

The Development of the Mural Frontier in Britain from Hadrian to Caracalla*

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In 1936 in a short paper in the *Journal of Roman Studies*,¹ Sir Ian Richmond effectively demonstrated that the Antonine Wall was not 'a toy frontier' but actually embodied structural advances over its Hadrianic predecessor, and some years later in his *Roman Britain*² he gave a brief but concise account of the improvements introduced by the Antonine planners into the later Wall. The development as a result of experience of the mural barrier from Hadrian to Caracalla has, however, never been examined in detail: the purpose of this paper is to study this development.

Hadrian's Wall, from the start of building in the early 120s to its abandonment when the Antonine Wall was built in the early 140s, underwent several modifications. When first planned the units closest to the frontier of Roman Britain appear to have been accommodated in a series of forts based on Agricola's road from Carlisle to Corbridge, the Stanegate, a line of communication through one of the few convenient east-west gaps.³ The forts were at half the normal interval of one day's march, allowing the rapid assembly of a force to meet an attack on whatever scale or to go on the offensive, striking up from Corbridge or Carlisle. Beyond the road to the west Kirkbride – and possibly Drumburgh⁴ – may have housed units to control the local population and guard the Solway; to the east the newly discovered fort at Whickham may have formed part of a system of protection of the south bank of the Tyne, unbridged below Corbridge. Between certain of the forts on the Stanegate from Corbridge to Carlisle fortlets have been discovered – Haltwhistle Burn and Throp as yet are the only two certainly known – and the system, such as it was, was completed by a number of lookout posts, most placed forward of the line of forts and fortlets. The fortlets may have housed units which were more concerned with control of movement, that is patrolling and watchtower-manning duties, the function later assumed by the Wall and its milecastles and watchtowers (turrets).

This system of deployment of units, however satisfactory for dealing with major attacks, could not deal with the problem of infiltration by raiding parties or cope with the whole business of control of movement. Hadrian decided to construct the only form of effective control in the absence of a natural barrier, an artificial barrier which could only be crossed at controlled points. This gave security to the province and the possibility of economic development right up to the frontier. This barrier as originally planned was to consist of a stone wall 10 Roman feet wide and perhaps 15 high to a parapet walk for the eastern 45 miles, and a turf wall 20 Roman feet wide at base and probably 14 high⁵ to parapet walk for the western 31 miles. In front of the Wall

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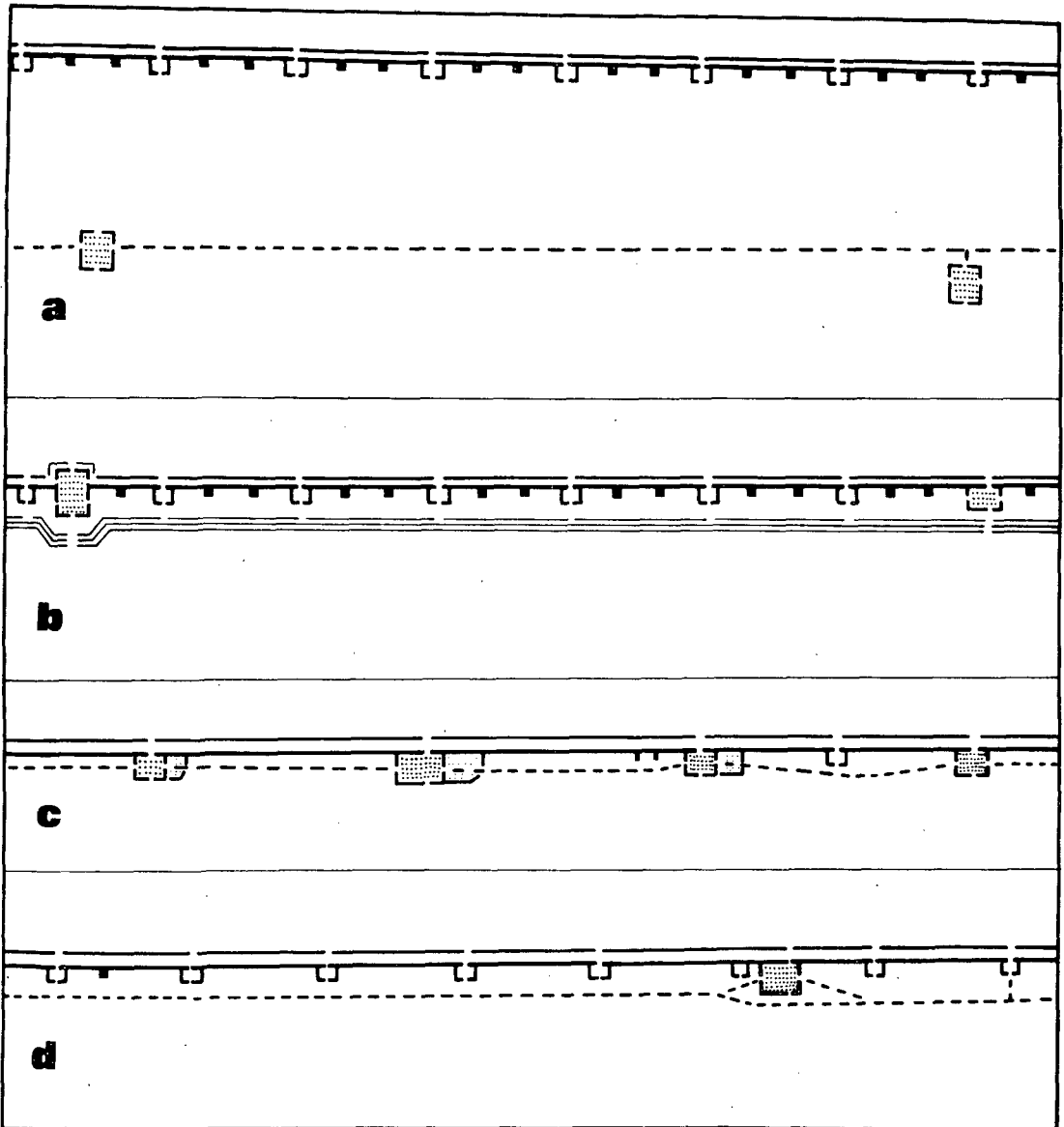


FIG 1 Hadrian's Wall and the Antonine Wall in diagrammatic form. a. Hadrian's Wall as originally planned but not completed. Main features: wall and ditch with turrets, pierced by milecastle gateways; pre-existing forts behind the line. b. Hadrian's Wall original plan as modified under Hadrian. Main features: wall and ditch with turrets, pierced by milecastle gateways; forts astride the wall, Vallum behind with crossings at forts only. c. Antonine Wall. Main features: rampart with ditch; forts, with annexes, attached to rampart; fortlets and beacon-platforms where necessary; Military Way. d. Hadrian's Wall from early third century. Main features: wall with ditch; some turrets; pierced by reduced milecastle gateways; forts; Military Way

there was to be a ditch wherever necessary. This ditch varied in width from 26 to 34 feet, with the emphasis on the lower figure, and was about 9 feet deep or a little more. At regular mile intervals along the Wall gates were to be placed, each guarded by a fortlet or milecastle

containing one or two small barrack-blocks, and each apparently provided with a lookout tower over the north gate.⁶ Between each milecastle there were to be two turrets or lookout towers, regularly spaced. Along the exposed west flank of the Wall, the Cumberland coast, milecastles and turrets (for convenience distinguished as milefortlets and towers) were also to be built, though no continuous wall was provided, the sea being considered a sufficient barrier. The line of frontier control was thus to extend from Newcastle-upon-Tyne, Hadrian's new bridge across the Tyne, for possibly nearly 120 miles to St Bee's Head. There is also some evidence that the south bank of the Tyne was defended, and certainly a new fort was built at South Shields, at the mouth of the river, though this may be a later addition.⁷ The troops to garrison the milecastles and turrets were probably to be provided by the auxiliary units stationed in the line of forts already in existence on the Stanegate a mile or two behind the Wall; there is no evidence for a separate force. In the event of an impending invasion from north of the Wall, these units would be expected to move up through the milecastle gateways to fight the enemy in the field. The purpose of the Wall itself, as the Roman biographer of Hadrian tells us, was to divide the barbarians from the Romans.⁸ The military units had no special part to play in the control of movement unless a military threat developed; they remained on their natural line of communication. The fortlets were presumably abandoned as the milecastles were occupied and the lookout towers were either incorporated into the new system or abandoned.

In the course of putting this scheme into operation, when it was something over half-completed, an important change was made to the frontier complex.⁹ It was decided to abandon the forts immediately south of the Wall and replace them by new forts actually on the line of the Wall. This decision was clearly not undertaken lightly, for it involved not only the abandonment of permanent forts and the erection of new ones but also the demolition of milecastles, turrets and lengths of Wall already constructed and the infilling of parts of the ditch. These new forts, placed about seven miles apart, lay astride the Wall wherever the local topography allowed, with three twin-portal gates providing the equivalent of six milecastle gates north of the Wall. The purpose behind this change seems to have been to allow unrestricted access for major forces to the area north of the Wall which would hitherto have been difficult with milecastle gates to negotiate. It is extremely unlikely that the milecastle gates were now used for the kind of sorties that have sometimes been envisaged,¹⁰ with the enemy rolled up against the Wall; this type of warfare was not in keeping with normal Roman practice.¹¹ The new forts were only part of the Wall complex for convenience; the conversion of a mobile field army into a frontier police force had not yet begun, though the temptation to make this conversion now existed.

All the forts would seem to have been planned to project north of the Wall wherever possible. However, it was soon realised that, with the forts on the line of the Wall itself, so many gates opening north of the Wall were unnecessary. Hence at Halton Chesters both portals of the west gate were apparently blocked before the erection of the gateway was completed, and at Housesteads, with only one double gate opening north of the Wall, the east portal was built up at a similar stage.¹² The fort of Greatchesters, one of the last of the primary series of forts to be completed, was built wholly south of, though still attached to, the Wall although it could perfectly well have projected. The same is also true of Carrawburgh, added at a late stage in building to plug the long gap between Chesters and Housesteads. At Birdoswald too modifications, probably late in Hadrian's reign, reduced the number of portals north of the Wall from six to two.

At the same time as these forts were constructed, or perhaps a little later, three new forts were also built on the Cumberland Coast which hitherto seems to have been guarded only by the pre-existing Maryport. Further modifications resulted in a strengthening of the eastern flank

by the extension of the Wall curtain four miles down-river to Wallsend, where a fort was built, and at the same time, if not earlier, another fort was sited at the mouth of the river at South Shields. Finally three outpost forts at Bewcastle, Netherby and Birrens shielded the western approaches to the Wall and also probably that part of the tribe of the Brigantes left north of the Wall.

The Hadrianic garrisons of the Wall forts were apparently predominantly infantry as the following table demonstrates:

SUGGESTED ORIGINAL GARRISONS OF THE HADRIAN'S WALL FORTS¹⁸

South Shields	<i>ala Sabiniana</i> ? ¹⁴
Wallsend	<i>cohors quingenaria equitata</i> ?
Benwell	<i>ala quingenaria</i> ?
Rudchester	<i>cohors quingenaria equitata</i> ?
Halton Chesters	<i>cohors quingenaria equitata</i> ?
Chesters	<i>cohors milliaria equitata</i> ??
Carrawburgh*	<i>cohors quingenaria equitata</i> ?
Housesteads	<i>cohors milliaria peditata</i>
Great Chesters	<i>cohors VI Nerviorum quingenaria peditata</i> ? ¹⁵
Carvoran*	<i>cohors I Hamiorum quingenaria peditata</i> ¹⁶
Birdoswald	<i>cohors I Tungrorum milliaria peditata</i> ? ¹⁷
Castlesteads	<i>cohors IV Gallorum quingenaria equitata</i> ? ¹⁸
Stanwix	<i>ala Petriana</i> ? ¹⁹
Burgh-by-Sands	<i>cohors quingenaria equitata or milliaria peditata</i> ?
Drumburgh*	?
Bowness-on-Solway	<i>cohors milliaria equitata</i> ?
Beckfoot	<i>cohors quingenaria peditata</i>
Maryport	<i>cohors I Hispanorum equitata</i> ²⁰
Burrow Walls	<i>cohors quingenaria peditata</i>
Moresby	<i>cohors II Lingonum quingenaria equitata</i> ? ²¹

*Carrawburgh and Carvoran are late Hadrianic additions to the series of forts. The date of Drumburgh is uncertain.

Along the whole length of the frontier complex there were only three solely cavalry units; at South Shields in an isolated position at the mouth of the Tyne, probably at Benwell, though the identification of the original garrison is uncertain, and also presumably at Stanwix though there is here no direct evidence for the Hadrianic garrison. Six of the remaining sixteen forts contained wholly infantry units, two of these being on the Cumberland coast, while the remaining forts were occupied by mixed units of cavalry and infantry. This may reflect the proportion of mixed units to infantry units in the army of Britain, the former being much more common,²² but it was also undoubtedly connected with the local situation. A mixed unit could provide the infantry to man the milecastles and turrets and undertake local patrolling, and also the cavalry to carry out longer range patrolling and scouting. It is furthermore noteworthy that, of the units stationed on the Wall itself, those partly or wholly of cavalry were all grouped around the points where the two major roads to the north pass through the Wall, at the Portgate just west of Halton Chesters and at Stanwix. If necessary the cavalry of these units could converge on these roads to provide equal forces of something over 1,000 cavalry to move rapidly north.

At the same time or shortly after the important decision to move the forts onto the Wall was taken; it was also decided to add the earthwork known as the Vallum behind the Wall and the forts. The Vallum, consisting of a ditch with a mound set back on each side, offered no advantage to either side but its purpose was undoubtedly to shield the rear of the Wall complex. The earthwork could only be crossed at a fort, where a causeway guarded by a gate was provided, or where a major road passed through the Wall.²³ Its effect was to produce a military area between

the Wall and the Vallum, and to reduce the number of places where the Wall could be crossed from the original 78 or thereabouts to a mere 14, providing a greater measure of control than had previously been possible. This might be taken to suggest that the building of the Wall had met with local opposition, though there is no other evidence to support this supposition. The advance of the forts onto the Wall line and the construction of the Vallum behind the Wall resulted in all traffic being channelled through a small number of crossing-points, thereby reducing the usefulness of the milecastle gateways. The presence of complete units on the Wall must also have reduced the importance of the lookout towers, both the turrets and the milecastle towers.

The Wall abandoned at the beginning of Pius' reign was very different from that envisaged in the early 120s. That Wall had undergone many modifications, major and minor, during the course of construction. The Wall of Pius was planned in the light of the experience of Hadrian's reign and, in contrast to its predecessor, it seems to have been built with the very minimum of modifications.

The most striking difference between Hadrian's Wall and the Antonine Wall is that while the curtain, the continuous barrier, of the former was mainly of stone, that of the latter was wholly of turf. The new turf wall was only 14 feet wide as compared to the 20 feet of the turf sector of Hadrian's Wall, but, as Richmond long ago pointed out, this may not have implied a reduction in height for unlike its predecessor it was erected upon a stone base. This would allow for a greater steepness in the back of the rampart and a saving in material. Far from being a slighter barrier than Hadrian's Turf Wall, 'it is possible to think of it as the Roman army-engineer's most up-to-date pattern in turf-work designed to achieve the same effect as Hadrian's Turf Wall, but saving one third of the material while becoming much less easily accessible from behind'.²⁴ It is, however, not clear why the curtain of the Antonine Wall was built in turf apparently so soon after the rebuilding of part of the turf sector of Hadrian's Wall in stone. It seems that rebuilding on Hadrian's Wall, which included the rebuilding of the turf curtain and turf and timber milecastles in stone, the construction of new turrets and the digging of a new ditch where one stretch of the Wall was re-aligned, had started at milecastle 49 on the River Irthing and proceeded westwards to about milecastle 54, before the decision to advance into Scotland was taken. It has recently been suggested that the move into Scotland brought this work to a halt.²⁵ Even the provision of a stone base to the new turf Wall cannot have provided the same degree of permanence as a stone wall.

If the Wall curtain itself is of less permanent material than Hadrian's Wall, the ditch to the north is more substantial. In contrast to the average dimensions of the Hadrianic ditch, 27 feet wide and 9 feet deep, the Antonine ditch has an average width of 40 feet and an average depth of 12. The berm, the space between the Wall and the ditch, on the Antonine Wall was usually about 20 feet wide, the same as on the stone Wall of Hadrian, but much wider than the six feet on his turf Wall. However, it is doubtful if this extra width was, as has been considered, in order to aid in sallies and in coralling the enemy within the ditch, which, as we have seen, were contrary to Roman military practice. More likely perhaps is a structural purpose connected with the greater width and depth of the ditch—the collapse of turret 54a on the turf sector of Hadrian's Wall into the ditch, probably in Hadrian's reign, demonstrated that here at least the six foot berm was too narrow.²⁶

In the spacing of forts on the line of the Wall the Antonine organisation differed radically from the Hadrianic, but was at the same time a logical growth from the earlier. Once the forts had been built on the line of Hadrian's Wall, many milecastles and turrets must have become superfluous. In the planning of the Antonine Wall this was recognised. The milecastle and turret system was largely abandoned and the forts were placed much closer together, being only about

two miles apart. Moreover none of the Antonine Wall forts are known to project north of the Wall, but are placed on the south side of the curtain. This is to be expected in view of the measures taken on Hadrian's Wall to reduce the number of portals opening north of the Wall by blocking portals, re-aligning the curtain or constructing forts wholly south of the Wall. The proximity of the forts to each other was not considered by itself sufficient for between certain forts small enclosures or interval-fortlets, a little larger than Hadrianic milecastles, have been found. At present three are known, at Wilderness Plantation, Glasgow Bridge and at Watling Lodge, where one purpose of the fortlet was clearly to guard the gate on the road through the Wall, and others may await discovery. It is, though, too early to say whether there was such an interval-fortlet between every fort or whether they were only provided in special circumstances. No lookout towers have yet been discovered on the line of the Wall, though beacon-platforms are known. These occur in pairs and three pairs have been found, one pair on either side of Rough Castle and one just west of Croy Hill. These are a feature completely unknown on Hadrian's Wall and their purpose appears to have been connected with signalling.

The new forts are usually considered to differ from their predecessors in their materials of construction. The forts on Hadrian's Stone Wall, and Birdoswald at the eastern end of the Turf Wall, all appear to have been constructed in stone. The fort-walls and the principal buildings were undoubtedly of stone, but the other buildings, barracks, store-houses and the like, were probably of timber on stone sill-walls. Indeed at South Shields timber barracks of a Hadrianic date have now been discovered. The forts on Hadrian's Turf Wall may have been originally built in turf and timber apart from Birdoswald, east of the Red Rock fault. With the exception of two forts, Balmuilty and Castlecary which have stone walls, all the forts on the Antonine Wall follow the same pattern: turf walls, stone principal buildings and timber barracks and store-houses. Allowing for the different materials employed in the curtain of the two Walls, the construction of the two series of forts is not remarkably different. The turf walls of the Antonine forts are in keeping with the turf rampart and the timber barracks are but slightly inferior to their stone Hadrianic predecessors; timber buildings of even later date have been recently uncovered in certain of the Pennine forts.²⁷ The building of the forts of the two Walls, and indeed of the whole of the frontier complexes, was in the main carried out, or at least directed, by the same units, the legions. All the available evidence points to the Hadrianic forts being built by legionaries with some aid given in the east by a detachment of the British fleet. However, it is not impossible that some work was done by auxiliaries under the direction of the legionaries just as they helped in the digging of the Vallum. On the Antonine Wall, part or all of Croy Hill, Auchendavy, Cadder and Balmuilty are known to have been constructed by legionaries,²⁸ the headquarters building and possibly more of Rough Castle was built by auxiliaries,²⁹ while both legionaries and auxiliaries seem to have been at work at Bar Hill and possibly Castlecary.³⁰ Certainly the auxiliaries seem to have played a greater part in the building of this Wall than they did in the building of its predecessor.

It is surprising that, when all the other known forts had turf ramparts, two forts, Balmuilty and Castlecary, should have been surrounded by stone walls. It is usually considered that this was because the two forts had important functions to perform, Balmuilty guarding the crossing of the River Kelvin, while both forts may have been at the ends of roads leading to the Wall down the Clyde valley.³¹ It could be argued that it is connected with the position of the two forts in the building sequence of the Wall. Balmuilty was constructed before the rampart, with stone wing-walls projecting from the north corners in anticipation of the arrival of the rampart, and interestingly the only building inscriptions on the Antonine Wall mentioning Lollius Urbicus have been found here³² – the other building inscriptions record no governor's name. The situation

at Castlecary is not so clear, but this fort too probably antedates the rampart. However, other forts are also known to have been constructed before the rampart and these do not have stone walls: Old Kilpatrick, Duntocher, and Mumrills where work had started and was apparently in progress when the rampart builders arrived.³³ These four forts, with the exception of Duntocher fortlet but probably with the addition of Carriden and Bar Hill, seem to belong to a series of large, fairly evenly spaced forts constructed, or at least started, before the arrival of the rampart-builders in their vicinity, and possibly even earlier—other forts where the relationship with the rampart is known, Rough Castle, Westerwood, Croy Hill and Cadder, are structurally later than the rampart, though probably only slightly later. The stone walls of Balmuildy and Castlecary would therefore appear not to be related to their early date in the Antonine Wall building-programme, unless of course it was originally planned to give all forts stone walls, these two being constructed before this plan was altered.³⁴ The reasons for the peculiarities of the two forts must as yet remain unanswered.

It is instructive to compare the garrisons of the forts of the two Walls. The forts of Hadrian's Wall were all built to receive whole units, but those on the Antonine Wall are very different as the following table demonstrates.

SUGGESTED GARRISONS OF THE ANTONINE WALL FORTS

	acreage ³⁵	Antonine I	Antonine II
Carriden	large		
Kinneil	small?		
Inveravon	small		
Mumrills	7.3	<i>ala II Tungrorum</i> ³⁶	<i>coh II Thracum eq</i> ³⁷
Falkirk	?		
Rough Castle	1.5	part of <i>coh VI Nerviorum</i> ³⁸	
Seabegs	small		
Castlecary	3.9	<i>coh I Tungrorum mil ped</i> ³⁹ / <i>coh I Vardullorum mil eq</i> ⁴⁰ / vexillation of legions II and VI ⁴¹	
Westerwood	2.6		—vexillation of legion VI ⁴² —
Croy Hill	2		—vexillation of legion VI ⁴³ —
Bar Hill	3.6	<i>coh I Baetasiorum</i> ⁴⁴	<i>coh I Hamiorum</i> ⁴⁵
Auchendavy	c 3.3		—vexillation of legion II ⁴⁶ —
Kirkintilloch	?		
Cadder	3.3	<i>coh quingenaria peditata</i> ?	
Balmuildy	4.3	<i>coh quingenaria peditata</i> or part of a unit	
New Kilpatrick	2.6		
Castlehill	c 3.4?		—part of <i>coh IV Gallorum eq</i> ⁴⁷ —
Duntocher	0.66		—part of a unit—
Old Kilpatrick	4.7	<i>coh milliaria peditata</i> ?	<i>coh I Baetasiorum</i> ⁴⁸
(Bishopton)	5.2	<i>coh quingenaria equitata</i> ?	

Far from being built for whole units the Antonine Wall forts, varying in size from tiny Duntocher to 7.3 acres Mumrills, were clearly designed for forces widely differing in strength. Mumrills was probably built for the *ala II Tungrorum*, Old Kilpatrick for a *cohors milliaria peditata*, Bar Hill, Cadder and possibly Balmuildy for *cohortes quingenariae peditatae* and Bishopton probably for a *cohors quingenaria equitata*. Rough Castle and presumably one or both of the forts on either side were garrisoned under Antoninus Pius by *cohors VI Nerviorum*, and parts of the two milliary cohorts, *cohors I Tungrorum milliaria peditata* and *cohors I Vardullorum milliaria equitata*, attested at Castlecary must have been housed in one or both of the neighbouring forts, Seabegs and Westerwood. A similar situation apparently existed at Castlehill, which was not large enough to hold the whole of *cohors IV Gallorum equitata*, assuming that unit to have been in garrison at one time, and at Duntocher, its western neighbour, which interestingly, it appears, may not have contained a headquarters building.⁴⁹ Finally at one time legionary detachments seemingly

garrisoned four forts in the central stretch, Castlecary, Westerwood, Croy Hill and Auchendavy.

One reason for the diverse strength of the fort garrisons, the dividing of the auxiliary units and the use of legionary vexillations, was undoubtedly the overstretching of the army of Britain due to the reoccupation of the Scottish Lowlands. However, part of the reason may also have been due to a realisation that the inflexible approach to forts and fort garrisons on Hadrian's Wall was unnecessary. As Dr A S Robertson has pointed out, the divergencies between the forts 'may rather reflect an intelligent, flexible, economical response to local conditions and exigencies'.⁵⁰ This would help to account for the variety in the defences, the turf rampart ranging in width from 12½-13 feet at Mumrills to 20 feet at Rough Castle, and the number of ditches, one to four, varying from one side of a fort to another depending on the nature of the approach, the position of the bath-house to which we shall return, and the placing of the internal buildings. At Croy Hill, for example, a granary is situated in the *praetentura*, and at Cadder a substantial area of the *praetentura* was apparently left free of buildings. This greater flexibility can also be seen in the relationship of the internal buildings to the forts' axes. On Hadrian's Wall the central range of buildings, wherever known, lies along the short axis of the fort facing the *porta praetoria* in the centre of one of the short sides. Most forts faced north with their long axes north-south but some, Housesteads, Greatchesters, Bowness-on-Solway and probably Stanwix, had their long axes running east-west. In this case the central range still lay along the short axis and the fort faced east. On the Antonine Wall, however, with one exception (Cadder which faced east), all the known forts faced approximately north and no matter whether the long axis lay north-south, as for example at Rough Castle, Bar Hill and Balmuilty, or east-west, as at Mumrills and Castlecary, the central range was aligned east-west so that the fort faced north. In this way the forts closely related to the local topography and still faced north, that is towards the enemy.

The great variation in the size of the forts is also due in part to the number of units employed in the building of the Wall and to the lack of standardisation. The forts on Hadrian's Wall itself, that is excluding the outpost forts and the Cumberland forts, all appear to be the product of two legions⁵¹ and, at least in the size and dimensions of the forts and the barrack blocks, and the depth of the defences (usually two ditches), a certain degree of standardisation seems to have been involved: for example, 580 feet appearing in the dimensions of four forts, Benwell, Chesters, Birdoswald and Stanwix. On the Scottish Wall it is not possible to determine any attempt at standardisation. This is probably not just the result of three legions and a number of auxiliary units being involved in their construction but also because the forts were built in two stages. Hence Balmuilty and Cadder, probably constructed for the same size of unit, or at least with a similar complement of buildings, by the same legion, *II Augusta*, but at different stages in the building programme, in size, dimensions and barrack blocks, bear no resemblance to each other.

In one way the garrisons of the forts of the two Walls are similar and that is in the scarcity of cavalry units. Only one fort on the Antonine Wall is definitely known to have housed a cavalry regiment at any stage, namely Mumrills, which appears to have been built for the *ala II Tungrorum*. This unit is placed three miles from the road running north and passing through the Wall at Watling Lodge fortlet. Only three cohorts with a complement of cavalry are attested on the Wall: two quingenary units, *II Thracum* at Mumrills and *IV Gallorum* at Castlehill, and one milliary, *I Vardullorum* at Castlecary. It would appear that by far the majority of soldiers were infantrymen, a much higher proportion than on Hadrian's Wall. The reason for this is uncertain but it might be taken to imply that the main purpose of the Antonine Wall garrison was local patrolling. It certainly does not necessarily imply a more defensive attitude than was current twenty years before. In the event of an attack on the Wall the issue would still be decided in the field, preferably north rather than south of the Wall. On the other hand the Antonine forts in their positions,

relationships to the rampart, and garrisons have a much closer connection with the Wall than their Hadrianic predecessors. The forts of Hadrian's Wall were only incidentally part of the Wall complex, added to the line of the Wall as an afterthought, but the Antonine forts were planned from the beginning to be an integral part of the Wall. There was possibly an increasing tendency to use the army units for what were in effect frontier police duties.

The army of the Wall was not spread evenly along the whole length but the main weight of the forces appears to have lain towards the western half. Along the eastern part of the Wall the only known large forts were Mumrills, Castlecary and presumably Carriden, but in the west six of the eight known forts were over 3.3 acres in size. This may be due to the fact that the western half of the Wall is over-looked by the Kilsyth and Kilpatrick Hills while from the east the view is much more open. Moreover the forts of Strathmore would have screened the east end of the Wall but not the west.

The garrisons of the interval-fortlets were probably supplied from the forts on the Wall, and were not, as has sometimes been supposed, separate troops which had previously served in the milecastles of Hadrian's Wall. It seems probable that the milecastle garrisons were provided first by the forts on the Stanegate and later by those on the Wall and were not a distinct force.

Most, perhaps all, of the forts on the northern Wall were supplied with annexes, often as strongly defended as the forts themselves. It is often supposed that these annexes were for the camp-followers, the civilians who quickly congregated outside Roman forts. Excavation, admittedly not very extensive, at Mumrills, Rough Castle, Castlecary, Bar Hill, Balmuildy, Duntocher and Old Kilpatrick has failed to produce positive evidence of civilians in the annexes though the excavators of the annexe at Camelon, just north of Watling Lodge fortlet, did suggest that timber buildings there were used by civilians.⁵² In his recent book, *The Frontier People of Roman Britain*, Dr Peter Salway discussed the annexes of the Antonine Wall and came to the conclusion that they were purely for military use, sometimes containing, for example, the unit's bath-house.⁵³ No annexes were provided on Hadrian's Wall⁵⁴ for the area around the forts were protected by the Vallum, which provided protection for a continuous elongated annexe (incidentally another pointer to the contemporaneity of the forts and the Vallum). No Vallum was constructed on the later Wall, but the forts were provided with an extra defended area. Civilians were not allowed to settle in the area between the Wall and the Vallum, the Hadrianic annexe, and were therefore presumably not allowed into the Antonine annexes. The annexes at Rough Castle and Balmuildy contained the unit's bath-house but at other forts, for example Castlecary and Bar Hill, the bath-house was actually situated within the fort; Cadder seems to have had two bath-houses, one within and one without the fort. No bath-house for the men is known to have been placed within a Hadrianic fort and of those known on the Wall one, Benwell, was south of the Vallum and one, Chesters, between the Wall and the Vallum.⁵⁵

The Antonine Wall forts were linked by a final element in the frontier complex, the Military Way, a road about 18 feet wide running parallel to the rampart and usually up to 50 feet south of it. No such road was provided on the Hadrianic frontier but, after the Antonine experiment, it was clearly considered a necessity for one was constructed on Hadrian's Wall, probably when it was re-occupied about 158. This was one of the very few modifications known to have been made to Hadrian's Wall at this time: another was the abandonment of the milefortlets and towers on the Cumberland Coast – MF 5 is the only one known to have been re-occupied – and also of the fort of Burrow Walls; a third was the completion of the rebuilding of the Turf Wall in stone. For the rest, Hadrian's Wall simply appears to have been reconditioned as it was when abandoned in the early 140s. The forts were re-occupied by auxiliary units, *cohors I Hamiorum* actually returning to the fort it had left twenty years before, if indeed it had ever left,⁵⁶ the milecastles

and turrets were brought back into working order, the curtain repaired and the Vallum re-constituted with its ditch cleaned out.

When Hadrian's Wall was re-occupied for the last time in the early third century, the lessons learnt on the Antonine Wall seem to have been the cause of substantial modifications to the frontier complex, though these are as yet only imperfectly understood. Perhaps the most important was the partial abandonment of the milecastle and turret system. In the central sector turrets were given up wholesale – no turret between MC35 and MC42 is known to survive into the third century – while in the five miles west of the River Irthing and in the eastern sector the abandonment of turrets, if not quite as drastic, was certainly extensive.⁵⁷ This modification should probably be associated with the greater control imposed on the area north of the Wall. In the third century the outpost forts became the bases for long-range patrol units and *exploratores*. Bewcastle, Netherby, Risingham and High Rochester were all garrisoned by *cohortes milliariae equitatae*, thousand-strong mixed infantry and cavalry units, of which there are only five attested in Britain – the fifth being at Castlesteads in the third century – while *exploratores* too were apparently stationed at the latter three forts.⁵⁸ Changes were also made to the garrisons of the Wall forts.⁵⁹ Many forts now contained units of a different size, often larger, than those for which they were built, indeed in the third century three units, a cohort and two *numeri*, are attested at Housesteads. Where the early third century garrison can be demonstrated it contained, with the exception of Birdoswald and probably Rudchester, an element of cavalry. In particular four *alae* were now stationed on the Wall at Benwell, Halton Chesters, Chesters and presumably Stanwix as opposed to two in the Hadrianic period. This implies a greater emphasis on long-distance patrolling by the Wall units themselves, and a corresponding reduction in the importance of a watch-tower system on the Wall line. However, the number of forts on the Wall was not increased at this time to bring them into line with the development from Domitian to Antoninus Pius whereby the distance between frontier forts was decreased from about 15 miles through 7 to 2 miles; instead the garrisons of the existing forts were strengthened. Other changes introduced at this time were the narrowing of certain milecastle gateways where wheeled traffic was unnecessary⁶⁰ and apparently the abandonment of the Vallum – civilians were now allowed to erect their houses and shops in the area between the Vallum and the Wall.

These changes reflect a new appreciation of the real problem of the northern frontier. The ways in which a solution to the problems of the frontier were sought and the Walls were alternatively occupied demonstrated that neither Wall was totally successful. The reason appears to have been that Hadrian's Wall was too far south and so out of touch with the centres of trouble, the Antonine Wall too far north in that the occupation of the Wall and the Scottish Lowlands overstretched the resources on the army of Britain too much. The answer was a frontier roughly on the line of the Cheviots. This solution was apparently attempted during the second occupation of Hadrian's Wall in the second century when, in addition to the three western outpost forts, Risingham and probably also High Rochester and Newstead in the east were also occupied. In the early third century Caracalla adopted and improved this policy, occupying Netherby and Bewcastle in the west, Risingham and High Rochester in the east, with possibly an advanced base near Jedburgh and probably establishing at the same time *loca* or meeting places even further afield.⁶¹ The forts, the bases of long-distance patrol units, effectively advanced the frontier to the Cheviots and ensured reasonably stable conditions well into the fourth century. Only after the troubles of the 360s did Hadrian's Wall itself become the front line.

Postscript. Excavation in 1973 demonstrated that New Kilpatrick fort covered 2.6 acres and was probably garrisoned in part by cavalry.

NOTES

1. Richmond 1936, 190–2.
2. Richmond 1963, 50.
3. For a general discussion of the Stanegate of Birley 1961, 132–50. For the date of Birley 1967, 9–11, and Hartley 1966, 14–15.
4. cf Bellhouse 1969, 77–9 for discussion of these two forts.
5. *op cit*, 89.
6. The evidence for such a tower seems to be based mainly upon the situation at MC 50 TW where there were 5 post holes on either side of the north gate passage as opposed to 3 at the south gate: Simpson and Richmond 1935, 220–9. There does seem to be a logical case for this tower as the equivalent of a turret. Mr P R Hill has reminded us of the difficulty of constructing a tower over Type II mile-castle gateways built by legion XX.
7. Birley 1961, 157–9.
8. *SHA Hadrian* xi, 2.
9. For a discussion of the building of the Wall of Hooley and Breeze 1968, 97–114; Breeze and Dobson 1972, 197–9.
10. cf Richmond 1966, 26.
11. Vegetius, *de re militari* III, 21.
12. Simpson and Richmond 1937, 157–8; *JRS*, 21 (1931), 218.
13. cf Breeze and Dobson 1969, 15–32.
14. *EE* III 202 and *EE* IV 706.
15. *RIB* 1731.
16. *RIB* 1778.
17. *EE* IX 1279.
18. *RIB* 1979 and 1980.
19. The fort is named after this *ala milliaria* placed there by the *Notitia Dignitatum* and it may have been there under Hadrian.
20. *RIB* 823.
21. *RIB* 798, 800.
22. 36 mixed units are attested in Britain compared to 19 infantry units.
23. There appear to be no original causeways across the Vallum ditch provided at milecastles; access to the milecastles would be across the Vallum ditch at a fort and then probably along the north berm and through the north mound at a gap opposite the milecastle. cf Swinbank 1966, 86–8.
24. Richmond 1936, 191.
25. Gillam and Mann 1970, 15–16.
26. Simpson and Richmond 1934, 138–44.
27. Hartley 1966, 36–7; *Britannia*, 1 (1970), 283; cf also Halton Chesters: *JRS*, 51 (1961), 164.
28. *RIB* 2161, 2162, 2163, 2180, 2191, 2192.
29. *RIB* 2145. After Gillam and Mann 1970, 21–4; *contra* Steer 1964, 26–7.
30. *RIB* 2155, 2156, 2170, 2171.
31. Robertson 1970, 25–7.
32. *RIB* 2191, 2192.
33. Macdonald and Curle 1929, 214–19, and Macdonald 1934, 195–7.
34. If this was the case, the stone wing-walls at Balmuildy may imply that the original intention was to construct the turf rampart in stone.
35. The acreage is based upon the dimensions of the fort measured *over* the ramparts.
36. *RIB* 2140.
37. *RIB* 2142.
38. *RIB* 2160, 2161.
39. *RIB* 2155 records building by this unit under Pius. It may or may not imply that the unit was in garrison.
40. *RIB* 2149.
41. *RIB* 2146, 2148, 2151.
42. *JRS*, 54 (1964), 178.

43. *RIB* 2160.
44. *RIB* 2169, 2170. Cf Gillam and Mann 1970, 24.
45. *RIB* 2167, 2172.
46. *RIB* 2174, 2175, 2176, 2177, 2179, 2181.
47. *RIB* 2195.
48. *Britannia*, I (1970), 310, no. 20. This newly found altar appears to be one of the annual dedications and thus records a unit in garrison. S N Miller, who excavated the fort, considered that it contained 10 barracks in Antonine I, being built for a *cohors milliaria peditata*, and that the barrack accommodation was reduced in Antonine II probably to hold a *cohors quingenaria peditata*: Miller 1928, 15-17. *Cohors I Baetasiorum*, recorded on the altar, will therefore probably have been the Antonine II garrison which agrees with the evidence from Bar Hill (*pace* Steer 1964, 26-7). The appearance on the stone of a prefect, Publicius Maternus, and a legionary centurion supervising its erection, Iulius Candidus, is probably due to the recent arrival of the former after the temporary command of the latter. Iulius Candidus was in legion *I Italica*. This may not be evidence for the presence of the legion in Britain, but for the promotion of the soldier from a British unit to a centurionate in it. Before he left Britain to take up his new appointment the altar was erected incidentally recording his new post.
49. Robertson 1957, 16-33.
50. Robertson 1970, 27.
51. Breeze and Dobson 1969, 31-2.
52. *Discovery and Excavation in Scotland* 1962 (CBA Scottish Regional Group), 45.
53. Salway 1965, 156-8.
54. Annexes are, however, known at a number of forts of the first and second centuries, for example, Fendoch, Ardoch, Lyne, Glenlochar, Dalswinton, Milton, Newstead, Slack, Bainbridge, Gelligaer, Pen Llysten, Caerhun, Bryn-y-Gefeiliau.
55. The bath-house within the fort at Halton Chesters is third century or later; that at Carrawburgh is Hadrianic but overlies the obliterated south mound of the Vallum.
56. Jarrett and Mann 1970, 191.
57. 17a, 18b, 19a, 25b, 26a, 29b, 30a, 31b, 33b, 35a, 36a, 37a, 37b, 39a, 39b, 40a, 41a, 50a, 51b, 54a do not appear to have been re-occupied in the third century; 7b, 12a, 13a, 29a, 44b, 48a, 49, 50b, 52a, 53a seem to have been re-occupied in the third century. There may have been two phases in the abandonment of the turrets, firstly the blocking-up of the doorways and secondly, when the turret began the collapse, its demolition and the re-building of the curtain across the turret recess; cf Maxfield and Miket 1973, 157-9.
58. Steer 1961, 97-9 and Richmond 1969, 22-6.
59. Birley 1939, 211-24.
60. At MCs 36, 27, 28, 29, 40, 48, 49, 50, 52 and 54 one or both gates were narrowed. The north gate of MC22 by Halton was completely blocked.
61. Richmond 1940, 97.

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