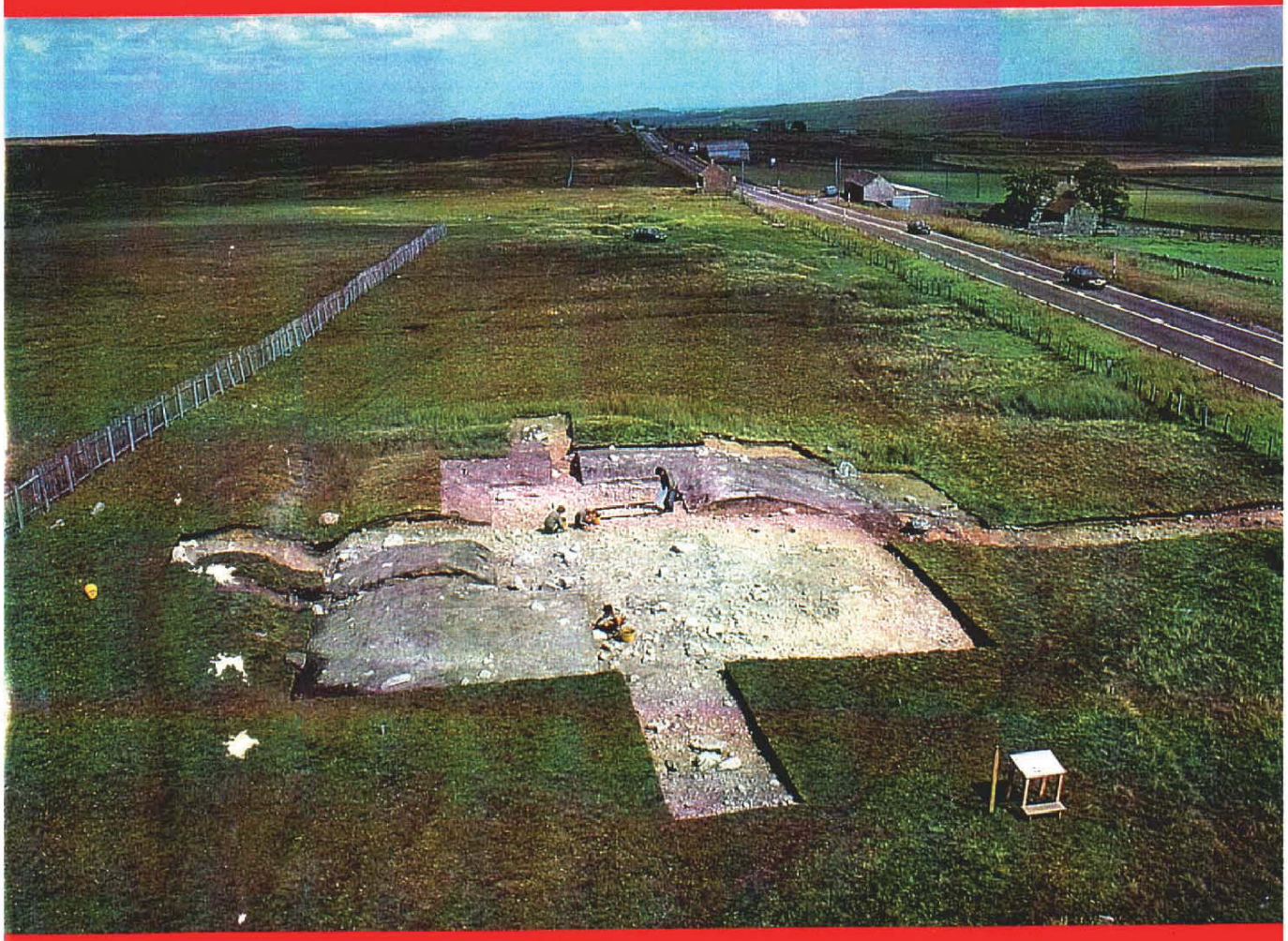
Early prehistory (Up to 3500 BC)

For the early prehistoric period, that is before about 5500 years ago, there is no clearly visible evidence for human activity in the Stainmore Pass. Scatters of worked flint from the mesolithic period (10000 - 4000 BC) have been found at Ravock, 1km to the north of the A66 and at the head of the Greta Valley below Rey Cross. These may be the result of casual loss but the relatively large scatter at Ravock could represent a seasonal camp site for a transient mesolithic population.



Other evidence for this early period comes from pollen analysis. Ancient pollen survives in peat deposits on the Stainmore Pass and cores have been taken through it so that pollen can be examined and a picture built up of the ancient landscape and the human effect on it. For this early period the work has shown that mixed woodland was growing on the valley slopes with peat beginning to replace the woodland on the uplands. There is a spell around 3320 BC where there appears to be less tree pollen and a concentration of charcoal; this may be an indication that mesolithic populations were using fire to manage woodland. Destroying areas of forest encourages the growth of new shoots which in turn encourages animals to come and graze. These animals were an important source of food for the hunting and gathering mesolithic population.

Archaeology on the Stainmore Pass



The A66 Project

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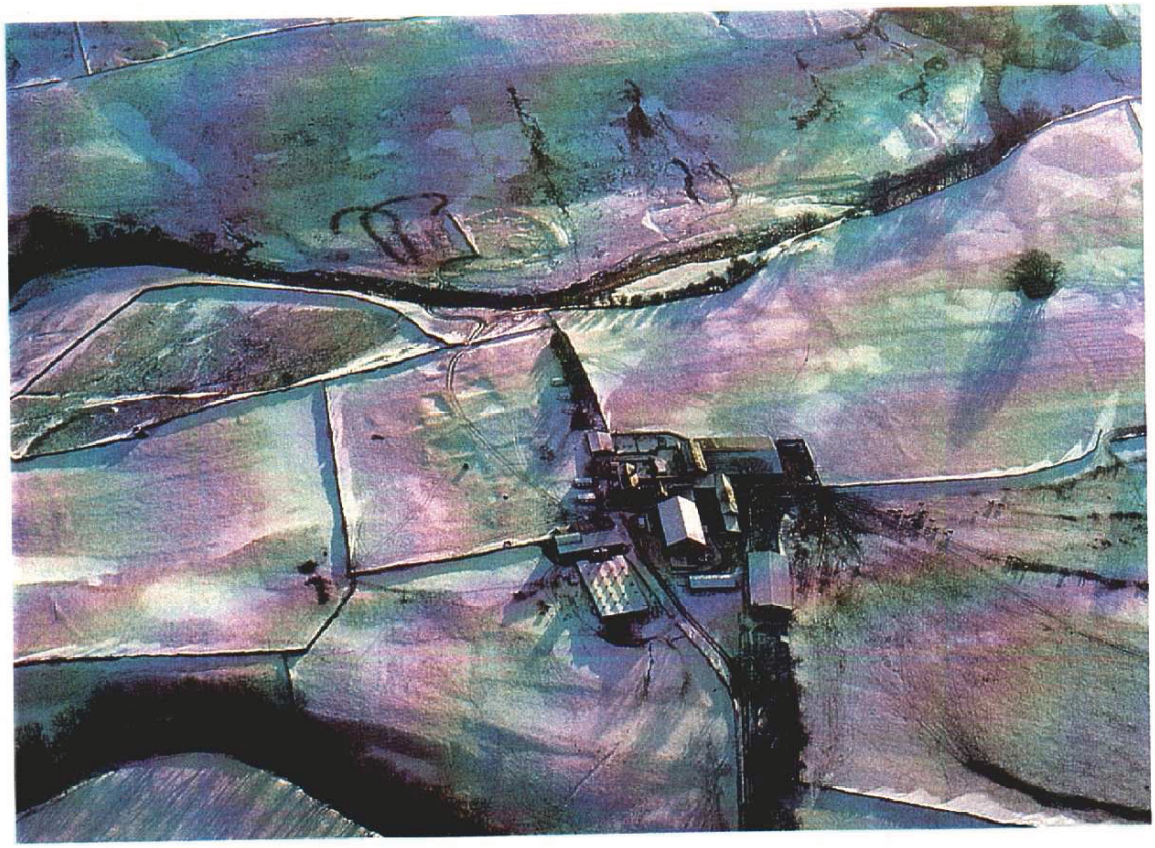
Late prehistory (3500 BC to c70 AD)

Stainmore is rich in later prehistoric remains; these take the form of settlements, field systems and burial monuments, and many of these have public access. A complex of different types of monument can be seen at East Mellwaters Farm; the farm lies on a spur between the River Greta and the Sleightholme Beck, 0.5km to the south of the A66.

Settlement

The most difficult site to identify at East Mellwaters is a line of four circular scoops lying to the north of the track which leads to the farm. These platforms, almost invisible when the grass is long, are cut into the gently sloping hillside. Excavation of similar scoops in Swaledale and Northumberland suggests that they provide shelter for Iron Age circular dwellings.

To the east of the farm, in a caravan and camping field, a series of rectangular platforms is cut into the hillside. On the lower slopes these are quite prominent sunken areas, but at the top of the field the platforms are defined by banks or gullies. Stones protruding from the



Air photograph of East Mellwaters Farm showing archaeological earthworks under light snow. The dark curved lines at the top are the result of sheep feeding on spread hay.

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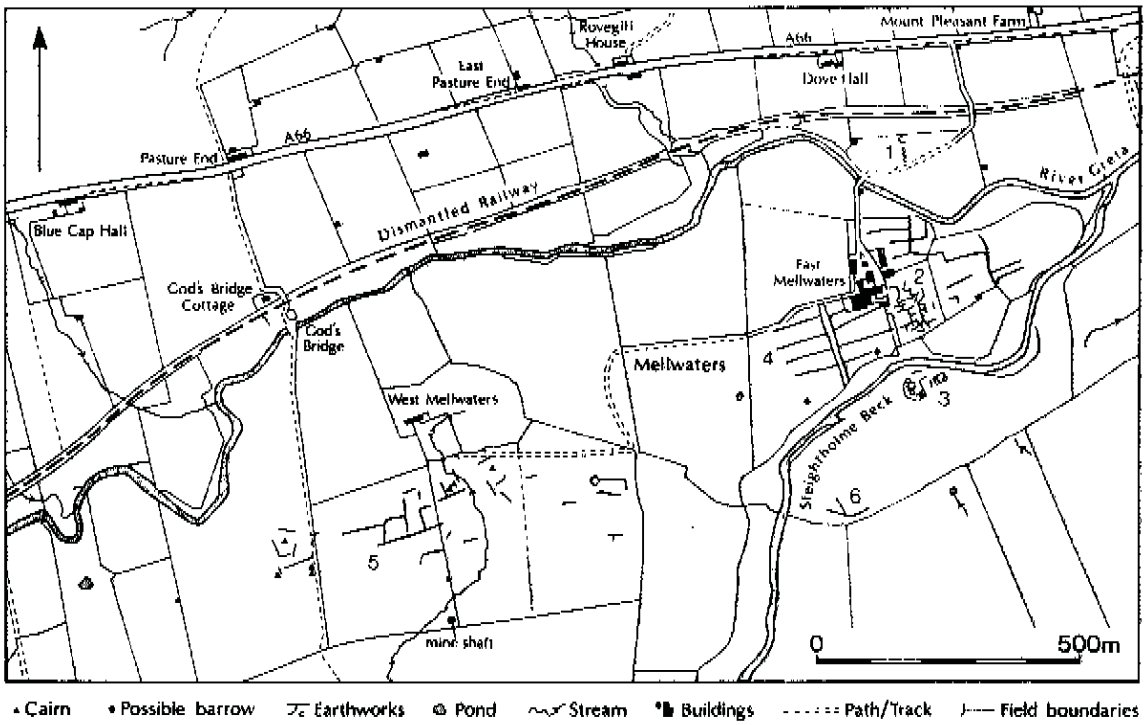
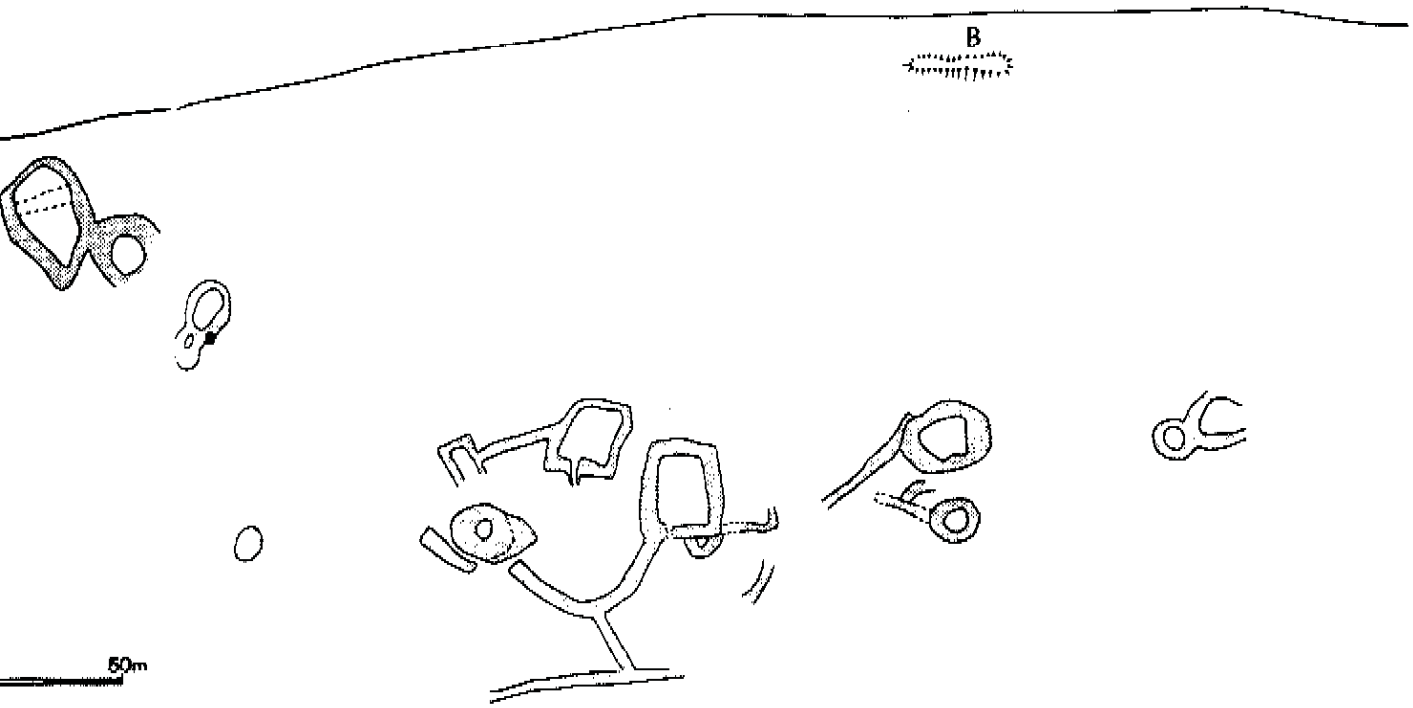


Map of Mellwaters showing archaeological features: 1, scooped settlement; 2, platform settlement; 3, enclosed settlement; 4, East Mellwaters field system; 5, West Mellwaters field system; 6, ditched enclosure.

back wall of one of the sunken platforms served as revetting. The settlement seems to consist of lines of closely spaced dwellings running across the hillside. These rectangular forms show Roman influence, and contrast with an earlier settlement site over the other side of the Sleightholme Beck which can be crossed when the water level is low. Here an enclosure is circular in plan, with a stone and earth encircling bank. Inside are the remains of three circular huts.

This type of settlement seems to have been the norm in the Iron Age and early Romano-British period in the region, and a similar type of site has been examined below the summit at Rey Cross. Here the settlement is spread along a terrace above the River Greta and is visible as stretches of walling and heaps of stone. A complex of structures in the centre of the settlement site is joined by sections of walling to form a small farmstead. There appears to be a square dwelling with an entrance from the enclosure and a larger rectangular structure, probably an animal pen, with an entrance from an outer paddock. A circular, perhaps older, building and a small rectangular hut, perhaps an animal shed, make up the east side of the complex. The rest of the settlement is made up of single or double celled structures and short stretches of walling.



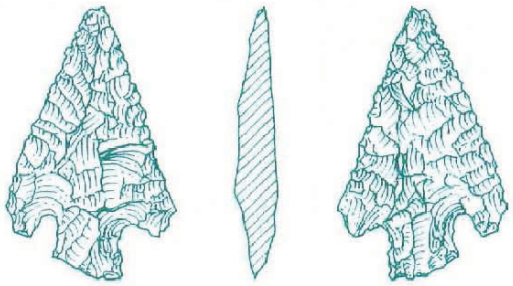
Farming

Returning to East Mellwaters, an air photograph taken during light snow cover shows that in the fields surrounding the farm are the linear banks of ancient field boundaries. These may have been constructed and used by the people living in the late prehistoric settlements at East Mellwaters, but might also belong to a medieval settlement which probably existed in the vicinity, perhaps underneath the present farm.

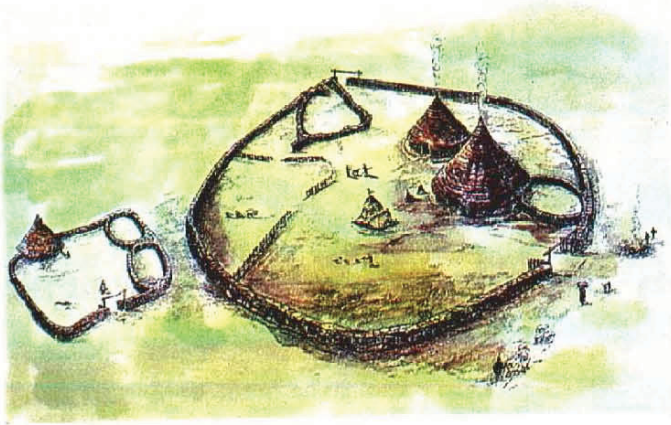
Better examples of ancient fields have been recorded from elsewhere on Stainmore. At West Mellwaters, a little further to the west, remnants of square fields survive as earth and stone banks. This system is likely to be iron age in date. The best example of prehistoric fields, however, survives at Ravock, 1km to the north of the A66, in Deepdale. This is an extensive preserved prehistoric landscape; low stony banks running down the valley side define long narrow fields. These were probably used for stock but perhaps also for arable agriculture. It is difficult to imagine cereal cultivation being successful in what is today an inhospitable moorland landscape, but pollen analysis has shown that in the past more open grassland existed, suggesting a warmer drier climate.

As they stand today the boundaries would not provide a high enough barrier to prevent stock from crossing and it is unlikely that much stone has been removed in later times. Animals may have been retained within the fields by hobbling, that is, having their front or back legs tied together or by being tethered to a stake or large stone. It is at least equally likely that the stony banks were strengthened by the addition of a hedge or fence. Limited excavation was undertaken across the field boundaries, which were found to be made of heaped stone. Beside one lay a barbed and tanged arrowhead of bronze age date.

Bronze Age barbed and tanged arrowhead found beneath an ancient field boundary at Ravock.



To the south of the field system, on the more level plateau, is a concentration of stone cairns. Many of these are small and seem to be clearance cairns representing surplus stone removed from an agricultural area and heaped in mounds. Some of these are associated with short stretches of walling which are the remains of field boundaries. Others are larger, up to about 10m in diameter, and some have larger stones forming a rough kerb around the edge. These larger cairns may have functioned as burial mounds, and those with a kerb may perhaps be the remains of stone round houses. Timber dwellings are more likely to have been the norm, but no traces of these would remain. Dwellings may have been sited in the cleared areas between the cairns or perhaps on the edges of the cairnfield. Four mounds which certainly served a burial function can be seen in a field to the east of Bowes. These are probably bronze age in date and today are slight and damaged by rabbits.



The Iron Age/Romano-British enclosed settlement at East Mellwaters - how it might have looked.

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The Roman period (c70 AD to 410 AD)

The Romans invaded Britain in 43 AD and although their influence may have been felt by the northern tribes from this early date, the earliest archaeological remains date from later in the first century, around 70 AD. At about this time in the north a faction of the major tribe, the Brigantes, rebelled against Roman control and the new Roman governor of Britain, Petillius Cerialis, made it a priority to subdue them.

The marching camp at Rey Cross

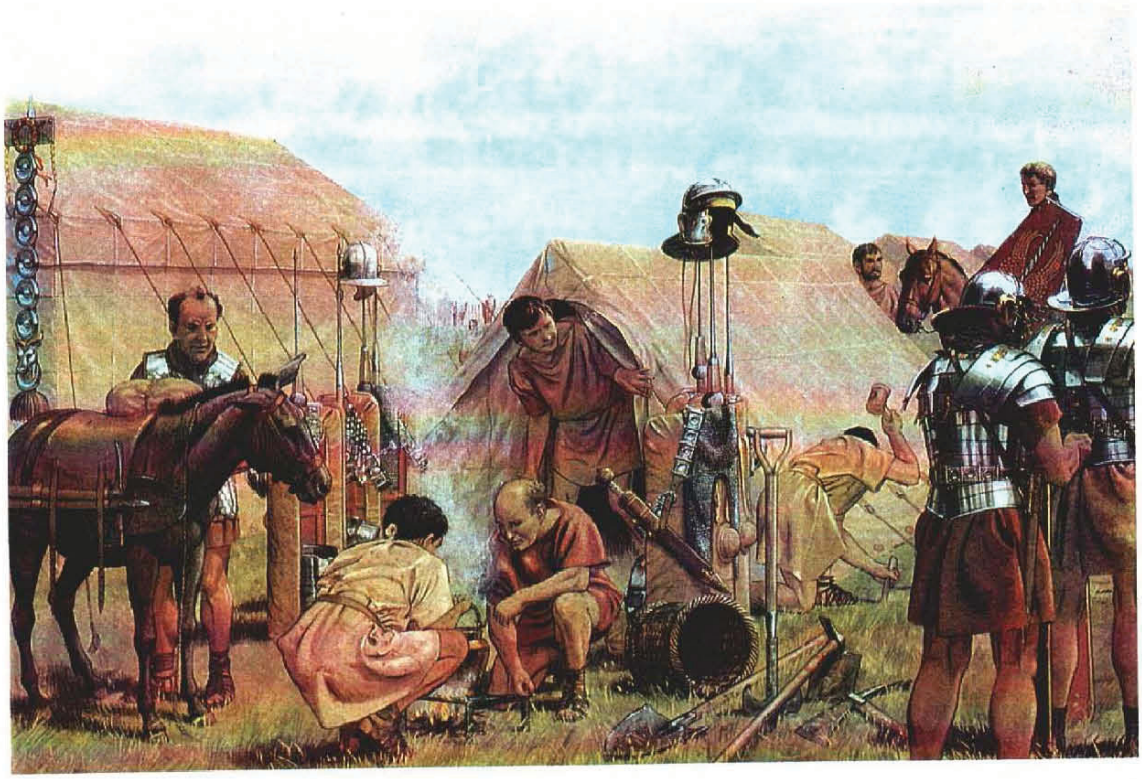
In its initial march across northern England through the Stainmore Pass the Roman army left behind the substantial earthworks of an overnight camp. This can be seen at the summit of the pass at Rey Cross. Each time the army halted overnight in unsafe territory it built around its camp a rampart of earth and stone with an external ditch. At Rey Cross the road passes through the centre of this large earthwork and the banks of the rampart can be see running off on either side; the ditch has mostly silted up. The area enclosed by this camp is 8.5ha, which would have protected a substantial contingent, perhaps that of a legion, approximately six thousand men.

The Roman marching camp at Rey Cross is bisected by the modern A66 which is on the line of the Roman Road. The lines running across the centre are modern snow retention fences; the uneven ground surface is the result of post-medieval stone quarrying.

ORIGINAL IN COLOUR

At the end of a long days march the soldiers would set up camp, some would be employed in building the rampart, others in pitching large leather tents, whilst some would be standing guard. Modern agricultural activity has destroyed many marching camps and ones that survive to the same degree as the example at Rey Cross are rare. This camp has a large number of entrances, marked by gaps in the rampart and by the extra defence of round mounds just outside the perimeter. The new carriageway was to cut a swathe through the south side of the marching camp so excavation of part of this area was undertaken. Two trenches were excavated in the interior to try to find evidence of hearths, rubbish pits and tent peg holes left by the Roman army. No stone structures would be expected in a temporary camp. Unfortunately the areas excavated did not show any traces of these, suggesting that they may have been used for another purpose, perhaps tethering horses. Pieces of later Roman pottery were uncovered, indicating an additional phase of occupation in the mid-third to early-fourth century AD.

Excavation across the rampart showed how the earthwork was built. Turf blocks cut from the area where the ditch was to be dug were piled up to make the bottom of the bank; these were preserved as thin dark lines seen in a section through the bank. Soil and rocks excavated from the ditch were piled on top of this turf core. This method may not have been employed everywhere in the camp as in some places the bedrock may have been too close to the surface to dig a ditch. In this case the rampart may have been built entirely of turves

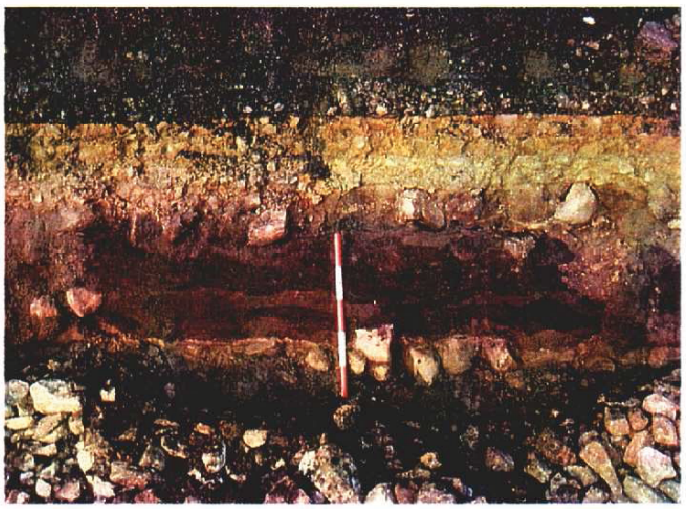


The Roman army on campaign in Dacia, c AD 88. In camp eight legionaries shared a small tent (By permission of the British Museum).

ORIGINAL IN
COLOUR

or may even comprise the natural rock which has been cut away on either side. It is likely that the bank would have been surmounted by a palisade of stakes carried by the soldiers on the march. Despite its massive size the camp could have been built in a surprisingly short time. It has been calculated that construction called for the excavation of 3000 cubic metres of material. If only half a legionary sized force was employed in digging, each soldier would have no more than one cubic yard to move.

The marching camp was probably constructed in the early 70s AD; this fits with the historical event of the early march across the north of England to Scotland. The form of the camp also suggests this early date, as later ones tended to be more rectangular and have only four entrances. Camps were only temporary and could have been used for one night only, but it seems likely that Rey Cross was re-used in a later period, if not by the army then by smaller, perhaps civilian, groups.



Two old road surfaces, one at least is Roman, picked out as layers of cobbles. These were preserved under the modern metalling (50cm scale).

The road

Once the Romans had established their authority in the north of England they built roads and forts in order to maintain control. The Roman road across Stainmore was on the same alignment as the modern road and remains of it were seen during the course of the construction work where the existing road had to be levelled and where drainage pipes and sheep underpasses were inserted. The remains took the form of a layer of cobbles, usually between 20 and 30cm thick. This surface would have been covered in gravel to make it easier to walk on and patches of this were seen where the road passed through the marching camp. In many places two cobbled surfaces were seen one above the other, separated by a layer of dumped soil. The two road surfaces may both have been Roman, indicating a large scale rebuilding project, although the second could belong to the eighteenth century when the road was turnpiked.

ORIGINAL IN COLOUR

The forts

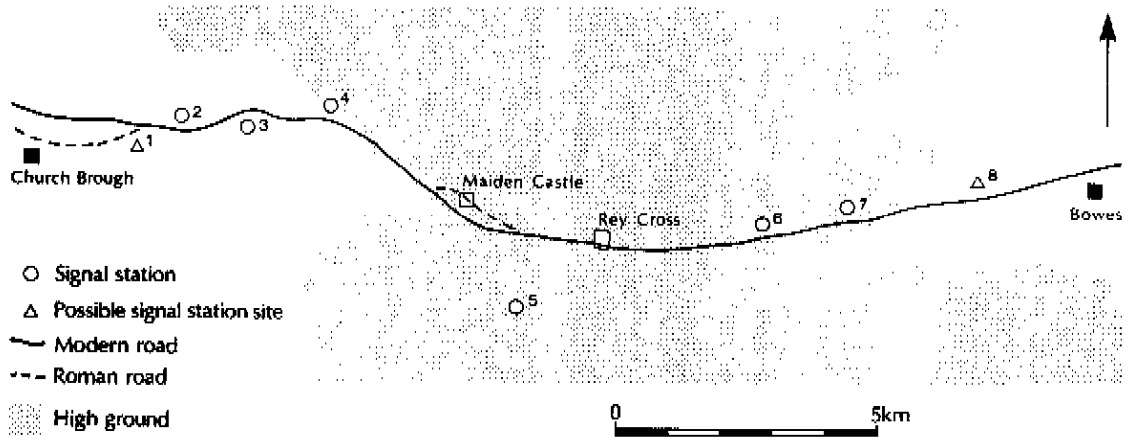
The trans-Pennine route was guarded in the Roman period by forts situated at the ends of the pass at Bowes to the east and Brough to the west. Both forts were chosen by the Normans a thousand years later for the positioning of a castle; the sites are now in the care of English Heritage and can be visited. Remains of Roman stone buildings cannot be seen within the forts today but their defensive ditches are still visible in places. Both seem to have been occupied from the late first century AD right through the Roman period until at least the late fourth century AD. They controlled the movement of people and goods across the pass.

The water for Bowes fort was supplied by an open water channel which tapped the Deepdale Beck in the valley to the north of Stainmore. The channel can still be seen in places today where it crosses the open moorland and its course has been traced and mapped as part of the archaeology project. It runs for 4.26km before being lost on the improved pasture land to the north of Bowes. This simple channel cut directly into the moorland turf curves around the contour of the hillside allowing the water to flow continuously at a gradient of 1m in every 120m. The section of the Pennine Way between Stainmore and Baldersdale crosses the line of the aqueduct at grid reference NY 951145.

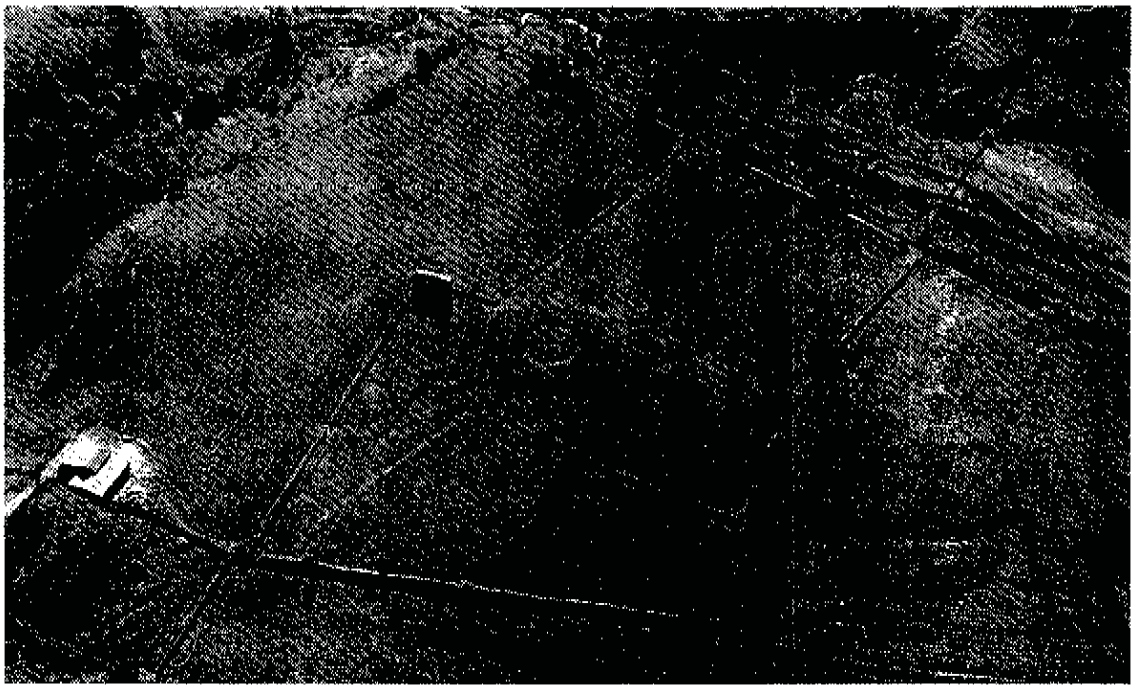
In addition to the forts there is the fortlet of Maiden Castle. This lies at the top of the Stainmore escarpment on the Cumbria side of the county boundary. In this prominent position between the two larger forts it would have been able to provide an additional monitor on passing traffic.

The signal stations

In between the two forts there is a series of earthworks which has been interpreted as a chain of Roman signal stations. As earthworks they are of varying sizes but usually consist of a circular bank and ditch as at Punchbowl. The signal station at Bowes Moor is



The location of known Roman signal stations in the Stainmore chain. Rey Cross camp and Maiden Castle were probably also signalling positions. 1, Augill Castle; 2, Augill Bridge; 3, Punchbowl; 4, Johnson's Plain; 5, Roper Castle; 6, Bowes Moor; 7, Vale House; 8, Mount Pleasant Farm.

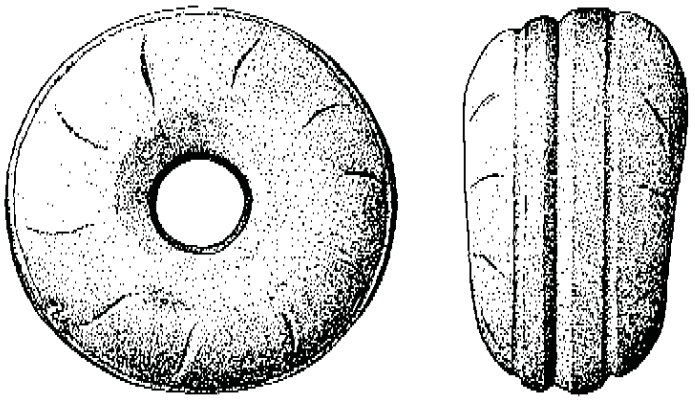


A circular signal station near the Punchbowl Inn, Cumbria.

rectangular in plan and was excavated in advance of damage by road building. The excavation results allow us to suggest how the station may have looked when it was in operation. It was surrounded by a bank built as a shell of turves with a core of soil excavated from the external ditch. The ditch did not run around the entire circuit, suggesting that its function was to provide material for the bank as well as, perhaps, to keep the site dry. Inside this earthwork were four large stones which probably formed the foundation for the corners of a square timber tower. An arrangement of smaller stones in the northwest may have supported a stairway. The area between the stones underneath the tower showed no sign of occupation; there were no hearths and no build up of debris, only a thin spread of charcoal.

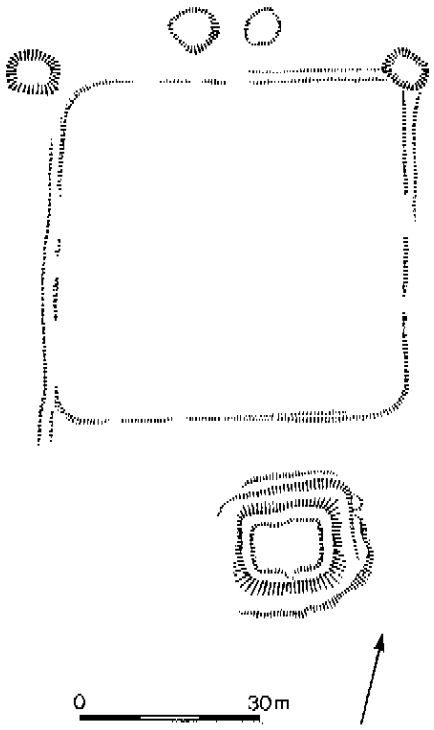
Traditionally these towers have been seen as stations for passing messages. Their spacing is determined by ease of visibility to the next station giving an average spacing of 2km. Whilst this works on a day when the weather is clear, bad weather is more common than good on Stainmore and intervisibility between the towers would not always have been possible. Messages could have been passed in a number of ways, the most likely method by fire, probably a beacon, but flags and trumpets were also a possibility. The messages which were sent are likely to have been simple as complex messages would have been difficult to relay especially if only a simple beacon were used. Indeed, there were no specialist signallers in the Roman army to convey complex messages and the towers may have been manned by the local people. The towers were probably used to pass messages between the two forts at either end of Stainmore.

Spindle whorl, used for spinning with a drop spindle, found during excavations at Bowes Moor signal station; 3.2cm in diameter.



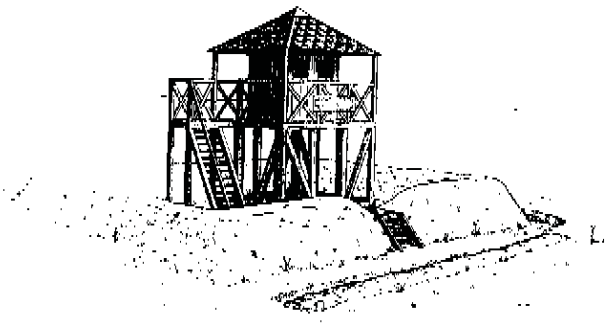
Recent experiments carried out by army apprentices using fire, smoke and flags, both during the day and at night time showed that a message could be conveyed from Bowes via the stations at Vale House, Bowes Moor and Roper Castle to Maiden Castle, a distance of 12km (7.5 miles). A signal starting at Bowes and transmitted only by flag, once all stations had been alerted that a signal was due, reached Maiden Castle in three and a half minutes, a speed of about 160kmph (100 mph). Pottery excavated from the Bowes Moor signal station suggests that it was built in the mid-fourth century. This was a time of increasing insecurity in the north of England and the towers may have been built to give an advanced warning of attack.

Plan of Bowes Moor signal station (below), with associated earthwork enclosure behind.



Other earthworks

An air photograph of the signal station at Bowes Moor shows that behind it, to the north, is a second earthwork. This is much larger and rectangular in plan. Its function is unknown but its relationship to the signal station suggests that it is contemporary with it. It is possible that this annexe served as a temporary camp for the small number of men needed to man the signal station, but with the exception of Vale House no other enclosures have been found in association with the signal stations and a paddock or storage area is perh[illegible]more likely.



Suggested reconstruction of the Bowes Moor signal station. A square timber tower with a stairway to the side would give the extra height needed to send and receive messages across the pass.

The enclosure at Vale House is larger and more irregular in shape; unlike the annexe at Bowes Moor this earthwork is visible on the ground as a slight linear mound. A section excavated across it showed it to be constructed of carefully laid turves. The darker lines represent the ancient grass and the lighter material the soil beneath. The dark layer on which the turves were laid represents the original ground surface. A Radiocarbon date of [illegible]7 275 AD from this surface gives a construction date in the Romano-British period.

The Bowes Moor signal station under excavation. Inside the square earthwork four large stones supported the corners of a timber tower; other stones (top left) supported the access stairway.

Section through the Romano-British enclosure bank at Vale House, showing it to be constructed of cut turves. The darker lines represent the ancient grass, while the lighter material is the formerly underlying soil. The dark layer at the bottom is the original ground surface.

The post-Roman and medieval periods (410 to 1539 AD)

In the early fifth century many of the Roman soldiers returned home and the civilian settlements outside the forts must soon have been abandoned. There is very little evidence, either historically or archaeologically, for the immediate post-Roman or early medieval period on Stainmore.

Passing Vikings

A hoard of Viking silver found near the Rey Cross marching camp is now in the Bowes Museum; it consists of silver ingots and a broken bracelet fragment. At this time, the mid-10th century, the western edge of the moor formed part of an indistinct frontier zone separating Northumbria from the British kingdom of Strathclyde. It may have been this boundary position which called for the erection of the Rey Cross itself. Before this was moved to make way for the new carriageway it stood beside the road near the modern boundary between the counties of Durham and Cumbria. Despite its unimpressive appearance today there have been claims that it is the remains of a Viking period wheel-cross and that it was once decorated. The reasons for its erection are equally vague: theories have included a commemorative cross to mark victory in battle and a boundary marker of various dates marking different territories.

ORIGINAL IN COLOUR

Section through the Romano-British enclosure bank at Vale House, showing it to be constructed of cut turves. The darker lines represent the ancient grass, while the lighter material is the formerly underlying soil. The dark layer at the bottom is the original ground surface.

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ORIGINAL IN COLOUR

Lifting the Rey Cross, August 1990.

A fairly modern myth surrounding the Rey Cross is that it marks the burial place of the Viking king, Erik Bloodaxe. Although no more likely than any of the others, this theory seems to have taken precedence. Erik Bloodaxe was the son of King Harald of Norway and when Harald died Erik killed two of his brothers in a quarrel for succession. This, among other things, made him unpopular so he fled to Britain. These were troubled times and Erik was twice king of York. In 954 all his enemies ganged up against him and the sagas report that Erik was treacherously killed 'in a certain lonely place called Stainmore'.

Coin of Erik Bloodaxe, minted in York in about 954 AD.

ORIGINAL IN COLOUR

Whatever the function and date of the Rey Cross its removal in August 1990 called for excavation around its location. The cross stood on a very slight mound of natural rock and this had been used for the foundation of an earlier road running parallel to the modern road, probably the eighteenth century turnpike. Soil had accumulated above this and a layer of limestone chippings was then spread on top. Their function is unknown but they may have served to highlight the cross from a distance for travellers along the Stainmore road using it as a way marker. The cross did not appear to have been used as a burial marker, in this spot at least, as there were no human remains beneath it. The Rey Cross has now been repositioned in a layby on the northern carriageway where it is accessible to visitors.

Medieval Bowes

The castle and village at Bowes were the focus of medieval settlement in the area. A timber and earthwork castle was built in the late eleventh or early twelfth century and was rebuilt in stone in 1171. The imposing Norman keep with a moat stands inside the ramparts of the Roman fort and is open to the public. The establishment of the castle would have encouraged the growth of Bowes village.

The base courses of an early road (probably Roman) beneath the Rey Cross (2m scale).

ORIGINAL IN COLOUR

Moorland Settlement

There is scant evidence for medieval settlement to the west of Bowes Moor; the foundations of two isolated buildings near Valley Farm may have a medieval origin. The only significant medieval settlement on Bowes Moor was the hospital of Rerecrosse de Stainmore, situated where Old Spital now stands and from which it derives its name. This had been given to the nuns of Marrick Priory in Swaledale in 1171 and served not as a hospital in the modern sense, but as a house of hospitality for travellers along the road. The site was later occupied by an inn and then a farm, these buildings obscuring any remains of the hospital. Pollen evidence suggests that rye was being cultivated to the west of Old Spital in the second half of the thirteenth century.

Bowes village from the air, showing the medieval castle positioned within the Roman fort.

ORIGINAL IN COLOUR

The post-medieval period (From 1539)

This was a time of unprecedented change on Bowes Moor. The turnpike act of 1743, by improving the condition of the road, increased the volume of local and regional traffic using the Stainmore route and this greater efficiency in communications continued in the mid-19th century with the construction of the South Durham and Lancashire Union Railway linking Barnard Castle and Kirkby Stephen. These improvements, together with the formalisation of the division between moorland and enclosed fields, brought about by the enclosure acts, led to the expansion of settlement to the west of Bowes. This is the settlement pattern of roadside farms, field barns and inns that can be seen today.

The buildings

The construction of the new road called for the demolition of five roadside buildings. These included Dove Hall Farm, Spital chapel and three outlying barns. Before they were demolished the buildings were all recorded photographically and with scale drawings. All were built in the local vernacular, or common, style of the eighteenth and nineteenth centuries and were constructed in the local sandstone and limestone with sandstone roof tiles.

Dove Hall Farm

Dove Hall Farm was built between 1760 and 1788. Originally it had only two rooms downstairs, the front door leading directly into the living room/kitchen, and two rooms upstairs. Outbuildings included a barn and byre built onto the house and detached outhouses to the south. The house was later partitioned to create an entrance hall and a third bedroom and two additional rooms were built in an outshut downstairs. One of these rooms was the back kitchen which contained the range and a bread oven. At the time of the archaeological survey the latter was preserved as a bulge on the outside of the east wall of the house, inside there was no sign of it. When the house was demolished it was possible to see that the inside of the oven was a domed brick structure. It had no flue, the fire being placed directly inside the oven until it was hot enough and then raked out for the bread dough to be put inside.

Dove Hall Farm from the south.

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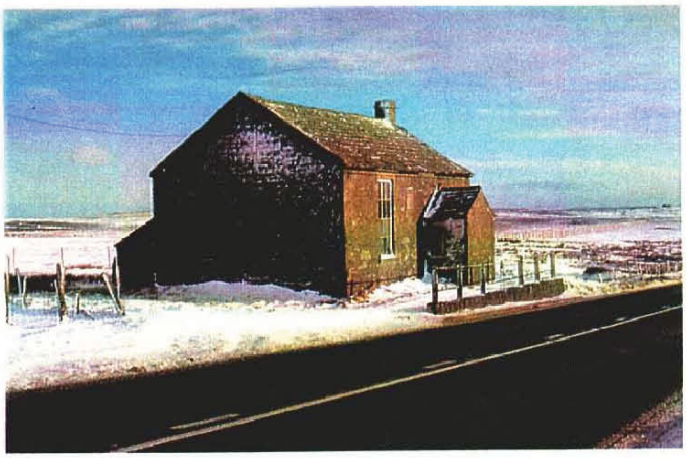

The Primitive Methodist chapel and school, built 1865.

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The Chapel

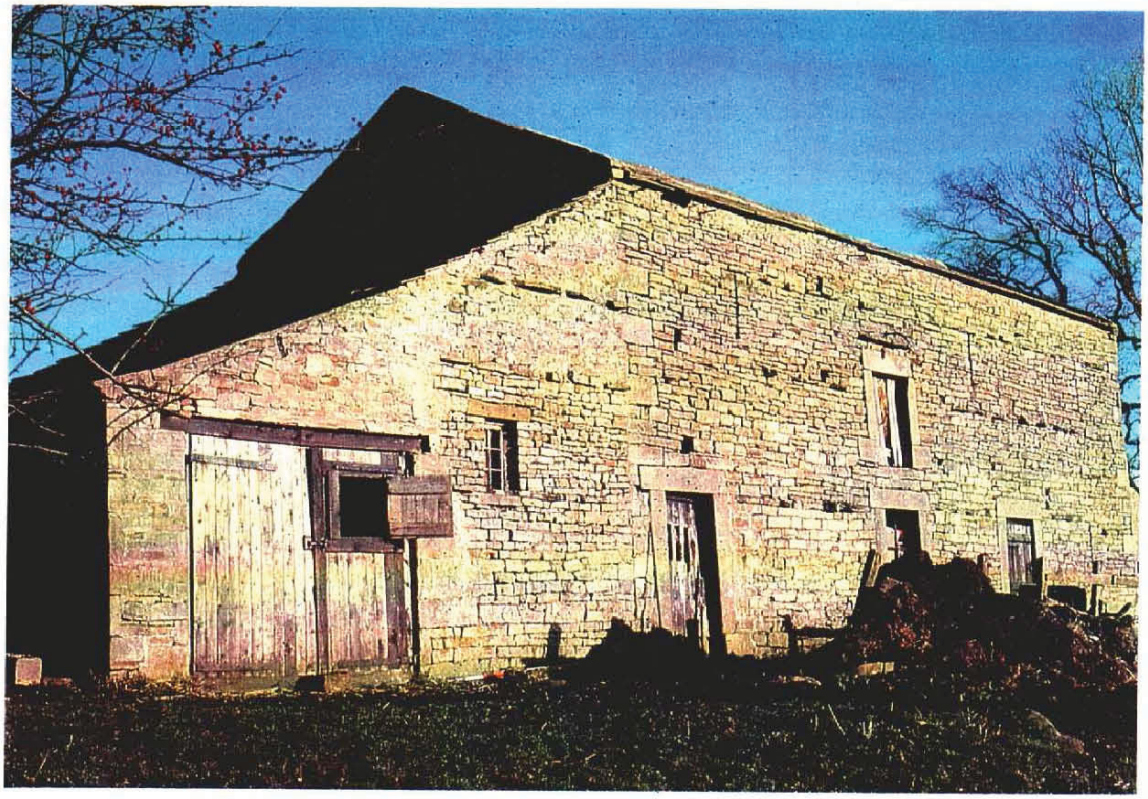
The primitive methodist chapel was built in 1865 on the north side of the road east of the Bowes Moor Hotel. The building was basically one room, divided by folding partition into a chapel and a smaller school room. There was a lean-to privy and coal house at the east end and a shed to the north, as well as a porch on the south side. In 1871 eight boys were being taught at the school by a teacher who lodged locally, but the school closed down around the turn of the century, probably because of the difficulty of keeping teachers in such a remote area. Sunday school and Sunday services continued to be held and at the height of its use in the 1920s, 90% of the members of this scattered community were connected with the chapel. The number of worshippers declined as rural depopulation increased and the chapel closed in 1984. In 1990 the chapel was demolished to make way for the new road but the dedication stone which reads 'Primitive Methodist School 1865', formerly in the south wall, has been relocated beside the new road.

Barns

Farms in this area commonly have a number of outlying buildings for storing fodder and housing animals. Three of these buildings were surveyed before demolition. The finest was the barn at Rovegill, which is typical of barns in the area. On the ground floor was a byre with wooden stalls for eight cows. A wide feeding trough was supplied with hay through a hole in the wall from the adjacent hay barn. Later a smaller byre was built on the other side of the hay barn and supplied in the same way. Above the byre was a large hayloft, lit and ventilated by a row of slits. A cart shed and loosebox had been added to the west end at a later date.

The Toll House

Another building examined during the course of the project was one of the toll houses where tolls from those travelling along the road were collected. One of these stood on either side of the road 0.5km east of the summit. The northern toll house was demolished in 1922 and its position subsequently buried beneath the road; the southern house, demolished before then, survived as insubstantial earthworks. Excavation of part of the southern house revealed walls standing up to 0.5m high as well as a roughly flagged surface. The foundations of walls associated with the toll house can be seen on the moor to the north of the road. Some of these formed a small garden for the toll house keeper where he is



Rovegill barn, demolished during road building.

reported to have grown 'excellent potatoes, good garden beans and admirable turnips'. Others walls prevented travellers from avoiding the toll by diverting onto the moor.

Mining

Post-medieval quarrying and mining have left their mark on Bowes Moor. This was mostly small scale and was designed to meet the demands of the local domestic market. This was until recently an integral part of the agricultural cycle and many of the products - walling and building stone, agricultural lime, peat and coal fuel - were restricted to use on the farm or the immediate locality. Coal was mined intensively in the Tan Hill area further to the south but in the study area there were only two small shafts, at West Mellwaters and at Lady Myres, which were probably little more than trials or small scale workings. Unlike Swaledale to the south and Teesdale to the north, the Stainmore Pass is lacking in mineral ores. A small lead vein at Ay Gill on the south side of the Greta valley has a collapsed level which was probably exploratory.

Stone quarrying

Stone was extensively quarried, there being approximately thirty quarries in the Bowes Moor area in addition to shallow surface workings alongside the road. Sandstone was the most commonly quarried material and the largest quarries, Clint and Sealgill, are close to Bowes and, as common or public quarries, would have been the principle source of building

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COLOUR

The toll house under excavation (2m scale).

stone for the village. Other sandstone quarries on the moor itself are likely to have started in the late eighteenth century, when they provided walling and building stone for the new enclosures and farms.

Cart track at Eller Beck Quarry. The dark material in the excavated section is the fill of ruts made by heavily laden carts transporting material from the quarry to the road.

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Gravel was extracted in the area of the Rey Cross marching camp and was used primarily for road surfacing and patching. Ganister (a sandy fossilised soil), used as a refractory product in the iron and steel industries, was worked or searched for in a number of locations between the 1880s and the Second World War. Unlike other industrial activities, its extraction was organised by companies associated with the regional steel industry and the principle producer in the area was the summit quarry to the west of Rey Cross.

There are at least eleven limestone quarries on Bowes Moor; one of these at Eller Beck was studied as part of the project as its southern side was to be covered by the new carriageway. A track raised above the peat ran from the quarry edge to the road. Excavation showed that it was made of quarry waste and had been scored by wheelruts of heavily laden carts. Lime would have been in demand for agricultural improvements and a number of limekilns were associated with the quarrying in the valley bottom.

The A66 Archaeology Project was sponsored by English Heritage and carried out by Cleveland County Archaeology Section in association with Durham County Council Arts, Libraries and Museums Department (the Bowes Museum). A full report on the project will be published in due course. Further information on the archaeology of County Durham can be obtained from the Bowes Museum, Barnard Castle.

Front cover:
Excavation underway on the Bowes Moor Roman signal station, in the background the modern A66 is probably on the line of the Roman road (photo Dennis Thompson).

Rear cover:
Erik Bloodaxe as depicted by Louise Dixon, Bowes Hutchinson C.E. Junior School.