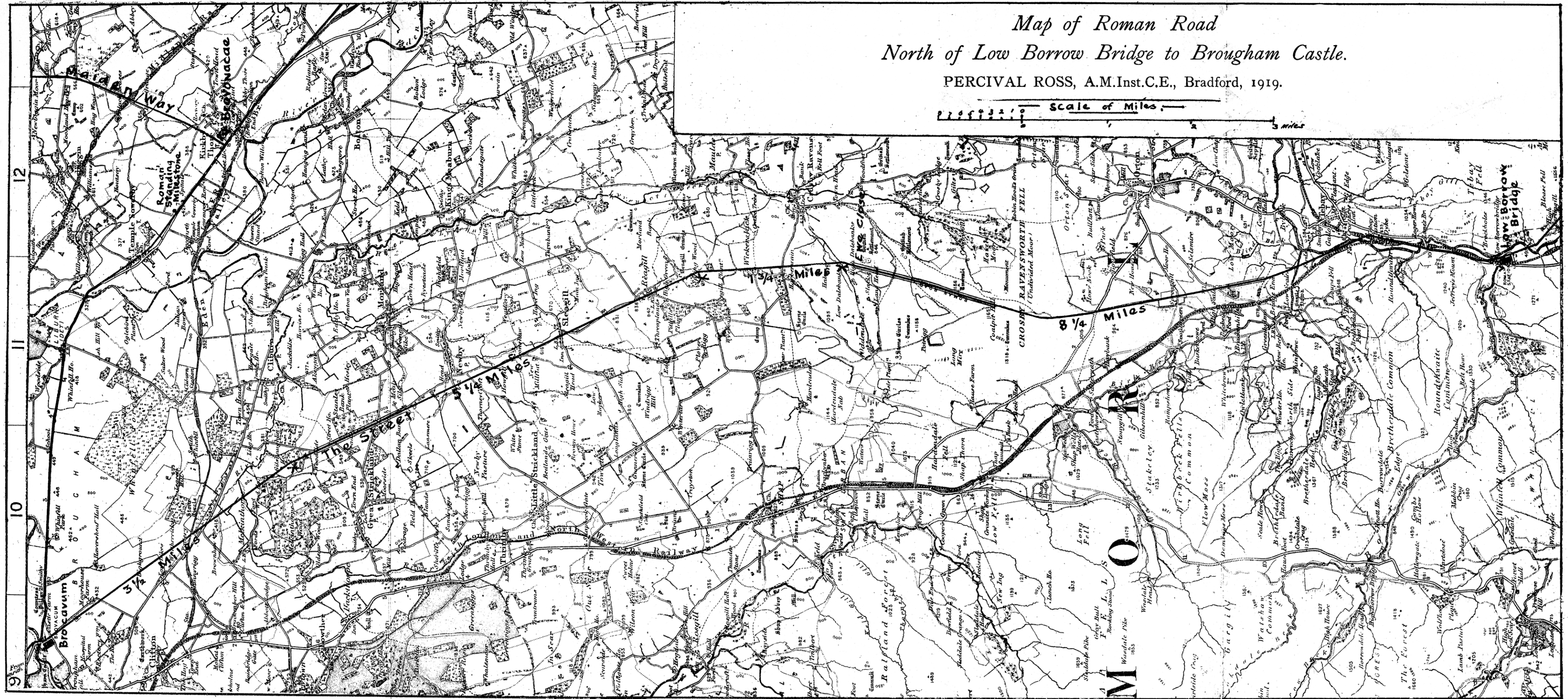
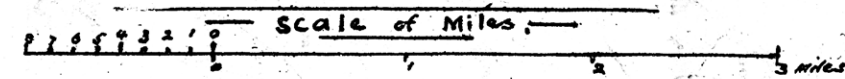


PERCIVAL ROSS, A.M.Inst.C.E., Bradford, 1919.

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ART. I.—*The Roman Road north of Low Borrow Bridge, to Brougham Castle, Westmorland.* By PERCIVAL ROSS, A.M.Inst. C.E.

Read at Carlisle, August 19th, 1919.

THE Roman Road herein described from actual survey made on the ground on the 22nd to the 28th of August, 1916, is a continuation northwards of the road from Ribchester over Longridge, through Bolland Forest, over Bolland Fells and up Lonsdale to Low Borrow Bridge, an account of which is given by the writer in the Bradford Antiquary for 1916.* The road up the valley of the Lune from Ingmire Hall below Sedbergh has kept on the eastern side of the river Lune and along the sloping sides of Howgill Fells as far as Salterwath where it crossed the Lune for the first time by a ford, and a quarter of a mile further on, it has passed by the eastern side of Low Borrow Bridge Roman Fort. The highway and the Roman road occupy no doubt the same site all the way except perhaps opposite the Fort, where the Roman road may be found by excavation in the field between the highway and the Fort.

A hollow way indicates the line of the road where it comes to a ford across the Borrow Beck just at the side east of the present highway bridge. The fort stands on ground rising gently to the west where it is bounded by the L. & N. W. Railway main line to Carlisle. It can be seen on the east side from the railway carriage windows. There have been four ditches at least, perhaps six, on the western side of the fort and all but one have been cut into by the railway towards the north-west angle.

* *Journal of the Bradford Historical and Antiquarian Society*, vol. vi, part xix, N.S., p. 243.

After crossing the Borrow Beck the present highway appears to occupy the site of the Roman road on the sloping side of Jeffrey's Mount for about a mile to near Lune's Bridge. It is nearly straight and no other site seems to me available. I saw no road remains on either hand.

At Lune's Bridge the highway crosses the river by a right-angled turn to the right where the river plunges in a rocky gorge. The line of the Roman road continues straight forward by a narrow hollow sloping way leading down to the river which has turned to the left above Lune's Bridge and now passes in front of the Roman road line. The river has been crossed by a ford or a bridge: I could have forded it when I was there on two occasions. The line of the Roman road beyond and about two miles away, where the remains of it are first plainly evident on Orton Low Moor, point exactly in a straight line to this ford near Lune's Bridge, the entrance of Tebay rocky gorge.

The line of the Roman road now passes over alluvial ground to close on the east side of Tebay Railway Station buildings and in front of the Railway-men's houses. Beyond the station the Lune has been re-crossed either at the ford near some stepping stones at Tebay, or at the ford at Castle Howe near Old Tebay. Excavation or some chance discovery of remains can only settle it. A cart road and a footpath on the west side of the river leading to a ford and some more stepping stones across the Birk Beck, a western tributary of the Lune, $2\frac{1}{2}$ miles from Low Borrow Bridge, probably indicate the road, but perhaps not the exact position. After crossing the Birk Beck 150 yards west of its confluence with the river Lune, the line of the road traverses some alluvial and for about 600 yards, crossing a footpath 70 yards east of a cow-byre; a gap in a river-terrace, near, may be the line of the road. Thence beyond a fence wall,

300 yards west of Daniel hill farm house, remains of the road for the first time appear as a hollow track, evidently one of the ditches enlarged by rain storms. Climbing the rising ground of Orton Low Moor, a wall on the left is shortly crossed near a footpath stile, and then for $1\frac{1}{4}$ miles over Orton Low Moor to near Sproatgill farm house the finest remains of the road are met with. At one place for about 250 yards on the flat of the moor and a little before crossing the highway leading from Orton to Bridge End at Greenholme on the Birk Beck, the road is perfect, 21 feet wide up to the inner edge of the ditches; the paved surface may be narrower when bared by excavation; the surface is slightly rounded and the ditches are still open 3 feet deep. The road is very little elevated above the ground on either side.

Having crossed the fence wall near the footpath stile mentioned above, the grass-grown road is now seen with a ditch on the left, and the other ditch still on the east side of the wall for a short distance. Then the road on an elevation (700 feet) appears altogether west of the wall, showing very bold features although partly broken across, and looking backwards it can be seen that the line of the remains of the road point straight to the crossing of the river Lune near Lune's Bridge. In this state it continues down-hill to a watercourse (680 feet) in a little valley, about 600 yards from where the remains of the road were first observed west of Daniel hill farm house. The stones of the culvert can be seen, where the road has crossed, some deeply embedded, and others loose in the stream.

The bold ridge of the road with deep ditches rises out of this little valley for about 100 yards to the edge of the sloping plateau of Orton Low Moor (710 feet). The road and ditches on this edge make a conspicuous sight from the elevation on the south side of the valley. There is a third hollow similar to one of the ditches, but this is a

storm-water gully. The ditches over this edge and down to the water-course have no doubt been widened and deepened by long past rain storms. They are six feet deep and more in one or two places.

From this edge of the moor, the line of the road, with a direction 13 degrees west of north, can be traced by the eye for $2\frac{1}{2}$ miles on to the top of Crosby Ravensworth Fell moor and is crossed by three highways radiating westward from Orton. Here begins, where the plateau is less steep than afterwards, the stretch of the road previously mentioned, a quarter of a mile in length, up to the highway leading from Orton to Bridge End at Greenholme on the Birk Beck, which I consider to be a piece of the finest road in Westmorland. The road surface is complete and unbroken with fine grass and a thin heather covering; the ditches are continuous, about 3 feet deep at present and may have been deeper originally, which can only be proved by excavation. For a distance of 250 yards where the remains are best, a fence wall borders the road outside the eastern ditch. Where this wall is intersected by another wall which crosses the Roman road, a large granite boulder has been left in the ditch in situ, by the Roman engineers. As the highway is approached the remains become rather less marked.

After crossing the Orton and Bridge End highway the remains still continue for a half a mile across heathery moorland to the highway, near Sproatgill farm house (800 feet), leading to Scout Green and are very bold though much cut across by running water during storm periods; in places the ditches are scoured out to the bedrock and parallel watercourses occur. There is not a continuous run of water in the ditches; they were quite dry when I was there, and afford a safe retreat for the sheep which are further protected by the overhanging heather. Beyond Sproatgill the features of the Roman road do not appear so bold again.

The next mile to the highway (953 feet) leading from Orton to Shap, near Howe Nook farm house, the road runs with a wall and parish boundary dividing the cultivated land on the Orton side from the southern part of Crosby Ravensworth Fell Moor on the west, except the first quarter of a mile which is cultivated land on both sides near Sproatgill. A footpath from Greenholme to Crosby Ravensworth and Oddendale joins up about halfway. There have been no ditches of much depth here or the remains would have been evident. The road is now on the pervious strata of the mountain limestone with a dry surface. The ground previously passed over from Birk Beck has been red conglomerate base beds and Lower limestone shales, both impervious and some parts covered with clay drift; hence the necessity of deep ditches to keep the road dry. Throughout this length the position of the road is only ascertained by the dry and firm nature of the ground on the road, as compared with that of the softer ground on either side. Excavation again would easily lay bare the surface at any place along the road; only short grass grows on it and I suppose the road surface is not more than a few inches under the sod.

After crossing the Shap highway, the wall, parish boundary, footpath and Roman road line for a distance of 130 yards continue together on the same straight line which we have followed from near Daniel hill house where the remains first appeared. Then the wall and parish boundary turn away to the north-east at a very large Shap erratic boulder, marked on the Ordnance map as "Thunder Stone," a common appellation for the largest of the Shap boulders in this district. The line of road and footpath in company now keep straight on over the rugged heathery moor of Crosby Ravensworth Fell and rising more steeply than hitherto opposite the prominent Howe Nook house and 350 yards from the highway

we cross the 1,000 feet contour line. At 1,000 yards from the Shap highway the Roman road line and footpath commence to turn by a curve towards the east and pass through a depression on the moor edge between Long Scar Pike (1,315 feet) on the left and Howe Nook Pike (1,200 feet) on the right. At 1,500 yards the straight line of the road in the new direction commences. The change of direction is from 13 degrees west of north to 17 degrees east of north. The bend of the road takes place towards the southern edge of the flat top of the moor overlooking Tebay Gorge and Lonsdale, and not at the actual summit which is at Coal Pit Hill (1,170 feet), a little prominence further on in the new direction and one mile 300 yards from the Shap road. Throughout this distance up the slopes and on the flat top of the moor there is a thick growth of heather which prevented me from being able to mark any place with certainty, where the footpath and Roman road actually coincide. The road originally without doubt gave the direction for the footpath, but after centuries of use deviations here and there have probably caused them to part company in places, and now only excavation can finally decide the actual site of the Roman road.

At Coal Pit Hill the footpath bears away to the left by Seal Howe to Oddendale and Shap and the Roman road reappears alone. The character of the moor altogether changes from what we have seen. Limestone now forms the prevailing strata and long grass grows in place of heather. I cannot resist mentioning here that the whole of this moor and the country round about for some miles is dotted all over with archaeological remains. Besides the Roman road, there are numerous tumuli, some with stone circles round the base; stone circles single and double, large and small, and in some cases with cist sunk in centre where they have been excavated. Remains of British settlements and ancient enclosures

are innumerable. Some of the tumuli have been explored by the late Canon Greenwell,* and Ewe Close British settlement has been excavated by W. G. Collingwood, M.A., F.S.A.† with very satisfactory and valuable results.

The length of this last stretch of Roman road now entered upon to Dalebanks Beck a little past Ewe Close is $2\frac{1}{4}$ miles. At first it is seen carpeted with fine grass and the ditches are discernible; it is here known as Wicker Street and is so marked on the 6 inch Ordnance map. At 660 yards from Coal Pit Hill the road passes to the left of an eminence of low limestone crags (1,156 feet), and the remains of a tumulus excavated by Canon Greenwell. A thorn tree which grew on this elevated spot and known as Wicker Street Thorn was blown down about 1880, as I was informed by an old man whom I met on the moor. It served as a faithful lonely guide. All attempts to encourage another to grow in its place proved failures, and a pile of stones now acts as a guide-mark. From Wicker Street Thorn the road for half a mile goes down-hill overgrown with long grass but traceable to Blea Beck (950 feet). The raised approach to the Beck is very evident, and the large stones which were used for the beck culvert are to be seen lying scattered in the bed of the stream where the road has crossed. There is now a gentle rise for 350 yards out of this little valley on to a spur of land (1,000 feet) projecting from Seal Howe. About 200 yards further again down hill the road leaves the moor and enters enclosed land where the finer grass makes it more evident to one in search of it. At 650 yards within the enclosed land the road passes to the left of the Romano-British settlement of Ewe Close previously referred to and was excavated and laid bare at the same time at three places by Mr. Colling-

* *British Barrows.*

† These *Transactions*, N.S., viii and ix.

wood. The full width between the edging stones where it crosses a medieval dyke was found to be 25 feet, and the rounded metalled centre portion 20 feet. Soon after passing Ewe Close traces of the road get fainter, and beyond Dalebanks Beck towards Kirkby Thore (Brovon-acae) the road is lost.

After leaving Ewe Close settlement I found by a slight ridge and the colour of the vegetation, that the road continues forward in the same straight line for 150 yards to a fence wall which bears away a little to the right and which may be the line of the road taking an easier gradient to the ford at Dalebanks Beck near Low Dalebanks farm house. The straight line of the road for the last $2\frac{1}{4}$ miles from the bend on the moor aims exactly for this ford. It is only in the last 300 yards that a swerve in direction along the fence wall to the right may perhaps be the line of the road. Excavation may reveal the road going in a straight line to the ford. Dalebanks Beck Ford is 8 miles 180 yards from Low Borrow Bridge Fort.

John Just thought the road went by Kirkby Thore and joined the Maiden Way and thence by Whitley Castle to the Roman Wall. In a paper on, "The 10th Iter of Antoninus," he says,* "We could not learn that any indications of a Roman Military road were known from Kirkby Thore southward as a continuation of the Maiden way, though then and still we surmise, such a road did exist, and that ere our investigations are ended, we shall connect satisfactorily the Maiden Way with the southern portion of Antoninus's 10th Iter. Camden suspected this, and his sagacity has seldom been surpassed." Nicholson† says, "Mr. John Just spoke from tradition of the road proceeding over Orton Low Moor to Brougham." I have not been able to trace where Nicholson got this reference to John Just from, and I have made enquiries.

* Brit. Arch. Assoc., vol. VIII, 1852; part xxix, p. 40.

† *Annals of Kendal*, 2nd edition, 1861, p. 387.

If the straight line of the road is continued towards Kirkby Thore it would pass a half a mile west of Crosby Ravensworth and Mauld's Meaburn, a little on the right of Barnskew, and three quarters of a mile east of King's Meaburn, thence through the centre of Bolton village to intersect the York and Carlisle Roman road just on the east of Kirkby Thore Railway Station highway bridge, half a mile east of Kirkby Thore Town Street. If a straight line is drawn to the Town Street at Kirkby Thore it would pass three-quarters of a mile west of Crosby Ravensworth and Mauld's Meaburn, to the left of Barnskew and a quarter of a mile east of Kings Meaburn, thence by Hill top (519 feet) and half a mile west of Bolton.

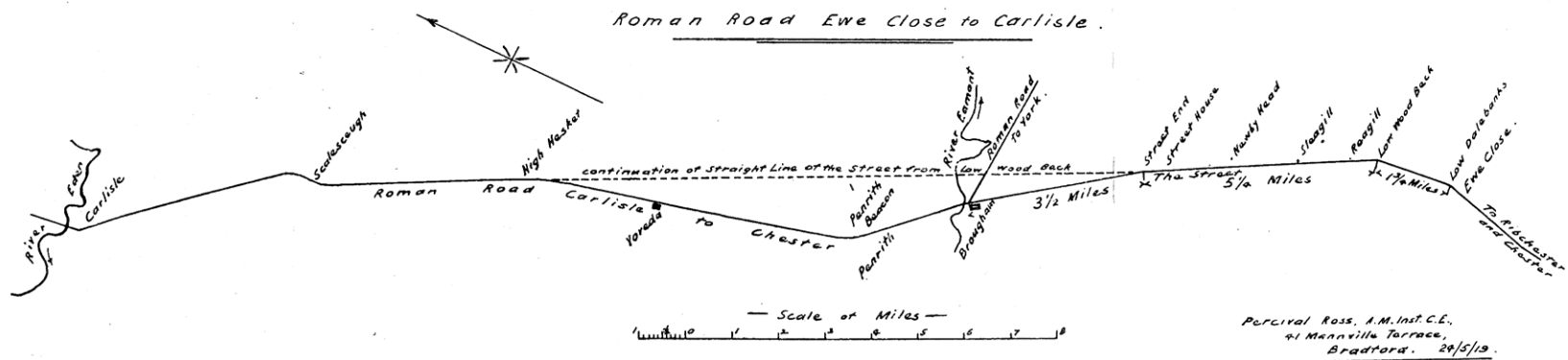
Kirkby Thore is $7\frac{1}{2}$ miles from Low Dalebanks Ford. I have searched the ground with the help of the six-inch Ordnance map in the direction of the two straight lines drawn above, and not a trace of a road or tradition of one amongst the inhabitants is to be met with. There is no report of any road remains ever having been found by farmers. If the six-inch Ordnance map be examined it will also be seen that there is not a field fence nor a footpath, a farmer's road, nor a highway which coincides even for a short distance with either of the straight lines towards Kirkby Thore. There being no trace of any kind whatsoever of a road to Kirkby Thore—and 300 years have elapsed since it was first promulgated—I think we are justified in concluding that there has never been a Roman road between Low Dalebanks ford and Kirkby Thore.

If attention is now directed to the six-inch Ordnance map between Low Dalebanks and Brougham (Brocamum) you see the difference, or less distinctly on the one-inch map. It will be seen at once that a continuous line seven miles in length in two straight lengths of one and three-quarters, and five and a quarter miles, and made up of fences, footpaths, lanes and highways all the way,

TO THE ROMAN ROAD TO BROUGHAM CASTLE.

commences within a quarter of a mile north of Low Dalebanks, and takes its straight direction from the ford. The second bend points the direction for $5\frac{1}{4}$ miles towards Carlisle over Penrith Beacon Hill, intersecting the Roman Road at High Hesket. At the third bend a straight length of $3\frac{1}{2}$ miles across modern enclosed moorland takes the road to the ford at the River Eamont at Brougham in a straight line with the Roman road going round Penrith Beacon Hill to Voreda and High Hesket. The Roman fort at Brougham stands on the west side of this line of road with its longest sides parallel with it and independent of the Roman road to York which appears to branch away from the road under consideration at an angle of 60 degrees towards the east, near the ford opposite the north-east corner of the fort. (See map p. I.)

Starting from Dalebanks Beck (700 feet) the evidences are missing for the first quarter of a mile up the steep slopes of the little valley. The line may have swerved for an easier gradient, but 150 yards north-east of Haber farm house a field fence marks the line of road with a direction 5 degrees west of north from the ford; and this line continues for one mile and three quarters to Low Wood Beck ford by fences, roads or footpaths without a break, and only deviates two or three yards from the straight line in one or two places. Near Haber Farm, the farmer told me, there is a very hard surface following the fence line as if there was a buried road, and the cart-wheels make no impression on it. The line of road crosses the Crosby Ravensworth and Shap highway at Habervain, near a watering pond in the farmyard, and on the line of a plantation; it then follows a fence which connects with the end of the main street of Wicker Slack village (870 feet) and the main street is a part of the road line for a quarter of a mile. Thence it continues by a narrow lane, then a footpath down Brown Bank where the ridge of the road is evident with a field fence on the



TO FACE P. 10.

right, straight to the ford (700 feet) on the Low Wood Beck, at the south-east corner of Spring Wood.

The line now changes 20 degrees westwards making the direction 25 degrees west of north, and this continues for $5\frac{1}{4}$ miles to near Gilshaughlin House, a quarter of a mile beyond the end of the "Street" pointing straight to Carlisle. The line of the road from Low Wood Beck ford follows a footpath on the east side of Spring Wood for 300 yards; it then passes through a part of the wood and fields for 750 yards when it joins up to the main street of Reagill (850 feet). It continues with this and Sleagill Lane for 1,050 yards to Sleagill township boundary where it enters the fields on the right parallel with Sleagill Lane for 750 yards to Sleagill Beck ford where the lane crosses to the right into the village.

The first 150 yards beyond the ford is through some gardens behind the houses in the centre of Sleagill village. It then crosses the town street at right angles opposite the beginning of the highway to Newby, and the highway and the road line then run together for a whole mile, with only a few yards deviation from the straight line to Sandwath Bridge at Newby Beck. The highway here turns towards the right to the top end of Newby Village called Newby Head, and the Roman road straight line passes through the fields for about a mile, the greatest deviation from the highway being 150 yards at Newby Head. The highway then returns to the straight line of the Roman road at the township boundary of Newby and Great Strickland near Mealy Sike farmhouse. I saw the road ridge in the fields near here between two plantations; it is on the straight line in the fields a little before joining up with the highway at the "Street."

The highway now runs perfectly straight on the line of the Roman road for $1\frac{1}{4}$ miles. This straight length of highway is called the "Street." At a half a mile along it, there is a plantation on the right at the intersection

(605 feet) of the highway from Morland to Great Strickland called Street Head Wood, and a half a mile further, Street House stands on the right side of the road. A quarter of a mile further still the straight "Street" terminates, but the highway under the name of Commonholme Road continues by a bend to the right towards the Appleby road to Cliburn. "Street" only applies to the $1\frac{1}{4}$ miles of straight highway coinciding with the Roman road line.

The straight line of the road, I believe, has continued through Gilshaughlin Wood for a quarter of a mile beyond the end of the "Street," and then there has been a bend of 11 degrees more to the west, making the direction 36 degrees west of north, straight for the eastern side of the fort at Brougham, and the ford across the river Eamont east of the bridge. The distance is $3\frac{1}{2}$ miles across enclosed moorland. The moors passed over in order are Great Strickland Moor, Cliburn Common, Melkinthorpe, Clifton and Brougham Moors. Perhaps the line has not gone exactly straight but has bent round a little to the left to keep on higher ground and out of the swamps and alluvial flats of the river Leith. For the first quarter of a mile the line of road follows a field fence passing Gilshaughlin House, it then passes a little to the right of Wood House and Brownhow House and crosses the Penrith and Appleby road near the junction of the road from Lowther Castle, and the North Eastern Railway to the right of Wetheriggs Brick and Tile Works, thence over Brougham Moor near Highground farmhouse, a little beyond which it then runs along the west side of Moor Lane from Moor Houses for a mile until they coincide and pass on the east side of the Brougham fort to the ford across the Eamont. Moor Lane for its full length of a mile may be part of the Roman road and in that case the line of road from the "Street" end would be a little eastwards of the line I have drawn. Brougham

fort is $10\frac{1}{2}$ miles distant from Low Dalebanks and $18\frac{1}{2}$ miles from Low Borrow Bridge.

Excavation for the Roman road I recommend should be made, along the fences between Haber and Haberwain, along the footpath down Brown Bank between Wicker-slack and Low Wood beck, in Spring wood and in the fields to Reagill, and the fields west of Newby Head, especially on nearing the "Street," and from the "Street" end across the moors to Brougham. Across the moors I think there will be a good depth of covering over the road. The fields around Reagill, Sleagill and Newby are very old cultivated lands, and have been ploughed for centuries, and little of the road may have been spared where it passes through the fields away from fences.

In conclusion, I believe this road was the Chester and Carlisle road, the first Roman road made into Carlisle, and made before the road from York. It makes nearly a straight line with the road from Brougham to Carlisle, whereas the York road branches out of it at an angle of 60 degrees. The Maiden way from Kirkby Thore over the fells to Whitley Castle near Alston and forward to the Roman wall is, I consider, a branch of the York road. The most natural route for this branch was up Teesdale from Greta Bridge, but the branch would have been 15 miles longer and would have necessitated another fort and garrison to keep the road open; hence the existing Maiden Way over the north shoulder of Cross Fell. Lastly it appears we shall have to banish the 10th iter from the Maiden Way, Crosby Ravensworth Fell, Lonsdale, and Bolland Fells to Ribchester, because the roads are not continuous. There is no road connection, and at present we shall have to agree with Professor Haverfield* that Ravenglass on the Cumberland coast was *Clanoventa* and from there the iter went to Ambleside (*Galava*) $18\frac{1}{2}$

* *Archaeological Journal*, 1915, 2nd series, vol. xxii, pp. 77-84. The writer has long had the same opinion but withheld the statement until he had completed the survey of this road northwards.

statute miles, iter distance 18, then to Watercrock (Alone) 12 statute miles, iter distance 12, then to Lancaster (Calacum) 18½ statute miles, iter distance 19, and then to Ribchester (Bremetonacum) by Fulwood Moor near Preston 26½ statute miles, iter distance 27 Roman miles. It is thus seen that the distances and the iter are in agreement and no adjustment is required.

I thankfully acknowledge my indebtedness to Colonel Sir Charles F. Close, Director-General of the Ordnance Surveys for the loan of 6 inch Ordnance maps and for the gift of some as records. I thank Mr. W. G. Collingwood and Mr. John Curwen F.S.A., F.R.I.B.A., for kindly answering many enquiries. I have also to thank Mr. R. G. Collingwood, M.A., for kindly reading the paper at the meeting.

TABLE OF DISTANCES.

					miles.	yards.
Low Borrow Bridge Fort (centre)	..	..	..	..	—	—
Borrow Beck	..	..	..	..	—	190
River Lune near Lune's Bridge	..	..	..	..	1	70
Tebay Railway Station	..	..	..	..	1	900
River Lune at Stepping Stones	..	..	..	..	1	1600
Birk Beck	..	..	..	..	2	950
Wall west of Danielhill Farm	..	..	..	..	2	1550
Ruins of Culvert at small stream	..	..	..	..	3	420
Edge of Orton Low Moor	..	..	..	..	3	550
Shap Boulder in Road Ditch	..	..	..	..	3	700
Orton and Greenholme highway	..	..	..	..	3	1030
Highway at Sproatgill	..	..	..	..	4	100
Orton and Shap highway	..	..	..	..	5	40
Bend of Roman Road on Moor	..	..	..	..	5	1500
Coal Pit Hill	..	..	..	..	6	350
Wicker Street Thorn tumulus	..	..	..	..	6	1240
Blea Beck	..	..	..	..	7	325
Enclosed land fence wall	..	..	..	..	7	860
Ewe Close British remains	..	..	..	..	7	1500
Dalebanks Beck ford	..	..	..	..	8	180
Shap highway at Haberwains	..	..	..	..	8	1450
Wickerslack Street south end	..	..	..	..	9	220
Do. north end	..	..	..	..	9	630

Low Wood Beck ford and bend of road	..	..	9	1350
End of footpath at Spring Wood	..	..	9	1680
Spring Wood north side	..	..	10	150
Reagill village south end	..	..	10	600
Do. north end	..	..	10	1100
Reagill Township boundary	..	..	11	20
Sleagill Beck ford	..	..	11	800
Sleagill main street crossing	..	..	11	940
Old mill Flatt and Ironshaw	..	..	12	300
Sandwath Bridge at Newby Beck	..	..	12	690
Newby and Shap road at Newby Head	..	..	12	1600
The " Street " south end	..	..	13	950
Morland and Strickland highway	..	..	13	1630
Street House	..	..	14	950
The " Street " north end	..	..	14	1310
Gilshaughlin Wood bend	..	..	15	50
Gilshaughlin House	..	..	15	270
Wood House	..	..	15	850
River Leith	..	..	15	1270
Occupation Road	..	..	16	—
Appleby Road at Lowther Castle Lane	..	..	16	550
N.E. Railway	..	..	16	850
Highground Farm	..	..	17	500
Moorhouse Farm	..	..	17	1480
Fremington Farm	..	..	18	230
Brougham Hall Road	..	..	18	880
Brougham Fort south east corner	..	..	18	920
Do. north east corner	..	..	18	1110
River Eamont (centre)	..	..	18	1200