

ART. IV. – *Roman Sites on the Cumberland Coast: the New Tower on Rise How.*  
By R. L. BELLHOUSE, B.Sc., F.S.A.

RENEWED limited excavation of Milefortlet 20, Low Mire, in the summer of 1980<sup>1</sup> designed specifically to demonstrate the similarity between milecastles of the Turf Wall and milefortlets of the coastal series, proved that the milefortlet, like a milecastle, had a front and a back gate. This stride forward in our knowledge made it possible to re-assess information obtained from earlier work on other fortlets and to say that some of those also must have had two gates, and a similar overall plan. However, it was necessary to examine as many other milefortlets as were conveniently available and where there was a chance of proving two gates. The choice lay between numbers 21, 23 and 26. Number 26, Rise How Bank, was chosen for investigation during the 1981 season because I knew the owner of the field, Mr R. Percival, from my working days in the area. From 1964 to the present day the field has borne successive annual crops of cereals, and, bearing in mind the drought years of 1975 and 1976, this fact should have made me wonder why no one had seen any significant crop marks. The Roman levels lay just under plough depth and I thought it would be easy to recover, and extend from, the two significant trials of 1969<sup>2</sup> which appeared to show the gravelled surface of the axial road and the packing stones of a post hole associated with two distinct levels of turfwork. Having located the first post, the positions of others could be fixed by measurement and the gate excavated, and, 21 m down the field, a search could be made for posts of the back gate.

Work began on 22 August 1981. We recovered the two earlier trials and expanded them to form a trench 2 m wide and 5 m long: the gravelled surface on a rough sandstone pitching was indeed a path with potsherds, including a small piece of Samian ware on it, but the pitching without gravel extended to the north and was covered by a thickness of brownish loam. The 'packing stones' were found to be merely part of the pitching. On the surface of the brown loam was a circular hearth of small stones round a mass of roasted galena (lead sulphide). We started to lift out the sandstone blocks: they lay on the surface of the yellow transition horizon of the underlying red boulder clay and ended 3 m north of our starting point. At this point the stones were separated from the brown loam by a layer of dark grey soil. (Fig. 1).

After a week's effort I could make no sense of what we were finding; the brown loam, the grey soil, the spread of blocks of sandstone, and now, what appeared to be a roughly made stone-lined water-storage tank with the lining pushed in and Roman pottery among the fill. Then, on the morning of 31 August, three young people who had been helping with the dig returned unexpectedly, so I extended our first opening 2 m towards the cliff edge in order to expose and study more closely the surface of the gravelled path. Two blocks of hammer dressed stone peeped out from the side of the square. In a very short time we had uncovered the first footing course of the back wall of a typical coastal tower, established the right hand corner and the corresponding internal angle, and found a hearth with pottery and food waste. Instantly all was clear: we had been exploring the tower builders' working area, used and then tidied up when the job was finished. The

Roman workmen had stripped off the dark humose turf, exposing the clay subsoil; building stone had been gathered and a pit opened to obtain red clay for tower foundations. When the work was complete the waste stone was levelled off and the clay pit filled in to the same level; the dark top soil was spread over all, then a layer of brown loam, except where gravel had been placed to make the path towards the corner of the tower.

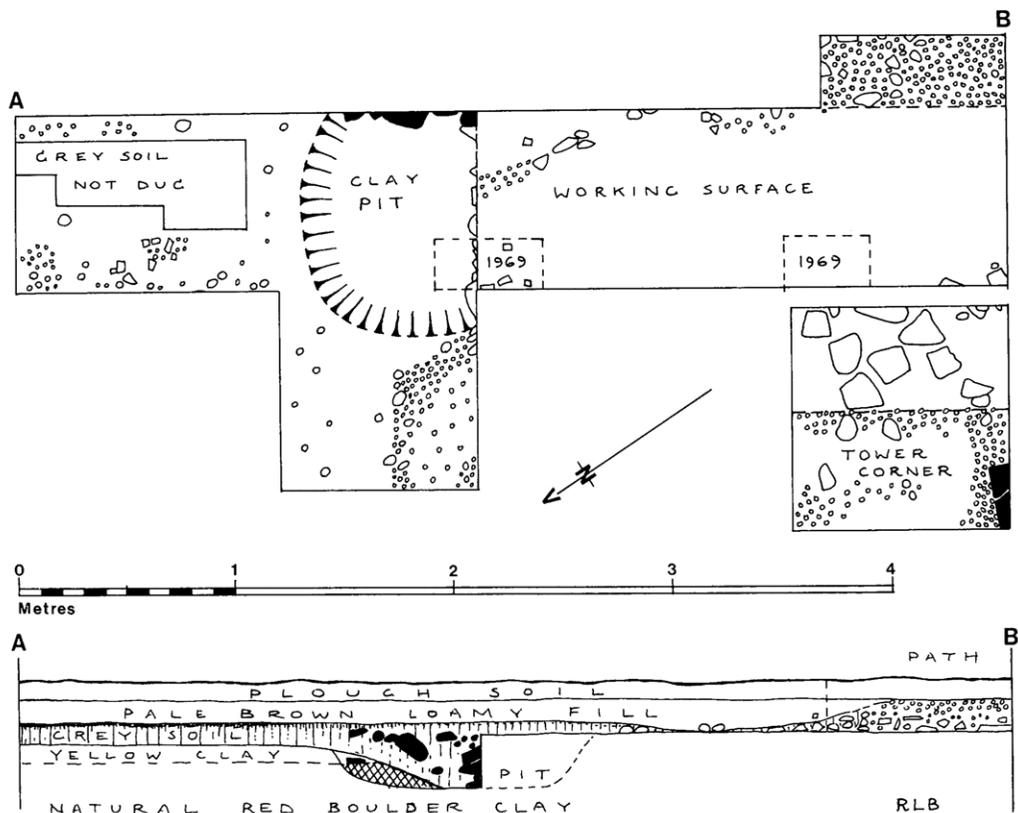


FIG. 1. - Plan and section of the working area associated with the building of the unexpected tower.

With time running out and insufficient labour to attempt more I had to plan further excavation in 1982 to recover the rest of the tower and find the explanation of the apparently filled ground beneath the back left-hand corner of the foundations. In the meantime the finding of a tower where there should have been a milefortlet by my reckoning showed that the spacing of the units of the coastal system at intervals of 540 yards measuring from the south-west corner turret of Maryport fort was still valid but that there had been a dislocation for some reason or other. One thing was certain, the tower seen and reported by Robinson in 1880<sup>3</sup> lay 540 yards to the south making a pair with the new tower, hence the dislocation could be tentatively explained as an omission of, say, a tower somewhere in the region of the mouth of the river Ellen. Also we would have in due course a means of re-interpreting Robinson's account in the light of what I expected to find when we returned to the site.

The site was re-opened 23 August 1982. On the previous day I had scythed off the barley and re-located the right-hand corner stone of the back wall, our datum or point of reference for the marking out of an area of ground sufficient to encompass the whole of the tower and some of the ground outside the walls (Fig. 2). The top soil was dug off over an area 8.5 m square and put in two convenient dumps. This task was completed by the middle of the afternoon and I was pleased to see that, in spite of very evident and extensive plough disturbance, more of the tower footing courses had survived than I dared hope, the forward half of the right wall to the corner and part of the adjacent front wall. The line of the front wall was parallel to the general line of the cliff and 3 m from the edge. Last year's trench was re-excavated and more of the ground to the outside of the tower was opened in order to fix the position of the entrance. A paved area suggested that the entrance must have been in the usual position close to the right-hand corner as in towers 12b, 15a and 16b.<sup>4</sup> A similar paved area at the left-hand side of the back wall in the line of the left-hand wall associated with a pit may have been a latrine. The "filled ground" noted last year was seen to be within the clay and cobble foundations and the reason for the disturbance was not then apparent. However, as clearance of soil and loose stone proceeded, it became clear that there had been a structure within the tower and eventually we identified the remains of the stoke hole and furnace of a grain drying kiln aligned NNE to SSW with splayed wing walls to catch the prevailing winds.

The clay and cobble foundations had been robbed of their granite boulders in three areas and it is reasonable to infer that the similar granite boulders forming the surviving walls of the furnace came from the foundations. It is possible that the tower had been almost completely dismantled some time before the kiln builders chose the site as suitable for their purpose and that insufficient dressed stone remained. On the other hand they may have had no knowledge of what lay close at hand when they opened the ground. The robber trenches were filled with a mixture of dark soil, pebbles, and chips of red sandstone, built up to the general level of the top of the foundations. On this surface within the stoke hole area was another hearth with roasted galena.

Overall the tower measured 6 m each way and the lengths of surviving first footing course were 0.96 m wide with their outer faces right at the outer edge of the clay and cobble foundations which were unusually wide, 1.4 m, and 0.38 m deep. Because of this difference in width the clay and cobble extended beyond the walls into the interior by 0.44 m giving the appearance of a floor of red clay. The tower had no laid floor; stone chips and drops of mortar from the masons' hammers and trowels identified the ground surface at the time of building. Against the back and right walls hearth stones and occupation debris rested on this level. In a few places a little fine gravel had been put down. The occupation debris was relatively thin; a small amount of pottery, many food bones, and piles of shells, mainly periwinkles, limpets, a few mussels and whelks, and one oyster. The fact that the bones formed the lowest level may indicate a change in diet. One must assume that the men sent to keep watch were catered for at the nearest milefortlet and that the bones and shells represent supplementary snacks taken during periods on watch.<sup>5</sup>

There was one more surprise in store for us: as clearance of tower and kiln debris covering the occupation level continued human bones were exposed close to the foundations of the front wall. This discovery came on the day that Dr John Cole was due to arrive to help with the digging, so, very appropriately, he assumed the task of excavating

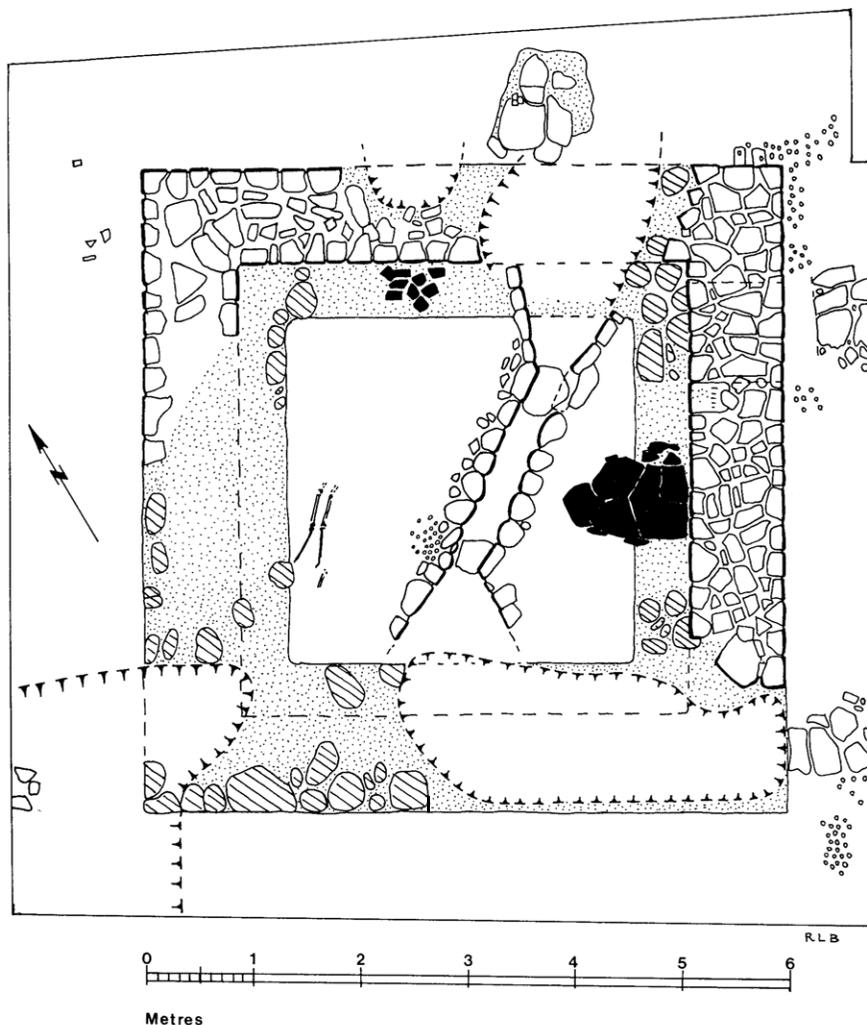


FIG. 2. - Plan of the new tower, Rise How 26a.

the area in which the bones lay and preparing a specialist report. The surface of the soil both inside and outside the tower, identified by the masons' chips upon it, showed an horizon of greyish iron-stained sandy loam from which I assumed an upper horizon of peaty turf had been stripped (as was the area of the "builders yard" and clay pit). A sounding outside the tower on the north side confirmed the expected transition from the grey leached horizon to yellow sandy clay and then to the unweathered red boulder clay which forms the little hill of Rise How. Of the body only the legs remained: they lay just within the grey leached horizon as if in a very shallow grave and the body must have been placed there some time before the preparation of the site for tower building. Three sherds of hand-made coarse black pitted ware found close by supported the idea of a pre-Roman period burial, and if a mound of earth had been raised over the body, then it is probable that this was the source of the brown loam that the tower builders had

spread over the working area and round the tower on completion of the job. The hearth with roasted galena found on the surface of this spread of loam was clearly in use after completion of the tower and I would have accepted it as evidence of some kind of unofficial activity pursued by the troops sent to keep watch. However, a similar hearth at the entrance to the stoke hole area of the drying kiln raises doubts, the kiln can only at present be regarded as being post-Roman. Lead is common on coast sites as strips and off-cuts from sheet lead; it was used in the repair of pottery.<sup>6</sup>

If the name of the little hill is Norse, and this is to be expected from the influx of Norse settlers from Ireland in the 10th century, the two elements of Rise How must be either *hrís* = brushwood; (Cumberland farmers talk of "rice-drains", i.e. trenches filled with brushwood) or it could be *hreyssi* = cairn, and *haugr* = a hill, hillock or mound. The local pronunciation is "Rizer", almost "Razer". A cairn on the summit of this hill could have been the mound of tower and kiln debris, and the kiln consequently ought to be pre-10th century.

## THE FINDS

The total yield of pottery from the tower itself and the working area was comparatively small, comprising about 150 sherds. I showed the 1981 sherds from the clay pit area to Mr J. P. Gillam at a seminar in Carlisle and he told me they were "typical of the Cumberland coast sites". Mr B. R. Hartley's report on the single figured Samian sherd (below) and my assessment of the 1982 finds point to the occupation of the tower from c. A.D. 120 for perhaps only a few years. There is nothing to suggest re-use of the tower after A.D. 140.

In the following descriptions reference numbers are taken from Mr Gillam's *Types of Roman Coarse Pottery Vessels in Northern Britain*, Second edition 1968 with dates amended by Mr Gillam as for a projected Fourth edition.

### Flagons

Twelve wall sherds, none conjoining: three distinct fabrics indicate three different examples, pinkish buff, pale buff, and a reddish-brown fabric with traces of cream slip. No identification of types possible.

### Small Globular Jar

One rim sherd, reddish-grey hard fabric, nearest to Gillam's 168. A.D. 110-140.

### Amphora

One small piece and a chip.

### Grey Jars

Colour variation from pale grey to dove grey: 45 sherds, slightly gritty fabric, 8 rim fragments from 8 different pots, 9 pieces of bases, 2 conjoining, 18 wall sherds, 15 with latticing. Gillam's 115-117. A.D. 100-150.  
Part rim of dish or bowl in similar fabric.

*From amongst the waste stone in the clay pit:*

24 thin wall sherds, soft, slightly gritty, grey fabric, some conjoining, all could be from the same vessel as could be a piece of rim in the same fabric: 2 other rim sherds in the same fabric have different profiles.

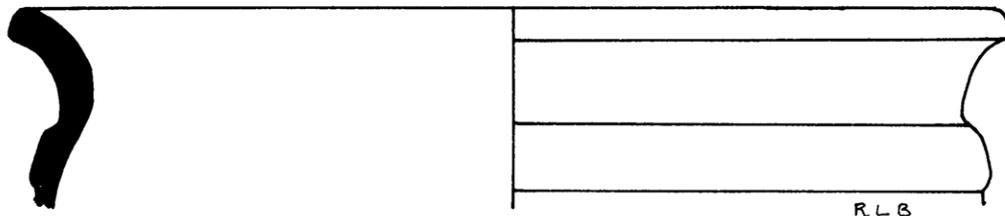


FIG. 3. – Wide-mouthed jar in Severn Valley Ware found among waste building stone thrown into disused clay pit.

I rim sherd from a wide-mouthed jar (195 mm diameter) in smooth pale-brown or buff fabric with reddish-brown core, a material I had not previously seen on coastal sites. It is Severn Valley Ware (Fig. 3). The example is of interest because its find spot shows the vessel was brought to the site of the tower when the clay pit from which the builders obtained the foundation clay was open. If construction began in A.D 120 then the pot was broken in that year. The only other example was found by Professor G. D. B. Jones in the rearward of the two parallel ditches by the milefortlet at Biglands. Thus we have two sites of the coastal system where this ware occurs, in addition to a small number of the milecastles and turrets of the western part of Hadrian's Wall. It seems to be restricted to Period I, at least the start of the period. Mr Peter Webster examined the sherd and very kindly sent me the following description:

Wide mouthed jar in a fabric which appears originally to have been light red although it is now discoloured to fawn or fawn/grey on the surface. Little filler is visible. Parts of the external surface have been smoothed or burnished. This is probably Severn Valley Ware and certainly the form resembles that of Belgic-inspired wide mouthed jars found in first or first/second century contexts in the Severn Basin (cf. Huys & Thomas 1963, no. 35, a vessel from Kenchester; also Webster 1976, No. 20). Severn Valley Ware appears in Period I contexts on the western half of Hadrian's Wall (Webster 1972) and in Antonine Scotland (Webster 1977). Previously only one example of the fabric has been noted west of Carlisle (a small fragment from the ditch system near Milefortlet 1, cf. *Britannia* 7 (1976) 242). However, entry into the region via coastal shipping has always seemed most probable and the occurrence of the ware in coastal installations was to be expected. The form, although not closely datable in Severn Valley contexts, is typologically early and this accords well with its occurrence in primary levels at Tower 26a.

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 Webster, P. V., 1972, 'Severn Valley Ware on Hadrian's Wall', *AA4*, 50 (1972), 191-204.  
 Webster, P. V., 1976, 'Severn Valley Ware: a Preliminary Study', *Trans. Bristol & Gloucs. Arch. Soc.*, 94 (1976) 18-46.

Webster, P. V., 1977, 'Severn Valley Ware on the Antonine Frontier', pp. 163-76, in Dore, J., Greene, K. (eds.), *Roman Pottery Studies in Britain and Beyond*, BAR, Supplementary series, no. 30, Oxford, 1977.

### Rustic Ware

One very small wall fragment in dark grey fabric with characteristic ridge of raised slip: like Gillam's 96, A.D. 90-120.

### Black Burnished Ware

This distinctive group comprises 64 sherds, all from the tower. *Dishes or bowls*: 2 rim pieces conjoining, 1 piece with part rim and part base, latticed: 2 part base, one decorated with light parallel strokes, the other with ellipses.

*Cooking pots*: 3 rim sherds conjoining, wall sherd conjoining, latticed: 4 worn rim sherds, 2 pieces of pot bases, 50 wall sherds, mostly with acute latticing. The appearance of vessels in this fabric on Hadrianic sites in about A.D. 120 has a peculiar significance on the Cumberland coast because some of the sites tested have relatively few sherds while others have many more. It is unsafe to read too much into this, but it seems logical that the 'fort decision' could have reduced the number of milefortlets and towers in use for watching purposes and the continued use of selected towers for signalling would account for the accumulation of more pottery in some.

### Jar:

Part shoulder in grey fabric with horizontal line and decoration similar to Gillam's 28. A.D. 100-150.

### Figured Samian

I sent the piece to Mr B. R. Hartley who wrote to me as follows:

Fortunately we can identify your sherd. It is by the man called X-6, who often used the three-lobed plant in this way at the top of vertical borders. Two figure-types – a boar on the left and a horse (with rider) on the right – were both used by him and you will find all three features on bowls on Pl. 75 in Stanfield and Simpson's *Central Gaulish Pottery*. The date is well-attested c. A.D. 125-150. So it fits nicely with the black burnished ware you showed us at Carlisle.

### Objects of Iron

Twelve very corroded pieces found, all unstratified, and some could be modern intrusions, particularly a flat strip 6.5 cm long, 2.5 cm wide: the rest were nails of different sizes, 3 were bent as if they had been used in a door and cleated on the inside.

### Whetstones

One of fine grained igneous rock (dolerite?) 12.4 cm long, 1.3×1.3 cm in cross section showing faceting along its length. Part of a sandstone rubber showing wear on two sides.

### The Quern

Two parts of one half of the lower stone of a quern, widely separated, came from the area of the disturbed right wall of the tower, the larger more weathered than the smaller, the material being Criffel granite, a common glacial erratic. The base had broken across the slightly tapered hole drilled halfway through the stone, a little off-centre, intended to take the usual pivot (Fig. 4).

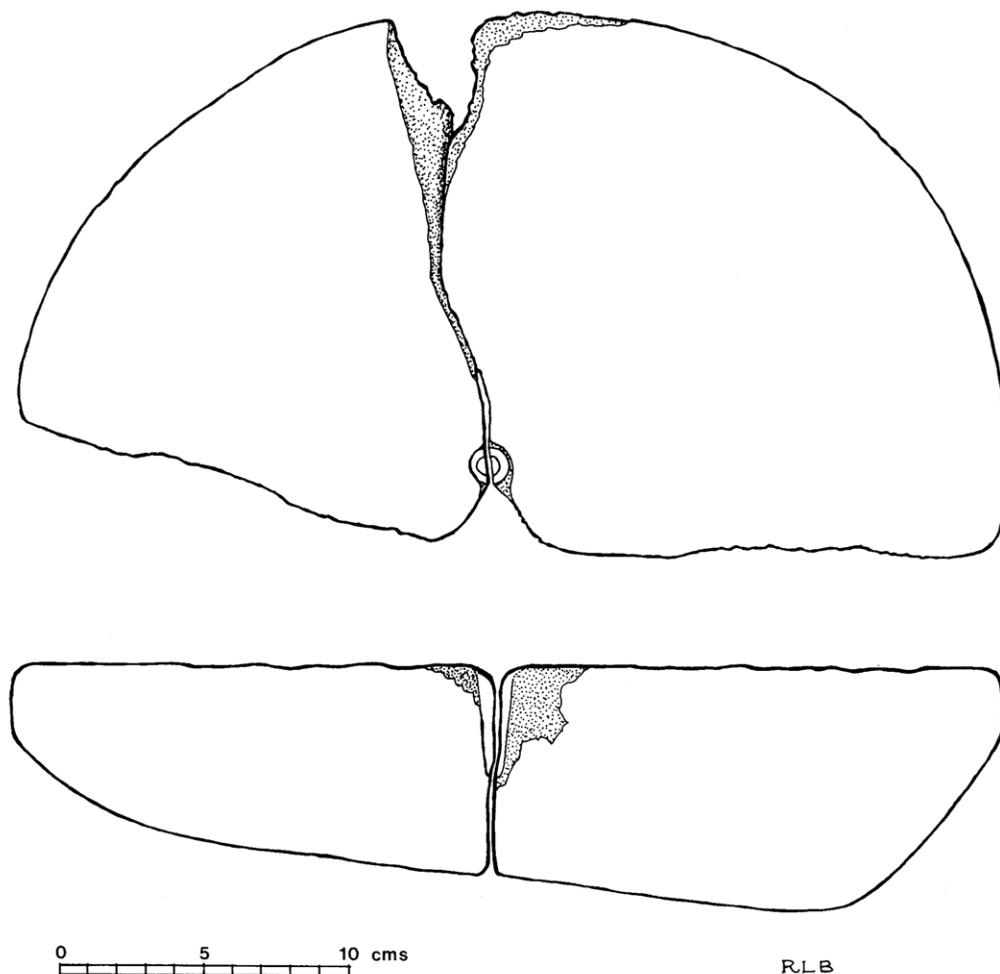


FIG. 4. - Conjoining parts of the lower stone of a quern associated with the drying kiln.

### Gaming Board

Part of the corner of a piece of thin red sandstone 18 mm thick with narrow grooves scored in the surface to make squares 22×25 mm (Fig. 5).

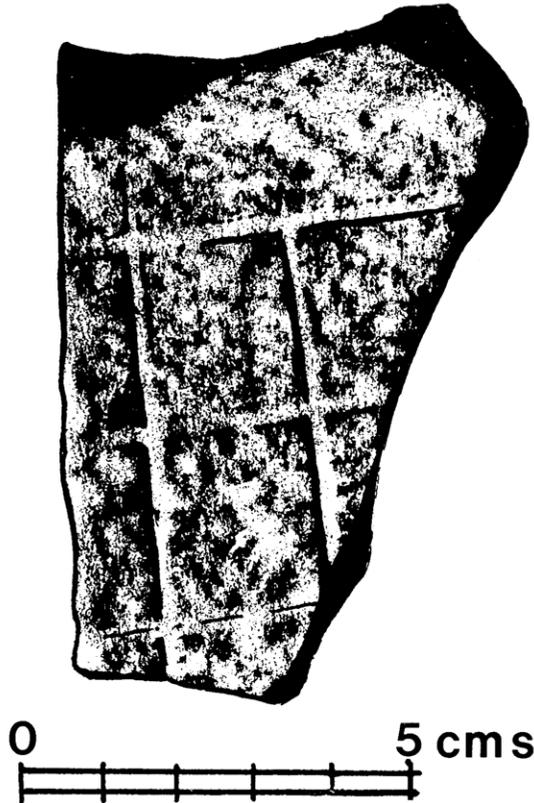


FIG. 5. – Fragment of a gaming board marked out on a thin sandstone slab.

### Flint

Two small pieces, opaque honey-coloured with partial patina and iron staining. Similar pieces occur in the till and on the sea shore.

### Medieval Green-glazed Ware

One sherd from wheel-made pot in red fabric, grey to exterior with greenish-yellow glaze: unstratified. It is tempting to associate this with the grain drier; similar sherds turn up on many Roman sites.

### The Food Bones

Dr John Cole examined the bones found within the tower and reported as follows:  
The bones consist of many small fragments derived from ox, sheep (or small deer) and bird

(fowl). There were no bones from pig nor were there any human bones. Several of the bones show evidence of knife cuts and some of hammering as though to extract the marrow.

The four identifiable complete bones are from cow patella, two carpal/tarsal bones and an os calcis which shows no fusion of the epiphysis and so was under  $3/3\frac{1}{2}$  years old at the time of death.

It is satisfactory that Dr Cole found no human bones among the collection because it supports the case for the human burial being disturbed by the digging of tower foundations and then the remaining bones of the legs being protected by masons' debris from further disturbance.

### **Shellfish**

The most abundant species used as food was the common periwinkle (*Littorina littorea*); all shells had lost their colour and therefore some of the smaller ones may be dwarf winkle (*Littorina littoralis*). Next in order of abundance was the common limpet (*Patella vulgate*), then the whelk (*Buccinum undatum*), a very few small mussel shells (*Mutilus edulis*) and one oyster shell (*Ostrea edulis*).

### **Galena**

As mentioned above this common lead ore was roasted in small hearths at two places. There was nothing to indicate that there had been any sort of furnace, only a circle of stones and evidence of burning round and below the partly fused and oxidized ore. Temperatures had been high enough to form some runs of green glaze and to fuse the surface of a lump of Barytes, a gangue mineral associated with lead ores. The nearest source of Galena would be the Caldbeck Fells, 14 miles to the east.

### **Haematite**

A small nodule was found inside the tower. Apart from being a valuable iron ore it had uses as a pigment (rudd or raddle) but in this case it is most likely to have been a naturally occurring pebble in the glacial drift.

### **Pot Lid**

An attempt had been made to fashion a lid from a piece of hard water-worn coal shale which could have come from the sea shore. It was 18 mm thick, roughly trimmed to hexagonal shape and partly pierced by a tapered hole; main dimensions 108×90 mm, faint hatchet marks across the surface.

### **Coal**

It is not certain that coal was used as a fuel either in the tower hearths or in the grain drier furnace. Coal was associated with the Galena hearth at the stoke-hole entrance. Pebbles of hard coal occur in the shingle and in the glacial drift and half burnt coal in

the plough soil has usually been carted out from the farm in the farmyard manure from the midden.

### **Tower Construction**

It has to be assumed that the tower originally had two footing courses of masonry on the clay and cobble foundations as in other recorded towers. The surviving lengths of the first footing course are of the usual grey and yellow Coal Measures Sandstone; a second footing course may have had the same width. The walls proper appear to have been built exclusively of red freestone because all the stone chips found on the old land surface are of this material and many show the strike mark of the mason's hammer. The larger chips often have a smooth curved surface on one side showing that the block from which they were struck had a weathered or water-worn surface. Both types of stone would be readily to hand in natural outcrops in the cliffs and along the sea shore, as well as boulders of Criffel granite and other far travelled igneous rocks used in the foundations. The red clay was at hand, exploited in a small pit. The stones of the footing courses appear to have been packed with a red sandy clay loam.

Lime mortar was used in the normal way for the walls of the tower; drops of mortar close to the walls inside and outside the tower associated with the stone chips identified the ground surface at the time of construction. A quantity of what I describe as "core mortar" was recovered from the soil and earthy fill of the robbed right wall foundations. The lumps were irregular and gave the impression of having come from the spaces between the stones of the wall core; this would suggest that some courses of wall with mortar core survived up to the time when the foundations were dug into and robbed of their granite boulders for building the kiln. The matrix of the mortar is pinkish-grey with some white angular fragments of unslaked lime and the sand contains coarse grit and not a few pebbles. Limestone is to be found outcropping less than 4 miles to the east.

Joseph Robinson's description of the remains of the tower he examined in 1880, 540 yards to the south can be more easily appreciated now,<sup>3</sup> with one reservation. Lloyd Wilson's plan of the tower on page 124 must be somewhat idealized because the stones are all drawn individually as two rows of facers meeting neatly along the centre line of the walls, something I have not seen in any other tower. The stones are large, as much as 30×45 cm, and the corner stone at the south-east angle, for example, is at least 45 cm square. My comments of 1968 (CW2, lxix, 94) need no qualification: the new and the old were similar.

### **The Schedule of Coast Sites**

The schedule first published in *Research on Hadrian's Wall* (Kendal 1961) and adjusted in 1969<sup>2</sup> will have to be altered once more, although I have doubts as to the usefulness of any such schedule beyond Flimby. It is clear that the pair of towers now established confirms the existence of the familiar pattern south of Maryport and that, as a consequence, milefortlet 26 must be located 540 yards further north, and milefortlet 27 located somewhere near the old school at Flimby. Beyond this point it is anyone's guess whether or not the line followed the crest of a raised beach or made for the edge of the old sea

cliffs towards Burrow Walls. I propose the minimum adjustment: to delete both towers between fortlets 25 and 26 because there is only room for one and that may not have been built; fortlet 26 in its new place in the scheme to retain its name as Risehow Bank (from the near-by colliery manager's house so spelled on the Six-inch sheet); the new tower will be Rise How, 26a – the name of the hill on which it stands, and Risehow tower (1880) becomes 26b, after the hamlet of Risehow.

How far the system continued to the south is very much an open question. Professor G. D. B. Jones very kindly gave me a photograph he had taken from the air in August 1981. It seemed to show the curved south-west angle of the ditch of a milefortlet, which is 340 m south of Harrington Parks (NX 98902425). Mr David Batey of High Harrington has walked the ground for me and reports no surface indications. It is pointless to try to fit this site into the coast schedule until it has been tested by the spade.

### **The Burial**

There can be no doubt that the body of a man, or woman, had been laid out with a wide-mouthed jar in a very shallow grave and a mound of earth raised over it some time before the site was prepared by the Romans for a tower. The featureless brown loam spread over the working area and filled-up clay pit can now be explained as the material from the mound which, if circular in plan, cannot have been more than about 9 m in diameter because the present cliff edge is only 4.5 m from the body. Dr Cole has discussed with me the reason for the survival of the legs alone when the rest of the skeleton has disappeared; the foundation trench cut across the position which would have been occupied by the missing skull and left shoulder and their absence is directly explicable. Spine, rib-cage and pelvis have gone completely. After the digging away of the mound, the surface of the ground would have been levelled by shovelling the loose earth and paring off the bumps, leaving a thin skin of soil sufficient to conceal the leg bones but from which the larger bones of the skull, pelvis, spine, and shoulder would have protruded. These bones would have been cut into by the shovels and dragged out of position. The level immediately over the thin layer of grey-brown soil in which the leg bones lay comprised stone chips and stone dust deposited when the tower was being built; the burial therefore took place before A.D. 120. A piece of bone was taken for radiocarbon dating.

I sent the sherds to Miss Clare Fell who commented:

It does indeed look as though a late Pre-Roman Iron Age burial was cut by the foundation trench of the Roman tower. So rare is any material of this period in Cumbria and few indeed are any burials, except in east Yorkshire, I would like to confirm my identification – if possible with George Jobey . . .

Mr Colin Richardson discussed the pottery with Professor Jobey and Mr John Dore who both agreed that the fabric was calcite-gritted but outlined the chronological problems associated with this type of pottery, it can be either Roman or non-Roman, and spans a period from pre-Roman to late in the Roman period in the North of England. In this instance, at latest, it must be before 120 A.D.

Miss Fell commented further as follows:

Only two burials in our area so far as I know may be roughly of this period:

i. Three flexed skeletons were found in a railway cutting at Crosby Garrett, one with a bronze bracelet on one arm. (Greenwell, *British Barrows* (1877), 386-7; Pearsall and Pennington, *The Lake District* (1973), 210-11; Challis and Harding, *BAR 20*, Part i (1975), 177, Part ii, Fig. 8, 14).

ii. An extended inhumation burial was found at Ewe Close, Crosby Ravensworth and said to have with it the base of a red mortarium and the lip of a buff ware cup, CW2, ix, 298-9, fig. 2 and 308. I don't think these sherds have ever been looked at carefully for dating. If they still exist, this might be worth doing. This burial would appear to be later than yours if the pottery association is correct. Your three sherds seem to come from one pot with an approximate rim diameter of 11.3 cm. It should be drawn by someone competent to show the texture and surface smoothing as well as the section.

### Report on the Human Remains

By JOHN COLE, M.B., F.R.C.R.

#### *Remains of an adult human skeleton*

Both lower limbs except for the head of the left femur were discovered in the supine anatomical position, though the feet were turned slightly to the right. The presumed right radius and ulna were also recovered but both ends were damaged, these too were placed to conform to the expected position, if they belonged to the same body. The axis of the limbs (40 degrees east of north) was aligned approximately to the line of the cliffs of the foreshore, the head would have lain to the south.

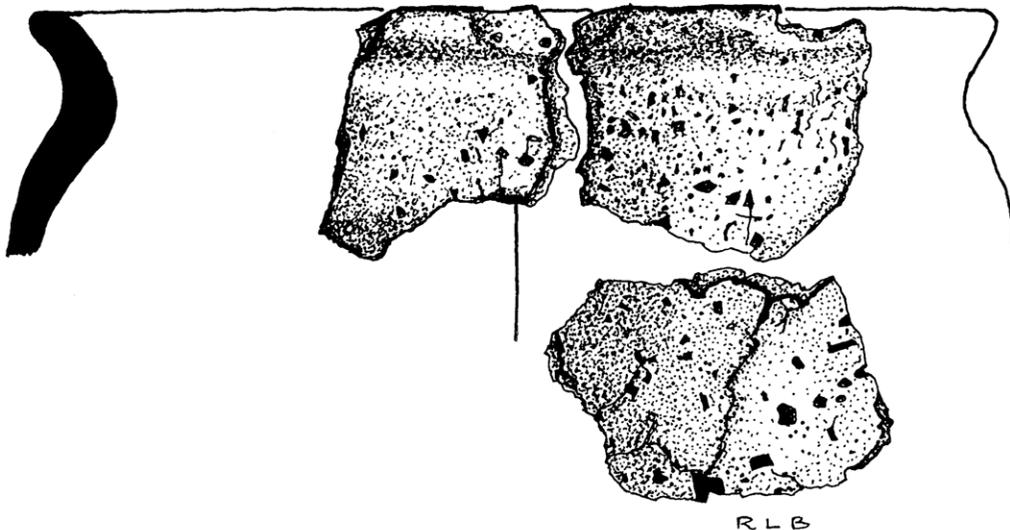


FIG. 6. - Rise How Calcite-gritted jar found with the human remains: pre A.D. 120.

Although the bones were found some 18 inches (450 mm) below the present land surface within the outlines of the Roman tower, the surrounding soil was the natural, which showed iron staining. No grave goods were discovered other than 3 sherds of Calcite gritted ware, and there was no evidence to suggest the body had been exposed

before burial. The absence of the remainder of the skeleton can be explained by its having been disturbed during the construction of the clay and cobble foundations of the tower. It can, therefore, be established as a pre-Roman inhumation. It was not possible to ascertain within the time available whether there had been any mound or any form of coffin.

### *Measurements*

Right femur	425 mm	
Right tibia	360 mm	Angle of femoral neck to shaft 130°
Right fibula	341 mm	

The estimated height (Trotter and Gleser, 1958) assuming a male is 1657 mm (65 inches), if female 1615 mm (64 inches). Although the measurements of these bones indicate a person of small stature, the femoral length is just below the mean average length of British male series (L. H. Wells, 1969) covering Iron Age, Anglo-Saxon and Medieval man.

### **Bibliography**

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### **Discussion**

The tower on the summit of Rise How in the place of the expected milefortlet 26 in no way invalidates the 1969 schedule of coastal sites measured from the south-west corner turret of the Roman fort at Maryport. Since the new tower forms a pair with Joseph Robinson's tower recorded in 1880 it must be accepted as proof of the continuation of the milefortlet-tower system to the south of the fort and consequently logic requires milefortlet 26 to be moved 540 yards to the north, thus closing the gap between it and milefortlet 25, at or near Mote Hill, to 1080 yards. Within this gap today lies an area of flat ground and a meander of the River Ellen; the shortening of the line and the omission of a tower (admittedly a theoretical one), may have been dictated by very different conditions hereabouts in the early second century. In attempting to reconstruct these conditions it is necessary to make two broad assumptions, first, that the overall picture we have of the gradual and continuing silting up of tidal estuaries, since before Roman times, continues to the present day, and, that the Ellen is no exception, and, secondly, that the natural agencies of wind and tide acting upon the margin of the land and moulding the shore-line operate in the same way now as they did in pre-Roman times. There may well have been a shingle spit deflecting the mouth of the river to the north and forming a tidal lagoon and an expanse of mud flats or salt marsh between the boulder clay of Rise How and Castle Hill/Mote Hill.

At the time of the first Elizabeth there was no town and no harbour, only a creek described in a Certificate of 28 April 1566 as 'Ellnesfoote . . . an other of the crekes and a small village halfe of a myle distant from the same, called Ellenborough of xii

householders . . . There is no Shippes, vessels, ne any Maryners.<sup>7</sup> Ellnesfoote remained a creek until 1740 when the first moves were made to found a town.<sup>8</sup> Humphrey Senhouse of Netherhall and other coal owners promoted a bill for the improvement of the harbour which was presented 2 February 1748 and work was in progress in 1749. The growth and prosperity of the new town, called Maryport after the wife of Humphrey Senhouse, was founded on coal. The harbour area expanded and facilities were improved. Brian Ashmore writes:

In barely 50 years, the secluded Creek of Elenfoot, with its occasional ketch or cat boat loading a few tons of coal, had become a bustling port. In doing so, it had given birth to a thriving new town of over 3,000 inhabitants. That growth was to continue throughout the 19th century, as each setback stimulated new enterprise.<sup>9</sup>

During the 19th century industrial development was mainly in the area south of the river outfall, here confined within the north and south piers. It pushed the seashore to the west; new ground was made and low ground was made up to raise it above flood level. Consequently, in the aftermath of the decay of industry, and in more recent times the levelling of the slag bank and reclamation of ground, it is impossible to find evidence which would enable anyone to draw in the probable position of the shore-line as it might have been before the 19th century.

Nevertheless, on the question of the position of the river mouth before 1740 we have the comments of one noted observer, William Stukeley.<sup>10</sup> I am indebted to Brian Ashmore for reminding me of this. I quote from his letter to me of 10 April 1982:

Which takes us to Stukeley – p. 50 – “The river Elen did not empty itself, formerly directly into the ocean as at present, but went northwards under the cliff till it came to the castle; the old channel of it is visible [1725 – i.e. well before the first houses were built in Maryport] the sea has eaten away a large quantity of marsh and high ground between it [i.e. the channel] and the castle.” [i.e. The Roman fort].

Stukely gives us two observations; their value is reduced by the uncertainty as to what he meant by “castle”. Writing of the fort he says, “The *castrum* is just 400 foot square, . . .” yet we have Castle Hill/Mote Hill on a spur of land eroded on two sides by loops of the Ellen. I inclined to the view that he meant the latter. To take the river channel northwards from Castle Hill under the cliff as far as the *castrum* (at least  $\frac{2}{3}$  of a mile) requires the presence of a considerable shingle spit running parallel to the line of the cliffs retaining, not only the channel, but an area of marsh and some high ground. After “castle” in the account comes:

To this elbow of land, which made the mouth of the river, is the name OLENACUM owing.

Today Castle Hill is an “elbow of land”, moreover an elbow of erodable boulder clay, unlike the cliffs of red sandstone below the fort. However, following Stukeley again, his elbow of land might have been in the form of a narrow triangle of shingle and alluvial terrace cut off at its base by the river breaking through to form a new outfall, the one he himself saw. Not a trace of the triangle can be seen, and the seashore today is swept clean to Bank End and beyond. Care is needed here; one cannot help wondering whether Stukeley was merely passing on an interesting local tradition and he looked for, and thought he had found, signs of a channel. But he continues: “They talk likewise of

anchors being found thereabout . . .". Stukeley was received and entertained by Humphrey Senhouse (d. 1738) so it is more than probable that his host was the informant and therefore able to speak from perhaps 40 years experience of conditions on the coast and the course of the river. In passing the name of the Roman fort is ALAUNA; there is considerable doubt about the etymology of the name OLENACUM and where it should be put on the map. Stukeley seems to have inferred OLEN from ELLEN, the name of the river.

Turning to more recent times, we have accounts by J. B. Bailey (1846-1932) who watched over the antiquities of Maryport and contributed important articles to *Transactions*. Two of his papers are of interest here, they give details of roads, "pavements", and remains of structures close to the river Ellen.<sup>11,12</sup> His sketch (CW2, xxvi, p. 414) shows walls, roads, and the enclosed paved area south of the river which have been seen as evidence for Roman port installations. Unfortunately nothing has been dated and the paved area (Fig. 7 hatched area and date 1886) may be no earlier than the harbour improvements initiated by Humphrey Senhouse, but even so it provides to some extent an indication that the Ellen has not been very active in meandering and changing its course during the last 300 years. Bailey also shows on his plan, a little south of Mandle Street, that thereabouts were "Sand hills"; 200 yards to the south-west close to the 1840 shore-line the modern maps show a "Sand Pit"; the first may be sand dunes, the second might be raised beach deposits. I can add an observation of my own: in the 'fifties I supervised the laying of a field drain to take water from a persistently flooded paddock on the north side of Risehow Farm to Eel Sike. The trench, 8 feet deep over most of its length, was dug through typical sandy gravels of raised beach.

For the better appreciation of the features of the area I have made a sketch plan based on the O.S. Six-inch sheets (Fig. 7) to which I have added the shore-line from the first edition of the One-inch survey, details from Bailey's sketch, Stukeley's "elbow of land", the native farm complex of Risehow<sup>13</sup> and the areas of sand. If the north-south road traced by Bailey is really Roman it was laid across river alluvium, and this would suggest that terraced marine alluvium had already formed by Roman times. As to the river itself, its lower course has all the appearance of a drowned valley and the drowning would have reached its highest level following the Neolithic Transgression which scarped the seaward faces of the drumlins of boulder clay and formed the raised beach by a combination of erosion and longshore drift. Rise How itself was scarped and no doubt contributed its share of gravel and boulders to the growing bank of shingle at its foot. The ancient seas cliffs further south towards Workington formed at the same time, are today some way inland. Old gravel pits near Flimby and Siddick indicate the probable line of the raised beach and that the deposit must have been extensive. Following the pattern of events seen further up the coast<sup>14</sup> a spit of shingle must have formed and grown forward from Rise How towards the estuary of the Ellen by forming successive hooks curving inland. The deposits I saw on Risehow Farm may be part of one such hook. The shingle would have advanced across the river mouth diverting the flow northward in exactly the same manner in which, for example, Allonby Beck (and other becks) has been made to flow northwards parallel to the line of the shore for almost 1,000 metres. The tidal lagoon so formed and the lower reaches of the Ellen would soon have filled with alluvium to a level closely related to the then mean sea level.\* The

\* There were two eustatic rises of sea level: about 6,800 to 5,800 years ago and 4,800 to 4,545 years ago, the last forming the highest identified terraced alluvium.

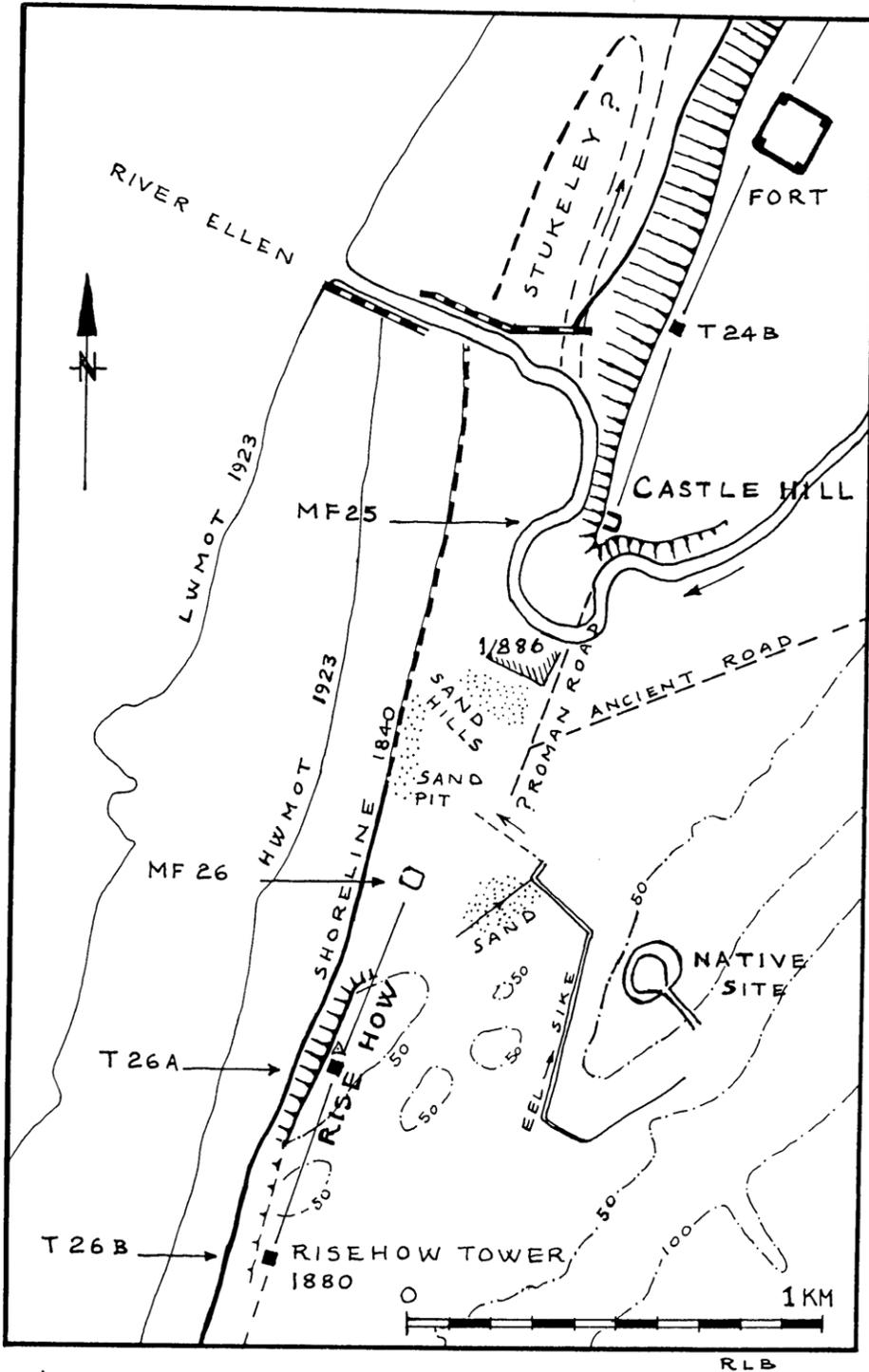


FIG. 7. - An attempt to reconstruct the probable coast line to north and to south of the mouth of the River Ellen during the Roman period.

melting of ice that had caused the rise in sea level removed a great weight from the land which then began to rise towards a new equilibrium: in effect sea level began to fall. On the face of it, it seems as if Stukeley's informant was right. If so then we have to explain the disappearance of his 'elbow of land' below the cliff on which the castle or *castrum* stood.

The first effect of the fall in sea level would have been to reduce the supply of new material for the growth of the raised beach, because the solid ground would no longer have been under active attack. If the supply of new material ceases, longshore drift still continues and a new, lower, storm beach forms by the erosion of the existing raised beach unless local factors operate. One of these local factors is the formation of a dune coast and gently shelving sandy shore seaward of the raised beach. One must not forget the effects of the intervention of man through the building of harbour works, coast defences, and the dumping of pit waste and foundry slag along the foreshore over the last 200 years.

The coastal system of towers and milefortlets provides a unique means of assessing the extent of coastline change over the centuries since they were built. The shore-line has been remarkably stable, probably due to the fact that the equal and opposite effects of destructive and constructive wave action tend to cancel each other out in the long term. At present land is being gained in three areas; from Swarthy Hill to Allonby (shingle and sand), from Dubmill Point to Old Mawbray (shingle and sand), and from Beckfoot to Silloth harbour (dunes). The land is under attack between Maryport and Saltpans, from Allonby to Dubmill Point, and from Silloth to Skinburness. A short stretch south of Beckfoot where milefortlet 15 once stood has suffered loss over the past 30 years. In effect the existing beach material is being reprocessed and moved along the shore, the loss in one area being the gain in another. The only significant natural sources of new material are the sand banks exposed at the time of the lowest tides. Hot sun dries out the grains and strong south-westerly winds blow them shore-wards to be trapped in the stabilizing vegetation of existing dunes.

My first explanation for the dislocation, that the line was shortened and a tower omitted because the ground between Castle Hill and Rise How might have been a tidal lagoon with extensive mud flats, does not now seem at all reasonable. There is a better case for the opposite, a wide stretch of alluvium 2 or 3 metres above present mean sea level sheltered behind a considerable shingle bank and with a very useful creek for vessels of quite a large size. It could therefore be argued that hereabouts were Roman port facilities, shipyards, workshops, slipways and stores already in use when the coast system was surveyed and established, and that was the reason for dislocation. Brian Ashmore has pressed me for some investigation of this area and I agree it is very desirable if only in the first instance as a "pilot study" to establish the nature of the recent geology and stratification. And the best place for the first testing of the ground would be the theoretical position of the tower common to both the old and new schedules of coastal sites – 25a.

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