

II

The History and Setting of the Roman Fort at Newcastle upon Tyne

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INTRODUCTION

The fort at Newcastle was cited as *Ponte Aeli* in the *Notitia Dignitatum* (Oc. XL, 34), an identification first made in the early eighteenth century:

‘if therefore we follow the *Notitia Dignitatum*, Newcastle would . . . seem to be the *Pons Aelii*, the Second Station on the Wall, where the Cohort of the *Cornovii* lay. In this, I have the concurring opinion of the learned and judicious antiquary, Dr Hunter of Durham’

(Gordon 1726, 71).

The form *Ponte Aeli* is in the locative case, meaning ‘at the Bridge of Hadrian’ (but *cf.* p. 260). The nominative form would have been either *Pons Aeli(i)* or *Pons Aelius*. Rivet and Smith (1979, 441) considered the first of these more likely but thought *Pons Aelius* possible; the latter form is adopted here, reflecting the usage of many earlier writers.

Gordon, Hunter and Horsley (1732, 104–5) were able to reject earlier fancies such as Camden’s equation of *Pons Aelius* with Ponteland because they realised that the military posts, together with their relevant units and forts, which were listed *per lineam Valli* in the *Notitia Dignitatum*, ran westwards along the line of the Wall starting from Wallsend (*Segedunum*). The correct order had been established by the discovery of inscriptions at forts such as Carraburgh and Housesteads which bore the names of the units which were included in the *Notitia*. These two forts were thus the seventh (*Procolitia*) and eighth (*Borcovicio*) items in the list; this made possible the correct identification of the remainder as far west as Carvoran (beyond which there is still some uncertainty because of a possible gap in the text of the *Notitia*).

The fort of *Pons Aelius*, built in the late second or early third century, was possibly the only fort added to the Wall after the reign of Hadrian. Forts such as Drumburgh, Vindolanda and South Shields were largely or completely rebuilt and Burgh-by-Sands was relocated onto the line of the Wall, but only Newcastle can be regarded as entirely new unless, that is, it was substituted for an earlier, as yet unknown fort. The following discussion explores the arrangements on the Lower Tyne which preceded the fort at Newcastle and particularly the possibility that its forerunner was a fort at Gateshead. The construction date of Newcastle places it in a period when the design of forts was changing and the plans of the fort and its individual buildings are examined in detail. Finally, the later history of the fort is reviewed.

Roman discoveries made in and around the site of the fort before the excavations discussed have been listed in detail by Spain and Simpson (1930), Birley (1961, 161–3) and G. Simpson (1976, 169–92).

THE EXCAVATIONS OF 1976–92 AND 1995–6 (FIG. 1)

Excavations in 1929 seemed finally to have established the position of the fort at Newcastle (Spain and Simpson 1930, 505–6); its location was accepted without question by Collingwood (1933, 41) in the ninth edition of *The Handbook to the Roman Wall* and in the following two editions. E. Birley (1961, 161–2) took a different view: relying on antiquarian observations, he favoured a site further to the north and suggested that the Roman structural remains found south and west of the Keep in 1929 might

key

 surviving masonry
 foundations

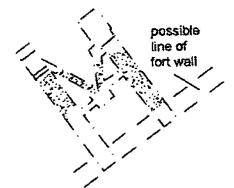
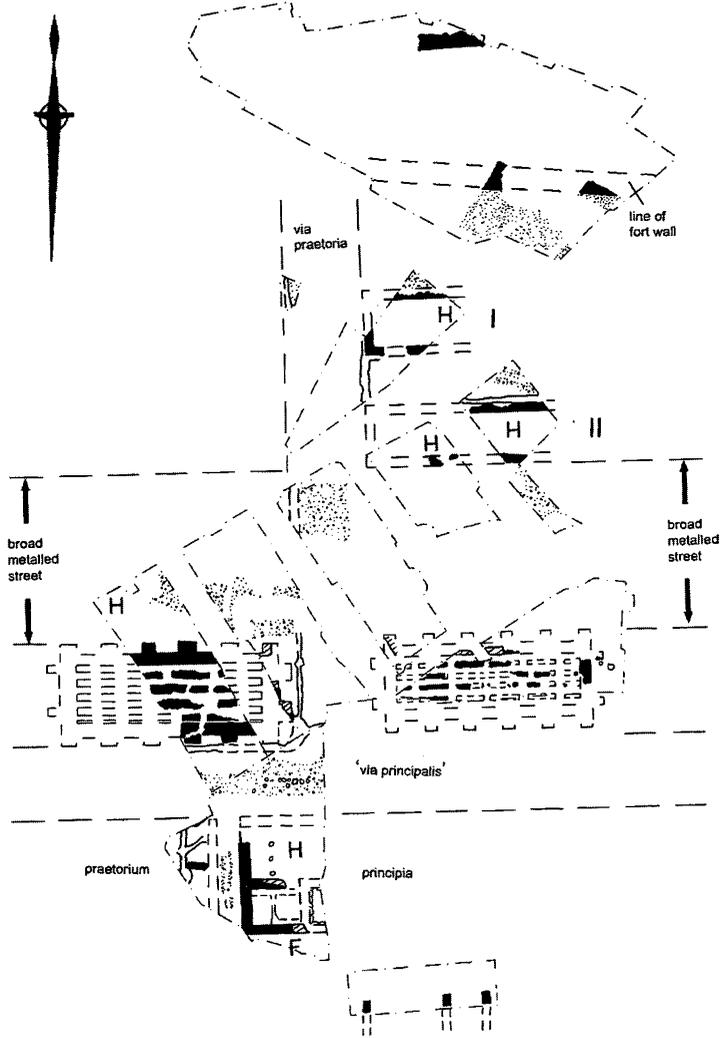


Fig. 1 The fort at Newcastle, original plan ('H' marks hearths pre-dating primary buildings; 'F' is the probable position of a hypocaust stoke-hole. Scale 1:600.

have belonged to a *mansio* outside the fort rather than to the *praetorium* as Spain and Simpson had suggested. The twelfth edition of the *Handbook* echoed Birley's doubts.

The main results of the excavations which began in 1976 were, as far as the Roman levels were concerned, to show beyond doubt that the fort lay beneath the remains of the Castle and to recover information about its history, extent and plan. Parts of the *principia* and *praetorium*, two granaries and buildings in the north-eastern area of the fort were excavated, together with extensive areas of their associated streets. An estimate of the extent of the fort was made possible by the discovery of its north wall and of indications of the line taken by the southern defences: it probably covered an area of *c.* 0.8ha or 1.9 acres, but there are other possibilities.

The excavations covered *c.* 770 sq m, probably less than ten per cent of the total area of the fort. It is a testimony to the skill and determination of the excavators that so much was recovered from a site where there had been a great deal of later activity, from the Anglo-Saxon period until the nineteenth century. Nevertheless, there is much still to be learnt about the fort, and some of the difficulties in interpreting its remains will be obvious from what follows.

THE CONSTRUCTION DATE OF THE FORT

The dedication to Julia Domna (Daniels and Harbottle 1980) shows that the fort had been built by 213, and this is supported by the deposition of a coin hoard probably terminating with an issue of 210–13 in the east granary. Pottery and coins indicate a construction date in the late second or early third century (pp. 166–9, 180–1). During the period of the Severan campaigns in Scotland, or as part of the preparations for them, the fort at South Shields was rebuilt to incorporate a supply-base (Hodgson 1997–98, 34–6). It was a vital link in the chain of supply and communications, the importance of the latter underlined by new finds of Imperial lead sealings at the fort. A renovation of inland

communications with South Shields might well have been undertaken at the same time and perhaps could have included a new fort at Newcastle to control the northern bridgehead and the junction of several important routes.

This is an attractive possibility, but earlier historical contexts cannot be excluded, at least for now. The late 170s and early 180s saw widespread changes in the units at existing forts in northern Britain, circumstances which might also have involved the building of new forts (though none can be securely dated to this period). Inscriptions also show that there was much rebuilding in existing forts earlier in Severus' reign (Breeze and Dobson 2000, 120–3, 133–9, with further references). Nothing more can be said for the time being, though there is a possibility that future refinement of the dating of BB2 pottery will substantiate a Severan date for the building of Newcastle (pp. 166–9).

THE SIZE OF THE FORT (FIGS. 1 AND 2)

Although the plan of the fort is fragmentary, enough has been excavated to show that it is not a typical second-century cohort fort. A reconstruction of its outline prepared in 1987 (B. Harbottle in Daniels 1989, fig. 38) showed an enclosure measuring 110m north-south by 67m east-west, 0.74ha or 1.77 acres in area. It was rectangular in outline apart from on the north-east side where the fort wall is known to run at an angle to the general orientation of the fort. The excavations in the Bridge Hotel in 1996 indicated that the fort did not extend as far south as shown on the 1987 plan. Its length must thus be reduced by 15m to 95m, giving an area of 0.64ha or 1.53 acres. The 1987 plan appeared without a detailed commentary, but the reasoning on which it is based is obvious. Constraints on its width were at the north-east and south-east corners where the promontory narrows: the north and south walls could not be continued to the east because they would begin to descend precipitous slopes. Having established the likely line of the east wall, the line of the west wall could be determined by

making it equidistant from the *via praetoria* which should lie on the long axis of the fort.

The 1987 reconstruction of the fort plan seems to follow Spain in regarding the substantial ditch found by F. G. Simpson in 1929 south of the Keep as medieval (Spain and Simpson 1930, 503). G. Simpson (1976, 188, fig. 2, no. 4) has published a more detailed account of her father's discovery which she identifies as the south ditch of the fort: it was V-shaped and its base lay 4.2m below the modern surface. If it was the fort ditch, it would reduce the length of the fort to c. 75m and its area to 0.5ha or 1.2 acres. The approximate centre-line of the ditch was only 17.5m south of the central range, which would leave a very narrow plot with space only for an east-west building c. 6m in width when allowance is made for the berm, fort wall, *intervallum* street and a street south of the central range. On the other hand, a medieval ditch in this position would not accord with the development of the Castle as it is at present understood, and no post-Roman finds were recorded from it. Another explanation might be that the ditch was associated with the Anglo-Saxon occupation. There seems to have been a ditch and bank of this period on the north side of the promontory. The ditch found in 1929 might have formed the south side of the enclosure; the boundary of the cemetery certainly lies somewhere within the Castle Garth south of the Keep, for no human remains were found in the cellars of the Bridge Hotel or at the south curtain wall.

The 1987 reconstruction as modified by later discoveries suggests that the fort had an area only half that of Carrawburgh and Greatchester, the smallest forts on Hadrian's Wall apart from the Turf-Wall fort at Drumburgh. It depends mainly on the reasonable assumption that the *via praetoria* was on the central axis, which is almost always the case with rectangular forts. Much looser plans are to be seen at polygonal forts, as at Bewcastle, but these occur very rarely during the period in question: they were quite common in Germany from the Augustan period until the mid-first century AD, but then, as the practice of castrametation became more uniform, fell out of favour, only being

built where there were unavoidable topographical constraints; only in the late third century, when the design and function of forts were changing, do they again become common.

The general validity of the 1987 reconstruction is supported by the small size of the *principia* and granaries, which would be out of place in a larger fort, and by the narrow width of the plot on the east side of the *via praetoria* where the topography suggests that Building II can have been no more than 30m in length and Building I considerably shorter.

THE POSITION AND TACTICAL FUNCTION OF THE FORT (FIG. 2)

Under normal circumstances Roman military engineers would not have selected the promontory at Newcastle as a fort site: the main defence of a fort at this period was not the strength of its position but the ability of its garrison to redeploy rapidly through the gates in each side of the fort to deal with any threat in the field. This would only have been possible from the west gate at Newcastle. Special tactical considerations explain the unorthodox siting of the fort. First and most vitally, the fort commanded the northern bridgehead. To the east it overlooked the mouth of the Lort Burn and, a short distance upstream, the point where a bridge presumably took the Wall (or more probably the Wall-top walk) across the burn. To the north was the Wall and somewhere in the vicinity the site of a turret (p. 262) which no doubt the fort superseded. To the west the Westgate Road milecastle would have been fully visible, and also the line of the Wall as far as the top of Westgate Hill. The position of the road connecting the bridge with the Military Way is uncertain, but it might have been controlled by the fort. There is also the possibility that the fort controlled access through the Wall to a road running north (p. 260).

Few points on the Wall are of such tactical importance and the building of a fort at Newcastle, perhaps as much as eighty years after work on the Wall started, might have seemed long overdue (even though the fort might have

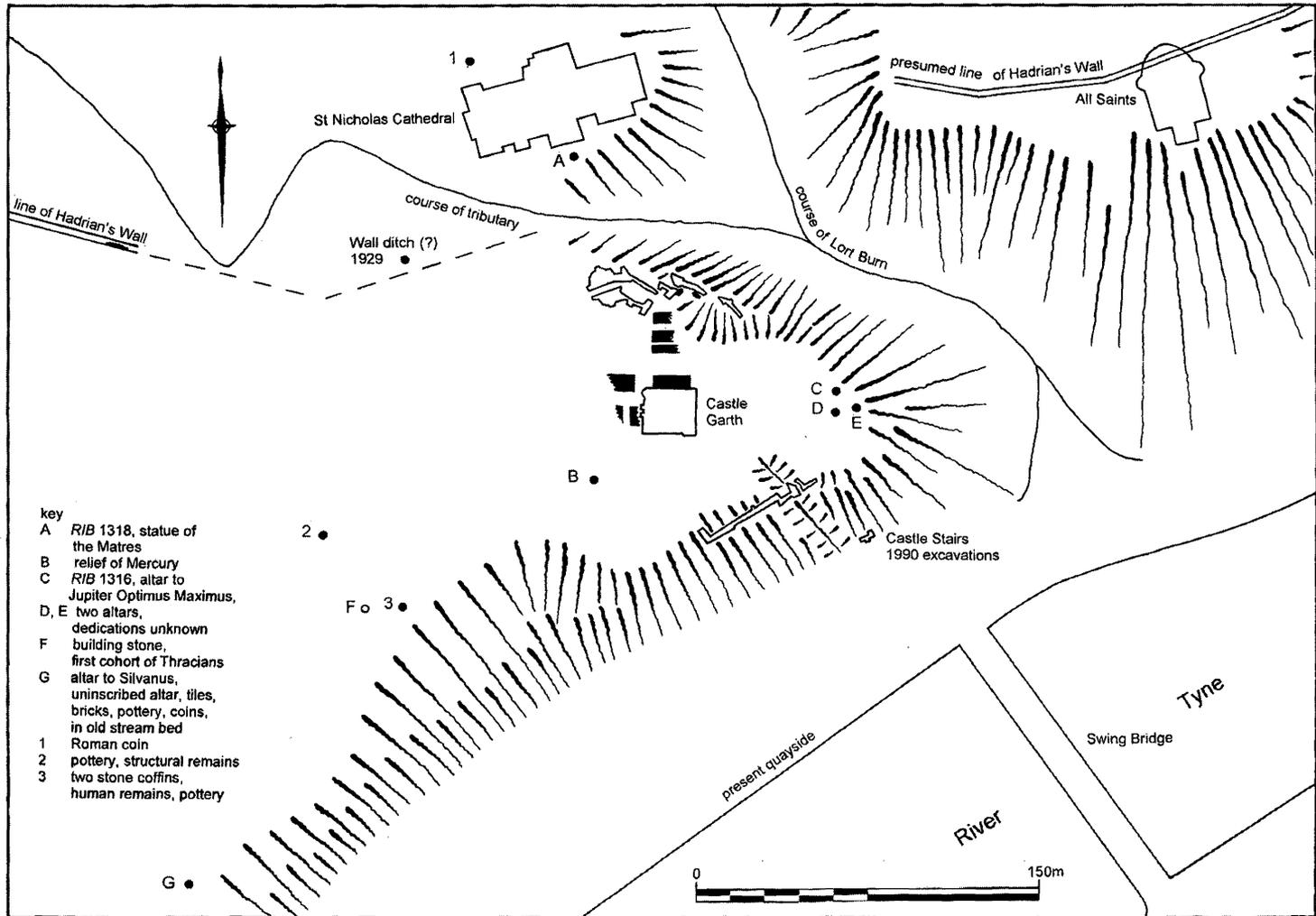


Fig. 2 The location of the fort on the Castle Garth promontory, Newcastle upon Tyne. The Lort Burn and its tributary to the east are now hidden beneath modern streets; their course is based on antiquarian records. The steep scarps are based on modern contours; it is assumed that in the Roman period the river ran close to the foot of the promontory. Excavated Roman buildings are shown in black. Also shown are the line of Hadrian's Wall and the location of Roman finds (the open circle indicates an estimated location). Superimposed are the major remains of the Castle and other structures referred to in the text. Scale 1:3000.

had a forerunner at Gateshead). The commanding views offered by the fort site obviously outweighed the convenience of building it much farther to the west where there was a much wider expanse of level land. However, if the central axis of the fort had been only 30–40m to the west, it would still have had these views and yet would have avoided the irregularities in its outline at the north-east and south-east corners caused by the narrowing of the promontory. There might thus have been constraints on the siting of the fort to the west as well as to the east. The modern contours display a slight flattening of the steep slope down to the river in the area of the Long Stairs (fig. 2), and in a royal survey of the Castle quoted by Nolan (1990, 83) the boundary is said to run down the stair 'channell'. These may be the remains of a combe which determined the south-western extent of the fort.

THE FORT AND RIVER CROSSING AT NEWCASTLE AND ROMAN MILITARY OCCUPATION ON THE LOWER TYNE (FIG. 3)

Introduction

As far as the function of the fort was concerned, Bruce (1851, 125) drew attention to 'the necessity of defending the bridge, and commanding the Tyne'; the most recent edition of the *Handbook* describes the fort as 'guarding the bridge-head' (Daniels 1978, 61). The history of the fort depends partly on its relationship to the river crossing and the road systems with which it is connected. This involves speculations which will not lead to definite answers. However, a brief account of what is certainly known will make the problems obvious. The area in question focuses on the Lower Tyne from Newcastle to the river mouth at South Shields and on the coastal areas to the north and south but includes the whole of the eastern frontier area as far west as Corbridge (fig. 3). The main land route into the western part of this area was Dere Street; forts on its line show that the route dates to the early Flavian period, although a properly engineered road was apparently built

later (Bishop 1995). Dere Street lay inland; approaching the Tyne its course veers towards the north-west to cross the river at Corbridge, 39km from the river mouth. Broken, hilly country separates it from the lower Tyne and from the fort at Washing Wells, which lies 13km to the east of Ebchester. Washing Wells displays two structural phases in timber and has always been regarded as of pre-Hadrianic date (Holbrook and Speak 1994). Although the fort lies only 3km south of the Tyne, its immediate view is to the east across the Team valley.

To the east of Dere Street was a second road running towards the Tyne, which continued as far south as Brough-on-Humber (Margary 1967, route 806). Its line can be traced with some certainty as far north as Gateshead Fell where it turns slightly towards the north-west to bear on the site of the *Pons Aelius* which lies 3km to the north. The only route from the fort at South Shields, the Wrekendike (Margary 1967, route 809), joins this road from the east. There is no evidence that the Wrekendike continued further to the west and therefore it must be contemporaneous with, or later than, the north-south road (route 806). A fort had been established at South Shields by the earlier Hadrianic period; earlier occupation is a strong possibility but remains unproven (Bidwell and Speak 1994, 14–16).

Margary's route 806 was therefore certainly in existence by the earlier Hadrianic period and the simplest solution would be to regard it as a new road which formed part of the infrastructure of Hadrian's Wall. The *Pons Aelius* connected it with a postulated Hadrianic service road running behind the Wall on the north bank of the Tyne (see below); the Wrekendike linked route 806 and Hadrian's Wall with the fort at South Shields and its port.

This arrangement would lead to two conclusions:

1. Apart from the isolated fort at Washing Wells, there would have been no pre-Hadrianic military occupation to the east of Dere Street and the Devil's Causeway. The lower reaches of the Tyne and the intensively settled areas of the coastal plain were left without close military supervision.

2. For a period of forty years, from the establishment of forts on the Dere Street route in the governorship of Agricola until the building of Hadrian's Wall, there was no secure established route from the mouth of the Tyne to Dere Street, the Stanegate and the rest of the northern frontier, where the largest part of the Roman army in Britain was based. The mouth of the Tyne, although not without its difficulties, was the safest haven for shipping between the Humber and the Firth of Forth. It is scarcely credible that supply by sea did not play an important part in the conquest and occupation of north-east England, and that would have required a fort at South Shields, as much to oversee and regulate the main port of entry as to defend the lower reaches of the Tyne.

In view of these difficulties it is worth exploring an alternative hypothesis: that Margary's route 806, the Wrekendike and the fort at South Shields were of pre-Hadrianic origin and that there was an early crossing of the Tyne at Newcastle.

A pre-Hadrianic system (*fig. 3, map A*)

Margary's route 806 was perhaps of Flavian origin. It might have crossed the Tyne at Newcastle and continued northwards to join the Devil's Causeway a little to the south of the river Coquet, a possibility first suggested by Hafemann, a German historical geographer (1956, 150). In other words the Great North Road, certainly in existence during the medieval period (Hadcock 1939, 153–5), would have been of Roman origin. The Devil's Causeway can be traced northwards to a point near the coast at Berwick on Tweed and could be regarded as one of the minor lines of control established during the conquest period. A Flavian fort is known at Learchild, 18km north of the junction of the suggested north-south route across the Tyne with the Devil's Causeway. South of the Tyne there are possible fort sites on the north-south route at Wrekenton (at the junction with the Wrekendike), Picktree and Elstob (Selkirk 1983, 44–5).

A Flavian date for Margary's route 806 would allow an equally early date for the establishment of the Wrekendike route and of a fort at South Shields.

If the north-south route crossed the Tyne, a bridge, presumably in timber, would have been required. Major river-crossings in frontier zones are usually controlled and defended by an adjacent fort. The fort at Newcastle would have been later by a century or more than this suggested early bridge, but new evidence from Gateshead at least raises the possibility that there was an early fort on the south side of the river. At Bottle Bank extensive remains of Roman date were recently excavated; they included a road running diagonally down the slope towards the river which was fronted by at least one stone strip building. Pottery from the first phase of excavations seen by one of the present writers (PTB) is of mid-second- to mid-third-century date but the much larger quantities from the subsequent excavations have not been examined. The Bottle Bank site was certainly occupied in the late second or early third century when the fort at Newcastle was built. It remains to be seen whether occupation at Bottle Bank began at an earlier date; this would support the case for an early fort at Gateshead (although not on the Bottle Bank site itself, which slopes towards the river and is not a suitable fort site). If the Bottle Bank pottery proves to be no earlier than that from Newcastle, then the occupation on the Gateshead side might merely represent a bridgehead settlement, comparable with Piercebridge, Catterick, and Malton-Norton where, at important river crossings controlled by forts, settlements developed on both sides of the rivers.

An early river crossing of the Tyne at Gateshead would have assumed even greater importance if the Stanegate route continued along the north side of the Tyne east of Corbridge. This extension would have provided the link essential to maritime supply between the Stanegate and a port at South Shields *via* route 806 and the Wrekendike. When Hadrian's Wall was built, the extension to Gateshead would have remained in use, just as the Stanegate to the west of Corbridge was retained as the main

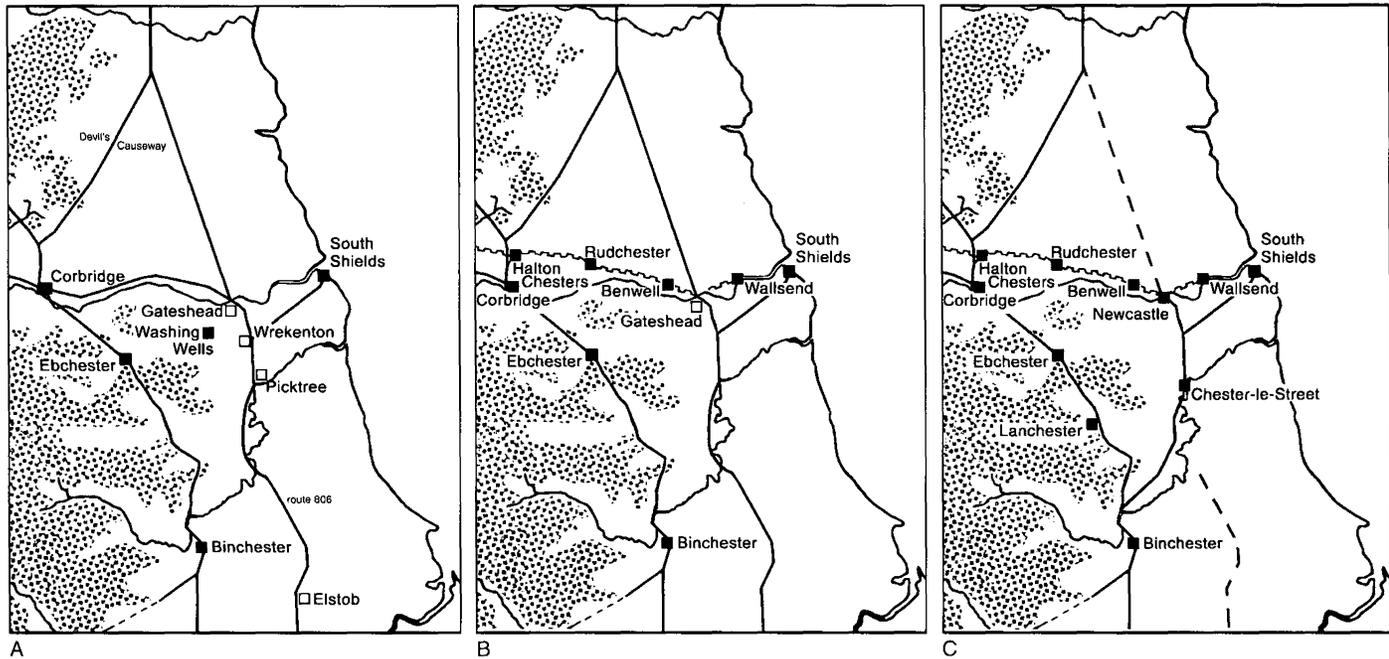


Fig. 3 Roman military occupation in north-east England: hypothesis for its development. A. Pre-Hadrianic: the roads between Corbridge and Gateshead, north of the Tyne, and between the Tyne at Gateshead and the Devil's Causeway are hypothetical, and the forts shown by open squares are not proven. B. Hadrianic: Binchester and Ebchester were possibly abandoned when the Wall was built, although they were re-occupied in the mid-Antonine period. C. Late second or early third century: the date of the road running south-westwards from Chester-le-Street to join Dere Street is uncertain, but it is suggested that its existence might at some stage have led to the abandonment of route 806 south of Chester-le-Street.

east-west route behind the Wall. The eastward extension of the Stanegate route is hypothetical, but in its absence a Hadrianic road would have to have been added east of Corbridge to service the Wall. There are slight indications of a road well south of the Vallum at Benwell (Bidwell and Holbrook 1989, 153).

The earliest forts on the Stanegate route, at Carlisle, Nether Denton (assumed to be early on the grounds of spacing), Vindolanda and Corbridge are 15, 12 and 14 miles apart. Gateshead is 17 miles from Corbridge, and South Shields, following the course of route 806 and the Wrekendike, is 14 miles from Gateshead. If the Stanegate route continued east of Corbridge and in effect ran as far as the mouth of the Tyne, the spacing of the forts would be comparable to that of the earlier forts to the west.

An eastward extension of the Stanegate route has often been regarded as a possibility: for Birley (1961, 134) it called 'urgently for investigation'; Daniels (1978, 99) suggested that 'pre-Hadrianic material from Benwell and Wallsend may indicate whither [the Stanegate route] was ultimately heading' from Corbridge, although the pre-Hadrianic samian ware from Wallsend to which this passage refers appears to be nothing more than the survival of old stock. Daniels also thought it possible that at Corbridge the route might have crossed the river and that Washing Wells lay on its line; according to Breeze and Dobson (2000, 22) Washing Wells 'may have been part of the network in the east'.

The Stanegate extension remains nothing more than a possibility, but it is attractive when coupled with an early date for route 806: there would have been access to the sea and a means of controlling the populous coastal lowlands. Of direct relevance to Roman Newcastle would be the importance of the Tyne crossing, potentially the crux of east-west and north-south routes and, if so, certainly controlled by a fort.

The building of Hadrian's Wall (fig. 3, map B)

The crossing of the Tyne by route 806 was chosen for the site of the *Pons Aelius*. Following the scheme proposed above, the crossing would

have been of vital importance in the plan for Hadrian's Wall, for it secured communications with the coastal fort at South Shields and with the populous coastal areas south of the Tyne, an importance not diminished by the extension of the Wall to Wallsend a few years later.

The building of forts on the line of the Wall was not part of the original scheme, but there were pre-existing forts in immediate proximity to its line at the western end of the Wall which were incorporated into the system (Bidwell 1999, 19). The suggested fort at Gateshead might well have been retained to control the crossing of the Tyne. In the third or fourth building season, forts were added to the Wall and its course extended to Wallsend. The distance between the first two forts at the eastern end of the Wall, Wallsend and Benwell, was just over 5.5 miles, a fairly standard spacing for primary Wall forts. The proximity of these two forts might seem to render a fort at Gateshead redundant, but this is not necessarily so. Close supervision of the river crossing would still have been required. Corbridge is an example of a pre-Hadrianic fort likely to have been retained in occupation after the building of forts on the Wall to control a river crossing (Bishop and Dore 1988, 135, 140); it lies only 4km south of the Wall fort at Halton Chesters.

What little is known of the *Pons Aelius* was discussed some years ago (Bidwell and Holbrook 1989, 99–103). Its remains have never been seen and even its exact site is uncertain. The only real fact is its name, *Pons Aelius*, but it is a valuable fact. Outside the city of Rome no other bridge-name with an imperial epithet is known, although Roman bridge-names rarely survive, and then generally where they have become attached to settlements. Sometimes they refer to the river crossed by the bridge, as with the *Pons Aeni* (*Aeni* = the River Inn) at Pfaffenhofen in Raetia, or to deities as with the *Pons Isis* in Noricum. In Britain the place names *Pontibus* (Staines) and *Tripontium* (Cave's Inn) merely record the presence of bridges.

The *Pons Aelius* was presumably conceived on a scale magnificent enough to justify its name. This is supported by A. Birley's (1997,

130–1) recent suggestion that the two fine altars from the Tyne dedicated to Neptune and Oceanus by *legio VI Victrix* deliberately replicated the dedications to the same deities made by Alexander at the end of his Indian campaign. The implication is that the *Pons Aelius* served as a monument to what at the time seemed to be Hadrian's permanent resolution of problems on the troubled British frontier, in the remotest part of the empire. Some ten years later another *Pons Aelius* was built: it crossed the Tiber in Rome and led to the mausoleum which was eventually to receive Hadrian's ashes.

Two minor reservations must be noted. As Haverfield (1904, 143, n. 4) pointed out, *Aelius* was also the *gens* of Antoninus Pius, and for that matter of Commodus, although no instances are known of buildings erected by those emperors which bore the name *Aelius*. The second reservation concerns the altars to Oceanus and Neptune. Bidwell and Holbrook (1989, 101) noted that the dedications were on the capitals, a feature found in northern Britain most commonly on third-century altars where the main text was continued beneath on the die (the main part of the altar face) (Kewley 1973). The altars from the Tyne are unusual because their dies are occupied by reliefs of a trident entwined by a dolphin (Neptune) and of an anchor (Oceanus) rather than by the lengthy texts typical of large third-century altars. The dedications are on the capital to make space for the reliefs below and their position probably has no bearing on the date of the altars.

If these reservations are set aside, the *Pons Aelius* can be regarded as a monument dedicated to Hadrian and to the building of his Wall. Military units and personnel travelling to the Wall by sea and then *via* the Wreckendike and route 806 would have crossed the bridge which thus served as one of the main points of entry. The symbolic importance of the *Pons Aelius* might have been a further reason for the continued existence of a fort at Gateshead.

The late second or early third century (fig. 3, map C)

Following the building of the Wall, the importance of route 806 might have lessened. On the

Devil's Causeway, with which route 806 might have been connected (see above), the only fort known on its route, at Learchild, was held for all or part of the Hadrianic period (it has produced BB1 pottery) but no later. South of the Tyne the only fort on the road was at Chester-le-Street, built after the abandonment of the Antonine Wall (Bishop 1993, 81). The road thus forms an exception to most of the other roads in the military zone south of the Wall which have forts at regular intervals along their course that were occupied until late in the Roman period. It might well be that further turf and timber forts of early date on its course still remain to be discovered in addition to the possible early forts referred to above. It is far less probable that later stone forts, much more obvious in later landscapes, could have eluded detection.

The building of a fort at Chester-le-Street and its continued occupation to the end of the Roman period suggest that the northernmost stretch of route 806 south of the Tyne remained of importance. This might explain the presence of a road linking Dere Street with route 806 a little to the south of Chester-le-Street. It would have provided access from Dere Street to the *Pons Aelius* and eastern sector of the Wall and to South Shields. The stretches of road south of Chester-le-Street and north of Newcastle (if the latter existed) probably remained in use but were not regarded as of sufficient strategic importance to require forts or smaller installations along their course.

THE POSITIONS OF HADRIAN'S WALL AND THE TURRET EAST OF THE WESTGATE ROAD MILECASTLE (FIG. 2)

The line of Hadrian's Wall was one of the factors determining the position of the fort at Newcastle, and control of the Wall was of course one of the reasons for the existence of the fort. In Newcastle the line of the Wall is in places uncertain, although not for want of looking, but at least until recently its history seemed to be well understood. It was generally accepted

that the work of the North of England Excavation Committee had established that Hadrian's Wall from Newcastle to Wallsend was an extension of the original scheme (Spain and Simpson 1930, 537). Work on the Wall had begun at Newcastle in the first building season, proceeding westwards at Broad gauge (a width of 10 feet or 3.05m). A decision was subsequently taken to extend the Wall to Wallsend, by which time economies had been made in the specifications by reducing its width to 8 feet or 2.44m. Breeze and Hill (2001) have now argued that work on the Wall began at Portgate north of Corbridge where Dere Street, the main road from the south, intersects the line of the Wall. Hill (2001) has attempted to show that the intention had always been for the Wall to end at Wallsend; Narrow Wall occurred east of Newcastle because that length was last in order of construction. The present writers consider that a stronger case can be made for the older interpretation (Bidwell forthcoming), and the discussion that follows is based on the scheme proposed by Spain and Simpson.

The Wall must have originally descended to the riverside at Newcastle, presumably terminating east of the *Pons Aelius* and protecting the northern bridgehead. The North of England Excavation Committee located what they took to be the Wall ditch at Blandford Street (Spain and Simpson 1930, 515; Simpson 1976, 178–81). The line seemed to be confirmed by a further sighting of the ditch at the Stephenson Monument in 1934 (Spain 1934) and finally by what was taken to be the Wall at the Mining Institute in 1952 (noted in *J. Roman Stud.*, 43 (1953), 110). The discovery of what was taken to be the Wall ditch at St Nicholas Buildings suggested that at some point east of the Mining Institute the Wall turned a little towards the north (Spain and Simpson 1930, 515). Older accounts had placed the line of the Wall further north (summarised in Spain and Simpson 1930, 499–500, and Simpson 1976, 175–84), but the new line was based on better but not irrefutable observations. An apparent failure to take account of the medieval and later archaeology of Newcastle were the grounds for a sceptical

and powerfully-argued commentary by Harbottle (1975): the supposed Wall ditch could have been a medieval hollow way (or at St Nicholas Buildings 'le comongutter' referred to in a charter of 1425 cited by Graves and Heslop forthcoming, 18), and the wall at the Mining Institute might have represented the front of Westmorland House demolished in 1870. Although Harbottle's note was a necessary reminder to Wall-scholars that in Newcastle full account should be taken of the post-Roman archaeology, later discoveries vindicated Spain and Simpson's line, at least on Westgate Road. The milecastle discovered in 1985 was on that line (Harbottle *et al.* 1988), as were sightings of the southern lip of the Wall ditch at St James's Boulevard in 1995 and 1997 (Macpherson and Bidwell 1997–8, 53). In addition G. Simpson (1976, 176–8, pl. B) published a more detailed account of the discovery at the Mining Institute together with a photograph showing that the remains were conformable with Broad-Wall construction.

West of the fort the line of the Wall is definitely fixed as far east as the Westgate Road milecastle. The sightings beyond are all on this line and in the light of the recent discoveries assume an even greater degree of plausibility. If the Wall ditch was indeed seen at St Nicholas Buildings, the Wall must have swung to the north; the obvious line for it to have taken, avoiding a precipitous descent, was the Side, in the bottom of the small valley running down to the Lort Burn. A letter of 1778 from John Brand to Ralph Beilby, the engraver, states that 'Mr Saint has informed me that the workmen below you have lately struck upon the Roman Wall. As an old hunter upon that scent I hope you would not fail to be present upon the finding of such rare game and that you will not think it too much trouble to give me a full account of the chase' (Spain and Simpson 1930, 500; nothing is known of the account Brand requested). Until 1795 Beilby's workshop was at Amen Corner, near the south porch of the Cathedral, and the phrase 'the workmen below you' was plausibly interpreted by Spain and Simpson as a reference to a site in the Side.

From the bottom of the Side the Wall would have skirted the base of the promontory and then have run across Sandhill to the river. If the arrangement was the same as at Wallsend, the Wall would have continued into the river as a mole. The extension to Wallsend was presumably built eastwards from a point below the Side; its exact line is of no concern here. The original Wall beyond the junction of the new and old work was redundant and was presumably demolished.

The course of the Wall from Benwell to Westgate Road was straight with the possible exception of a slight shift in alignment at the Westgate Road milecastle (Macpherson and Bidwell 1997–8, 54). Why did this line not aim directly at the head of the Side? One possible explanation is that it avoided the western part of the burn which ran down the Side (note that its course on fig. 2, following Kirkby 1992, 11–12, is approximate).

The Westgate Road milecastle is about a third of a Roman mile west of the Side, the standard spacing for turrets. If sited at the head of the Side, a turret would command a view down the valley to the Lort Burn and would have been intervisible with the milecastle. According to the schedule of milecastles and turrets, this would have been turret 4A, but the discovery of the Westgate Road milecastle has rendered the Tyneside part of the schedule meaningless.

THE UNITS AT NEWCASTLE AND THE PLAN OF THE FORT

Introduction

Knowledge of Roman fort plans, often regarded as tolerably complete in most important details, is in fact deficient in many periods. The enormous number of fort plans known from the period between the mid-first and mid-second centuries, especially from Britain and Germany, has until recently eclipsed interest in the development of semi-permanent Republican encampments into the regularly-planned forts of the early empire. Similarly, the massive fortifications of the later empire, best represented in Britain by the forts of the Saxon Shore,

have distracted attention from possible changes in fort architecture of the later second and third century. It is to this latter period that the construction of the Newcastle fort belongs and therein lie some of the difficulties in understanding its fragmentary remains.

As has already been explained, Newcastle was smaller than normal second-century cohort forts (pp. 253–4). There are two possible reasons for this: either the fort was built for only part of a unit (presumably the *cohors I Cugernorum*), the remainder being stationed elsewhere, or the size of the fort reflects the sort of reduction in overall unit-strength which is evident at South Shields and Vindolanda in the earlier third century (see below). To pursue the first alternative, the suggested fort at Gateshead might have been replaced by a smaller establishment, the rest of the unit being accommodated across the river at Newcastle. Separate forts at either end of an important bridge are commonly encountered in military zones, perhaps the most famous example being Trajan's bridge across the Danube with its forts of *Drobeta* and *Transdrobeta* (later *Pontes*). On Hadrian's Wall there were forts at Carlisle and Stanwix, effectively controlling either end of the bridge over the Eden. However, there appears to be no instance of a single unit split between two bridgehead forts, a reflection of the tendency not to subdivide quingenary units which is certainly to be seen in Britain from the second century onwards. In northern England and Wales there are scarcely any forts occupied from the later second century onwards which could not have accommodated at least a quingenary cohort (that is, which are smaller than c. 1.25ha or 3 acres). One particular exception is Brough-on-Noe in Derbyshire, occupied until at least the mid-fourth century, which had an area of c. 0.92ha or 2.28 acres; unfortunately, little is known of its internal plan (Dearne 1993). A more general, but earlier, exception is the Antonine Wall where the small size of many of the forts suggests that some of the units on the Wall were divided between adjacent forts (Hanson and Maxwell 1986, 154). After the Antonine Wall was abandoned, forts were almost always built for complete units, even if

several of their centuries might spend long periods detached for duty elsewhere, for example manning milecastles, turrets and watch towers.

The possibility that Newcastle was built for a complete unit, although of reduced size, thus conforms to what is known of military practice in the late second or early third century, at least in Britain. It would not exclude the possibility of a fort at the southern bridgehead, so that Newcastle supplemented rather than replaced the suggested fort at Gateshead.

The following analysis takes account of radical changes in the planning of third-century forts in the Hadrian's Wall zone. The first of these changes is the introduction of a new type of fort plan which was based on two intersecting streets with the *principia* at the head of one of the streets, placing it on the opposite side of the fort to the *porta praetoria* rather than at the centre of the fort. Some of the *principia* associated with this plan or its variants were built without forecourts, as at Newcastle.

Secondly, barracks of the 220s or 230s at Vindolanda and South Shields, and of the mid-third century at Wallsend, have fewer *contubernia* than earlier examples, suggesting that the size of centuries and thus of the units which they formed had been much reduced.

These changes will be discussed later in this section. More generally, it needs to be emphasised that they are so far only evident on Hadrian's Wall at this early date. The development of the cruciform fort plan and its variants, however, must have been widespread for by the end of the third century the plan occurs in the eastern provinces. Whether the reduction in unit size in the early third century was a general trend or was localised is impossible to say because of the lack of evidence from elsewhere. By the end of the third century this reduction was of course an accomplished fact throughout the empire. Newcastle, the only newly-built fort of the late second or early third century in Britain (and much further afield) where something is known of its plan, thus assumes exceptional importance. In this section, first the units attested at Newcastle will be discussed, and

then the individual buildings and their relationship to the fort plan. A consideration of the overall plan follows together with a possible reconstruction, its purpose being to show how much space a third-century unit of reduced size would require.

The units at Newcastle

The *cohors I Ulpia Traiana Cugernorum civium Romanum* was at Newcastle in the early third century, for its name can be confidently restored on the dedication to Julia Domna erected in 213 (p. 133–4). The unit was in Britain by 103 and is attested in the vicinity of the Antonine Wall (*RIB* 2313 with *Britannia* 6 (1973), 336–7); a soldier of the unit dedicated an altar to Coventina at Carrawburgh, although that is no proof that the unit occupied the fort (*RIB* 1524; for the history of the unit, see Holder 1982, 115 and Jarrett 1994, 58). The unit was quingenary, consisting of six centuries, but whether it had the additional four cavalry troops of an equitate cohort is uncertain. None of the three inscriptions where its name occurs gives the designation '*equitata*', but this is often omitted in instances where the unit in question is certainly known to have included cavalry (cf. Bidwell and Speak 1994, 18–19).

According to the *Notitia Dignitatum* (*Oc.* XL, 43), which was compiled after c. 395, the unit at Newcastle was the *cohors I Cornoviorum*; it must have replaced the *Cugerni* who then disappear from history. The *cohors* is assumed to have been raised from the *civitas Cornoviorum* centred on Wroxeter, although there were also peoples of this name in Caithness and Cornwall (Rivet and Smith 1979, 325, 350). Holder (1982, 115) and Jarrett (1994, 58) thought it possible that the unit originated in the later first or second centuries, but there is no record of it other than the entry in the *Notitia Dignitatum*.

Since the 1930s it has been widely held that the section '*per lineam valli*' which lists the officers and their commands on Hadrian's Wall dated from before 367 and perhaps could date to as early as the end of the third century. One of the reasons for this belief was that almost all

the units in the Wall forts attested by the *Notitia* had the same posting in the late second or earlier third century. The only clear, although partial, exception is at Burgh-by-Sands where the main third-century unit, the *cohors I Nervana Germanorum*, is not mentioned in the *Notitia*; instead it cites the *numerus Maurorum Aurelianorum* which had been brigaded with the *cohors* in the mid-third century (*RIB* 2042). There might be another exception at Rudchester where the third-century unit is unknown. The discovery of the dedication to Julia Domna in 1979 established Newcastle as another and complete exception to the very long-term occupancy of Wall-forts by the same units. It reinforced the new view that the list '*per lineam valli*' was not obsolete and gave the location of units on the Wall at the end of the Roman period (Breeze and Dobson 1976, 230; for a detailed consideration of the problem, see Hodgson 1991). The *Notitia* can therefore be taken to show that the *cohors I Cornoviorum* was at Newcastle until the end of the fourth century, if not beyond.

The substitution of *cohors I Cornoviorum* for the *Cugerni* might have taken place in the late third or early fourth century. There was rebuilding at this period in the north-east quadrant of the fort and in the *praetorium*, and at about this time there were radical changes in military dispositions in north-east England. The outpost forts of High Rochester and Risingham were abandoned in the early fourth century (Casey and Savage 1980) and at South Shields the *cohors V Gallorum* was replaced between c. 286 and 318 by a much larger unit, almost certainly the *numerus barcariorum Tigriensium* (Bidwell and Speak 1994, 42–3). However, the arrival of the *cohors I Cornoviorum* at Newcastle might have nothing to do with these events.

Finally, evidence of another unit at Newcastle must be noted. In 1864 a building stone inscribed '*coh(ors) I Thracum*' was found at Clavering Place 'amongst a mass of Roman debris' intermingled with burials associated with the Whitefriars (Bruce 1867, 103; *RIB* 1323). Birley (1937, 238–9) stated that the cohort 'may well have been in garrison at *Pons*

Aelius'. It now seems that there were two units of this name in Britain (Breeze and Dobson 2000, 274), one of which was certainly at Bowes between at least 197–202 (*RIB* 730) and 205–7 (*RIB* 740). Birley (1950, 176) later suggested that because of the thinness of the slab (65mm) it had come from the Vallum. This is a characteristic of a series of auxiliary building records regarded as Vallum inscriptions, although there is only one spot, at Denton, where they have actually been found in association with the earthwork (*RIB* 1361–5). The editors of *RIB* pointed out that the Vallum does not seem to have extended as far east as Clavering Place, and this has been confirmed by recent work (Macpherson and Bidwell 1997–98, 53). Alternative explanations are that the *cohors I Thracum* had indeed formed the garrison at Newcastle, presumably succeeding the *Cugerni* (p. 263), or that they were stationed at the suggested Gateshead fort.

The fort wall (fig. 1)

The fort wall, only seen on the north-east side of the fort, was 1.70m in width at the level of the first course above foundations 2.10m wide. It was free-standing without an earth or clay rampart at its rear, which is characteristic of late Roman defensive walls. The legionary compounds at Corbridge, probably built in the Severan period, were also enclosed by free-standing walls, as was the probable compound at Carlisle (*Britannia*, 31 (2000), 93). Another parallel can be found at Drumburgh where, however, the foundations were much wider (2.88m) than at Newcastle; they were said to have been of the same width and build as the Intermediate Wall (Haverfield 1900, 85). Ramparts were occasionally omitted at earlier forts, as for example at Bad Canstatt where the deficiency was compensated for by piers projecting from the back of the fort wall to support a wide fighting platform at the level of the wall-walk (*ORL*, no. 59).

The *principia* (fig. 1)

The excavated portions of the *principia* consisted of part of the cross-hall, which was 4m in

width, and the eastern room and part of the cellared strong room in the rear range. If the *principia* shared the central axis of the *via praetoria*, an almost invariable rule, its overall length would have been *c.* 17.0m; its overall width was 9.8m. There was no forecourt, and Newcastle belongs to a type of *principia* only encountered in some forts of the early third century or later; *principia* with forecourts continued to be built at other forts in the later Roman period (see, for example, the late third- or early fourth-century examples at South Shields, Latrus in Bulgaria and Palmyra in Syria). In Britain, in addition to Newcastle, there are examples of *principia* without forecourts at South Shields in Period 6 (built *c.* 222–235), in the Severan east and west compounds at Corbridge and possibly at Rivingham; the type also seems to occur at Troesmis in Bulgaria (references and fuller discussion in Bidwell 1996). Where the fort plans associated with *principia* of this type are known in detail, they are unconventional: at South Shields in Period 6 instead of a *via principalis* there was only a cross-street at the head of the *via praetoria* which did not extend beyond the frontage of the *principia*; the east compound at Corbridge is a possible example of the cruciform street plan and the west compound has no *porta principalis* on the north side. Only at Newcastle is there a possibility that there was the conventional second-century and earlier arrangement of *viae praetoria* and *principalis* in a T-shaped arrangement with gates at the end of the streets, a possibility which may prove illusory (pp. 272–3).

The *principia* forecourt has long been considered primarily as an area where soldiers could congregate when military ceremonies took place in the *principia*. Fellmann (1958, 87–8) sets out the evidence, the most graphic example being a description from Egypt of the celebration by *cohors I Flavia Cilicum* of the emperor Severus Alexander's birthday in AD 232. He broadly concurred with von Domaszewski's thesis that it was the *principales* (under-officers) who gathered in the courtyard, the officers witnessing the ceremonies in the *principia* and

the ordinary soldiers parading in the *via principalis*. Where the *principia* forecourt was omitted, as at Newcastle, the streets in front of the *principia* would have accommodated almost the entire unit when military ceremonies took place. The importance attached to the area in front of the *principia* is seen in the evolution of a new fort plan in the later Roman period, where the familiar 'T' arrangement of the *via praetoria* and *via principalis* was replaced by a cruciform arrangement of two main streets with the *principia* placed at the end of one arm, the best-known example of which is the Camp of Diocletian at Palmyra in Syria (Fellmann 1976). Bidwell (1996, 5) showed that in this type of plan the length of street leading from the intersection to the *principia* was isolated from the rest of the fort and was reserved for ceremonial rather than mundane use. Further support for this interpretation has come from the recognition that at South Shields in Period 7 (built *c.* 286–318) the head of the street leading to the *principia* was separated by a timber fence or screen from the intersection.

In the cruciform fort plan the special character of the approach to the *principia* is manifest. In other types of fort plan this area must have had the same character (*cf.* Bidwell 1996, 12); indeed, in early temporary camps the term '*principia*' was applied to the length of street in front of the *praetorium* where the soldiers assembled on formal military occasions (references collected in Fellmann 1958, 81–4). At Newcastle the special purpose of the streets in front of the *principia* is crucial to understanding the peculiarities of the fort plan and the significance of the use of those streets in the mid-fourth century and later.

Another feature of the Newcastle *principia* is its small size: the internal length of its cross-hall is 15m and its width 4m. The equivalent dimensions of the Period 6 *principia* at South Shields, built in *c.* 222–235, are 23m by 7m and at Vindolanda in Stone Fort 2, built *c.* 223–5, are 23m by 7m. Later first- and second-century *principia* have a wide range of sizes which do not necessarily vary in accordance to the overall area of the fort or the status of the unit which occupied it (*cf.* Johnson 1983, figs. 98–9).

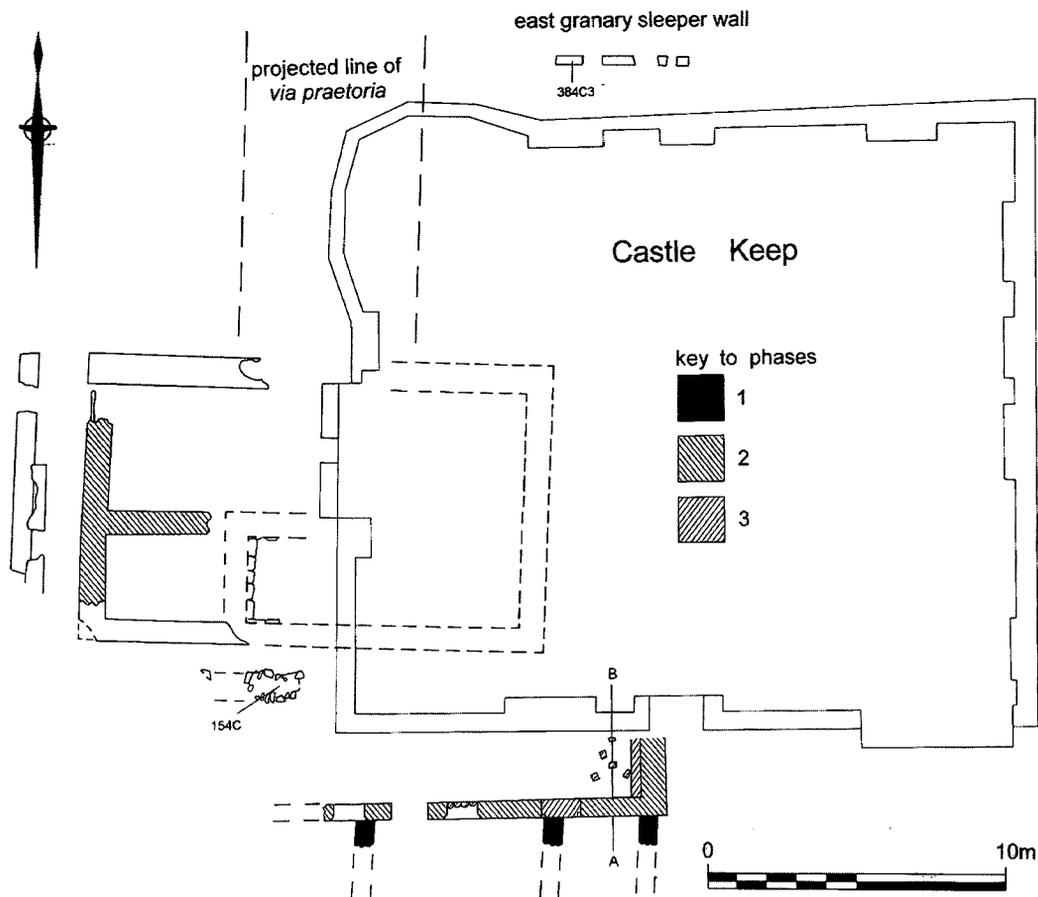


Fig. 4 Buildings excavated by F. G. Simpson in 1929 (after Spain and Simpson 1930, fig. facing p. 502) with buildings excavated in 1979 superimposed. The 'phase 2' east-west wall south of the principia, its blocked door or recess and its northern return wall are likely to be post-medieval. Roman structures south of the principia consist of primary buildings (shown in black) running north-south, and a later hypocaust, probably part of a schola. Section AB shown on fig. 5. Scale 1:250.

The structures behind the *principia* (figs. 4 and 5)

The most important discovery in 1929 was a fragment of a hypocausted building, most of which had been destroyed by the southern side of the massive sloping plinth of the Keep. The careful description of the remains needs to be quoted in full:

'In a trench on the south side of the Keep another wall of Roman date, 2 feet [0.61m] thick, was found between the footpath and the

tramway siding, running east and west for 37 feet [11.28m] to a corner, where it turned north at right angles, its thickness being increased to 2 feet 9 inches [0.84m]. The wall evidently formed part of a complex building with a flagged surface on the south throughout its length and a hypocaust on the north at the east end. The hypocaust is a later addition. In the south front near the corner was a walled-up doorway evidently closed when the hypocaust was added. Spaces between the masonry filling and the jambs proved that a wooden door

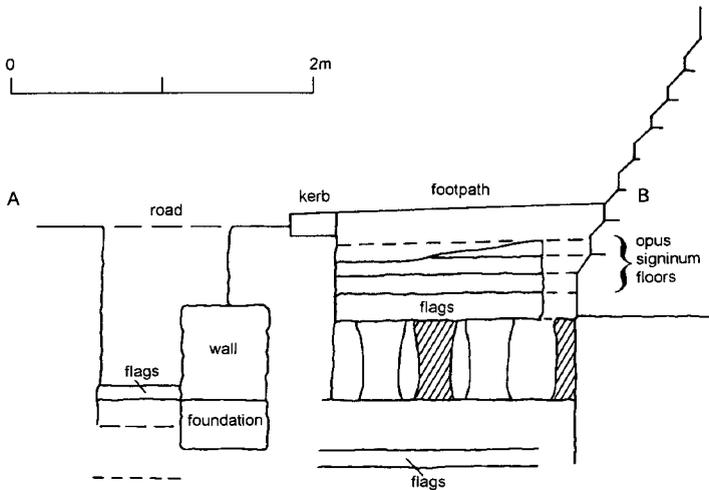


Fig. 5 Section AB through the remains excavated by F. G. Simpson (after Spain and Simpson 1930, fig. on p. 504); position of section shown on fig. 4. Redrawn at a scale of 1:50.

frame had been in position when the doorway was built up. Near the west end of the wall was another doorway between two low window openings. The sills were as low as those of typical french windows. That they had also been fitted with wooden frames was proved by the presence of rebates cut in the masonry at both sides of the openings. The south face of the wall had been coated with plaster. Just within this doorway was found the upper half of a well-carved altar with an almost illegible inscription [*RIB* 1317]. This wall was at right angles to that found west of the Keep and doubtless they formed one building of the house type, measuring 62 feet [18.9m] from east to west.

A portion of the hypocausted floor had never been broken down. The stone columns, 2 feet [0.61m] high, still supported flags covered by two layers of *opus signinum* and the remains of a third, much worn by traffic, apparently in medieval times. Below the hypocaust was an earlier flagged floor level. To the south of the wall and below the flagged surface were the foundations of three walls of an earlier period, running north-south. Associated with this lower level was a fragment of a samian bowl of Hadrianic date (Dragendorff form 30). No

portion of these buildings can exist below the Keep, for its foundation is deeper than the lowest level of Roman occupation.' (Spain and Simpson 1930, 503-4, figs 12-13, fig. facing p. 502, section drawing on p. 504).

There were four main structural elements:

- A. Three fragments of walls running north-south; it is uncertain whether they extended as far north as the hypocaust.
- B. An area of flags below the hypocaust basement.
- C. The wall with blocked door and 'window openings' which seems to have been associated with a flagged floor to the south (it was implied that this was the same flagged floor as B above but the section (fig. 5) shows that they are at different levels).
- D. The hypocaust, apparently an addition to the building represented by the wall C.

The account is clear, but two matters call for comment: the wall with its 'window openings' and the survival of the hypocaust to a level just under the pavement. Jambs or rebates for doors or windows are virtually unknown in the architecture of Roman north Britain. Doors were usually set on pivots; where hinges were used,

there is no evidence for the existence of projecting jambs or door-cases. Projecting rebates only occur at fort gates, their purpose being to provide a frame against which the gates could be closed and secured against assault by large draw-bars on the inside. The position of Simpson's trenches meant that the structural relationship between wall C and the hypocaust was not seen. It is possible that the wall was not of Roman date and that the 'window openings' were doors associated with floors or surfaces not seen in the narrow confines of Simpson's trench. Plans of the buildings within the boundary of the castle after c. 1600 prepared by Nolan show a narrow building running along the south side of the Keep, separated by a gap of a few feet (Nolan 1990, 94 fig. 7 (c. 1704–c. 1770), 98 fig. 8 (c. 1770–1810)). This was part of a passage through properties leased from 1711 by James Lidster (or Litster) to the prison in the Keep which was entered through a door cut through the south side of the plinth (Nolan 1990, 99). The wall C might thus represent the north side of the property bordering the passage to the prison.

If the wall is of post-medieval date, the survival of the hypocaust at such a high level needs to be explained. The presence of doors, as suggested above, near the base of the wall would indicate that the post-medieval level had been cut down below the Roman level. The remains of the hypocaust, however, lay beyond the end of the passage to the prison and were presumably not affected by the lowering of the ground surface to the west and south. The only difficulty is the blocked door at the east end of the wall which was at the level of the hypocaust basement. Only the south face of the wall was seen and the blocked door might in fact have been a blocked recess in the wall face or even two phases of rebuilding or extension of the wall.

The removal of the wall C and the flagged floor to the south with which it seems to have been associated still leaves several Roman features which are of great importance in understanding the structural history of the fort. The north-south walls are discussed later (p. 273). The remains of the hypocaust, so

close to the *principia* that they were probably associated with a room attached to its rear, are discussed in the next section.

A *schola*?

Large hypocausted rooms appended to the rear range of the *principia* are known at a small number of forts in Britain and Germany. The only example in a British auxiliary fort is at Caernarvon which was excavated in 1921–3 (Wheeler 1923, 49–53, 64, figs 11–14): it measured 6.9m by 3.9m, its north-east end taking the form of a shallow apse. Wheeler associated the room with 'the growth of the military *scholae*' in the third century and cited rectangular rooms in equivalent positions at the forts of Butzbach and Weissenburg (for the latter, now see Grönke 1997, 77, Taf. 17, 1). Although epigraphic evidence for the function of these rooms is lacking, their identification as *scholae* is widely accepted. In the eastern legionary compound at Corbridge there are three apsidal buildings which cluster around the *principia*, two apparently part of the original plan and the third of fourth-century date, replacing the storehouse mentioned on p. 270. Richmond (1943, 133) interpreted these buildings as *scholae collegiorum*, adding that 'the promotion of these guilds, worshipful associations of private soldiers and lower ranks for welfare and good fellowship, which were regulated by a licensed constitution, is a feature of the Severan reorganisation of the army and is attested even among *auxilia* in the early third century at Bremenium [High Rochester: *RIB* 1268, a dedication by the tribune, Caecilius Optatus, to Minerva and the Genius of the gild]'.

A third example, *Abusina-Eining*, can be added to the *scholae* in German forts cited by Wheeler: there were two hypocausted rooms attached to the north end of the rear range of the *principia*, and another such room, free-standing, to the south-west of the *aedes* (Fischer and Spindler 1984, Abb. 16).

Scholae were not confined to units of high status, as Richmond noted: Weissenburg was an *ala* fort, and Butzbach perhaps accommodated an *ala* in the third century; the Corbridge

compounds were built for legionaries, but Caernarvon and Eining were cohort forts, as was High Rochester where the inscription cited above records the presence of a *collegium*. The hypocausted room behind the rear range at Newcastle can therefore be plausibly identified as a *schola*.

The *praetorium* (fig. 1)

The *praetorium* (house of the commanding officer) lay in the central range immediately to the west of the *principia*. Only its north-eastern corner was exposed, in an area measuring 7m by 4m. Fortunately, this included part of a room with a channelled hypocaust, later replaced by a pillared hypocaust, which together with its position makes identification of the building as the *praetorium* certain.

The *praetorium* was often the largest building in a fort. At Wallsend and Housesteads the *praetoria* occupy respectively areas of c. 1000 and 950 sq m; those at the cavalry forts of Benwell and Chesters seem to be much larger, with areas of perhaps as much as 1700 sq m, surely reflecting the greater seniority carried by command of an *ala*. The recently-excavated *praetorium* at Vindolanda, probably built c. 223–5, covered an area of c. 770 sq m (Birley *et al.* 1999). The *praetorium* of Period 6 at South Shields, which would have been built at the same time as that at Vindolanda, has not been located. However, the plan of half of the accommodation for the garrison has been recovered. The missing elements, in addition to the *praetorium*, are four cavalry barracks; if these were of the same size as the ordinary soldiers' barracks, there would have been space for a *praetorium* of much the same size as at Vindolanda.

At Newcastle a *praetorium* with an area of not much less than 800 sq m might be expected. The width of the *principia*, however, is only 9m. This means that the *praetorium* must have extended well to the south of the *principia*. If the western half of the *praetentura* was c. 33m in width (p. 273), then the northern frontage of the *praetorium* would have been c. 25m in length; a plot c. 750 sq m in area would thus

have extended 30m to the south of the '*via principalis*'.

The granaries (fig. 1)

The fort had two separate granaries, the eastern example with overall dimensions of 16.05m by 5.90m excluding buttresses; its counterpart had the same type of plan and overall width, and, although its western end has not been seen, was probably of the same size as the eastern granary. They lay to the north of the central range on either side of the *via praetoria*. Their plans find a ready parallel amongst the fifteen granaries of Period 5 at South Shields which, although much longer, have the same arrangement of buttresses on the end walls as at Newcastle, and also four rows of sleeper walls (Bidwell and Speak 1994, 23, Type 1 granaries). If Newcastle was a Severan foundation, the similarity might perhaps be of some significance, suggesting that *legio VI Victrix*, responsible for the fort wall extension and presumably the other major works of Period 5 at South Shields, also built the Newcastle fort (*loc. cit.*). It would be rash, however, to argue on these grounds that Newcastle must be a Severan foundation: there are only limited variations in the plans of granaries and the South Shields type might have been in use at other periods.

The Newcastle granaries are about half the length of those at South Shields and fall well below the average length of stone-built fort granaries in Britain, generally between 25m and 30m in length with some much larger examples (Gentry 1976, 41). There are granaries of similarly small dimensions at Cappuck (15.24m by 6.10m) and Croy Hill (14.12m by 5.28m); these are small forts, with areas respectively of 0.5ha and 0.62ha within their ramparts, which have only one granary and are thought unlikely to have accommodated complete cohorts. More relevant are the small granaries at Chesters, an *ala* fort, and Beckfoot which with an area of 1.3ha (3.25 acres) was large enough to accommodate a cohort. The two granaries at Chesters, situated in the *retentura*, were excavated in about 1881 and measured c. 14.5m by 8.5m (Bruce 1884, 91); they sit rather

oddy within the fort plan and Bruce described their masonry as 'defective', implying that it was of a late period. Geophysical survey has traced a large granary in the usual position in the central range and there is space for its pair to the west (Bidwell 1999, fig. 31); without excavation it is impossible to know whether they had survived into the late Roman period. At Beckfoot the two granaries, although known only from aerial photographs, do not seem to belong to the original fort plan, for the western granary appears to overlie earlier buildings (Frere and St Joseph 1983, 72, pl. 39). The granaries are c. 15m in length and are sited on either side of the *via principalis* adjacent to the south gate.

Newcastle, Chesters and Beckfoot thus provide us with pairs of granaries, certainly of late second- or early third-century date at Newcastle and quite possibly of similar date at the other two forts, which have approximately half the capacity of earlier granaries. Barracks of this period on Hadrian's Wall indicate that there was a reduction in the size of centuries by about a half in the earlier third century (pp. 271–2). These small granaries are presumably a further effect of the total reduction in unit size. One objection might be that at Birdoswald two full-size granaries were built in c. 205–8, if the Severan inscription (*RIB* 1909) which has been associated with their construction is taken at face value (Wilmott 1997, 404; cf. Bidwell 1999, 25). However, this is the period of the Severan campaigns when units might have been brought up to their full paper strength. A broader objection is that small granaries were not present in other forts occupied in the early third century where much of the plans are known: for example, Wallsend, Housesteads, High Rochester and Caernarvon, and Halton Chesters and Lanchester, these last two known mainly from geophysical survey. It might be simply that the second-century granaries had continued in use, even though they had a capacity which in the third century was far in excess of what was needed, and that the small granaries at Beckfoot and Chesters had been built because the original granaries were dilapidated or were converted to serve some

other purpose. The insertion of cross-walls in the double granary at Housesteads, at a date which has not been established, was taken as an indication that its capacity had been halved (Crow 1995, 52). Another explanation could be that small granaries have not been recognised in these fort plans which, although fairly well-known in outline, are not the result of comprehensive modern area excavations, except at Wallsend and in parts of Housesteads, Caernarvon and Halton Chesters. At Vindolanda, after 340, floors raised on sleeper walls were inserted in the rooms bordering the *principia* forecourt (Birley *et al.* 1936, 225–8). In the east legionary compound at Corbridge, Site XLIII, a building measuring 9.1m by 7.3m, was situated on the right-hand side of the *principia* and was divided into four rooms each apparently with floors raised on sleeper walls (Forster and Knowles 1913, 234, pl. V); Richmond (1943, 132) judged that 'it would not be unreasonable to see in this little building, adjacent to a curtailed *principia*, a minor edition of the large granaries associated with *principia* in normal forts'. Site XLIII was later replaced by a free-standing *schola* and appears to have belonged to the original legionary compound built in the Severan period (but not necessarily at the time of the Severan campaigns). The east compound held a legionary detachment of unknown size, although probably rather less than a cohort of 500 men, but is still relevant to this discussion: the granary is even smaller than those at Newcastle, Beckfoot and Chesters and it lacks the characteristic buttressed walls. Site XLIII suggests that from the early third century onwards some buildings functioning as granaries might be difficult to recognise by methods other than comprehensive excavation.

The Newcastle granaries thus represent the best evidence for the emergence of a type which might reflect the reduced size of units in the earlier third century. They also demonstrate the continuing preference for pairs of granaries, all the more marked in the case of these small granaries which have the same capacity as a single second-century granary. Grain stored in bulk is highly flammable and the use of two

separate buildings to store the supplies of a unit would have been a sensible precaution.

It only remains to comment on the position of the Newcastle granaries. The central ranges of later first- and second-century forts almost always include granaries, and there must have been a compelling reason for siting them elsewhere at Newcastle. The possibility must be admitted that there were in fact one or more granaries in the unexcavated area to the east of the *principia* and that the two granaries on the opposite side of the '*via principalis*' were an additional provision. Gentry (1976, 28, fig. 4) has proposed a model whereby grain was sent from supply depots to forts with a grain reserve for distribution to adjacent forts. Newcastle is an unlikely candidate for a fort with such a grain reserve. It lay between Wallsend and Benwell, well provided with granaries, and was less than a day's journey from the enormous supply base at South Shields. A more prosaic explanation is that the constraints of the fort site meant that there was not enough room to site the granaries to the east of the *principia*.

Buildings in the north-east quadrant (fig. 1)

The buildings in this area of the fort were divided by a street 3.5m in width. The northern building (I) was 5.3m in width externally and 3.8m internally, the southern (II) 4.8–4.9m in width externally and 3.3–3.4m internally. The latter building was traced for a distance of 15m to the east of the *via praetoria*. The northern building cannot have had a length of more than c. 22m, a dimension determined by the turn to the south-east which the fort wall must have taken at the top of Dog Leap Stairs to avoid the steep slope, allowing in addition a width of 3.5m for the *intervallum* street. The southern building, its length similarly governed by the fall of the land to the north-east, could have extended no more than 30m to the east. In the late third century, or perhaps a little later, Building II was demolished and replaced by Building III, which was slightly wider (width 5.5m); at the same time Building IV, which was 3.7m in width, was built to the south over part of the very wide street to the north of the

granaries. The buildings remained in use until the end of the Roman period.

The function of these buildings cannot be determined with certainty. Their narrow width does not entirely preclude their identification as barracks: examples with this approximate width occur occasionally as at Claudian Hod Hill and Antonine Bearsden. More telling is the lack of any evidence for internal partitions except in a secondary phase of Building II; this single example lay 11.5m from the west wall of the building and would have formed far too large a space for a *contubernium*. It is far more likely that these buildings were workshops, although neither yielded much evidence of metal-working. Before they were built this part of the fort was occupied by hearths which might have been associated with some form of industrial activity. Building IV, which with Building III replaced Building II in the late third century, was exceptionally narrow (2.5m wide internally) and fronted onto what may have been a major street. Its narrow width and position resemble those of the *fabricae* identified at South Shields (mid-Antonine and Severan examples), Wallsend and Birdoswald.

The likely size of the barracks

None of the excavated buildings at Newcastle can be confidently identified as a barrack. Nevertheless, in order to estimate the likely extent of the fort and the possible arrangement of its buildings, dimensions for the missing barracks are needed. The difficulty is in deciding whether they were likely to have been conventional barracks of second-century type, c. 40–50m in length with nine or ten *contubernia*, or the barracks with a reduced number of *contubernia* of the type known at Vindolanda (Bidwell 1985) and South Shields in the 220s or 230s (Hodgson 1997–98, 32–4, fig. 6), and at a slightly later date at Wallsend (Hodgson forthcoming). The most extensively excavated examples of this later type are the set of six barracks of Period 6B at South Shields built in c. 222–235 which each had five *contubernia* (certain in four of the barracks, assumed in the

other two which had the same overall dimensions as the other four: Hodgson 1997–8, fig. 6).

The most straightforward explanation for this reduction in the number of *contubernia* from the nine or ten of earlier barracks is a corresponding reduction in the size of the century, by perhaps as much as a half (Bidwell 1991). These smaller centuries had appeared no later than the 220s or 230s on the evidence from Vindolanda and South Shields, but earlier barracks of Period 5B at the latter fort, built no earlier than c. 207–8 and probably before the end of the Severan campaigns in 211, were of much larger size, containing eight *contubernia* (Hodgson 1997–8, 26, fig. 1). If the reduction in the size of the century was a decision taken by a higher military command applying to all the units on the Wall (and perhaps further afield), then it will have been made between c. 207–11 and c. 222–35. On the other hand, the smaller barracks might have resulted from a long-lived tendency for centuries to remain substantially below their paper strength of 80, which gradually came to be recognised as a permanent state of affairs (the Period 5B barracks were probably built in the emergency of the Severan campaigns when frontier units might have been restored to full strength).

At Newcastle, even if its construction date was as early as the last two decades of the second century, it is possible that the barracks could have been as small as those at South Shields in Period 6B which were only 33m in length.

THE EXTENT AND PLAN OF THE FORT

The individual elements of its plan have already been discussed; an attempt will now be made to make sense of its overall plan. This can only proceed on the basis of a series of assumptions which have already been discussed. These are:

1. That the fort was built for either a quingenary cohort (for six centuries requiring six barracks) or a quingenary equitate cohort (requiring four additional barracks for cavalry).

2. That because of reductions in the size of the century (and presumably the *turma*) the barracks were probably smaller than in earlier forts. Hence the fort itself could well have been smaller than first- or second-century forts built for quingenary units.
3. That the granaries were sited in the *praetentura* because of lack of space in the central range.
4. That, as far as the topography of the site would have allowed, the fort would have been rectangular.

One feature of the plan which is of particular significance is the position of the street conventionally identified as the *via principalis*, which runs on a line roughly equidistant from the north and south fort walls. In British forts of the usual rectangular type, particularly those on Hadrian's Wall, the *via principalis* is usually positioned so that the *praetentura* is usually about half the depth of the central range and *retentura* combined. Division of a fort by the *via principalis* into two equal segments is most often seen where the fort is square in outline, or nearly so, as for example at Wiesbaden and Gelligaer (Johnson 1983, figs 195, 198). There are exceptions in the cases of both square and rectangular forts, but the general tendency is certainly evident. The Newcastle fort cannot have been squarish in outline, for if the fort extended c. 45m eastwards from its long axis, that part would have been three-sided, the northern and southern parts of the fort wall following the top of the promontory. Such an arrangement is possible and would have greatly increased the overall area of the fort. In that case, the width of the central range would have been sufficient to have accommodated the granaries; as has already been noted (p. 271), some compelling reason for their unusual siting must be sought.

An alternative explanation for the apparent central position of the *via principalis* might be that the metallated area in front of the *principia* thus identified actually served another purpose. In forts down to the mid- or late second century the *via principalis* runs between the two *portae principales* along the frontage of the central

range, its association with the *principia* giving rise to its name. From the early third century new types of fort plans began to appear, as has already been explained (p. 265). A common feature of these plans was the omission of the *via principalis* in front of the *principia*, or its truncation; in the cruciform plan the street which ran across the centre of the fort might be regarded as a replacement of the *via principalis*. To the north of the granaries at Newcastle was a street which at about 9m in width was an exceptionally large street for a fort of modest size. It is possible that the layout of the fort north of the central range echoes the cruciform plan, although elsewhere the entire internal areas of forts are laid out around the two cross-streets. For practical purposes the granaries might have been regarded as part of the central range with the street in front of the *principia* forming in effect an elongated courtyard. The *via praetoria* south of the cross-street would then have been reserved as part of the ceremonial area in front of the *principia*.

Possible reconstructions of the fort plan (fig. 6)

The preceding analysis of the fort plan and its buildings can be used as a basis for hypothetical completion of the overall arrangement. The purpose of this exercise is to show what space *cohors I Cugernorum* might have required.

The western half of the *praetentura* will have probably been occupied by barracks for which a minimum length of 30m must be allowed. There is insufficient space for them to have been oriented north-south, so they will have been ranged across the width of the fort as was customary. Two barracks of the same width as those at South Shields in Period 6 would have occupied a plot 17m in width allowing for a street between them. The southern wall of the southern barrack would have been on the same line as the south wall of Building III.

Barracks of this length so arranged would give a distance of 38m between the outer face of the west fort wall and the centre of the *via praetoria* (fort wall 1.5m in width; *intervallum* street 4m in width; barracks 30m in length; *via praetoria*, half width, 2.5m). That would allow the *praetorium* a width east-west of 22–23m; if

it had an overall area of *c.* 750 sq m, its length north-south would have been about 33–34m.

A quingenary cohort required six barracks: the remaining four which could not have been accommodated in the *praetentura* must have been sited to the south or east of the *principia*. If placed together in a block, they would have occupied an area of about 30m by 35m. There is not enough space for a block of that size behind the *principia* if the barracks ran across the width of the fort: the eastern end of the southern barrack would have continued across the *intervallum* street in the area where the street metalting was seen in the cellars of the Bridge Hotel. The two southern barracks might then have been sited further to the west, extending along the south side of a *praetorium* slightly smaller than has been proposed above. A better solution would be for the barracks to have been arranged north-south; this would fit with Simpson's observations of north-south walls south of the hypocaust at the rear of the *principia*. Allowing for a street 4m in width behind the *principia*, the easternmost barrack would impinge on the southern *intervallum* street. This could have been avoided by siting the eastern pair of barracks further to the north so that they flanked the eastern side of the *principia*.

This reconstruction leaves a few open spaces around the perimeter of the buildings, particularly in the south-western or south-eastern corners. None is large enough to take the additional four barracks that would have been required by a quingenary equitate cohort. Space could have been found for them on the eastern part of the promontory, but that would have produced a completely irregular fort plan.

This exercise has shown that *cohors I Cugernorum* could have been accommodated within a sub-rectangular fort of *c.* 0.8ha or 1.9 acres (*c.* 105m by *c.* 76m) with a plan which can be understood in terms of the radical changes in Roman castrametation which date from the late second or early third century.

LATER THIRD CENTURY OCCUPATION

In the course of the third century there were minor modifications to Building II. At some

stage there must have been widespread rebuilding in the southern part of the fort when the *schola* was added to the rear of the *principia*. It is likely to have required the demolition of the building or buildings represented by the north-south walls found by Simpson in 1929 (fig. 4). Towards the end of the third century, or a little later, the buildings in the north-east part of the fort were altered and a narrow building (IV) added to the south. At about this time the basement of the east granary was filled in, suggesting a change in the use of the building.

FOURTH CENTURY OCCUPATION

Mid- to later fourth century coin loss as evidence for a market (figs. 7–9)

Following the rebuilding of the *praetorium* and the replacement of the north *principia* wall, the metalling north of these buildings was resurfaced ('*via principalis*' 2). New surfaces of limited extent, probably filling areas of subsidence, were also seen on the southern part of the *via praetoria*. Patching of the new surfaces and alterations to the drains ('*via principalis*' 3) was followed by overall remetalling ('*via principalis*' 4) which again was patched over and then covered by a layer of silt. These deposits produced large numbers of coins, 64 in all, ranging in date from radiates of the 270s to issues of the 350s, the majority being coins of the 330s and 340s. The latest coin (slightly worn) associated with the first remetalling can be dated 353+ (no. 242); the latest issue (again slightly worn) associated with the final remetalling was of 355–8 (no. 228). Even larger numbers of coins were associated with a single remetalling of the main part of the *via praetoria* (3/4): 75 coins with a further 4 from a pit cut through the street. Most of these coins were of the 330s to 350s, but there were two Valentinianic issues of 364–75, one unworn and the other slightly worn (nos 339–40). These late Roman streets thus produced 143 coins or 35% of the total coin list from the site (including the six coins from the 1973 excavations).

The precise nature of the association between the coins and the layers of metalling is uncertain. In the records the contexts given for the coins are the layers of metalling, without any qualification. The question might seem to be whether the coins were resting on or pressed into the surface of the metalling or were in its body, but experience has shown that coins even when well embedded in metalling cannot be regarded as securely stratified in the positions where they were lost. The materials usually forming street surfaces, small cobbles, stone chippings or gravel intermingled with silt and sand, will have been churned up by traffic when wet so that small objects could easily have been pushed down into the metalling. It is therefore probable that the coins were lost on the streets rather than being imported with the metalling materials. Coins were also found in the filling of drains and gullies and in the silting over the uppermost metalling of the '*via principalis*'.

The positions of Roman coins from the post-Roman deposits were plotted (fig. 9) and they show a marked concentration on the line of the *via praetoria* and in the area in front of the *principia*. Robbing of walls and digging of graves had presumably displaced the coins from their original contexts in the streets and distributed them amongst the later deposits. There were 13 coins over the '*via principalis*' and a further 18 over the adjacent corner of the *praetorium*, 36 over the *via praetoria* west of Building IV and 38 over the northern part of the *via praetoria* and the adjacent west end of Building I, a total of 105. As with the coins from the streets, the majority were of the 330s to 350s, although there were five later issues: two of Valentinian (nos 335–6, dating to 364–75), two of Valens (no. 343, 364–78) and one of Gratian (no 351, 375). The total number of coins from the streets (143) added to those in post-Roman deposits above the streets (105) amounts to 248 or 61% of the total coin list.

The coins stratified in the Roman levels were associated with a few sherds of Huntcliff-type ware, dating from *c.* 360, and of Crambeck Parchment ware, dating from *c.* 370, as well as a flanged bowl in East Yorkshire grey-ware of Corder Type 1B, likewise dating from *c.* 370

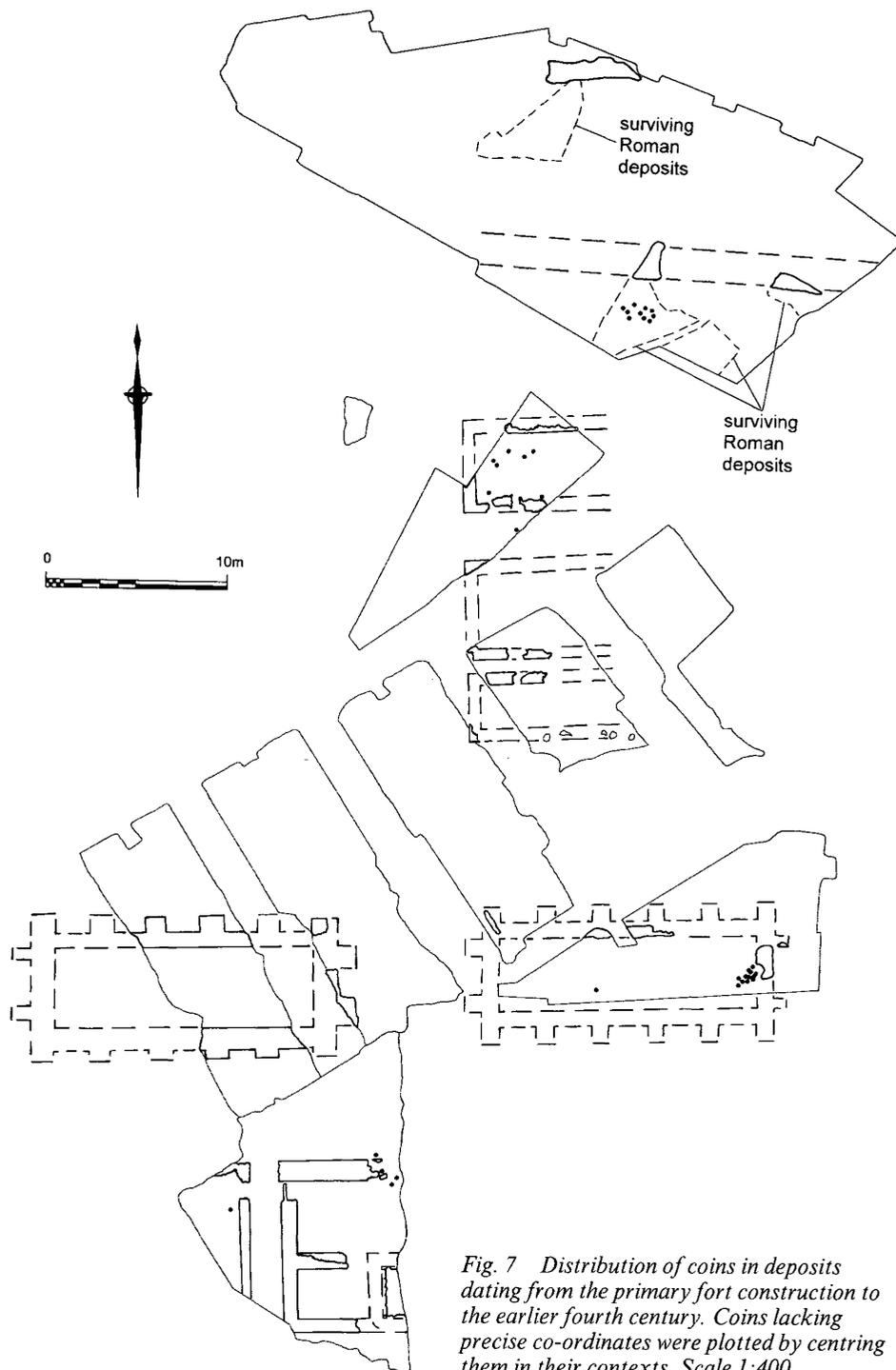


Fig. 7 Distribution of coins in deposits dating from the primary fort construction to the earlier fourth century. Coins lacking precise co-ordinates were plotted by centring them in their contexts. Scale 1:400.

(see p. 171 for a discussion of the chronology of these types). Their association with the metalling of the main part of the *via praetoria* raises no difficulties, for there the coins run down to the 360s and 370s. However, the metalling in front of the *principia* only contained coins going down to the 350s. The upper metalling and the silt above it contained Huntcliff-ware type, but this was the latest street surface and the pottery could have been pushed down into these deposits by the process described above after coin loss had come to an end. A sherd of Crambeck Parchment ware from the first street surface can only be explained as contamination.

The coins are spread fairly evenly over far too large an area to represent a scattered hoard and are surely the result of a high rate of coin loss over a lengthy period. At Wallsend concentrations of coins similar to those at Newcastle have been found, although in a much more restricted area. Successive metallated surfaces in the single carriageway of the minor west gate (*porta quintana*) produced large numbers of fourth-century coins; no coins were found on the earlier surfaces (Hodgson forthcoming). There are no obvious parallels elsewhere. Older excavations of forts concentrated on the buildings, but some more recent work has examined extensive areas of the main streets: at Birdswald the west *via principalis*, gate and causeway (Wilmott 1997); at Portchester the north-south street leading to the south gate (Cunliffe 1975, 49–55, 63–5); and at South Shields the Periods 7 and 8 (late third and fourth century) surfaces of the *via praetoria* and north-east section of the cross street (unpublished). None has produced exceptional quantities of coins.

Another deposit of coins in a military context, although far removed from later fourth-century Newcastle in time and status, has been plausibly interpreted as evidence for a market where civilian traders sold wine and other commodities to soldiers. In the Neronian legionary fortress of Usk the eastern end of a compound between the granaries and the *via principalis* yielded large quantities of coins together with numerous amphora-stoppers and flagons (Manning 1989, 120; Greene 1993,

88–90). The writing-tablets from Vindonissa in Switzerland, only recently published in full, make it clear that traders were well enough established within the fortress to receive letters addressed to them there (Speidel 1996, 15, 54–5). Also worth noting is the Elliptical Building in the fortress at Chester, the plan of which ‘bears more than a passing resemblance’ to a type of market hall familiar from the Mediterranean areas (Mason 2000, 72). One reason for rejecting this identification was that a market hall is a civilian building with a purely civilian function. Other reasons were to do with details of its plan, but it still seems possible that the Elliptical Building was indeed a market hall, a more elaborate version of the trading areas at Vindonissa and Usk. If civilian traders and markets were allowed to operate in legionary fortresses, the main focus of military prestige in the provinces, their presence in a small frontier fort was hardly an affront to discipline.

At Newcastle and Wallsend the casual loss of large number of coins seems best explained by money changing hands in some form of market. The supply of soldiers with goods was probably the main purpose of *vici* outside forts, but in the second half of the third century many of these civilian settlements were abandoned (Bidwell 1991, 14: 1999, 76–7). Continuing excavations at Wallsend are showing that the *vici* there did not continue in occupation beyond the 270s or 280s, when its defences were dismantled. There is no fourth-century material amongst the small number of finds outside the fort at Newcastle and none of the pottery from Bottle Bank at Gateshead seen by one of the present writers (PTB) is necessarily later than the third century.

Trade in the fort at Newcastle seems to have been on a larger scale than at Wallsend where it was confined to the area of the *porta quintana*. This is surely to be explained by the position of Newcastle at the north end of the *Pons Aelius* and the possibility that there was a road running north of the fort (the military importance of the road might have long since ended, but it might have remained in use as a minor route not under military supervision). Possible indications as to the nature of the trade are the

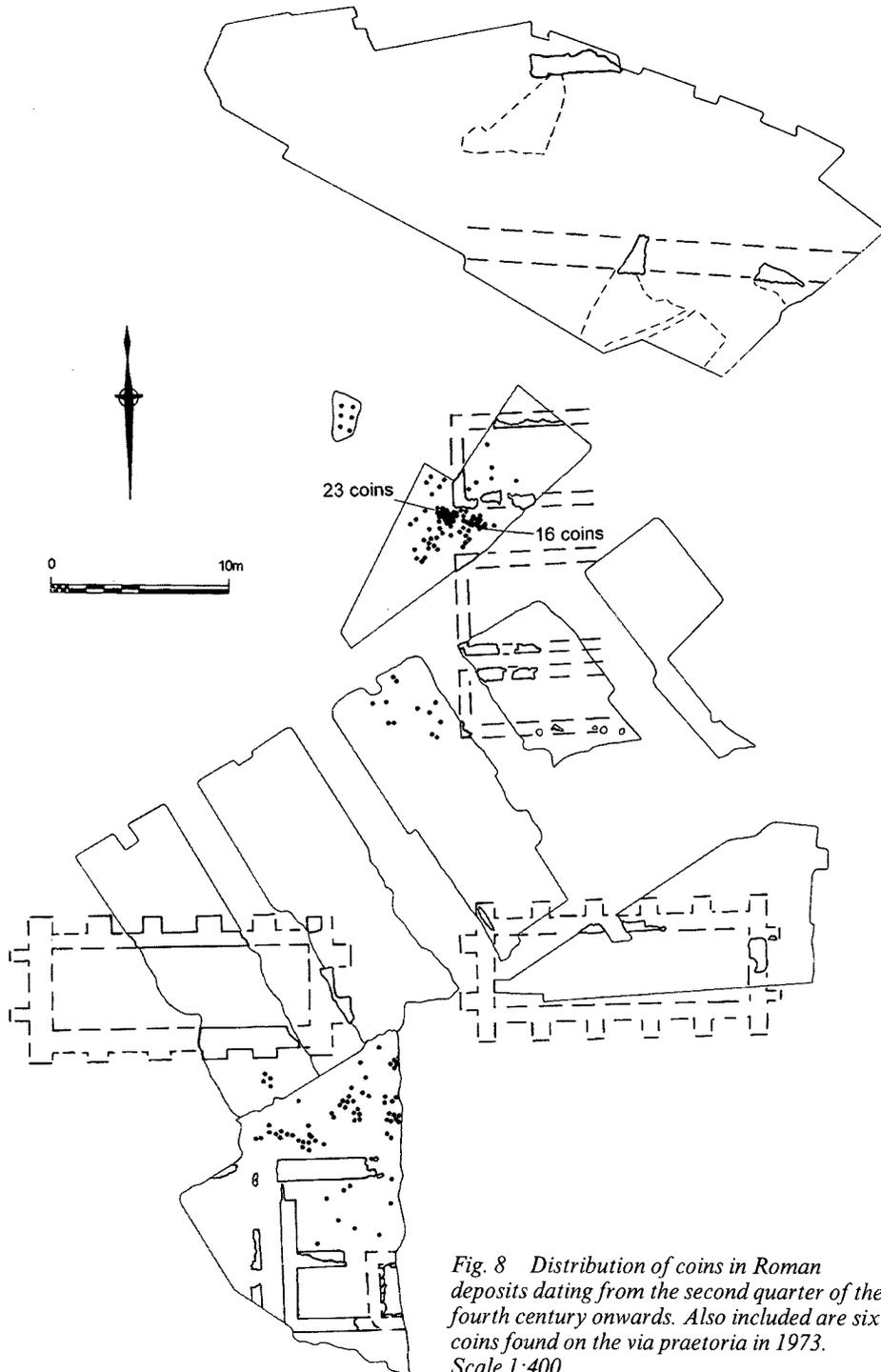


Fig. 8 Distribution of coins in Roman deposits dating from the second quarter of the fourth century onwards. Also included are six coins found on the via praetoria in 1973. Scale 1:400.

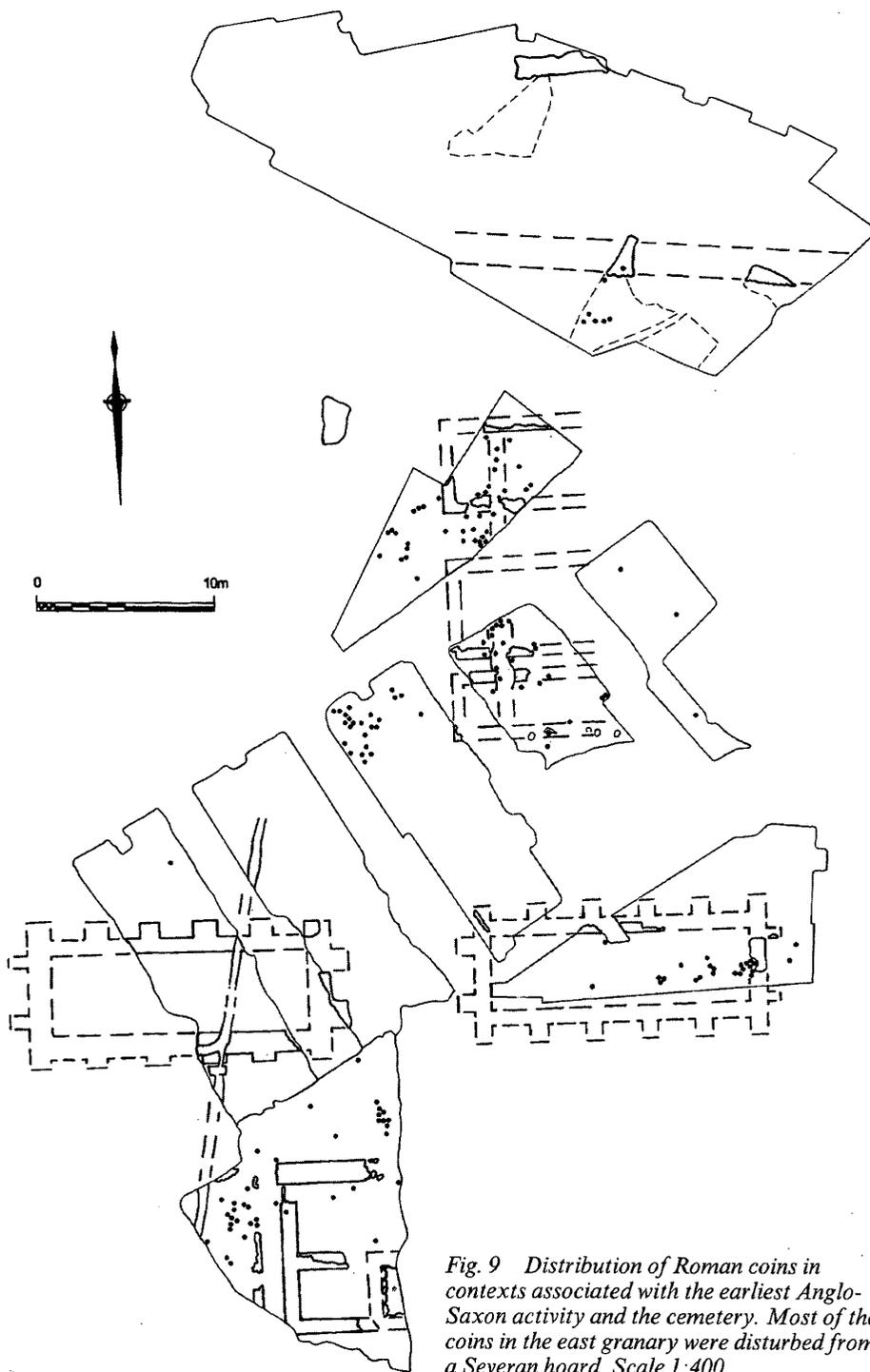


Fig. 9 Distribution of Roman coins in contexts associated with the earliest Anglo-Saxon activity and the cemetery. Most of the coins in the east granary were disturbed from a Severan hoard. Scale 1:400.

presence of large numbers of copper-alloy fragments on the *via praetoria* and much larger amounts of the local traditional ('native') ware in the later levels at Newcastle than in the equivalent levels at Wallsend and South Shields (see further, pp. 169–70).

The character of the military occupation in the mid- to late fourth century

Alterations to the *principia* and *praetorium* were made in the second quarter of the fourth century for which coins in both buildings supply a *terminus post quem* of 330 (nos. 129, 291). The *praetorium*, or at least the excavated portion, was rebuilt and the work on the *principia* was also on a major scale, the replacement of its front wall necessarily involving re-roofing of the cross-hall. Confirmation that the building continued as a *principia* was the provision of a door in the east wall of the *praetorium* immediately opposite that in the west wall of the *principia*. A similar arrangement was seen in the mid-Antonine fort at South Shields and also occurred at Wallsend; it gave the commander private access to the *principia* (Bidwell and Speak 1994, 68–9).

Not long after these alterations were made, the function of the *principia* changed. That is certainly the implication of the establishment of a market on the *via praetoria*. Distribution of the coins extended as far south as the *principia*, across the zone which, as described above, played an important part in military ceremonial and was isolated from mundane use. The surrender of this area to commercial activities surely means that the *principia* was no longer in use. A fort without a *principia* cannot have held a full unit, which in addition to its administrative requirements needed a shrine to house its standards and a setting suitable for the numerous festivals of the military calendar. Although subject to many alterations in the fourth century, most *principia* in Britain retained their essential form, an indication that their administrative and ceremonial functions continued. Radical changes such as the possible construction of a church in the forecourt at South Shields might have belonged to the very

end of the Roman period or beyond (Bidwell and Speak 1994, 103–4).

The *principia* was perhaps eventually, if briefly, restored to use. After 360, on the evidence of a single sherd probably from a Huntcliff-type jar, the cross-hall seems to have been provided with a flagged floor on a mortar bedding which was subsequently robbed. Above was an accumulation of loam, probably indicating a period of abandonment, the latest coin from which was Theodosian (no. 357, dating to 388–95, slightly worn). There was a further paved surface with brown soil above which was then covered with debris from the collapse of the building.

THE END OF THE ROMAN FORT

As at Wallsend and South Shields, the coin list at Newcastle includes a few Theodosian issues. Occupation thus continued to the end of the Roman period and, to judge from the large quantities of the latest pottery types (pp. 170–1), it was intensive. The new floor in the *principia*, datable to 388 or later, is rare evidence from Hadrian's Wall of construction activity at the end of the fourth century. Stratified Theodosian coins are otherwise known only at South Shields (Bidwell and Speak 1994, 126, and unpublished from the late Roman courtyard house) and at Carlisle where a *solidus* of Valentinian II issued in 388–92 was found in a hypocaust (Keevill *et al.* 1989, 254–5).

For how long after 400 occupation continued is a question which, as at most Wall sites, can never be fully answered. The period between the end of the Roman fort and the earliest Anglo-Saxon occupation is discussed on pp. 111–27.

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BIBLIOGRAPHY

Abbreviations

*AA*¹⁻⁵ – *Archaeologia Aeliana*, first to fifth series.

*CW*¹⁻³ – *Transactions of the Cumberland & Westmorland Antiquarian & Archaeological Society*, first to third series.

BIDWELL, P. T. 1985 *The Roman Fort of Vindolanda*, Historical Buildings Monuments Comm. England Archaeol. Rep. 1, London.

BIDWELL, P. T. 1991 "Later Roman barracks in Britain", in Maxfield, V. A., and Dobson, M. J. (eds.), *Roman Frontier Studies 1989: Proceedings of the XVth International Congress of Roman Frontier Studies*, Exeter, 9–15.

BIDWELL, P. T. 1996 "Some aspects of the development of later Roman fort plans", *Arbeia J.*, 5, 1–18 = Zahariade, M., and Oprea, I. I. C., (eds.) 1998, *The Roman Frontier at the Lower Danube, 4th-6th Centuries*, *Studia Danubia, Pars Romaniae: Series Symposia I*, 59–75.

BIDWELL, P. T. (ed.) 1999 *Hadrian's Wall 1989–1999: A Summary of Recent Excavations and Research Prepared for the Twelfth Pilgrimage of Hadrian's Wall, 14–21 August 1999*, Carlisle.

BIDWELL, P. T. forthcoming "Hadrian's Wall from Wallsend to Portgate", *Arbeia J.*

BIDWELL, P. T. and HOLBROOK, N. 1989 *Hadrian's Wall Bridges*, English Heritage Archaeol. Rep. 9, London.

BIDWELL, P. and SPEAK, S. 1994 *Excavations at South Shields Roman Fort, Vol. 1*, Soc. Antiqs Newcastle upon Tyne Mono. Ser. 4, Newcastle upon Tyne.

BIRLEY, A. R. 1997 *Hadrian: the Restless Emperor*, London.

BIRLEY, E. B. 1937 "Fifth report on excavations at Housesteads", *AA*⁴, 14, 172–84.

BIRLEY, E. B. 1950 In Hogg, R., "Some recent accessions to the Carlisle Museum", *CW*², 50, 175–8.

BIRLEY, E. B. 1961 *Research on Hadrian's Wall*, Kendal.

BIRLEY, E. B., RICHMOND, I. A. and STANFIELD, J. A. 1936 "Excavations at Chesterholm-Vindolanda: third report", *AA*⁴, 13, 218–57.

BIRLEY, R., BIRLEY, A. and BLAKE, J. 1999 *The 1998 Excavations at Vindolanda: The Praetorium Site, Interim Report*, Carvoran.

BISHOP, M. C. 1993 "Excavations in the Roman fort at Chester-le-Street (*Concangis*), Church Chare 1990–91", *AA*⁵, 21, 29–85.

BISHOP, M. C. 1995 "A new Roman military site at Roecliffe, North Yorkshire", *Yorks. Archaeol. Soc. Roman Antiqs Sect. Bull.* No. 12, 3–5.

BISHOP, M. C. and DORE, J. N. 1988 *Corbridge. Excavations of the Roman Fort and Town*, English Heritage Archaeol. Rep. 8, London.

BREEZE, D. J. and DOBSON, B. 1976 *Hadrian's Wall*, London.

BREEZE, D. J. and DOBSON, B. 2000 *Hadrian's Wall* (4th ed.), London.

BREEZE, D. J. and HILL, P. R. 2001 "Hadrian's Wall began here", *AA*⁵, 29, 1–2.

BRUCE, J. C. 1851 *The Roman Wall*, London.

BRUCE, J. C. 1867 *The Roman Wall. A Description of the Mural Barrier of the North of England* (3rd ed.), London.

BRUCE, J. C. 1884 *The Hand-book to the Roman Wall: A Guide to Tourists Traversing the Barrier of the Lower Isthmus* (2nd ed.), London.

CASEY, P. J. and SAVAGE, M. 1980 "The coins from the excavations at High Rochester in 1852 and 1855", *AA*⁵, 8, 75–87.

COLLINGWOOD, R. G. 1933 *The Handbook to the Roman Wall* (9th ed.), Newcastle upon Tyne.

CROW, J. 1995 *English Heritage Book of Housesteads*, London.

CUNLIFFE, B. 1975 *Excavations at Portchester Castle, Vol. 1: Roman*, Rep. Res. Comm. Soc. Antiqs London No. 32, Oxford.

DANIELS, C. M. 1978 *Handbook to the Roman Wall* (13th ed.), Newcastle upon Tyne.

DANIELS, C. M. (ed.) 1989 *The Eleventh Pilgrimage of Hadrian's Wall*, Newcastle upon Tyne.

DANIELS, C. M. and HARBOTTLE, B. 1980 "A new inscription of Julia Domna from Newcastle", *AA*⁵, 8, 65–73.

DEARNE, M. J. (ed.) 1993 *Navio: the fort and vicus at Brough-on-Noe, Derbyshire*, BAR Brit. Ser. 234, Oxford.

FELLMANN, R. 1958 *Die Principia des Legionslagers Vindonissa und das Zentralgebäude der römischer Lager und Kastelle*, Brugg.

FELLMANN, R. 1976 "Le Camp de Dioclétien à Palmyre et l'architecture militaire du Bas-Empire", *Mélanges d'Histoire Ancienne et d'Architecture offerts à Paul Collart (Cahiers d'Archéologie, No. 5)*, Lausanne, 173–91.

- FISCHER, T. and SPINDLER, K. 1984 *Das römische Grenzkastell Abusina-Eining*, Führer zu archäologischen Denkmälern in Bayern: Niederbayern, 1, Stuttgart.
- FORSTER, R. H. and KNOWLES, W. H. 1913 "Corstopitum: report of the excavation in 1912", *AA*³, 9, 230–80.
- FRERE, S. S. and ST JOSEPH, J. K. 1983 *Roman Britain from the Air*, Oxford.
- GENTRY, A. P. 1976 *Roman Military Stone-Built Granaries in Britain*, BAR Brit. Ser. 32, Oxford.
- GORDON, A. 1726 *Itinerarium Septentrionale*, London.
- GRAVES, P. and HESLOP, D. forthcoming *An Archaeological Assessment of Newcastle upon Tyne*, English Heritage.
- GREENE, K. 1993 "The fortress coarseware", in Manning, W. H. (ed.), *Report on the excavations at Usk 1965–1976*, Cardiff, 3–124.
- GRÖNKE, E. 1997 *Das römische Alenkastell Biricianae in Weissenburg i. Bay.*, Limesforschungen Bd 25, Mainz.
- HADCOCK, R. N. 1939 "A map of medieval Northumberland and Durham", *AA*⁴, 15, 148–218.
- HAFEMANN, D. 1956 *Beiträge zur Siedlungsgeographie des römischen Britannien, I: Die militärischen Siedlungen*, Wiesbaden.
- HANSON, W. S. and MAXWELL, G. S. 1986 *Rome's North West Frontier: the Antonine Wall* (rev. ed.), Edinburgh.
- HARBOTTLE, B. 1975 "New thoughts on old problems: Hadrian's Wall in Newcastle", *CBA Group 3 Archaeol. Newsbulletin*, 16, 13–4.
- HARBOTTLE, B., FRASER, R. and BURTON, F. C. 1988 "The Westgate Road Milecastle, Newcastle upon Tyne", *Britannia*, 19, 153–62.
- HAYERFIELD, F. 1900 "Report of the Cumberland Excavation Committee for 1899", *CW*¹, 16, 80–99.
- HAYERFIELD, F. 1904 "An inscribed slab mentioning the Second, Sixth and Twentieth Legions from the River Tyne", *AA*², 25, 142–7.
- HILL, P. R. 2001 "Hadrian's Wall from MC0 to MC9", *AA*⁵, 29, 3–18.
- HODGSON, N. 1991 "The Notitia Dignitatum and the later Roman garrison of Britain", in Maxfield, V. A. and Dobson, M. J. (eds.), *Roman Frontier Studies 1989. Proceedings of the XVth International Congress of Roman Frontier Studies*, Exeter.
- HODGSON, N. 1997–98 "The origins and development of the Roman military supply-base at South Shields: an interim report on the results of excavations in the eastern quadrant and central area, 1990–2000", *Arbeia J.*, 6–7, 25–36.
- HODGSON, N. forthcoming *Excavations at Wallsend Roman Fort*.
- HOLBROOK, N. and SPEAK, S. C. 1994 "Washingwells Roman fort – a transcription of the aerial photographs and an assessment of the evidence", *Arbeia J.*, 3, 33–45.
- HOLDER, P. A. 1982 *The Roman Army in Britain*, London.
- HORSLEY, J. 1732 *Britannia Romana*, London.
- JARRETT, M. G. 1994 "Non-legionary troops in Roman Britain: Part One, the units", *Britannia*, 25, 35–77.
- JOHNSON, A. 1983 *Roman Forts of the 1st and 2nd centuries AD in Britain and the German Provinces*, London.
- KEEVIL, G. D., SHOTTER, D. C. A. and MCCARTHY, M. R. 1989 "A *solidus* of Valentinian II from Scotch Street, Carlisle", *Britannia*, 20, 254–5.
- KEWLEY, J. 1973 "Inscribed capitals on Roman altars from northern Britain", *AA*⁵, 1, 129–31.
- KIRKBY, S. J. 1992 "Newcastle's hidden rivers", in Barke, M. and Buswell, R. J. (eds), *Newcastle's Changing Map*, Newcastle upon Tyne, 11–2.
- MACPHERSON, S. and BIDWELL, P. 1997–98 "Excavations at Westgate Road, Newcastle upon Tyne, and the position of Hadrian's Wall and the Vallum", *Arbeia J.*, 6–7, 49–54.
- MANNING, W. H. 1989 *Report on the Excavations at Usk 1965–1976: The Fortress Excavations 1972–1974 and Minor Excavations on the Fortress and Flavian Fort*, Cardiff.
- MARGARY, I. D. 1967 *Roman Roads in Britain*, London.
- MASON, D. J. P. 2000 *Excavations at Chester. The Elliptical building: An Image of the Roman World?*, Chester Archaeol. Excavation & Survey Rep. No. 12, Chester.
- NOLAN, J. 1990 "The Castle of Newcastle upon Tyne after c. 1600", *AA*⁵, 18, 79–126.
- RIB I: COLLINGWOOD, R. G. and WRIGHT, R. P. 1965 *The Roman Inscriptions of Britain. I, Inscriptions on Stone*, Oxford.
- RICHMOND, I. A. 1943 "Roman legionaries at Corbridge, their supply-base, temples and religious cults", *AA*⁴, 21, 127–224.
- RIVET, A. L. F. and SMITH, C. 1979 *The Place-Names of Roman Britain*, London.
- SELKIRK, R. 1983 *The Piercebridge Formula*, Cambridge.
- SIMPSON, F. G. and SIMPSON, G. (ed.) 1976 *Watermills and Military Works on Hadrian's Wall: Excavations in Northumberland 1907–1913*, Kendal.
- SPAIN, G. R. B. 1934 "The Roman Wall in Westgate, Newcastle upon Tyne", *AA*⁴, 11, 227–33.

- SPAIN, G. R. B. and SIMPSON, F. G. 1930 "The Roman Frontier from Wallsend to Rudchester Burn", *Northumberland County History*, 13, 484–564.
- SPEILDEL, M. A. 1996 *Die römischen Schreibtafeln von Vindonissa: Lateinische Texte des militärischen Alltags und ihre geschichtliche Bedeutung*, Veröffentlichungen der Gesellschaft Pro Vindonissa 12.
- WHEELER, R. E. M. 1923 *Segontium and the Roman Occupation of Wales*, Y Cymmrodor 33, London.
- WILMOTT, T. 1997 *Birdoswald, Excavations of a Roman Fort on Hadrian's Wall and Its Successor Settlements: 1987–92*, English Heritage Archaeol. Rep. 14, London.

