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Causeways, at Milecastles, across the Ditch of Hadrian's Wall

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SUMMARY

T*his paper reviews the evidence for the provision of a causeway across the Ditch of Hadrian's Wall outside the gate of each milecastle. The presence or absence of these causeways is an important element in the interpretation of the function of the Wall as a whole – both as originally intended and through its subsequent modifications. The evidence, from fieldwork and from the results of excavation, suggests that a causeway was always provided in the original scheme. Subsequently some of them seem to have been blocked; others may have remained in use. Most, however, seem to have been cut away. The timing of this reduction in access is likely to relate to the narrowing and blocking of the North gates of the milecastles in the later second century. There are strong pointers to local decision-making in the maintenance of the Wall in the Roman period. A gazetteer of relevant sites is appended.*

INTRODUCTION

The function of the complex of military structures that is referred to collectively as Hadrian's Wall has been the subject of much debate over the past thirty years. The arguments have been summarised by Bidwell (1999, 31–5). They centre on how far the Wall, in its entirety, was intended to be a solid barrier, effectively preventing any movement in or out of the land directly controlled by Rome, or whether it was seen to be a more flexible agent of control through which some passage was permitted: a prestigious monument to the invincibility of

Empire, designed to induce awe and thus, additionally, to be a psychological barrier. Which ever was the case, passage through the Wall would have been provided primarily for military purposes; any benefit to civilian trade across the frontier would have been a decidedly secondary matter.

The assignment of function is always very difficult for the archaeologist, and it is especially so when the interpretation of a large and complex monument is hard to disentangle from received wisdom, in which there is always a temptation to reduce the mass of archaeological evidence to a level at which it can be readily understood. That received wisdom, on further examination, may prove to be founded on very little hard evidence. Complexity and longevity exacerbate the problems of interpretation. Over nearly three centuries of occupation, the way in which the Wall was used changed sporadically: it was a dynamic system, not a wholly static one. In Wall studies therefore the focus is always likely to be on the changes in construction that are recoverable archaeologically and which reflect more detailed aspects of operation within the wider function.

For the observer on the ground this is especially true. The picture that emerges from the examination of any aspect of Hadrian's Wall is of a wide variety of decisions that were taken in the execution of its single initial grand design; this variety seems to have been subsequently compounded by locally-dictated refurbishment during the occupation of the Wall, and the intricate picture that resulted has been rendered even more complex by the random affects of subsequent robbing, agriculture, development and natural erosion. The heterogeneous picture

that we are left with makes the task of uncovering *original* intentions – and of understanding those patterns of subsequent change – especially challenging.

MILECASTLES AND CAUSEWAYS

Much of the debate about the changing function of Hadrian's Wall centres around the role of the milecastle: the fortified gate that permitted or denied access through the original barrier. In the Seventh Horsley Lecture, Brian Dobson (1986, 9) said that "The function of the milecastle remains one of the great mysteries of the Wall." This paper aims to examine the evidence for one small aspect of this mystery: the presence or absence of a causeway, across the Ditch that forms the forward (northern) defence of the Wall, outside the gate of every milecastle. This examination is rendered particularly difficult by the lack of attention that the Ditch (as a whole) has received – an extraordinary omission in scholarship when the date and associations of the Ditch, and its scale as a feat of engineering are considered – and by the very marked concentration on the structural aspects of milecastles – especially their gates – at the expense of any consideration of their immediate context. Excavation outside milecastles has been extremely rare but has shown, sometimes fortuitously (e.g. Wilmott 1999a), that activity in the Roman period was not confined to the interior of this specialised type of fortlet.

The classic view of the original Hadrianic form of a milecastle (summarised by Hill and Dobson 1992, 33–8) includes the provision of a road, suitable for the passage of wheeled vehicles, through gates in the south and north walls of the milecastle and across the berm to an undug causeway across the Ditch. The causeway has been more an interpreted feature – devised from the very existence of a North gate and of the road – rather than one that has been empirically observed to be the norm.

The long invisibility to scholarship of these causeways may be underlined by reference to Horsley who "had not been able to discover

any passes through the wall at the military *castella* [the milecastles] though this is what I expected. Dr Hunter has since told me, that in the next *castellum* west from Walwick [milecastle 29: Tower Tye] there was a gate through the wall ..." (Horsley 1732, ix, 121). The North gate (let alone an associated causeway) was not seen by antiquaries to be an integral part of milecastle design until – as a result of Clayton's excavations of the Knag Burn gate in 1856 – Albert Way drew attention to it in his supplementary note at the end of MacLauchlan's *Memoir* (1858, 94), a view that was then disseminated to a wider audience by Collingwood Bruce (1863, 28).

Nearly two generations later, in the report on the excavation of milecastle 48 (Poltross Burn), Gibson and Simpson (1911, 399) wrote: "It is not yet known how roads from the north gates of milecastles were carried over the ditch. There are no examples of original causeways, though in one or two cases the ditch appears to have been filled up in modern times. In the numerous cases where causeways are certainly absent, remains of bridges have still to be searched for."

The excavation of milecastle 50 Turf Wall (High House) in 1936 was unusual in that the trenches extended beyond the milecastle itself and demonstrated that a "lightly-metalled road which passed through the milecastle crossed the Turf Wall's ditch by a causeway of undisturbed subsoil" (Simpson & Richmond 1935, 225). Revealingly, the authors continued: "This is the first time that a causeway has *been sought, or discovered* [my italics], at a milecastle, and traces of another were detected later in the season at Randylands, 54." The comparative paucity of fieldwork and excavation since the pioneering days of the 1930s is apparent from the list of bibliographical references at the end of this paper. Little has been made of the discoveries at High House and at Randylands; they seem to have been marginalised as somehow being products of the special circumstances surrounding the design and construction of the Turf Wall, rather than being – as is now apparent – typical of the first major phase of construction of the Wall as a whole.

The absence of causeways across the Ditch fronting the Stone Wall seems to have been tacitly accepted, almost as if they were not an integral part of the Hadrianic design, despite the lack of logic that there would be in the provision of a North gate without an attendant causeway. The options were summarised by Breeze and Dobson (1987, 41): either the causeways were provided but were later removed; or timber bridges were used (something that might be difficult to trace archaeologically and which would have demanded senseless additional work); or no causeways were provided at all (presumably because of a change of plan during construction).

The difficulty in considering these options is that the Wall clearly changed in its defensibility and in the priority given to making the line either passable or impregnable. Logic dictates that the very provision and design of the milecastles were intended to facilitate the movement of troops through the Wall. (Such access would almost certainly have been denied to the civilian population in all normal circumstances.) However, once the decision was taken to move the garrison onto the Wall itself so many gates were found to be unnecessary and, furthermore, each one provided a point of weakness that had to be continually manned at a relatively high level. The only continuing requirement would have been for some limited access to the berm – through gates at less frequent intervals which could be narrowed to posterns – so that maintenance could occasionally be carried out on the North face of the curtain and in the Ditch.

THE EVIDENCE

The evidence for the presence of causeways takes a number of forms, both direct and indirect. The direct evidence comes from the results of excavations and from the observation of the extant earthworks of the causeways themselves. The indirect evidence has to be teased out but can be arranged under a variety of headings:

- a) a gap, or the provision of a separate blocking mound, in the upcast on the glacis;
- b) continuing North-South access, either in the form of post-medieval tracks and roads that lead across the Ditch, or the presence of a field-gate, or – as a possible indicator – the archaeological evidence for a secondary causeway across the Vallum;
- c) a change in slope at the base of the Ditch;
- d) the interpreted evidence from geophysical surveys.

A brief summary for each milecastle that has been considered is provided in the Gazetteer at the end of this paper.

The most secure evidence, archaeologically, should be the results of excavations. These are few in number; the only two causeways that have been excavated were identified at milecastle 50 Turf Wall, High House, and at 54, Randylands, in the 1930s. At High House the surface of the causeway – conceivably for a road leading North to the fort at Bewcastle – was found to be approximately 5.8m wide; a wood-lined culvert was provided to relieve the pressure of water on the up-slope side of this baulk of undisturbed subsoil (Simpson & Richmond 1935, 221, 225; fig 6). Four miles to the West, in the soft sands of the hillside at Randylands, the surface of the causeway had been washed away – today nothing more survives than a slight attenuation in the overall width of the Ditch – but the excavators found a narrow strip of stone bottoming, about 3.7m long, at a depth of about 1m. This they interpreted, convincingly, as a parallel to the cobbling uncovered beneath the lining of the culvert at High House (Simpson & Richmond 1935, 239, 243).

In both cases, metalling was found leading from the North gate of the Turf Wall milecastle towards the causeway. Although at Randylands the westward shift of nearly 4m in the respective axes of the Turf Wall and Stone Wall milecastles on the site suggests that the causeway was associated with the former, there is no reason to suppose that the causeway went out of commission once the Stone Wall milecastle was built. The causeway was clearly not cut through and removed.

At milecastle 50 on the Stone Wall (also referred to as High House), Simpson (1913, 315, 325) had also found metallurgy outside the North gate, but he failed to identify any more in the appropriate position on the other side of the Ditch and he could not therefore confirm the presence of a causeway there.

At four other sites the extant earthworks suggest that a causeway has survived. At milecastles 47 (Chapel House) and 51 (Wall Bowers) the causeways appear to be 5m and 4.5m wide respectively – comparable to the features excavated at 50 TW and 54, and broad enough to accommodate a roadway. At 46 (Carvoran) the remains of the causeway now consist of little more than an absence of earthworks on the crest of the slope, and at 33 (Shield-on-the-Wall) it is argued below (see Gazetteer) that the causeway is so difficult to identify because it has been partly quarried away. Outside milecastle 25 (Codlawhill) the earthworks of the causeway are very much broader, being 15m wide altogether, within a stretch of the Ditch that is extremely well preserved. It is conceivable, however, that some of this breadth consists of post-Roman infilling (as apparently at 47, Chapel House) for it seems unlikely that the Romans would deliberately have provided the additional width, with the consequent difficulty of defence that it would represent.

Some time-depth is evident in the earthworks. The causeways at 25, 33, 46, and 47 appear to have been blocked at their northern end by a linear mound on the line of the northern crest of the Ditch. A similar provision seems also to have been made at 29, Tower Tye. These mounds may have been constructed specifically and deliberately as an economical way of disabling the causeway, rather than expending much effort in cutting it away altogether. Alternatively (but rather less plausibly), each mound could be the result of routine cleaning-out of the Ditch, after the causeway had gone out of use, and could have been incorporated in the distinct and narrow marginal mound that is often seen to emphasise the northern crest of the Ditch (cf. Wilmott 1999d). The shape of the surviving earthworks, in which the blocking

mounds appear to be discrete elements, argues against this second explanation.

The northern side of the Ditch was usually accentuated by the provision of a glacis mound – the primary broad spread of upcast from the Ditch. The field identification of a clear and appropriately positioned gap in the glacis would be a strong argument for the former presence and long retention of a causeway. The glacis, however, is extremely variable in its morphology and was probably regularly augmented, wherever the consistency of the subsoil demanded it, by the cleaning-out of the Ditch. Its earthworks therefore offer few unequivocal pointers. Nevertheless, an appropriate gap in the glacis may be identified in the earthworks opposite the position of the North gate of milecastle 23 (Stanley), 29 (Tower Tye), 46 (Carvoran), and possibly also at 25 (Codlawhill). Elsewhere ploughing has frequently destroyed any surface traces that might have been indicative.

Wherever there is evidence for continuing North-South access across the military lines at the site of a milecastle during the Roman period there must be some presumption in favour of there having been a contemporary causeway across the Ditch also. On the southern side of the Wall, causeways across the Vallum (cf. Heywood 1965) have been identified opposite 23 (Stanley), 29 (Tower Tye), 50 TW (High House) and 51 (Wall Bowers), all of which have some other confirmatory evidence for a causeway across the Ditch also. Reversing the argument, where a milecastle appears to have an associated causeway across the Vallum there may be good grounds for seeking another across the Ditch that may not be immediately visible.

All along its length there are very many points at which the Ditch has been crossed by roads and tracks that became established after the Wall had ceased to be a barrier, wherever it was convenient to do so. In this longer time-frame, the retention of access to the North *at a milecastle* is a strong argument for the ready passage across the Ditch in the post-Roman period that a surviving causeway would provide, even if there is no other evidence: e.g. the

existing road to Matfen at milecastle 19 (Matfen Piers), and the route of the lane at Cambeckhill (milecastle 57). Tracks and hollow-ways of less significance today are located in the appropriate places to indicate the former presence of a causeway at 26 (Planetrees), 46 (Carvoran), 47 (Chapel House), and 49 (Harrow's Scar). Of no less significance, it is immediately apparent to the fieldworker that an abnormally high number of field-gates still open to the North on the site of several milecastles, providing access across the Ditch and plausibly preserving routes established across a causeway that had presumably survived. In addition to those serving some of the tracks listed above, these field-gates are also present at 25 (Codlawhill), 50 (High House), and 51 (Wall Bowers).

Rather less obviously, where the earthworks of the Ditch are relatively well preserved but where no causeway now survives, there is often still some evidence to be had. This may take the form of a slight but perceptible change of slope in the bottom of the Ditch – e.g. at 18 (Wallhouses), 23 (Stanley), 29 (Tower Tye), and 34 (Grindon) – indicating that a causeway has been removed, linking the two hitherto separate lengths of Ditch. Without excavation some caution must be expressed in the interpretation of this strand of evidence as it might also be expected that the debris resulting from the collapse or robbing of the tower over the North gate of the milecastle might itself introduce some visible discontinuity. Despite this possibility this factor does not adequately explain the earthworks observed which still seem to point to the former existence of a causeway that was removed during the Roman period.

Elsewhere a radical change in the character of the Ditch may suggest that the milecastle was used as a terminal point for separate gangs in the original phase of construction or during secondary recutting. This change may have been made on either side of a causeway, as the evidence from the Antonine Wall suggests (cf. Keppie 1974, 156–8, 161–2; Bailey & Cannel 1996, 337). An example of this on Hadrian's Wall may be represented in the earthworks surviving at milecastle 32 (Carraw).

No distinction can be made in the field between a causeway that has been cut away deliberately and one that has been removed naturally by water seeping through it down a hillside, and by subsequent scouring. The excavated remains at Randylands (milecastle 54) confirm that this certainly happened in appropriate subsoils. This likelihood of scouring may illuminate the relationship between any causeway that may have existed at milecastle 38 – for which there is no evidence visible on the ground – and the specific choice of the site of the buildings at Hotbank Farm which are immediately adjacent but on the northern side of the Ditch. A causeway would have provided ready access to the farmland to the South but on this hillside it would certainly have been vulnerable to erosion.

Beyond conventional field observation there is still great scope in the arable land at the eastern and western ends of the Wall for the further application of geophysics: to identify the exact line of the Ditch and of any undug causeways across it. The only possible example where this may have been demonstrated was at milecastle 62 (Walby East) where a linear anomaly, corresponding to the line of the Ditch, was found to narrow perceptibly opposite the putative position of the milecastle (Gater 1981, 7–8). This narrowing was put down to the water-logging of the ground (which itself might be attributable to the vestigial presence of a buried causeway) but might also be due to the fact that the Ditch was indeed “narrowed” in its resistivity by being interrupted.

Taken together these various strands of evidence – some direct, some circumstantial – are arguments to support the argument for the former presence of a causeway at a significant proportion of the milecastles at which they could reasonably be expected to be detectable in the field.

INTERPRETATION

The pattern that seems to emerge is that causeways were indeed provided in the original scheme for the Wall. This should occasion no

surprise: a relatively high degree of care was expended on the northern gates of the mile-castles, and on the southern ones, as the quality of the masonry indicates (Hill 1991, 33). If the function of the North gate was to provide no more than access for maintenance and some veneer of a grand statement, a much less elaborate postern would have been perfectly appropriate. Subsequently, as with the North gates themselves, the fate of the causeways seems to have varied. Some survived relatively or wholly intact and, in a few cases at least, they seem to have continued in use, continually or intermittently. Some remained but were blocked at their northern end. Others were cut away. There does not seem to be any compelling reason to argue for the construction of timber bridges across the Ditch, either initially or subsequently, although this remains a possibility that would have to be tested by excavation.

Given the large number of points at which the Wall was crossed by roads and tracks in the post-Roman period, it is legitimate to question whether some of the extant causeways at mile-castles could also be post-Roman in date. The evidence for the blocking of the causeways firmly suggests that this is not the case, and this has been underlined by the evidence excavated at TW 50 (High House) and at milecastle 54 (Randylands).

There is no direct evidence for the date and specific context of the putative decision to remove the causeways; this is still a matter for speculation. Nevertheless the well-attested removal of the gates of the milecastles, probably at the time that Hadrian's Wall was abandoned in favour of the Antonine Wall *c.* A.D. 140, must imply that access was readily achieved across the Ditch at these points. It follows that the causeways were still intact at that time, even though the construction of the Vallum (at or after the decision to bring the forts of the garrison up onto the line of the Wall itself) had rendered the milecastles and their gates of little importance (Dobson 1986, 15, 19). Indeed, one reason for the "fort decision" may have been that the portals of the milecastles – set so far apart from one another – provided a level of access that had been found

to be less than satisfactory (Breeze & Dobson 1972, 188, 192).

At the reoccupation of Hadrian's Wall from *c.* A.D. 158, the Vallum was abandoned and the Military Way was constructed. Lateral communication was thereby improved on the South side of the Wall and it presumably became clear that there was no need to reinstate all of the slighted gates of the milecastles. This decision may have been influenced by the army's experience on the Antonine Wall, where the evidence points to the initial provision and the later removal of the northern causeway across the Ditch in front of the fortlets there. At Watling Lodge the fortlet – and therefore its causeway – stayed in use throughout the life of the Wall because the road to the fort at Camelot passed through the fortlet itself; in a secondary phase the other fortlets were dismantled and each of their causeways was cut through (Keppie *et al.* 1995, 625; Bailey & Cannel 1996, 310, 337, 340, 342). The only trench set specifically to test for the presence of a causeway at a fortlet – at Seabegs Wood – (Keppie & Walker 1981, 145) was not positioned in such a way that it could offer any information as to whether a causeway had been provided but subsequently removed. Overall it seems that the northern gates, on either Wall, had come to be seen as so many points of weakness; routine maintenance only required a postern, and not a causeway.

The narrowing of the gates of the milecastles of Hadrian's Wall, in the later second century, was an inevitable consequence of these various changes in priority, although the full pattern of the blocking, narrowing and (in some cases) the later re-opening of the gates, is not yet clear. It seems likely that in the later second century the role of each milecastle was evaluated individually, according to its geographical and tactical position (cf. Dobson 1986, 24), producing a variety of structural solutions rather than one grand and simple design. Given this heterogeneous picture it is tantalising to ask why some causeways seem to have survived and why others were cut away. A causeway that was retained at a milecastle relatively close to a fort would have provided a low security risk but

would have been relatively useless. Those close to the mid point between garrisoned forts would have offered convenient additional access to the North but would have been relatively vulnerable and insecure. No convincing pattern emerges from the consideration of the list of certain and probable examples included in the Gazetteer (below) to explain why some causeways seem to have survived, as a whole or in part.

The identification of such a pattern would be immeasurably easier if we understood the provision, design and role of the Ditch in the defensive scheme of the Wall as a whole. This will be the subject of another paper. Here it is enough to state that there does not seem to have been a uniform approach to its construction in the original scheme for the Wall, nor in its subsequent treatment. Separate stretches may have been subject to different decisions. If individual decisions – influenced by topographical and tactical considerations – were also taken over the question of access through the North gates of the milecastles then the simple assumptions of the universality of provision along the Wall – i.e. that structural changes are liable to have been replicated throughout the length of the frontier – may have to be reconsidered.

Fieldwork alone cannot take the questions surrounding the milecastle causeways much further – as the sparse remains now observable at Randylands make clear when they are compared to the much greater knowledge gained there from excavation. Much more work needs to be undertaken, through excavation and through geophysics, to reveal the true complexity of the pattern of the provision of causeways and of their survival, removal, or re-use. Nevertheless the evidence does strongly suggest that the initial function and operational scheme for the Wall was modified, probably in the later second century, to create a more rigid barrier in which the milecastles and the gates through them played a much more minor role.

GAZETTEER

The following list of milecastles was selected according to the likelihood that evidence for

the Ditch would survive to a reasonable degree and would be visible on the ground. That initial judgement was based upon the cartographic results of the 1:2500 survey of Hadrian's Wall carried out by the Royal Commission on the Historical Monuments of England, available for consultation in the National Monuments Record, in Swindon. At the scale at which it was undertaken the RCHME survey could not depict the evanescent remains of causeways and thus the question of their existence was not addressed. Each site was therefore re-examined by the author in the field in 1999. To this list some results of relevant excavations have been added. At some of the sites listed there is evidence for a causeway; at others there is none. The bibliographical references to individual milecastles are often extremely sparse; the essential relevant publications have been cited.

17 Welton / Whittle Dene (NZ 06306822) The "causeway" just to the E of the axis of the milecastle seems to be later infilling to provide access across the Ditch, although the context for this is not apparent (cf. Birley *et al.* 1932, 256–7, pls 38, 44; Wilmott 1999a).

18 East Wallhouses (NZ 04816836) Level ground: there is no sign of a causeway here, and there could have been no scouring of the Ditch (which is broad and shallow) to destroy one. The modern access to Vallum Farm is on a comparatively new alignment, a few metres to the W of the position shown on the earlier OS maps which was probably on the axis of the milecastle. The bulges in the N scarp of the Ditch do not appear to be significant; if anything this scarp appears to be better preserved opposite the milecastle gate. Excavated in 1931 but the area of any causeway was not examined (Birley *et al.* 1932, 257–8, pls 40, 41, 46).

19 Matfen Piers (NZ 03346853) No direct evidence. The road to the N, to Matfen, is about 15–20m E of the axis of the gate. The levels here have changed considerably. The line of the walls on either side of the Matfen road have been set back in wide arcs on either side of the junction. Nevertheless the access to the

N, across the line of the Ditch, may suggest some circumstantial evidence for the former presence of a causeway. Excavated in 1932, 1933, 1935, 1999: the N gate was found to be partly blocked (Birley *et al.* 1932, 258; 1933, 98; Simpson *et al.* 1936, 259; Wilmott 1999b).

23 Stanley (NY 97516893) A steady, gentle slope to the E. There is a slight change of slope in the bottom of the Ditch on the axis of the gate. Of the glaxis there is a marked bank – with a steeper slope to the N – through which there is a gap at this point, about 8m wide. A track cuts diagonally across the N scarp of the Ditch. The whole area is obscured by gorse. This does seem to be a place where a causeway may have been cut away. There is a secondary causeway across the Vallum opposite this milecastle. The position of the milecastle was located in 1930 (Simpson 1931, 317).

24 Wall Fell (NY 96066925) The Ditch is only in moderate condition at this point, being better preserved immediately to the W. The glaxis is not evident, whereas 50m to the E it is quite clear although very irregular. On the axis of the gate there is a slight reduction in the rushes as if the silting was marginally less deep at this point. It is just about possible that a causeway could have been cut away here but the comparative dryness of the bottom of the Ditch may more plausibly be caused by a larger amount of stone debris fallen from the milecastle. The position of the milecastle was located in 1930 (Simpson 1931, 317).

25 Codlawhill (NY 94596940) It would be very difficult not to accept this as an example of a causeway. This, to the E and to the W, is one of the finest stretches of the Ditch: sharp, steep-sided and over 3m deep. Here, however, is a broad causeway, about 15m wide, at the same level as the berm to the W. (The road is at a higher level.) The glaxis mounds are broken to the N at either side of the causeway (perhaps as a result of later tracks using the causeway); the glaxis seems to be uninterrupted otherwise. The causeway was later blocked by a marginal mound on the N scarp – either deliberately or

from the ordinary process of cleaning out – and was later still cut through again by tracks. There is a field-gate through the modern wall at the S end of the causeway. There is also a probable causeway across the Vallum here. The position of the milecastle was located in 1930 (Simpson 1931, 317).

26 Planetrees (NY 93096953) The Ditch – most obviously marked by the N scarp in this field as it descends the hill from the E – is fading out at this point. The N scarp does not continue to the W beyond the axis of the milecastle, the site of which lies in a level area. The field-gate is, however, almost exactly on the axis of the milecastle; a track leading N from it crosses the line of the Ditch which has a faint glaxis in that there is a slight northern counterscarp. There probably was a causeway here. The position of the milecastle was located in 1930 (Simpson 1931, 317).

29 Tower Tye (NY 88887109) The hillside slopes gently from E to W; the base of the Ditch rises appreciably on the axis of the milecastle, suggesting that there may be some damming on the E (upper) side. This could represent the remains of a causeway, much silted up. To the E of the milecastle there is a marked broad glaxis mound; to the W this continues but it has been ploughed almost level; a hedgeline, still marked by isolated thorn trees and stumps, ran below the N crest of the Ditch. This hedgeline may account for the small isolated length of bank that “blocks” the distinct gap (about 7m wide) in the N scarp of the Ditch and in the glaxis mound (but see milecastle 25 and 33, below). Axial to the milecastle is a bulge in the N-facing scarp of the Ditch. This seems to be composed largely of rubble and is probably derived from the collapse of the milecastle (rather than from its robbing). Superficially this bulge looks like part of a causeway – and indeed it may be so – even though there is nothing comparable surviving on the N side.

The earthworks of the glaxis, and the profile of the bottom of the Ditch suggest that there was a causeway here, one that was either cut away or which gradually succumbed to the

effects of water seeping through it and the consequent spring-sapping. There is a causeway across the Vallum opposite this milecastle. Horsley 1732, ix, 145; Birley 1960, 49–52.

30 Limestone Corner (NY 87537158) The southern scarp of the Ditch is uninterrupted save for a slight forward apron of stones which may have been caused by the collapse or the robbing of the milecastle. The northern scarp is much more gentle and is very low; there is no sign of any discontinuity. No causeway through Vallum. Examined, excluding the N side, in 1927 (Birley 1960, 52).

31 Carrawburgh (NY 86067126) Immediately to the E of the axis of the milecastle there appears to be a causeway across the Ditch but this is a headland associated with the ridge-and-furrow that extends to the N. These earthworks are rendered more difficult to interpret because of the presence of a small pond (now dry) on the line of the glacis. There is no visible evidence for a causeway here.

32 Carraw (NY 84567099) The field to the N has been ploughed in the past: faint traces of ridge-and-furrow remain, and the glacis has been levelled. On the axis of the milecastle the earthworks of the Ditch change character: to the W they are sharply cut, the N scarp standing approximately 2m high; to the E the Ditch is shallower and is represented only by a very gentle N scarp. This change does not seem to be readily attributable to the ploughing and it appears possible that a re-cutting of the Ditch in the Roman period ended here. There is no sign whatever of a causeway although the evidence from the Antonine Wall suggests that the gauge of the Ditch might well change radically on either side of a causeway. The milecastle was excavated in 1972 and found to be heavily robbed. There was no investigation beyond the north gate (Binns 1972; *Britannia* 3 (1972), 308).

33 Shield-on-the-Wall (Newbrough) (NY 83087073) Given the degree to which quarrying (presumably for the field-walls) has affected the

Wall here – along with the S scarp of the Ditch and the N scarp of the glacis – it is extraordinary that the N gate of the milecastle was found to be so well preserved. This stretch is one of many in which the Ditch has been cut into the forward slope above the moss to the N; upcast has accentuated the glacis on the counterscarp.

The exposed stonework of the milecastle gate demonstrates the Roman level. From this it can be argued that the damaged earthworks of a causeway still cross the ditch, descending to the level of the ground immediately beyond the glacis; the E half of this putative causeway survives, the W portion having been apparently quarried away. At its N end its course is blocked by a distinct and substantial mound, within the line of the glacis, which stands about 1.3m high on its S side; this appears to be a deliberate blocking of the causeway. No mention of causeway or Ditch was made in the report on the excavations (Simpson *et al.* 1936, 262–3).

34 Grindon (NY 81707049) Here the Ditch is extremely well preserved and is partly rock-cut; upcast has been thrown to the N, accentuating the counterscarp. This is the point at which the crags of the Whin Sill begin to rise above the low-lying Fozy Moss immediately to the N. There would have been no real need for a causeway here as the Ditch only continues for about 30m farther to the W; access to the N from the gate of the milecastle would have been readily possible along the berm for this short distance.

Although the Ditch has clearly been driven across the face of the milecastle there is a marked discontinuity in the level of the base of the Ditch at this point. The rather uneven S scarp of the Ditch is further disturbed by a small boss of rock approximately on the axis of the milecastle. These observations suggest that a causeway here has been cut away. (For the milecastle, see Horsley 1732, 146; *J Roman Studies* 38 (1948), 84.)

38 Hotbank (NY 77276813) This milecastle is not on the crags and there is a well preserved stretch of Ditch in front of it. However, the

grounds falls steadily to the W and it is likely that there has been a considerable amount of natural scouring down the Ditch on this hillside. Against the late survival of a causeway is the argument that had there been one it would certainly have been made use of and thus would be extant. But which criteria determined the siting of the farm? Access across the Ditch and through the Wall would have been a real advantage. Whatever the arguments there is no sign of a causeway now, only a slight bulge in the southern scarp – as at Limestone Corner – which probably represents collapse or demolition debris from the milecastle. The milecastle was excavated in 1935 (Simpson *et al.* 1936, 263–8).

40 Winshields (NY 74576757) In effect this milecastle opens onto the crags. Its position is just at the point where the Ditch ends in this sector. The ditch was only dug to its usual profile as far as a point about 70m to the E (Simpson 1976, 86). Thereafter, to the W, its N crest is marked only by a low bank – almost a marker bank, rather than a significant stretch of Ditch – several metres below the level of the milecastle gate. This slight bank continues beyond and across the axis of the milecastle gate whereas the vestigial S scarp does end at the axis, possibly suggesting the former presence (or the intended presence) of a causeway. Egress from this gate would have been possible, and would have been useful as there is no other way of getting to the N face of the Wall to the W where the natural slopes drop steeply almost immediately below the northern face of the modern field-wall on the line of the Wall.

41 Shield-on-the-Wall (Melkridge) (NY 73036706) In effect, a “crag” milecastle. The site of the N gate is crossed by the field-wall that has been built along the line of the Wall itself, and by another – ruinous – that meets it almost at right-angles from the N. No Ditch was thought to be necessary here although a short, very shallow stretch survives just to the E. This is little more than the berm and a N-facing scarp. This treatment can also be seen in the stretch opposite T40B – as far as the point

at which the Wall changes direction – and, arguably, immediately to the W of milecastle 40. The location of the milecastle was confirmed in 1946 (*J Roman Studies* 37 (1947), 168).

46 Carvoran (NY 66466601) This milecastle, located in 1910 (*PSAN*³ 4 (1910), 167), was sited exactly on the crest of the long slope down to the River Irthing at Thirlwall. The earthworks of the Ditch are extremely well preserved to the E where the ground is relatively level, and also on the hillside to the W. At the crest, however, on the axis of the milecastle, the earthworks fade out completely: the broad glacis mound is broken and the scarps of the Ditch are reduced to nothing. A hollow-way that pre-dates the Inclosure field-wall runs slightly obliquely northwards from the axis of the milecastle, about 3m to the E of the N-S field-wall that crosses the line of the Ditch at this point. The hollow-way cuts through the glacis mound and the minor mound on the N lip of the Ditch (in such a way that it suggests that the latter was a blocking – of a causeway – that was subsequently cut through again). Another track crosses the Ditch 50m to the W, and also pre-dates the E-W field-wall that overlies Hadrian’s Wall. This track crossed to the N of the Ditch, turning E to provide access to the field to the N of the milecastle. This tends to add weight to the impression that the hollow-way on the crest is a relatively early feature that was later superseded.

47 Chapel House (NY 64906607) A clear and obvious causeway in a stretch where the Ditch is magnificent: 12m wide and 3.5m deep. The causeway is 18m wide now although it seems that the western 13m may be more recent in-fill – witness the field-gathered stones deposited on either flank. The narrow mound of the glacis (or is this a hedgebank? – it does not seem to be), 3m wide, is smoother to the W but crosses slightly over the W edge of the causeway. This appears to be another example of secondary blocking – cut through by a trackway that then curves down the slope to the NW

to the level ground. Excavated in 1935 (Simpson *et al.* 1936, 270–72); neither the Ditch nor the causeway was examined.

49 Harrow's Scar (NY 62026640) The N scarp of the Ditch, which is very fragmentary here, fades out approximately on the line of the W wall of the milecastle. To the E only the S scarp survives but a butt-end to the Ditch, 0.3m high, suggests that there was a causeway here; however the whole area may have been "tidied" in the course of consolidation in the 1940s (*cf.* also Richmond 1956, 18). The ground slopes gently to the N. The track to Underheugh Farm uses the site of the N gate, suggesting that access through the milecastle was long established. In 1898 (Haverfield 1899) the N-facing scarp of the Ditch seems to have ended on either side of the track, again suggesting the former presence of a causeway here.

50 High House (NY 60676601) A field-gate on the N side of the road (on the berm of the Ditch) appears to be close to the axis of the milecastle (see below). The N scarp of the Ditch is much more prominent than the S. The N scarp has a small "cleaning-out" mound on its crest – in addition to the wide glacis itself; the scarp diminishes where the track leading N from the field-gate crosses its line but does not disappear altogether; it is still about 1m high. The ground slopes gently to the W and still carries water in wet weather. The milecastle was excavated in 1911, although no trenches were cut across the Ditch. This is regrettable, especially as it was found that "outside the north gate the road [through the milecastle] expands into a similar roughly paved area [i.e. similar to that within the interior] which extends to the edge of the ditch." Nevertheless Simpson thought that the Ditch was crossed "by a modern causeway probably connected with the buildings on the site" nearly opposite to the E wall of the milecastle. He presumably came to this conclusion because "No continuation of the road from the north gate was found on the north side of the ditch." The N gate had been narrowed to a postern about 1m wide (Simpson 1913, 315, 325).

50 (Turf Wall) High House (NY 6071 6583) The milecastle and its associated causeway were excavated in 1934 (Simpson & Richmond 1935). "The lightly metallised road which passed through the milecastle crossed the Turf Wall's ditch by a causeway of undisturbed subsoil." "... on the steep slope at High House ... the stability of the causeway would be threatened by standing water on its upper side. To obviate the collection of too large a volume of water, the causeway was provided immediately below the road with a flood-culvert, two feet six inches [0.76 m] wide and deep. The culvert sides had been lined with wood, later removed, and the whole culvert, after silting up, had been covered by a later roadway. Eight three-inch [76 mm] posts, four on each side of the culvert, which had once held the wooden sides, were still in position. Massive stones lined the upper mouth of the culvert protecting it from erosion; and the bottom, for the same reason, had been cobbled. ... the posts not only exactly matched the width of the milecastle-gate, but were placed directly opposite it. Doubtless their planking supported a road of uniform width" (Simpson & Richmond 1935, 225).

51 Wall Bowers (NY 59306549) There is a field-gate on the S side of the road here but on the N side the position of another field-gate is offset about 4m from the axis of the milecastle gate. Inside this northern field-gate there is a causeway approximately 4.5m wide. The Ditch is markedly less well defined on the W here, being little more than a low scarp on the S side only. The Ditch to the E (in the field to the N of the road) has a clear change of level in its base approximately on the line of the Turf Wall Ditch which joins at this point. The causeway was not excavated by Simpson but a cobbled road was found to lead to the Vallum where a secondary causeway was identified (Simpson 1928, 384; Simpson & Richmond 1937, 159).

52 Bankshead (NY 57936490) Excavation revealed that the N gate had been blocked.

There was no investigation of the area immediately to the N (Simpson & Richmond 1935, 247–56).

53 Banks Burn (NY 56486460) A difficult area to understand from the surface. The land slopes to the E; it is marshy now but the slope is such that there was probably some scouring of the Ditch before it silted. There is no clear evidence on the surface for a causeway; indeed the lane follows the line of the Ditch up the slope and crosses to the S of the berm and the Wall slightly to the W of the site of the milecastle. The milecastle was excavated in 1932 (Simpson & Richmond 1933, 267–70).

54 Randylands (NY 55066444) Excavated in 1933 and 1934 (Simpson & Richmond 1933, 270; 1935, 236–44) when, as so often, it was revealed that the N gate had been entirely robbed away. The cobbling of a roadway, associated with the Turf Wall milecastle, was found just in front of the gate, crossing the abnormally wide berm. A strip of stone bottoming, discovered on the line of the Ditch, was convincingly interpreted – by analogy with 50 TW – as having supported a wood-lined culvert of a causeway. The earthworks of the S side of the Ditch are still irregular on this hillside but they do seem to narrow slightly overall at this point. The very wide berm is still also apparent.

57 Cambeckhill Farm (NY 50816368) The road here crosses the line of the Wall at the site of the milecastle, suggesting that access was readily possible across the Ditch in post-Roman times (cf. Charlesworth 1969).

59 Old Wall (NY 48546175) The earthworks of the Ditch fade out here for a distance of 100 m, centred on the site of the milecastle. This may be no more than a coincidence; no evidence for a causeway was sought by geophysical survey (Gater 1981).

60 High Strand (NY 47196140) The S scarp of the Ditch is partly masked by a hedgeline. There is a slight attenuation at the presumed

site of the milecastle but there is no break in the S scarp nor any sign of a causeway. The field to the S has long been ploughed so what survives is probably as much a lynchet as it is the scarp of the Ditch.

62 Walby East (NY 44306049) Geophysical survey (Gater 1981, 7–8) tentatively confirmed the position of the milecastle and suggested that it had been severely robbed. A narrowing in the linear anomaly on the line of the Ditch, ascribed to water-logging, might be re-interpreted as evidence for a vestigial causeway. The milecastle was re-examined in 1999 (Wilmott 1999c).

64 Drawdykes (NY 41775874) Excavation in 1961 (Caruana & Fane Gladwin 1980) revealed that the N gate had been blocked but that the cobbled roadway through the milecastle continued onto the berm. The relationship of this with the Ditch was not tested.

73 Dykesfield (NY 30975937) A trench revealed the existence of the axial roadway in the N gate but there was no investigation further N to test the relationship of this road to the Ditch (Simpson *et al.* 1952).

REFERENCES

- BAILEY, G. B. and CANNEL, J. 1996 “Excavations at Kinneil fortlet on the Antonine Wall, 1980–1”, *PSAS*, 126, 303–46.
- BIDWELL, P. 1999 “A summary of recent research on Hadrian’s Wall”, in Bidwell, P. (ed.) *Hadrian’s Wall 1989–1999* [Cumberland Westmorland Antiq Archaeol. Soc. & Soc. Antiq. Newcastle upon Tyne], Carlisle, 7–35.
- BINNS, M. 1972 “Milecastle 32, Hadrian’s Wall, Northumberland”, *Archaeological Newsbulletin CBA Regional Group 3*, 1 (May 1972), 3–5.
- BIRLEY, E. 1960 “Hadrian’s Wall: some structural problems”, *AA*⁴, 38, 39–60.
- BIRLEY, E. 1961 *Research on Hadrian’s Wall*. Titus Wilson, Kendal.
- BIRLEY, E., BREWIS, P., and SIMPSON, F. G. 1932 “Excavations on Hadrian’s Wall between Heddon-on-the-Wall and North Tyne in 1931”, *AA*⁴, 9, 255–9.

- BIRLEY, E., BREWIS, P., and CHARLTON, J. 1933 "Report of the North of England Excavation Committee," *AA*⁴, 10, 97–101.
- BREEZE, D. J., and DOBSON, B. 1972 "Hadrian's Wall: some problems", *Britannia*, 3, 182–208.
- BREEZE, D. J., and DOBSON, B. 1987 *Hadrian's Wall* (3rd ed.). Penguin Books, London.
- BRUCE, J. C. 1863 *The Wallet-Book of Hadrian's Wall*. Newcastle upon Tyne.
- CARUANA, I. and FANE GLADWIN, P. F. 1980 "Unpublished excavations on the line of the Roman Wall in Hadrian's Camp, Carlisle", *CW*², 80, 17–22.
- CHARLESWORTH, D. 1969 "The Roman Wall at Cambeckhill Farm", *CW*², 69, 346.
- DOBSON, B. 1986 "The function of Hadrian's Wall", *AA*⁵, 14, 1–30.
- GATER, J. 1981 *Hadrian's Wall Resistivity Survey 1981*. Ancient Monuments Laboratory Report 3508 (Geophysics 24/1981) [English Heritage].
- GIBSON, J. P. and SIMPSON, F. G. 1911 "The Milecastle on the Wall of Hadrian at the Poltross Burn", *CW*², 11, 390–461.
- HAVERFIELD, F. 1899 "Report of the Cumberland Excavation Committee for 1898", *CW*¹, 15, 345–64.
- HEYWOOD, B. 1965 "The Vallum – its problems restated", in Jarrett, M. G. and Dobson, B., *Britain and Rome: Essays presented to Eric Birley on his sixtieth birthday*. Titus Wilson, Kendal.
- HILL, P. R. 1991 "Hadrian's Wall: some aspects of its execution", *AA*⁵, 19, 33–9.
- HILL, P. R. and DOBSON, B. 1992 "The Design of Hadrian's Wall and its Implications", *AA*⁵, 20, 27–52.
- HORSLEY, J. 1732 *Britannia Romana*. London.
- KEPPIE, L. J. F. 1974 "The building of the Antonine Wall: archaeological and epigraphic evidence", *PSAS*, 105 (1972–74), 151–65.
- KEPPIE, L. J. F., BAILEY, G. B., DUNWELL, A. J., MCBRIEN, J. H. and SPELLER, K. 1995 "Some excavations on the line of the Antonine Wall, 1985–93", *PSAS*, 125, 601–71.
- KEPPIE, L. J. F., and WALKER, J. J. 1981 "Fortlets on the Antonine Wall at Seabegs Wood, Kinneil and Cleddans", *Britannia*, 12, 143–62.
- MACLAUCHLAN, H. 1858 *Memoir written during a Survey of the Roman Wall*. (privately printed) London.
- RICHMOND, I. A. 1956 "Excavations at Milecastle 49 (Harrow's Scar)", *CW*², 56, 18–27.
- SIMPSON, F. G. 1913 "Excavations on the Roman Wall in Cumberland during the years 1909–12", *CW*², 13, 297–397.
- SIMPSON, F. G. 1928 "Excavations on Hadrian's Wall, in the Gilsland – Birdoswald – Pike Hill sector 1927", *CW*², 28, 377–88.
- SIMPSON, F. G. 1931 "Excavations on Hadrian's Wall between Heddon-on-the-Wall and North Tyne in 1930", *AA*⁴, 8, 305–27.
- SIMPSON, F. G. 1976 *Watermills and Military Works on Hadrian's Wall* (ed. G. Simpson). Titus Wilson, Kendal.
- SIMPSON, F. G., HODGSON, K. S. and RICHMOND, I. A. 1952 "Report of the Cumberland Excavation Committee: Turrets and Milecastles between Burgh-by-Sands and Bowness-on-Solway", *CW*², 52, 14–16.
- SIMPSON, F. G. and RICHMOND, I. A. 1933 "Report of the Cumberland Excavation Committee for 1932: Excavations on Hadrian's Wall", *CW*², 33, 246–77.
- SIMPSON, F. G. and RICHMOND, I. A. 1935 "Report of the Cumberland Excavation Committee for 1934", *CW*², 35, 213–58.
- SIMPSON, F. G. and RICHMOND, I. A. 1937 "Report of the Cumberland Excavation Committee for 1936", *CW*², 37, 157–77.
- SIMPSON, F. G., RICHMOND, I. A., BIRLEY, E., KEENEY, G. S. and STEER, K. A. 1936 "Milecastles on Hadrian's Wall explored in 1935–36", *AA*⁴, 13, 258–73.
- WILMOTT, T. 1999a *Interim Report on the Evaluation of Milecastle 17 (Welton)*. Unpublished report: English Heritage Centre for Archaeology, Milecastle Project (CAS 653).
- WILMOTT, T. 1999b *Interim Report on the Evaluation of Milecastle 19 (Matfen Piers)*. Unpublished report: English Heritage Centre for Archaeology, Milecastle Project (CAS 653).
- WILMOTT, T. 1999c *Interim Report on the Evaluation of Milecastle 62 (Walby East)*. Unpublished report: English Heritage Centre for Archaeology, Milecastle Project (CAS 653).
- WILMOTT, T. 1999d "Black Carts", in Bidwell, P. (ed.) *Hadrian's Wall 1989–1999* [Cumberland Westmorland Antiq. Archaeol. Soc. & Soc. Antiq. Newcastle upon Tyne]. Carlisle, 120–2.

