

# The Twentieth Legion and the history of the Antonine Wall reconsidered†

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## ABSTRACT

*A study of utilitarian pottery from the Antonine Wall has distinguished small numbers of locally made vessels with North African affinities at nine or 10 forts. Similar vessels at Chester and others made by Legio XX at the Holt works depot, one with a potter's graffito in neo-Punic, suggest the presence of North Africans. Detachments sent from Britain to Pius' Mauretanian war of AD 146–9 may have brought North Africans back with them to Britain (possibly including legionary recruits or transfers, and Moorish irregulars or levies). At the western sector of the Antonine Wall, changes in the legionary work-stints may be linked to troop reductions for the war, as the mural barrier and Bearsden and Duntocher fort interiors were still unfinished. After the conflict, Bearsden and Duntocher were each partitioned to make an annexe and their internal buildings re-planned and completed; a programme of annexe construction began at other forts, and secondary alterations were made to many existing fort interiors. All may be connected with changes in units or in the composition of the returning garrisons, now perhaps mixed and augmented with small numbers of North African troops. Possible relevant epigraphic evidence is examined.*

## INTRODUCTION

The history of the Antonine Wall has been the subject of a number of books and articles over the past century. Most have been concerned with the structural, epigraphic and numismatic evidence (Macdonald 1911 & 1934; Steer 1964; Hanson & Maxwell 1983; Gillam 1976; Breeze 1976), though Brian Hartley's paper (1972) focused on the samian ware as a relative dating tool in a comparison of the occupations of Hadrian's and the Antonine Walls. The purpose of this paper is to consider first the nature and significance of some of the 'coarse' pottery from the Antonine Wall, and then to use this information as a starting point for a reconsideration of some of the other types of evidence relating to the Wall, and their implications for the military history of northern Britain in general.

## STRUCTURAL SEQUENCE OF THE ANTONINE WALL: PAST RESEARCH

The chronology promulgated by Hartley (1972) was accepted by most historians of Roman Britain for over two decades. In this scheme, the Antonine Wall replaced Hadrian's Wall as the

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northern frontier in about AD 140 x 142 (Antonine I), and following a complete withdrawal from Scotland in 154 x 155 and a brief recommissioning of Hadrian's Wall, was reoccupied with reduced garrisons in 159 x 160 (Antonine II), only to be evacuated again after a short time-span, probably in about 163. In 1995 Hodgson published an alternative interpretation. This embodied two of Hartley's major tenets: that the two walls could not 'have been held concurrently for more than the briefest period', and that apart from Newstead, Cappuck, Birrens and possibly Castlecary, no forts in Antonine Scotland had continued to be garrisoned as late as 180, most having been evacuated significantly earlier.

Hodgson, however, questioned whether there had been two distinct and separate episodes in the occupation of Scotland (Antonine I and Antonine II), as had long been accepted. Instead, scrutinizing the structural evidence, he suggested that the occupation of the Antonine Wall and its associated forts had comprised a single uninterrupted episode. Furthermore, during that period, he suggested that there had been additions to the basic system of forts and mile-fortlets as originally planned (detailed below), a variety of modifications to the buildings and defences of individual installations, and localized changes in some garrisons, but without total dislocation. He explicitly refrained from suggesting a historical context for any of these elements.

Hodgson further proposed that, at the end of the occupation, the withdrawal from Scotland was an orderly and gradual process, beginning in c 158, in tandem with appropriate renovations to Hadrian's Wall and its outpost and hinterland forts. He thought it had probably been undertaken in the context of military difficulties both in Scotland and on the European mainland, in particular on the Rhine/Danube *limes*. The small number of forts in Scotland which remained were now outposts of Hadrian's Wall, or scattered and intermittently used elements in a long-distance patrolling system, rather than integral components of the Antonine Wall system. In fact, at least one of the former category, the fort at Birrens (*Blatobulgium*), was the subject of extensive rebuilding in 158 to house a new garrison, at precisely the time when most units were being withdrawn from Scotland to Hadrian's Wall. Thus, the chronologies of these individual outposts should not affect the dating of the tactically quite separate Antonine Wall.

The initial processes in the planning and construction of the Antonine Wall system, first pointed out by Gillam (1976) and now accepted by most scholars, may be seen as two basic stages, the second probably following closely upon the first. The earliest scheme apparently comprised a 'primary' series of small mile-fortlets, and at least six larger forts. The latter were (from east to west): Carriden, Mumrills, Castlecary, Auchendavy (or Bar Hill), Balmuildy, Old Kilpatrick (thus seven forts *in toto*, if Camelon, immediately to the north and probably a supply-base for the Wall, is included). As a modification to the basic plan, in some cases before the whole of the curtain wall had been completed, a 'secondary' series of up to 11 forts seems to have been added, many of them smaller, and some, such as Croy Hill and Duntocher apparently replacing existing fortlets. These comprised (east to west): Inveravon, Falkirk, Rough Castle, Westerwood, Croy Hill, Bar Hill or Auchendavy, Kirkintilloch, Cadder, Bearsden, Castlehill, Duntocher. The construction of the barrier seems to have proceeded from east to west, and the continuously narrow stretch of the Wall-ditch west of Bar Hill, and again in the vicinity of Duntocher, are generally thought to reflect late stages of construction, perhaps the result of the lowering of the building specifications on more than one occasion (Keppie 1982, 99–100). The narrowness of the ditch at the extreme eastern end (from the River Avon to Bo'ness) might even indicate that this sector was a 'secondary' extension to the mural barrier as originally planned (Maxwell 1989a, 176–7; 1989b, 162–3). A final modification of the original blueprint was the addition of annexes to many of the forts (Bailey 1994). The whole mural barrier, including the 'primary' and 'secondary' forts and the annexes, are therefore normally viewed as an integral part of an evolving

‘Antonine I’ plan, and not as elements in the internal alterations to forts which have been associated with the supposed ‘Antonine II reoccupation’ of the Wall. In the discussion which follows, it is this view which is intended where forts are described as ‘primary’ and ‘secondary’.

#### CERAMIC RESEARCH ON THE ANTONINE WALL

It has long been known, through the work of John Gillam and others, that much of the pottery found in Antonine Scotland was shipped there, mainly from civilian industries in the Midlands and south-east England (Gillam 1973, 55–8; Hartley 1963; Webster 1977; Williams 1977, 200–3, 209–11). Whether or not some of the pottery and other workshops at Wilderspool, near Warrington, which also supplied Antonine Scotland, were military or civilian is uncertain, though military participation or control, perhaps by *Legio XX*, seems very likely (cf Swan 1997, 289; Strickland 1995). However, in the last 20 years or so, there has been an increasing realization that local workshops in Scotland also played a significant role in the supply of the frontier zone. The convincing demonstration by Kay Hartley (1976) that mortaria were almost certainly manufactured both in the vicinity of the mural barrier and near Newstead was soon followed by the discovery in 1977 of a probable kiln site immediately to the south-west of Duntocher fort (Gawthorpe 1980; Keppie 1982, 105; Appendix 1), and in 1978–82 of an actual pottery kiln at Bar Hill fort (Keppie 1985, 60; Appendix 1). Typological evidence suggestive of potting at the Antonine fort and port of Inveresk on the Forth, east of the Wall, was first discussed by the author in 1982, at a Northern Frontier Seminar in Newcastle, and subsequently confirmed through petrological work by Tomber (Swan 1988; Tomber 1988). Subsequent analytical techniques applied to a small selection of wares (mainly mortaria) from Scotland, by Gillings and others (Gillings 1991; Collins 1986), confirmed that pottery was, indeed, being produced in the vicinity of Newstead and at several sites on the mural barrier. However, with the exception of some of the mortaria and the Inveresk ware, the typological characteristics of these locally made vessels and their wider significance have never been considered in detail. These aspects form a starting-point for this paper.

In the early 1990s the author began a long-term spare-time project to examine all accessible published and unpublished pottery from the Antonine Wall and its adjacent forts. Mortaria, samian ware and amphorae, which were being (or have been) studied by others, were excluded, though their evidence was taken into account. One question requiring investigation was why some of the published vessels in these ceramic assemblages appeared significantly different from those elsewhere in northern Britain. Would significant amounts of the unpublished pottery also prove to be similar? To what extent could this apparent disparity be attributed to chronological factors, local production, external supply mechanisms, or more unusual circumstances?

Though time and available finance precluded wide-ranging microscopic examination and full quantification of all the pottery, the general conclusions remain valid for several reasons. The published evidence suggested that the sources of supply to the Antonine Wall had probably been rather restricted. Most assemblages were far from large, and often derived from old, usually small-scale excavations, when any retention policy for the pottery had been extremely selective (Appendix 1). Moreover, with one or two exceptions, most recent excavations had been quite limited in area or scope. Even at the extensively explored site of Bearsden, where about 0.5 ha (1.25 acres) of the small 1.4 ha (3.6 acres) fort and annexe had been excavated between 1973 and 1982, the total amount of pottery (excluding samian, mortaria and amphorae) weighed little more than 53 kg. For forts where sufficient material had survived, it was often possible to recognize pottery of probable local manufacture with reasonable confidence, through the repetitive

occurrence of distinctive combinations of vessel forms and fabrics, and sometimes from the presence of quantities of underfired or otherwise sub-standard pots (Appendix 1). Assemblages from all the fortlets were also examined, but were too small for reliable conclusions to be drawn, and have therefore been excluded here. Clearly further work, such as full quantification and some petrological analysis, is desirable, but as available material is quite limited, the latter must be carried out very selectively, with each sherd carefully targeted through close collaboration between scientist and pottery specialist.

TABLE 1

Standard abbreviations for pottery references (for locations of places in North Africa see *illus 7*)

- ARS: African Red Slip ware (see Hayes 1972)
- Caesarea no 00: pottery types *in* Leveau 1984
- Camulodunum Type 00: pottery types *in* Hawkes & Hull 1947
- Gillam Type 00: pottery types in northern Britain *in* Gillam 1970
- Hayes Form 00: pottery forms *in* Hayes 1972
- Karthago: illustrated pottery *in* Holst *et al* 1991
- Leptiminus Type 00: African pottery types from Lamta *in* Dore 1992
- Nador Castellum, Tipasa: illustrated pottery *in* Anselmino *et al* 1989
- Sabratha I: illustrated pottery *in* Kenrick 1986
- Sabratha Type 00: pottery types *in* Dore 1989
- Simitthus no 00: illustrated pottery *in* Vegas 1994
- Tipasa Western Cemetery: illustrated pottery *in* Lancel 1967
- Uzita 00: illustrated pottery *in* van der Werff 1982

#### POTTERY MANUFACTURE ON THE ANTONINE WALL

From the present study, from recent post-excavation work and from the very limited previous petrological analyses, it has been possible to distinguish the local manufacture of pottery (not solely of mortaria) at, or in the vicinity of, the following sites (*illus 1*; Appendices 1 & 2): on the mural barrier, at the forts of Mumrills, Falkirk, Croy Hill, Westerwood, Bar Hill, Balmuildy, Bearsden and Duntocher, and possibly at Cadder and Old Kilpatrick; at immediately adjacent forts and ports closely related to the functioning of the Antonine Wall; and at Inveresk and possibly Camelon. It should be noted here that 'Cramond ware' has been excluded from this study; this pinkish pottery, local to Cramond fort on the Forth, still seems more likely to be of the late second or very early third century (Swan 1992, 5, 26, fig 5, nos 89–96). Few securely dated mid second-century deposits survived undisturbed, but none contained this ware. In contrast, it was present in quantity in the latest layers, though these also included much residual mid second-century material (N McQ Holmes, excavator, pers comm).

Though most surviving unpublished ceramic assemblages from the Antonine forts north and south of the mural barrier were examined at first hand (eg Ardoch, Loudoun Hill and Cappuck), there was no indication of local production. Mortaria appear to have been made at the Hadrian's Wall outpost forts of Newstead and Birrens (Hartley 1976; 1997, 239), and more evidence of local production may well await recognition, but the substantial published assemblages from forts related to the Antonine Wall system — Bothwellhaugh (Keppie 1981), Castledykes (Robertson 1964), Crawford (Maxwell 1972) and Strageath (Frere & Wilkes 1989) — all lack the characteristic signs of probable local manufacture. These last have therefore been omitted from this paper.

Until quite recently, it was thought that military involvement in pottery production had ceased in the early 120s, following the construction of Hadrian's Wall and concomitant changes in troop dispositions (Gillam 1973, 54–5), and that thereafter the army of the aceramic North had relied on imports from other parts of Britain. However, current research suggests that in the



Hadrianic period a number of garrisons were partly self-sufficient, or certainly dependent on relatively local pottery production to a marked degree. These included York (Monaghan 1997, 1038–142), Hardknott in Cumbria (Bidwell *et al* 1999, 93–6) and, more surprisingly, the forts and ports of Wallsend (P Bidwell, pers comm) and South Shields (Bidwell & Speak 1994, 221, 231–2), where shipments from the potteries of the South would have been freely available.

To what extent potting at northern military establishments was being carried out by soldier-craftsmen such as *immunes* (cf Digest L, 6, 7[6]), slaves belonging to individual units, or contractors operating for, or under the aegis of the military, is usually difficult or impossible to discern, but certain types of evidence provide pointers. Pottery making was a relatively low-status activity in the Roman world and it is inherently unlikely that a civilian potter would (on his own initiative) have relocated his workshop further than the next province; a move from one side of the Empire to the other would almost certainly have been unthinkable. Thus, when a number of locally made vessel types in any military assemblage show detailed resemblances to the ceramics of a distant province, it seems very likely that their maker would have been a member of the local garrison, having either transferred there from his homeland with the unit (or a detachment thereof), or, in some instances, having been recruited to the regiment from his homeland (perhaps as an artisan-soldier). A consideration of the affinities of the vessels in use in a fort, in tandem with the patterns of recruitment and transfer of its garrison (where known), can also help to point to instances where local potters are likely to have been soldiers. It is the detailing of their vessel types and their potting idiosyncrasies, which enable potters' traditional products to be distinguished from the imitations which were sometimes made to order by craftsmen with completely different origins and backgrounds.

The location of kilns, too, can occasionally suggest production undertaken by the army. At some sites such as York, where the workshops apparently lay within a reserved area immediately outside the fortress defences (perhaps an annexe), manufacture is likely to have been either in the hands of the military or directly under its supervision. On the Antonine Wall, the Bar Hill kiln had actually been built inside the defences of the fort, a *prima-facie* case for military potting, and the possible pottery kilns at Mumrills and Balmuildy also lie inside the forts. Isolated and short-lived forts, lying within aceramic areas, in which the dominant local ware was non-British in its affinities (or with a significant non-British component), are more likely to have been supplied by military potters. Hardknott is a case in point, and the same may well have applied to many of the forts on the Antonine Wall. One possible exception may be seen at Bearsden fort, where a substantial number of the local mortaria were being made by the firm of Sarrius, who also had contemporary kilns at Rossington Bridge, near Doncaster (South Yorkshire), and at Mancetter/Hartshill (Warwickshire). He may have already been supplying the frontier from his other workshops, before he set up at Bearsden, thereby gaining an *entrée*.

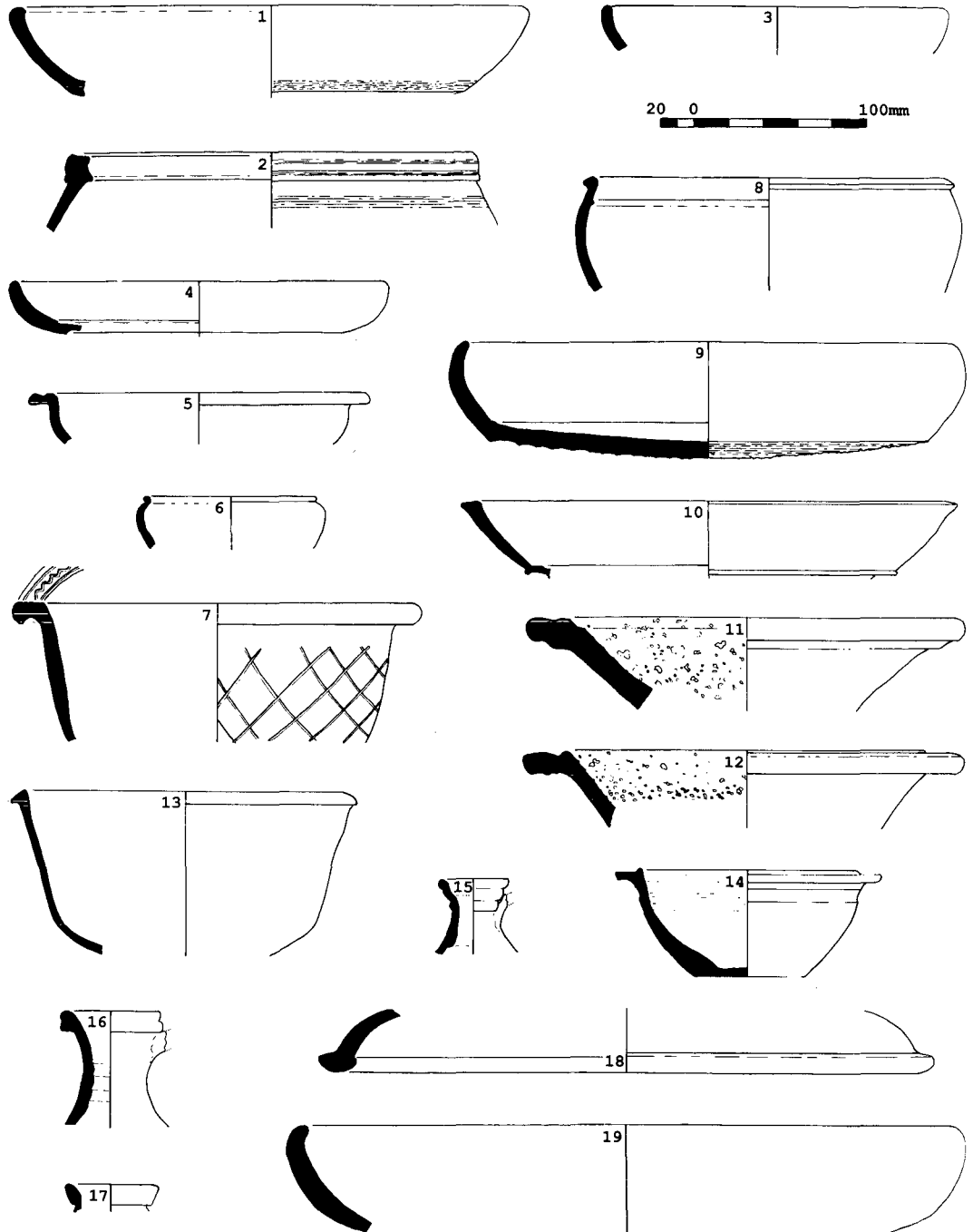
The precise nature of his relationship with the army is difficult to determine; particularly so, because there were other mortarium and coarse-ware potters at Bearsden working in two or three quite different traditions (K Hartley forthcoming). Some seem likely to have had close connections with the works depot of *Legio XX* at Holt. Moreover, the general character of all the Bearsden mortarium and coarse-ware fabrics tends to suggest a shared clay source (raw materials ?quarried by the military). Whether potting in Scotland in general would have started during the phases of campaigning and building, when there would have been little spare capacity for such activities, or later, is not clear. A deliberately later start seems inherently more likely, especially as the location of pottery workshops appears to have been selective, and mainly confined to forts on the mural barrier (mainly the western and central sectors), with the explicable exceptions of Birrens (an outpost of Hadrianic foundation), and the large strategic establishment at Newstead

on the major north/south land-route. Moreover, the fact that the first northern appearance of BB2 (Black-burnished ware Category 2) cooking wares coincided with the annexation of Scotland (Gillam 1973, 55–8) suggests that new supply arrangements had been made specially to support the ceramic needs of the invading force, at least in the early stages of conquest and occupation; that BB2 was not yet being shipped to any of the sites on the Tyne/Solway isthmus at that period adds further emphasis to the point.

The local Antonine Wall products both supplemented and complemented the samian and *fine wares* imported from Gaul and the Rhineland, and the mainly culinary British imports of BB1 and BB2 and mortaria from the South-East and the Midlands. They included most commonly imitations of BB1 and BB2 cooking-vessels with varying degrees of similarity (Appendix 1; *illus* 2, no 7; *illus* 4, nos 35–6; *illus* 5, no 57), and copies of tableware forms, such as samian bowls and colour-coated beakers (*illus* 3, nos 25, 27–8; *illus* 4, no 38). To Hartley's (1976) published evidence for the manufacture of mortaria at Mumrills, Bar Hill (*illus* 2, nos 11–12), Balmuildy and possibly Croy and Cadder (as well as at Newstead), may now be added Bearsden (Appendix 1; Hartley forthcoming), and an unlocated site on the western part of the Wall (K Hartley, pers comm). Other Antonine Wall products included specialist classes of vessels not commonly imported, but generally more frequent on military sites, such as small oil flasks (*ungentaria*), *tetinae*, lamp-holders, triple-vases, wine strainers, *tazze* and crucibles (*illus* 4, no 40). In addition, a number of locally made vessels appear to have no close contemporary parallels in the province. Several may ultimately have had a shared ancestry with vessels still being made elsewhere in the north-western provinces, for example, carinated or segmental bowls with unusually fine flattened and sometimes grooved or lid-seated rims (*illus* 2, no 5; *illus* 3, no 23; *illus* 4, nos 34, 37; *illus* 5, no 61). There were also other vessels, including flagons and bowls, which have no immediately obvious parallels (eg *illus* 3, no 22; *illus* 5, no 56). Of exceptional significance is the fact that at a significant number of Antonine Wall forts, some of the local products can be paralleled only in the North African provinces and the western Mediterranean littoral. At most sites, these last forms constituted a small but regular component in the production; only at Bearsden and Bar Hill were they more strongly represented in the local repertoire. Nevertheless, the remarkable presence of this unusual pottery has important implications which form the basis of the discussion which follows. These vessel types are catalogued in Appendix 2 (*illus* 2–5), together with a selection of local products of more conventional affinities.

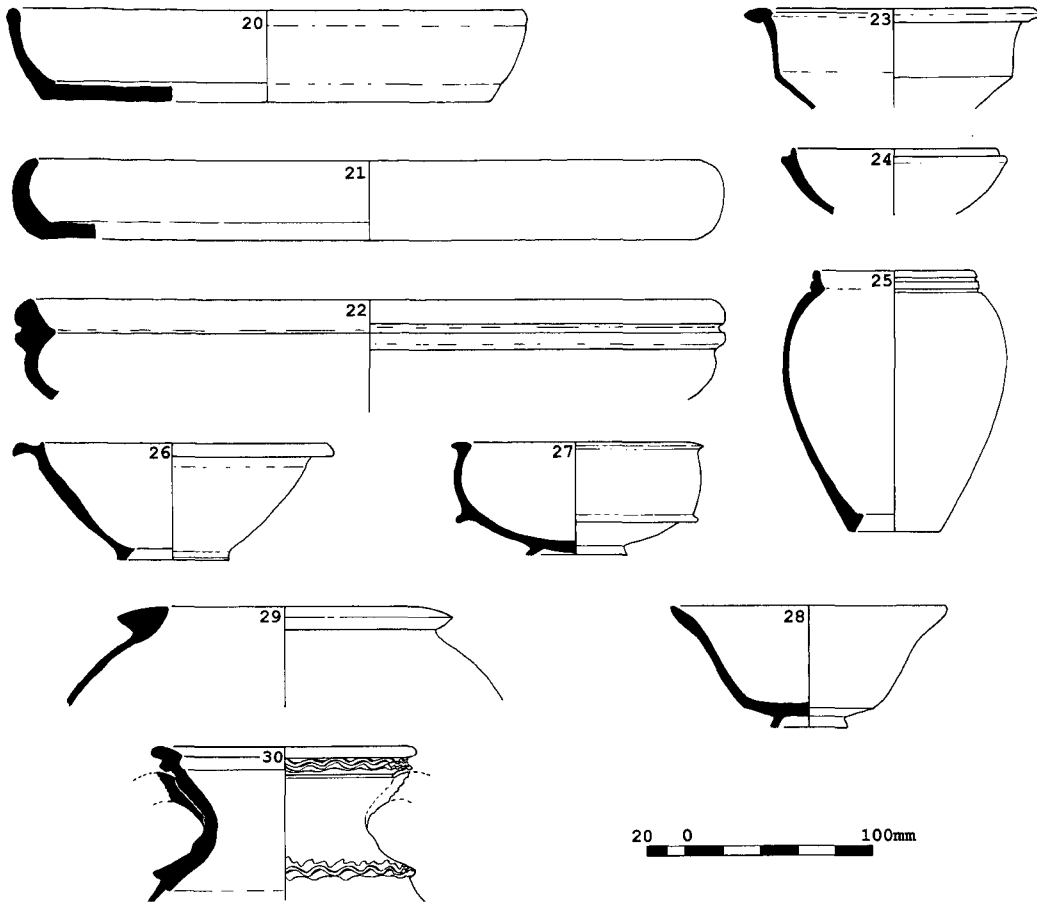
#### POTTERY OF EXOTIC TYPE MADE ON THE ANTONINE WALL

Of the local pottery which finds its closest parallels in North Africa and the western Mediterranean, three classes of cooking-vessels may be distinguished: lid-seated casseroles, convex-walled cooking-dishes or platters (the latter proportionately wider), and occasionally domed lids (for parallels see Appendix 2). These appear among the products of at least five or more pottery workshops on the Antonine Wall and its vicinity, at Croy Hill, Bar Hill, Balmuildy, Bearsden, and Duntocher and perhaps, but less certainly, at Westerwood, Old Kilpatrick and Castlecary (*illus* 1; Appendices 1 & 2). Additionally, a number of cooking-vessels of generally similar type, most probably made in the vicinity of the Antonine Wall but whose precise production-source is uncertain, can be distinguished at Mumrills, Croy Hill, Bar Hill, Cadder, Balmuildy, Bearsden, Duntocher, and Old Kilpatrick (*illus* 2, nos 1–2, 18–19; *illus* 5, nos 47, 52, 54–5, 62–5). In general, the North African element is stronger or more consistently represented in the western sector of the Wall (*illus* 1), an observation of major significance for its interpretation. The nature and affinities of these three main vessel types merit some brief



ILLUS 2 Pottery from the Antonine Wall forts of Mumrills (nos 1 & 2), Westerwood (no 3), Croy Hill (nos 4–7) and Bar Hill (nos 8–19); scale 1:4 (for published sources of drawings and details of vessels, see Acknowledgements and Appendix 2, Catalogue)



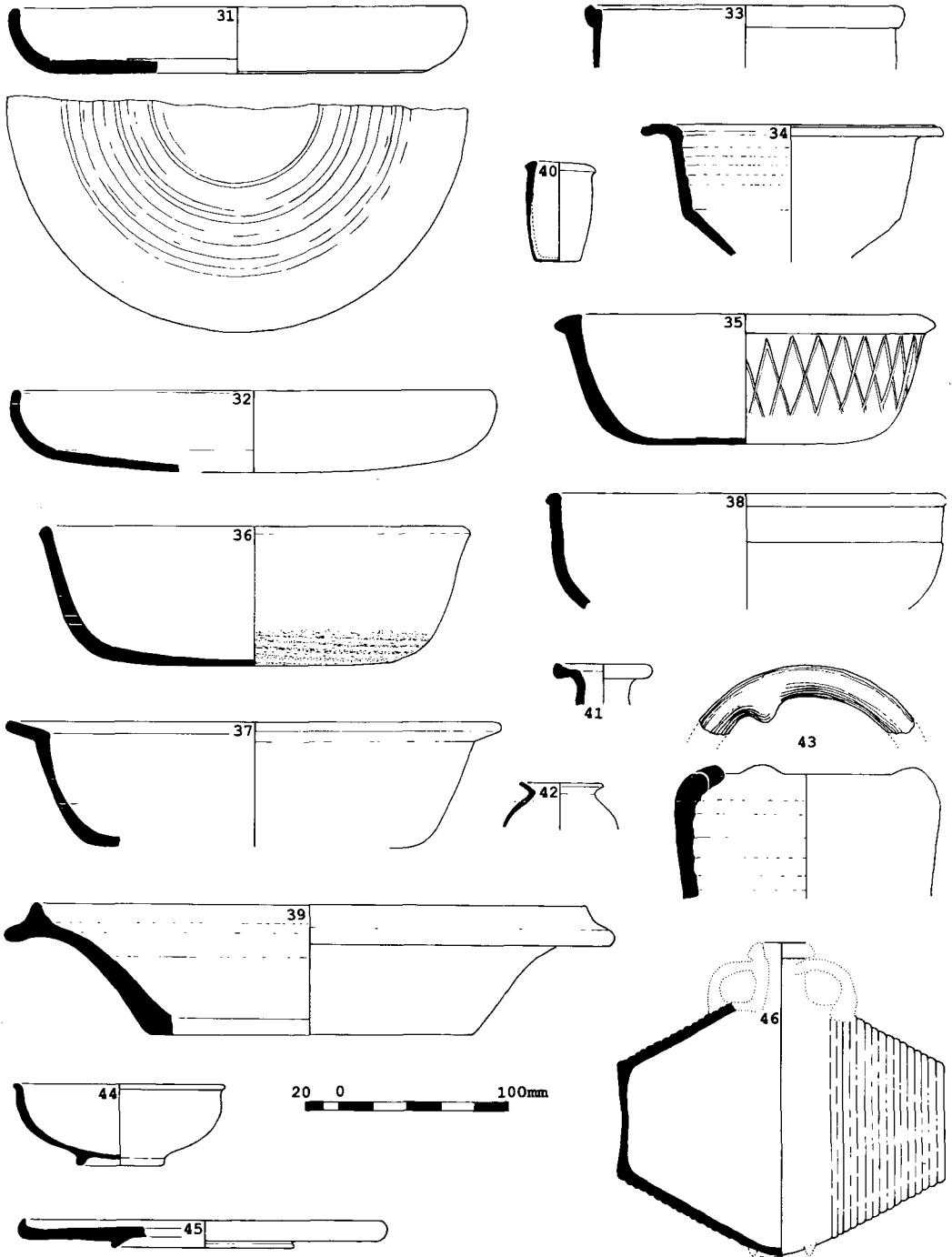


ILLUS 3 Pottery from the Antonine Wall fort of Balmuilty (nos 20–39); scale 1:4 (for published sources of drawings and details of vessels, see Acknowledgements and Appendix 2, Catalogue)

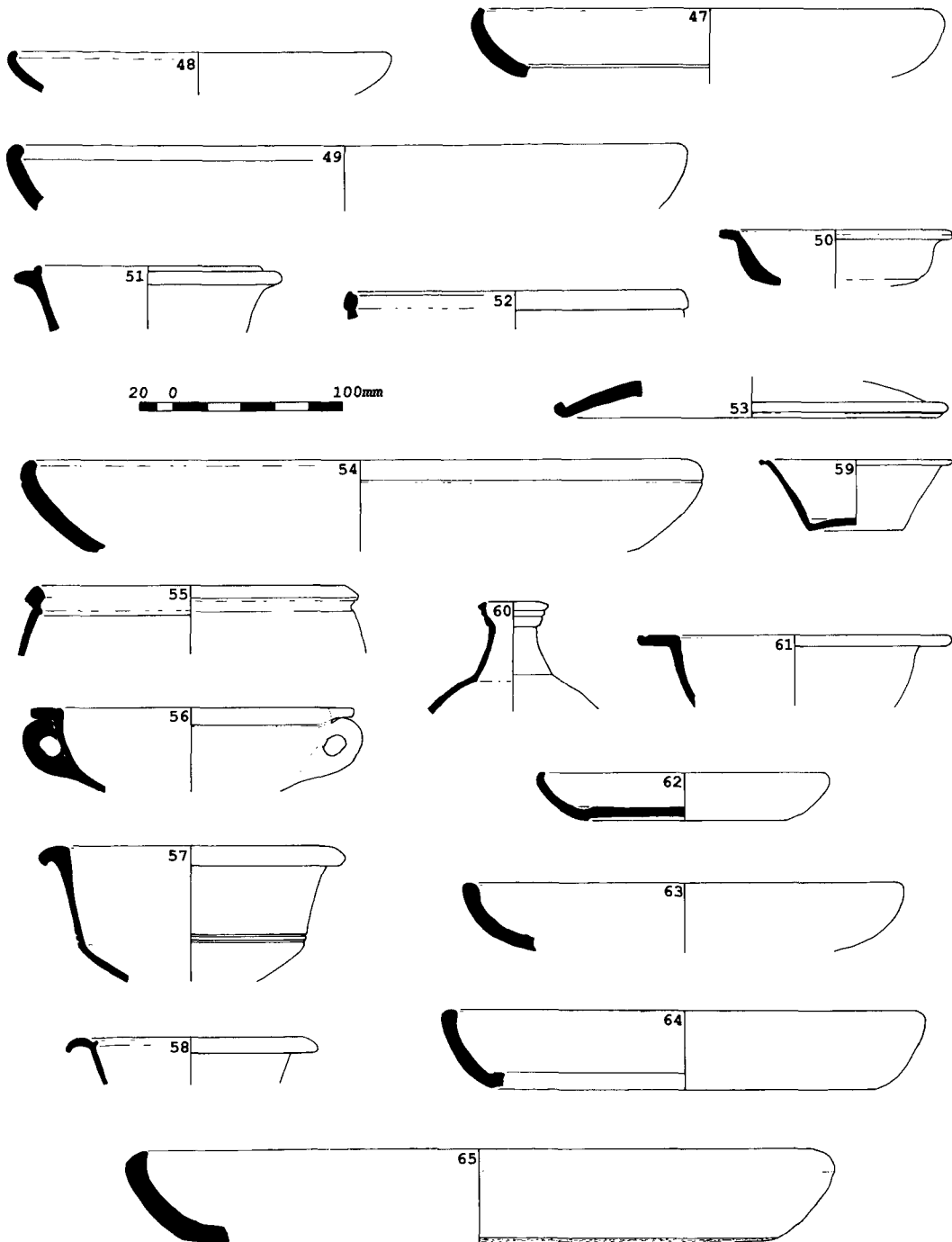
discussion below; comments on their archaeological background in North Africa immediately precede the Catalogue in Appendix 2.

#### *Casseroles* (illus 2, nos 2, 8; illus 4, no 33; illus 5, no 55; illus 9)

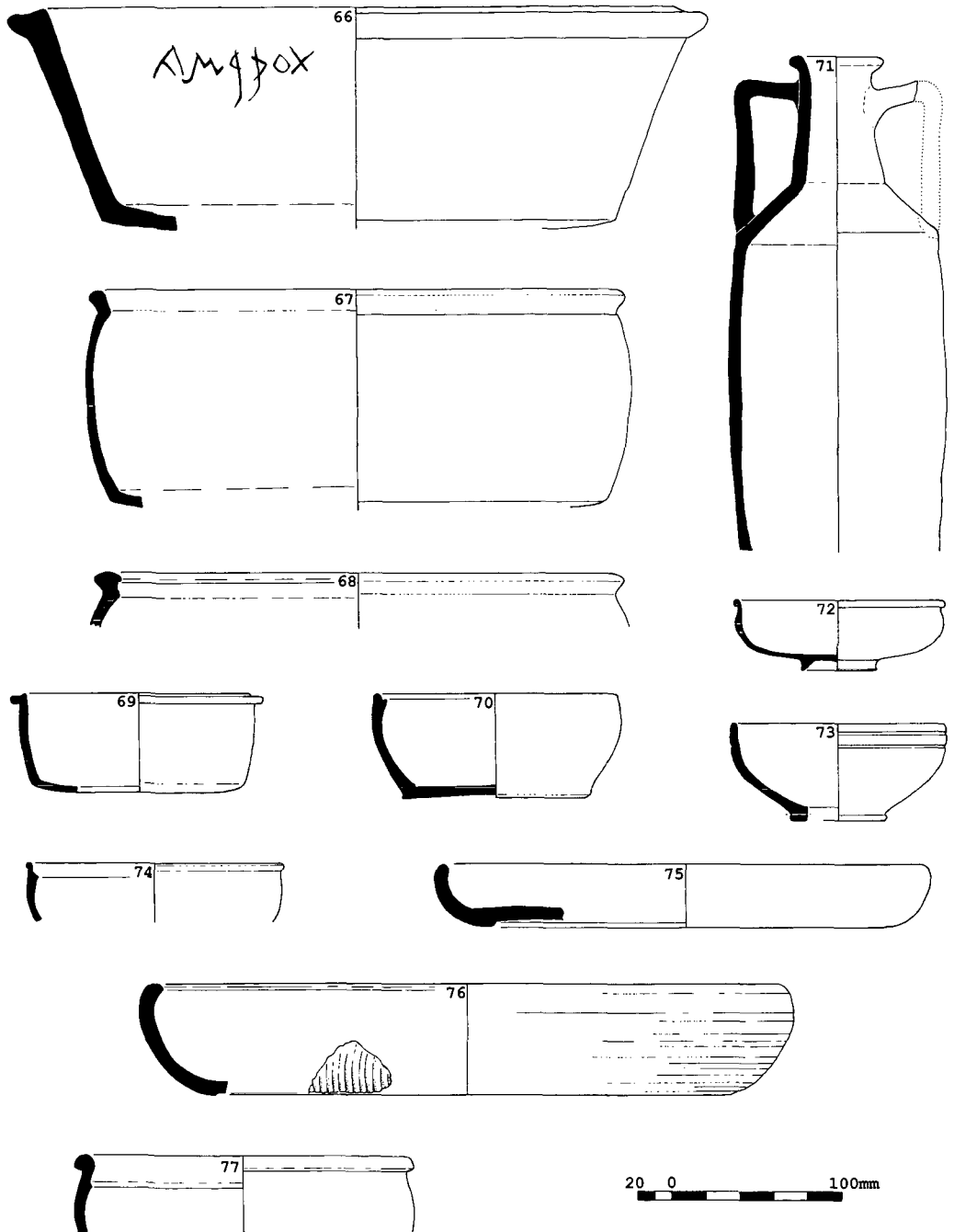
These present the most distinctive forms of all and those most readily recognizable as North African in their affinities (for parallels see Appendix 2). They are clearly ancestral to the present Moroccan/Tunisian *tagine*. Though their forms show some variation from site to site, a unifying element is that all were intended to be used with a lid, and all embody in the profile some device for locating one. As Dore (1989, 88) has pointed out, ‘this explicit provision for lids is a fundamental cultural marker which differentiates Roman pottery assemblages of the Mediterranean seaboard from, in particular, those of Britain’. Most of these casseroles would also have had a rounded base, occasionally rilled or combed on the underside.



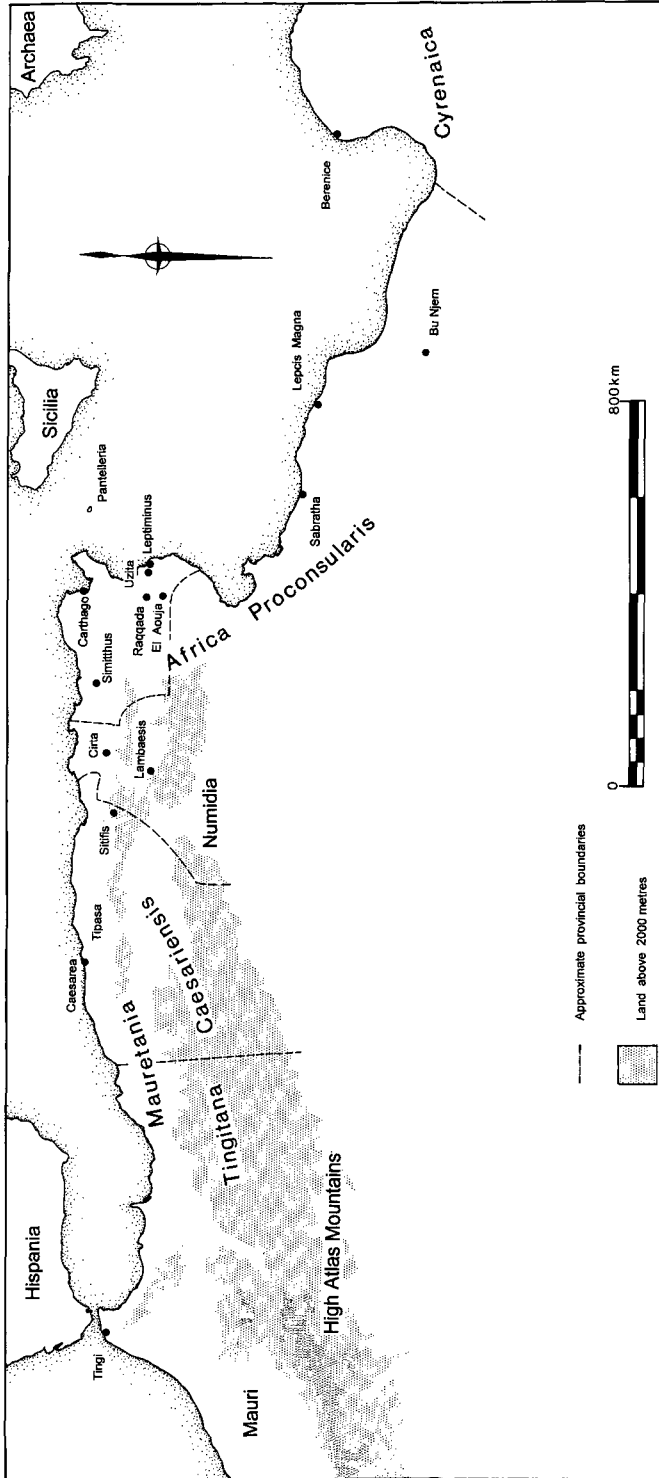
ILLUS 4 Pottery from the Antonine Wall fort of Bearsden (nos 31–46); scale 1:4 (for published sources of drawings and details of vessels, see Acknowledgements and Appendix 2, Catalogue)



ILLUS 5 Pottery from the Antonine Wall forts of Cadder (no 47), Duntocher (nos 48–53) and Old Kilpatrick (nos 54–65); scale 1:4 (for published sources of drawings and details of vessels, see Acknowledgements and Appendix 2, Catalogue)



ILLUS 6 Pottery from Holt works-depot (nos 66–73), Chester legionary fortress (nos 74–6) and Bowness-on-Solway fort, Hadrian's Wall (no 77); scale 1:4 (for published sources of drawings and details of vessels, see Acknowledgements and Appendix 2, Catalogue)



ILLUS 7 Map of the Roman provinces of North Africa with place-names mentioned in the main text and the Catalogue

*Lids (illus 2, no 18; illus 10, nos 18, 93–7)*

Most frequently used with the cooking-dishes, these were usually shallowly domed, with a simple rim either upturned or rolled over, or sometimes gently expanded and squared-off at the end. They often lacked a knob-handle, but the smaller lids for casseroles sometimes had a shallow ‘foot-ring’ on the top.

*Convex-walled cooking-dishes or platters (illus 2, nos 1, 3–4, 9, 19; illus 3, no 21; illus 4, nos 31–2; illus 5, nos 47–9, 54, 62–5; illus 10)*

These are by far the most numerous and consistently represented vessels of North African (or western Mediterranean) type on the Antonine Wall. Because this form superficially appears relatively simple and undistinguished, it seems appropriate to summarize its ultimate origins and highlight its distinguishing features at greater length, below.

## ORIGINS OF THE COOKING-DISHES AND PLATTERS

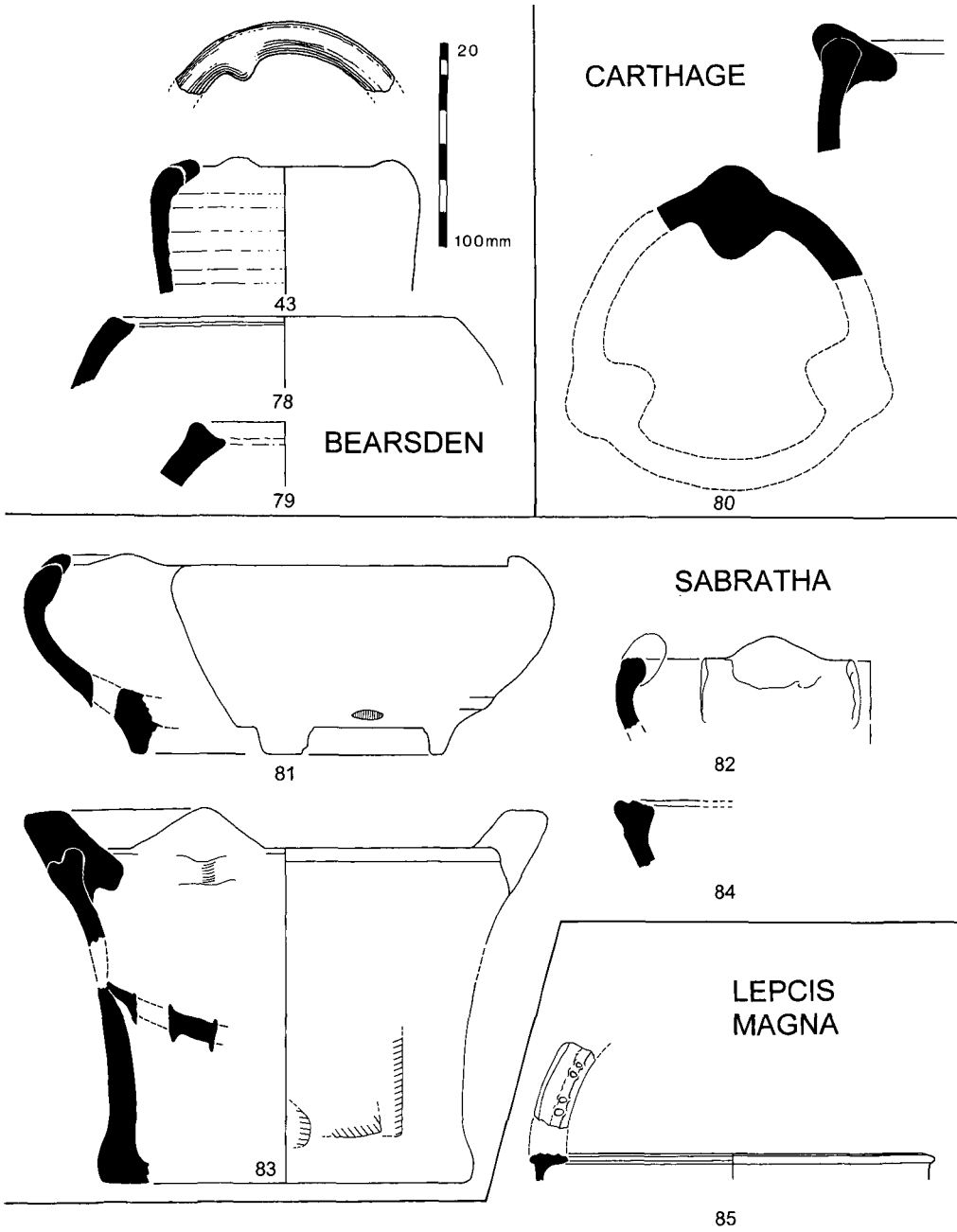
The ancestry of these vessels lies in the so-called Pompeian red ware dishes or platters: simple plain-rimmed cooking-vessels in an Italian tradition, with a splayed wall, and a thick red (non-stick) slip on the interior only, probably designed for cooking flat bread. Originally produced primarily in Campania, but with considerable copying elsewhere, they circulated over much of the eastern and western Mediterranean in the first centuries BC and AD (Peacock 1977a). Shallow-domed lids, similar to those described above, served as covers, their rim overlapping the rim of the dish. Pompeian red wares were imported to Britain in the first century AD from both Italy and Gaul, mainly by the army of conquest and sometimes imitated there, mostly by local military workshops (eg Dannell & Wild 1987, Type 29a). Though a very small number of possible North Gaulish and Central Gaulish copies may have continued to reach the province (mainly London) in the Trajanic period, there is no evidence of their presence in the north or their imitation in Britain as a whole after the Flavian period.

*British plain-rimmed dishes with curved walls*

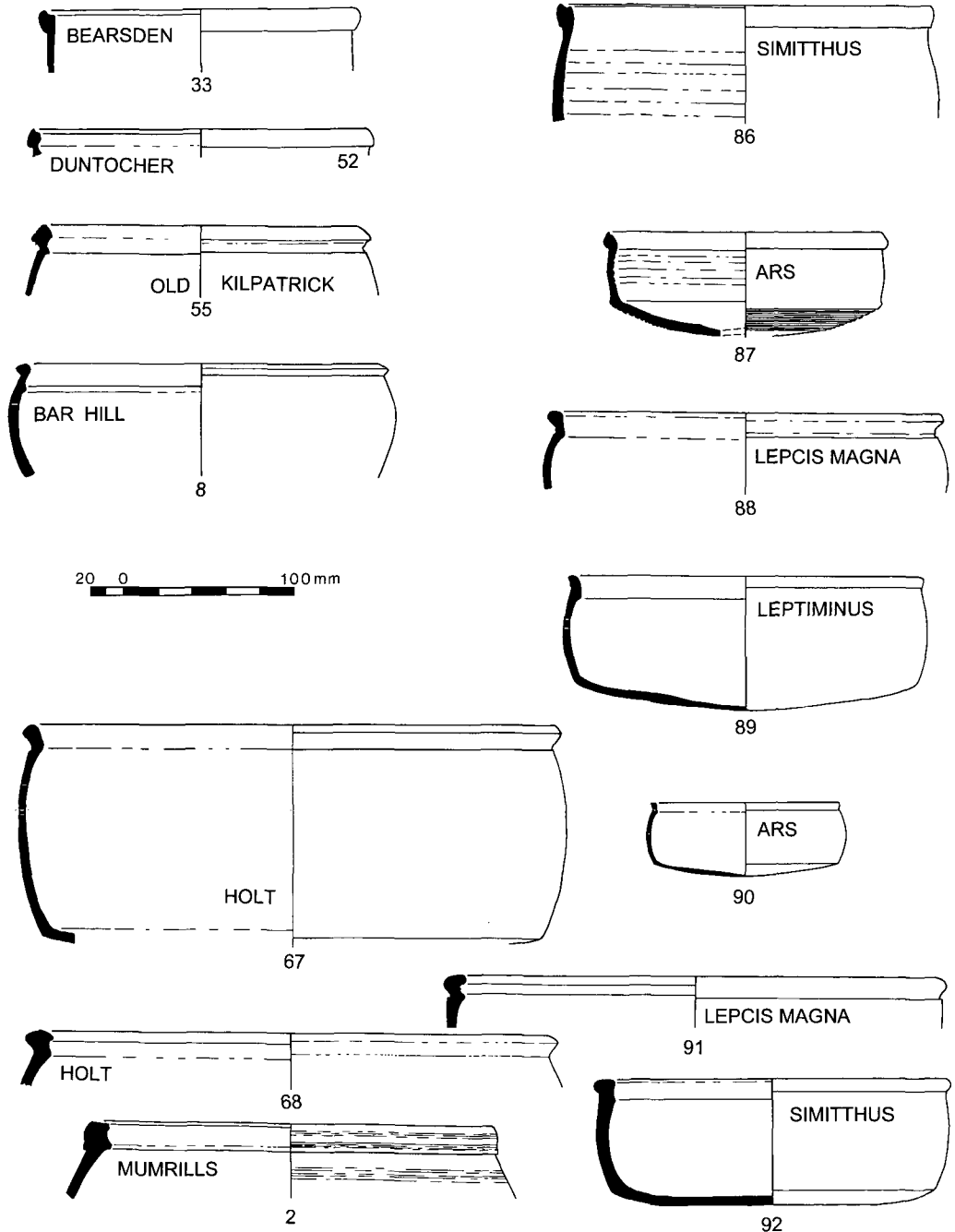
The first-century British products which most closely resembled these early imports were the imitations of the convex-walled Claudio-Flavian Gallo-Belgic platter, Camulodunum Type 16. However, the copying and use of the latter did not outlast the Trajanic period in northern Britain (eg Gillam 1970, Types 336–7; Rigby 1998, 192–3), and the same appears to be true in the south (eg in London, Davies *et al* 1994). There is thus a significant hiatus between these forms and the Antonine Wall cooking-dishes. The similarity of the Balmuildy and Old Kilpatrick (Antonine Wall) cooking-dishes to these Gallo-Belgic-derived vessels originally led Gillam (1970, Dated Groups 1 & 3) and others to assume a prior Flavian occupation on these sites, a date emphatically not supported by the evidence of the samian (Hartley 1972, 6–7).

*North African cooking-dishes developed from Pompeian red ware*

In the western Mediterranean, however, the production and development of dishes and lids in the Pompeian red ware tradition continued without a break, particularly in North Africa, where they began to be made in both African Red Slip ware (Hayes ARS cooking-dish Forms 181/181 var;

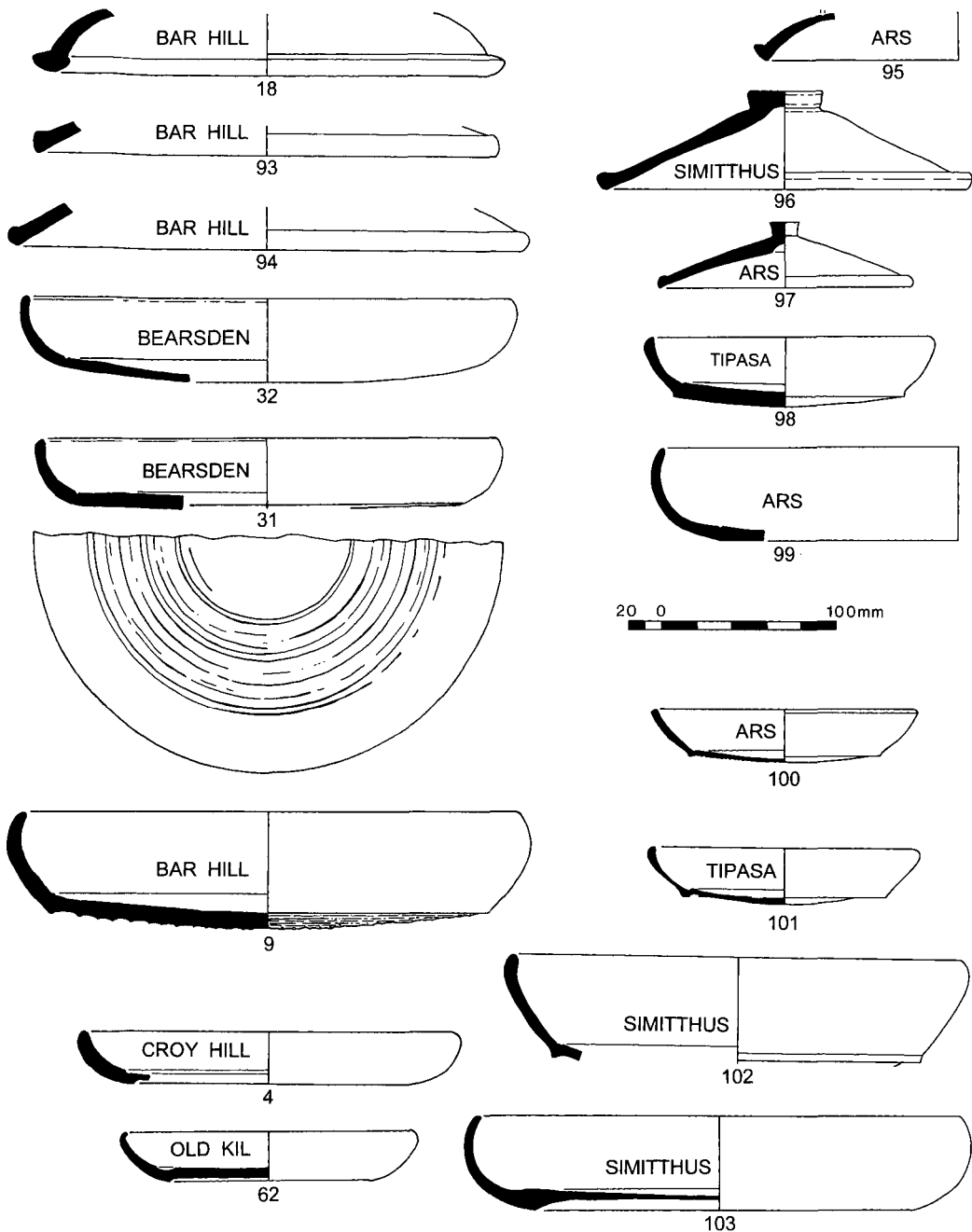


ILLUS 8 Ceramic braziers from the Antonine Wall fort of Bearsden, and similar objects from Roman sites in North Africa; note the horns or lugs luted onto the rims of the pan-stands; scale 1:4 (vessel numbers up to 77 refer to pots discussed in the Catalogue; for published sources of all illustrated pottery, see Acknowledgements)

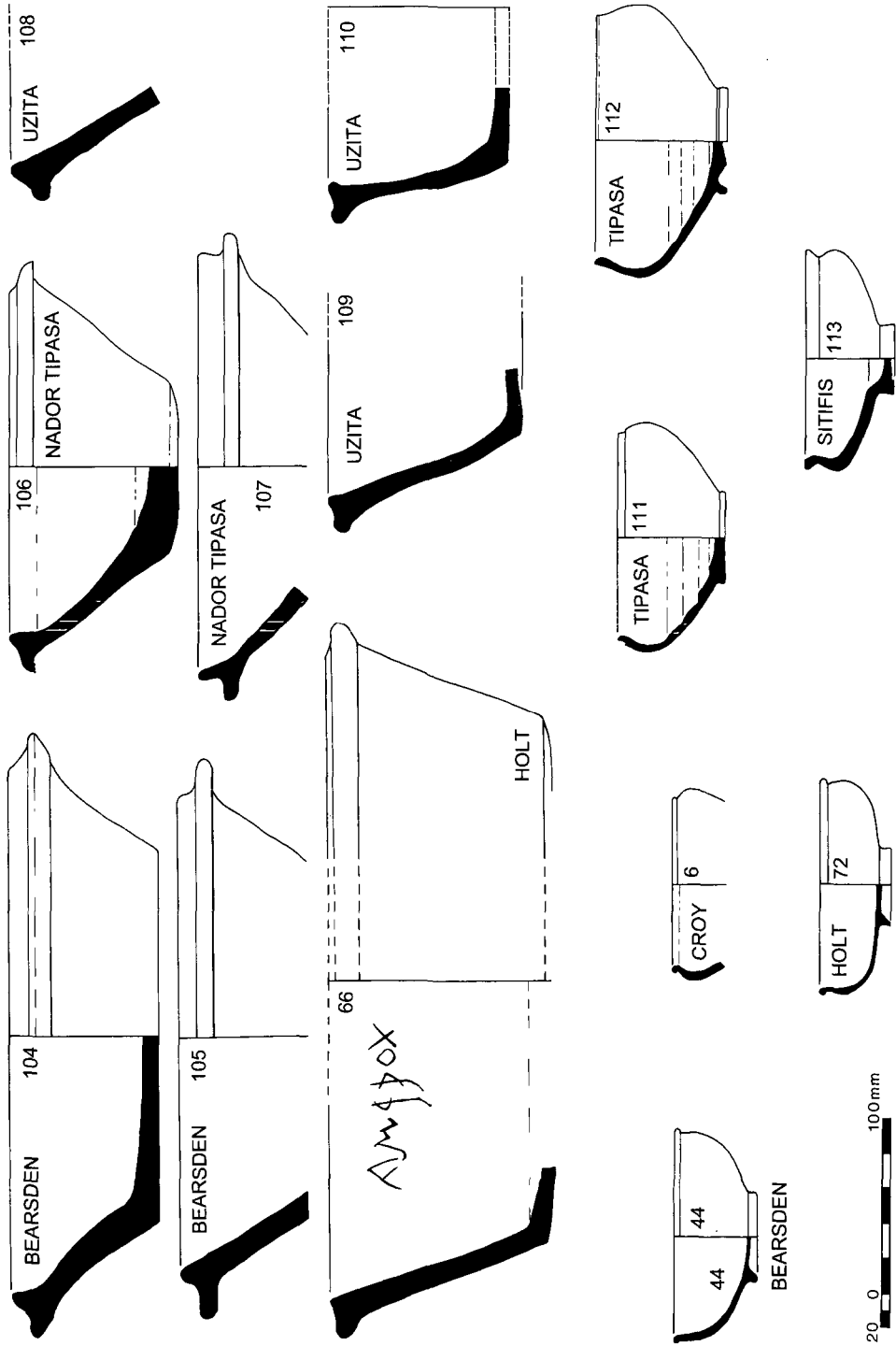


ILLUS 9 Casseroles of North African type from forts on the Antonine Wall, and Holt works-depot (left) and similar forms (right) from Roman sites in North Africa; scale 1:4 (vessel numbers up to 77 refer to pots discussed in the Catalogue; for published sources of all illustrated pottery, see Acknowledgements)





ILLUS 10 Lids and cooking-dishes or platters of North African type from forts on the Antonine Wall (*left*), and similar forms (*right*) from Roman sites in North Africa; scale 1:4 (*vessel numbers up to 77 refer to pots discussed in the Catalogue; for published sources of all illustrated pottery, see Acknowledgements*)



ILLUS 11 Flanged basins and 'tulip-bowls' of North African type from forts on the Antonine Wall, and Holt works-depot, and similar forms from Roman sites in North Africa; scale 1:4 (vessel numbers up to 77 refer to pots discussed in the *Catalogue*; for published sources of all illustrated pottery, see *Acknowledgements*)

lid Forms 182/195, 185, 196, usually with the slip/burnishing on one face only) and in other more locally traded fabrics, sometimes starting earlier than ARS (eg Simitthus Forms 130–8). Among the significant potting details of the platters, which seem to have been transmitted from one industry to another as an integral part of the tradition, were an oxidized firing, a slip on the interior (or burnishing in lieu), and an internal groove or offset at the junction of the wall and floor. However, the walls of these copies gradually became less flared than their Pompeian red ancestors, and more inward curving, sometimes with a more marked inturn towards the rim; the underside became less commonly flat, but showed more variation, sometimes a slight foot-ring, a radial groove, or a step combined with a shallow rise in the centre of the base (Simitthus Forms 130–8; Hayes Form 181/181 var). In what appears to be a contemporary development, the bottom of some vessels was made to sag slightly (Tipasa Western Cemetery, pl iv, Z 16/6) and was rilled or scratched on the underside, with a slight external flange on the wall/base junction (eg Tipasa Western Cemetery, pl iii, Z 8/1; Simitthus Form 139; ARS form, Hayes 23A). The reddish slip or burnishing continued to be confined to the interior, as on the Pompeian red prototypes.

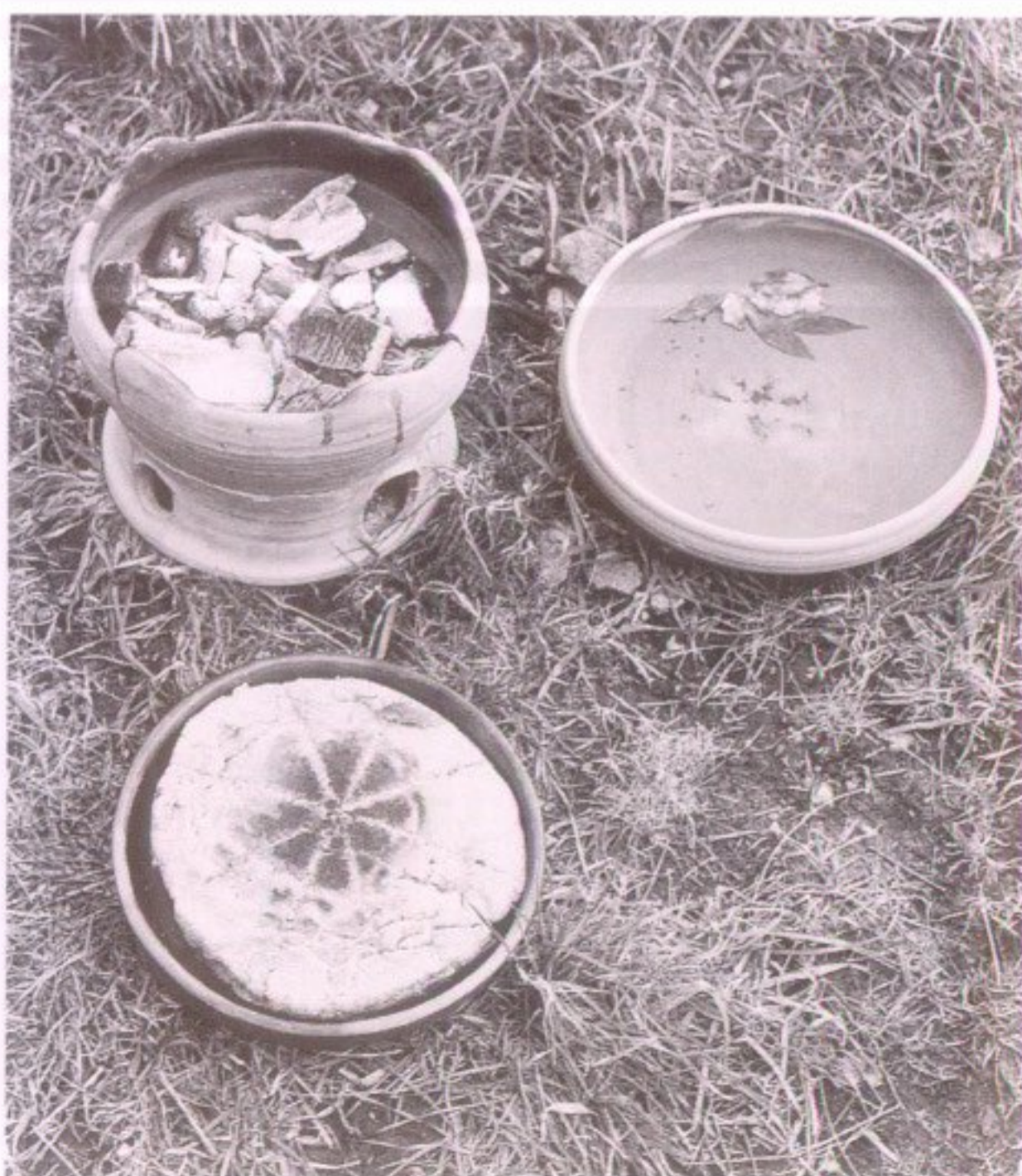
All these significant features can be seen in the oxidized cooking-dishes found on the Antonine Wall. Of particular importance is the fact that the internal groove at the junction of wall and base of the vessel is always present; other minor details fluctuate from fort to fort, usually reflecting the idiosyncrasies of the individual potteries, as in the North African homelands. The recognition of these British platters as a clear-cut group, with North African affinities, is further confirmed by their regular association with both the roll-rim lids and the distinctive African-type casseroles, in several other Antonine and late second- or early third-century northern military assemblages. Indeed, all three classes of vessel often occur on the same site in identical, sometimes local fabrics, for example, at Wallsend (P Bidwell & A Croom, pers comm), Cramond, Carlisle and York (Swan 1992). In practical terms, provided that careful attention is paid to detail, cooking-dishes with African affinities in Britain may be clearly distinguished from their nearest contemporary counterparts, the Romano-British plain-rimmed dishes which copied BB1 and BB2 forms and their imitations. The latter are always reduced not oxidized; they always lack the marked internal groove or step at the wall/floor junction, and the wall is splayed or nearly upright, lacking a marked curve; the underside is flat and never concave, grooved, or rilled. Burnishing or slip is present over the whole of the vessel and not just on the interior.

#### EVIDENCE FOR THE USE OF COOKING-VESSELS OF NORTH AFRICAN TYPE

A close study of the patterns of burning and sooting on used examples of these Antonine Wall casseroles and cooking-dishes showed them to be quite distinctive. These features were then compared with the sooting and burning patterns recorded on vessels which had been used in a variety of repeated experiments in Roman cooking techniques, carried out at South Shields Roman fort by the Roman re-enactment group Cohors Quinta Gallorum (illus 12; Croom forthcoming). The resultant observations, together with the evidence from Roman sites in North Africa, suggest that many of the African-type cooking-vessels on the Antonine Wall had been used to cook over small clay braziers, a type of cuisine not normal in the north-western provinces of the Roman Empire, but one of several traditional methods well attested in the Maghreb and the adjacent Mediterranean seaboard in the Roman period. Most significantly, the use of this technique in Antonine Wall forts is corroborated by the discovery at Bearsden of the upper part of a pottery brazier of evidently local manufacture (illus 4, no 43) and of fragments of pedestal-vents and rims from several other probable braziers.



ILLUS 12 Experiments in brazier cuisine conducted at South Shields Roman fort, by the re-enactment group Cohors Quinta Gallorum. The portable brazier (*centre*) has a perforated pedestal, and upright horns, which support the cooking-dish, in which flat unleavened spelt bread is being baked. (*Photo by Alex Croom*)



ILLUS 13 After cooking (*top left*) the brazier with the hot charcoals sitting on the perforated basket; the heavily sooted interior wall of the pan-stand is clearly visible; (*bottom left*) the flat baked bread showing an area of browning on the underside, where the heat was most intense

*Braziers, brazier cuisine and the archaeological record (illus 8, 12 & 13)*

Portable clay braziers of this basic type usually comprised a small pan-stand, a perforated fire-basket (illus 8, no 83; illus 12 & 13), and a vented pedestal (illus 8, nos 81, 83) all in one piece, occasionally with an integral fire-box (Sabratha Types 91–4 with discussion; Sabratha I, 194–6, 210–11, fig 89, nos 183–9, fig 92, nos 76–7; Karthago, Abb 40, no 40). It was the diameter of the brazier which dictated the approximate size of the appropriate vessel for cooking on it (and vice versa). The casseroles were normally smaller in diameter than the cooking-dishes or platters, so that their slightly protruding rim could rest on the horns of the brazier (illus 12 & 13), with the bottom closer to the heat source (illus 2, no 8, illus 4, no 33, illus 5, nos 52, 55). Their bases were usually gently rounded, in order to present a maximum heating area to the burning charcoal in the basket below. For the platters, the external step, groove, or rilling on the underside (illus 2, nos 1, 4, 9; illus 4, nos 31–2; illus 5, nos 62, 64–5) helped to steady the vessel on the horns of the brazier (illus 8, nos 43, 80–3). The experiments at South Shields (illus 12; Croom forthcoming) have shown how fast, efficient and economic of fuel brazier cuisine can be (probably originally an environmental response to local fuel shortages in the Maghreb). Even a brazier without an integral firebox leaves relatively little ash and no *in situ* burning on the ground where it has stood. Vessels used in this way are generally characterized by an area of heavy burning and sooting on the underside of the base (particularly on the middle), which cuts off abruptly in a slightly undulating horizontal line round the wall of the vessel, often just above the basal angle (ie above the level of the brazier horns). In experiments, this consistent pattern was in marked contrast to the blotchy patches of burning and sooting of varying intensity, distributed unevenly over the sides and bases of generally similar vessels, which had been used to cook over a gridiron.

It is quite possible that the use of braziers elsewhere has gone unrecognized and that fragments have been discarded from some of the numerous excavations carried out on Antonine Wall forts in the early decades of the 20th century. Even so, their quantities and use there may have been very restricted. In North Africa and the adjacent Mediterranean littoral, clay braziers are almost certainly significantly under-represented in the published archaeological record. Capable of being employed (and indeed often used) in an air-dried state without any kiln firing, they thus tend to be less liable to survive damp and the passage of time. They were habitually used until they disintegrated, at which point most of the vital (and more diagnostic) parts had become so sintered that they had crumbled away. During their manufacture, the horns (sometimes confusingly called lugs) were often luted to the rim quite separately (illus 8), so they easily became detached or broken off during the course of use. Without these (and there were usually only three on the circumference of each vessel, or simply indentations on the rim), the surviving rim is not readily recognizable as that of a brazier. The extreme fragility of braziers has been amply demonstrated by the cooking experiments at South Shields. All these factors, and their relatively unattractive, rather rough, often handmade appearance have no doubt contributed to their very frequent omission from excavation reports in North Africa and adjacent provinces where even kitchen wares were virtually ignored until relatively recently.

*Flanged basins with probable North African affinities*

Another unusual vessel type, manufactured alongside the North African forms at Bearsden, and which is probably also in a North African tradition, is a large straight-sided, flat-bottomed bowl, often dished at the rim/flange junction and perhaps best described as a basin (illus 4, no 39; illus 11, nos 104–5). At the Nador Castellum, Tipasa (Mauretania Caesariensis), vessels of almost

identical form (illus 11, nos 106–7) were described (Anselmino *et al* 1989, 157, 161, fig 33) as a type with a relatively restricted distribution in Mauretania, and dated from the third century onwards. Their quantities on that site, however, were insufficient to determine whether the type may have begun in the second century. They seem (*pace* Anselmino) to be unrelated to the generally smaller, less robust bowls with more curved walls, which became popular in Carthage (Tunisia) in the sixth century (Fulford & Peacock 1984, 199, 202, fig 77). Vessels of generally similar basin-like profile were also made in the kiln at Bar Hill, but had been gritted internally in the manner of mortaria (illus 2, nos 11–12), and have been classified as such by Hartley (1976, fig 2, nos 24–7). However, they do not have the curved wall characteristic of mortaria in Britain and the north-western provinces, but are morphologically more like a truncated cone. This may imply an overlap in the function of these two vessel types, a possibility given credence by the fact that some of the Bearsden basins, which were ungritted, are worn on the base, as if used in the manner of mortaria. Generally similar large conical basins, with grooved or flanged rims and without trituration grits, were not infrequent on North African sites (illus 11, nos 106–10). Mortaria, however, were proportionately less common in that part of the empire, with the notable exception of the military depot at Simitthus (Chemtou), in north-western Tunisia (Hartley 1998, 212–14, n 15), and tended to be shallower than those normal in Britain and other north-western provinces. These general observations might suggest that in North Africa, mortaria and basins each had their own specialized and complementary roles in food preparation, but that in the north-western provinces, the combined functions of both vessels were served by the multi-purpose (and therefore more common) mortarium. Alternatively, the techniques intrinsic to North African cuisine may have specifically required the use of such basins alongside ordinary mortaria. From several Antonine Wall sites (Duntocher, Old Kilpatrick, and possibly Camelton), there are also medium and small versions of the same basic basin form, all ungritted (illus 5, nos 51, 59); most are probably local to Scotland. These and, indeed, some of the larger basins, have a superficial resemblance to the conical straight-sided Black-burnished ware (BB1) flanged bowls of the mid/late third and fourth centuries (Gillam Types 226–8), but the two types are unlikely to be related. Smaller versions of flanged basins, similar to that from Duntocher, were recorded at Cramond fort along with the North African-type casseroles, platters and lids, all made in the local (probably late second-century or Severan) ‘Cramond ware’ (Maxwell 1974, fig 25, no 106).

#### *Other vessels of North African type*

A handful of non-culinary products produced on the Antonine Wall also seem to have North African affinities. These include the imitations of African Red Slip ware forms, such as the copies of Hayes Form 4 in the Bar Hill kiln deposit (illus 2, no 10), and a small tableware platter of a rare type, probably in a fine Bearsden fabric (illus 4, no 45; discussion in Appendix 2). From the Croy Hill *vicus* were recovered fragments of a moulded female head-pot unique to Britain, and also the little ‘tulip-bowls’, a form well attested in Mauretania (illus 2, no 6; illus 11, nos 111–13; Appendix 2); both appear to be in local Croy fabrics. A number of other locally made vessels from several sites represent forms which are unusual for Britain and cannot be readily paralleled elsewhere.

#### *Implications of production of North African-type cooking-vessels on the Antonine Wall*

The occurrence on the Antonine Wall of locally made kitchen vessels and braziers in a North African tradition implies the presence, not only of several potters who had first-hand familiarity

with such vessels, but also of consumers, who wanted to cook in this tradition and who demanded the appropriate equipment. The very precise detailing of the vessel forms at Bar Hill, Bearsden, Croy Hill and perhaps elsewhere, leaves little doubt that these potters, and possibly others working at other locations on the Wall, had indeed originated in North Africa itself or, less likely, from the immediately adjacent parts of the Mediterranean littoral. Such an exotic origin is further emphasized by the distinctive way in which the Bearsden potter(s) tried to imitate Black-burnished ware pots which were technically unfamiliar. The resultant bowls and cooking-dishes (illus 4, nos 35–7) are strange approximations, with uncharacteristic proportions and rim shapes, and a rounded (instead of chamfered) profile at the wall/base junction, and sometimes deliberate grooving, combing, or rough scratching on the sagging underside. The last features may imply that they too were intended for use over braziers, a suggestion which tends to be supported by the sooting patterns on many of these Bearsden vessels.

The greater frequency of the cooking-platters (relative to other African forms) on the Antonine Wall, and the relatively narrow scope of the whole spectrum of locally made vessels with African affinities requires some comment. Several of the carinated bowls from Bar Hill (illus 2, no 13), Croy Hill and Balmuildy (Appendix 1), and the round-bottomed imitations of Black-burnished ware bowls from Bearsden, all show the characteristic signs of their use as brazier-casseroles. Nevertheless, the total range of African-type vessels in Scotland, and in particular, the relatively strong showing of platters, is quite unlike that recorded in the assemblages from the civilian ports and towns in North Africa, such as Sabratha (Tripolitania), Berenice, Benghazi (Cyrenaica), and Carthage (Africa Proconsularis). The latter groups exhibit an abundance of different fabrics and vessel types, proportionately more tablewares and comparatively few platters. Even so, a systematic examination of the evidence from North African sites of various types seems to suggest that the range of African vessel types found on the Antonine Wall may be more typical of military establishments in the Maghreb (Appendix 2: introduction).

#### EXOTIC IMPORTS ON THE ANTONINE WALL

A small proportion of the exotic pottery and other objects recorded on Antonine Wall sites could have been brought to Scotland from North Africa as personal possessions. At Bearsden, a tiny bowl (illus 4, no 44) in a fine cream ware with a red slip (not apparently local) may well be related to the so-called ‘tulip-bowls’ of North African type (Appendix 2), and a probable African Red Slip ware lid was found at Duntocher (illus 5, no 53; Appendix 1). A bronze object, possibly originating in North Africa or the eastern Mediterranean, is a small figurine of a dancing Negro, located by a metal-detectorist east of the Bar Hill fort (Keppie 1985, 51; DES 1976, 70). Even a small number of the casseroles and cooking-dishes of North African type, which are not in fabrics of obvious local origin, could perhaps be imports. From Old Kilpatrick, there are fragments of no less than 18 cooking-dishes or platters in up to seven distinct fabrics (illus 5, nos 54, 62–5). Such variety might stem from its possible status as a supply-base serving the western end of the Antonine Wall (Appendix 1). On the Antonine Wall as a whole, the marked lack of uniformity in these exotic objects can hardly suggest that they arrived by normal trade mechanisms or institutional supply. Most were probably carried as personal baggage or, in the case of cooking wares, as the shared property (perhaps originally kit-issue) of small groups of soldiers such as the *contubernium*, or century.

Containers of food commodities on military sites sometimes seem to reflect the origins or connections of units drafted in from outside the province. For instance, a sudden rise in the quantity of olive oil amphorae from North Africa at York, at precisely the time when the emperor

Severus seems to have brought over North African reinforcements, suggests the incoming troops may have transported some provisions with them, or that such supplies were shipped in their wake (Williams & Carreras 1995, 237–8). A distinctive and unusual type of container, which occurs on many Antonine Wall forts and may also have been an institutional import, is a costrel, a small vessel shaped like a miniature barrel set on its side, with double handles and tiny nipple-like feet (illus 4, no 46). The British distribution of these vessels, all in pale similar fine fabrics, is not confined to the Antonine Wall, but is nevertheless most concentrated there. Of 14 definite examples known in Britain, nine come from sites on the Antonine Wall and its immediate vicinity, three from the Tyne/Solway frontier, and one each from Doncaster fort *vicus* and Canterbury (the last vessel perhaps not identical in every respect). There is no evidence for their manufacture in the province and they seem to be absent at this period in the north-western provinces and the central and western Mediterranean. All may have originated from the same general region, possibly in the eastern Mediterranean, perhaps in Egypt (Appendix 2). Their rarity elsewhere in the Empire, including the Mediterranean provinces, suggests unusual connections with northern Britain at this period. Food supplies of probable southern Mediterranean origin certainly reached Bearsden, for the environmental evidence includes seeds of fig, coriander and dill, and also horse beans, lentils and wheat of types likely to have been grown in such a climate (Knights *et al* 1983, 139–53; C Dickson, paper read at conference, ‘The Antonine Wall: Recent Work’, in Edinburgh, March 1995).

#### NORTH AFRICANS IN SCOTLAND: CIRCUMSTANCES OF ARRIVAL

Several strands of material evidence, therefore, seem to combine to suggest that the Antonine occupation of Scotland involved units, or more probably detachments or small groups of people (the total numbers are unlikely to have been very large), which were either North African in origin, or had been in North Africa long enough to acquire African habits, recruits, or other personnel. It is unlikely at this period, that a number of men from such distant provinces would have been recruited direct into any of the British legions or auxiliary units. By the mid second century, most recruits were drawn from Britain itself, and those from outside the province usually came from neighbouring provinces (Mann 1983, 24; Dobson & Mann 1973, 192–3). The lack of specific epigraphic evidence, and the dearth of stratified sequences of material makes it extremely difficult to date the arrival of such forces. Could a task force from *Legio III Augusta* perhaps have come direct from its base at Lambaesis in Numidia (Algeria) to assist in the annexation of Scotland in 140? Alternatively, had troops involved in Pius’ war against the Moors been sent on to Britain from Mauretania at the conclusion of the conflict, probably at the end of the 140s or early in the 150s? The problems of the chronology of the war have received much discussion (Speidel 1977; Christol 1981), but coins with a figure of victory (Nike) from the mint of Alexandria suggest that the main campaign was fought in 149 x 150 (Casey 1986, 40, Table A). The Danube provinces of Upper and Lower Pannonia, Noricum, Raetia, probably Dacia and Moesia Superior, and Hispania all appear to have sent detachments to participate in the Mauretanian war (Speidel 1972; 1977, 132; Christol 1981; Speidel 1975a, 36–7; Nouwen 1997, 463–4). Particular care is needed in interpreting the North African evidence, as there has been a tendency to assign to the war of Antoninus Pius all undated Mauretanian inscriptions relating to the presence of vexillations and other units from outside the province. The army of Egypt, if not actually sending troops, may well have been put on alert at this moment, though the relevant papyrus is undated (Rea 1977).



## BRITAIN AND THE WAR OF ANTONINUS PIUS IN MAURETANIA

One of the most attractive explanations for a North African presence on the Antonine Wall, and the one that best fits the evidence discussed below, is that British vexillations returning from Pius' war in 149 x 150, or the years immediately following, may have brought back with them various individuals or groups of North African origin. These men may have been to replace losses, and bring the garrisons of Britain up to strength, and could have included soldiers transferred from other North African units, Moorish irregulars, levies, captives and/or slaves. A tombstone from Rome records one Sextus Flavius Quietus, *primus pilus* of *Legio XX Valeria Victrix*, who had been sent by Antoninus Pius with an expeditionary force against the Moors (Comfort 1960, 273–6, pl 76, fig 1; *AE* 1960, 28; Leglay 1959). The command of such a vexillation ranked as a separate appointment from the recipient's previous post, and need not imply that *Legio XX* was itself part of the expeditionary force (Jarrett 1968, 77–91); nonetheless, the evidence discussed below from Holt and Chester suggests this to be a strong possibility. Moreover, the fact that Quietus was subsequently given the command of the British fleet, perhaps as a reward for the success of the mission (Leglay 1959, 219; Birley 1981, 308), may suggest that it was to Britannia that he returned from Mauretania with the *exercitus*. Any *exercitus* of that nature would almost certainly not have been drawn from that legion alone, but would probably have included auxiliaries and possibly legionaries from other British units, perhaps including detachments from the garrisons of Scotland (Breeze 1989, 19–20, 23). Saxer (1967, 119) has indicated that a typical expeditionary force at this period might be composed either of equal detachments of all comparable units of a province, or else of a whole unit with smaller detachments of the remaining units. Both legionary and auxiliary detachments were among the forces despatched from the Danube provinces and Spain to Mauretania, probably in 145 x 149, though not all necessarily at precisely the same time (Speidel 1972; 1975b, 36–7; 1977). Christol (1981) has suggested that an auxiliary expeditionary force went from Hispania to Tingitana probably in 145 x 147, and that reinforcements from Pannonia were present in Caesariensis in 149 x 150, possibly later. A vexillation of *Cohors IV Tungrorum Milliaria* was sent from Raetia to Mauretania by at least 154, if not before, and remained there, probably until 161 when it was brought up to full strength by the transfer of its rump (Nouwen 1997, 463).

Any trouble in Mauretania was always of particular concern to Rome because of the ultimate significance of the western Mediterranean for the supply of grain and other essentials to Rome and Italy. Though Egypt was the main supplier of grain to the city of Rome, the lands bordering on the western Mediterranean, such as Spain and North Africa came next in importance (Meijer & van Nijf 1992, 97–9). Moreover, the vagaries of harvests and shipping made it essential to ensure the security of alternative sources of supply. Rome's obligation to feed its urban populace meant that ultimately the stability of the empire depended on grain, though supplies of wine and oil were also important. As Roxan (1973, 841–3) has pointed out, in order to protect the shipping of cargoes from southern Spain and fertile central Tingitana from possible pirates or raiders, Rome needed to command all the African coastline up to the Pillars of Hercules and beyond. The evidence of contemporary literary sources (Pausanias, *Description of Greece*, VIII, 43; *SHA Antoninus Pius* V.4), and the fact that reinforcements were apparently sent to Mauretania from so many widely scattered parts of the empire, clearly indicate the seriousness of the situation, and the exceptional measures that Pius deemed necessary to stem the Moorish insurrection, and to prevent it from spreading to adjacent provinces. Moreover, the number of troops permanently stationed in North Africa had always been very small: just one legion and a few auxilia in Africa Proconsularis, and auxiliary units alone in the huge tracts of the Mauretaniae

(Roxan 1973; Rebuffat 1986, 66–9; Devijver 1989). When a crisis arose, this would have exacerbated the need for outside help. It seems quite probable that, in any assessment of its priorities in the deployment of forces, Rome might even have been willing to risk recent conquests (eg lowland Scotland) in an isolated, peripheral and less wealthy province such as Britain, in order to secure peace and prosperity in the western Mediterranean. As M Roxan (pers comm) has suggested, because Britain was peripheral to Rome's main concerns, it may even have been regarded as a potential reservoir for troops.

The return of the expeditionary force to Britain (with or without Quietus) is likely to have occurred in c 150 or soon after. Quietus' appointment to the prefecture of the *classis Britannica*, the culmination of his career, is not dated precisely, but another *primus pilus* (T Elupius Praesens) is recorded at Chester in c 154 (Dobson 1978, 358). A diploma of August 150, relating to the Danube provinces of Pannonia Inferior and Superior, records the discharge (presumably in January 150) of men who had been in Pius' *expeditio Mauretania(e) Caesariensis(is)*, and it is not unlikely that at least some of the other still-serving soldiers in that task force had also returned at the same time (*CIL XVI*, 99; Speidel 1977, 129–30). However, as Christol (1981, 139–41) has pointed out, not all the reinforcements need have returned from the war simultaneously. In fact, a gradual withdrawal from the region over a number of years would have made good tactical sense.

Of particular relevance, however, is the fact that *Mauri gentiles* (ie Moors from outside the Roman frontier) are recorded epigraphically with the men of regular units in the garrisons of Dacia and Moesia Superior, as early as 158 and before 161 respectively (*CIL XVI*, 108; *CIL XVI*, 114). Although their exact military status is unclear, the men in the former province are thought likely to have originally constituted part of enforced tribal levies exacted during or immediately after Pius' Moorish wars, and despatched with the returning forces. The latter, in contrast, may have been *Mauri equites* raised, or serving, as allies during the revolt (Speidel 1975a, 207–11; Southern 1989, 93). It is quite likely, therefore, that troops sent back to Britain from Mauretania would have been accompanied by Moors, perhaps in more than one capacity (as allies, as *dediticii* or other irregulars, and also as slaves). At that stage, they need not all have been formed into separately identifiable named units, such as *numeri* (Southern 1989, 93); at least some may have been scattered among other units, as seems to have been the case with some of the Sarmatian tribesmen deported to Britain by Marcus Aurelius c 175, following his armistice with that people (Cassius Dio lxxi, 16.2). J Mann (pers comm) has drawn my attention to the very apt modern parallel of the Goums, brought from Morocco by the French to fight in Italy in the Second World War; these men 'had no uniform, looked like brigands and brought their wives with them'. Apart from indigenous Moorish tribesmen, other North African provincials might well have been recruited to the British forces in Mauretania during the war, or transferred from *Legio III Augusta* or other North African units into returning contingents to replace losses, at the end of the war. A similar situation occurred under Trajan, when several Africans joined, or were drafted into a vexillation of *Legio VII Gemina* from Spain which was serving in that province (Mann 1983, 14); and auxiliaries recruited from the east were apparently brought back to Britain with *Cohors I Aelia Classica* following the Bar-Kochba rebellion, probably in the late 130s (Tomlin 1997, 463, n 33; Holder 1997, 21). The presence on the Antonine Wall of several vessel types with parallels in Tripolitania and Tunisia may best be explained in this sort of context, since *Legio III Augusta* is known to have drawn many of its recruits from those regions. In addition, it is possible that British troops who had served alongside North Africans in Mauretania, might have become familiar with African cooking techniques, or acquired slaves or women who cooked in this way. Any one or more of these contingencies might explain the varied character, affinities and

frequency of North African-type vessels and cooking traditions in the forts of the Antonine Wall. A dearth of epigraphic evidence on the frontier specifically relating to North African soldiers does not necessarily constitute an argument for their absence, since their numbers were probably not large, and few would have had sufficient status or means to set up their own dedications or tombstones. In any case, the ‘epigraphic habit’ was not strong in *Britannia* as a whole, and inscriptions are disproportionately scarce (Birley 1979, 13).

#### *LEGIO XX VALERIA VICTRIX* AND THE NORTH AFRICAN CONNECTION

There is, in addition, some ceramic evidence to suggest the contemporary presence of North Africans at Chester (Deva), the fortress of *Legio XX*, and at its works-depot at Holt (Clwyd). Holt lay some 11 km south of Chester, and was the main site where the legion made its pottery and tiles and probably other equipment (Grimes 1930). Partly excavated in 1907–15, its main floruit has long been attributed to the Trajanic period, with a presumed revival of activity early in the third century (Thompson 1965, 13–15). However, recent studies of the samian by Ward (1998a; 1998b; and pers comm), and of the coins by Shotton (1998), have indicated that production on the site probably extended from the late Flavian period (perhaps c 87) until soon after the middle of the second century, though the coins show a marked fall-off after the mid 130s. In particular, the samian recovered by intensive fieldwalking (over the whole site and not just the excavated areas) between 1969 and 1981, by the late G Bevan, and now in the Grosvenor Museum, Chester, has a surprisingly strong emphasis in the Hadrianic-Antonine period. Of the identifiable Hadrianic-Antonine Central Gaulish bowls (41% of the total samian assemblage), 35% were Hadrianic and 17% Antonine; the potters’ stamps from all archaeological activity on the site do not contradict this general picture. After a clear break, production at Holt then resumed for a brief period in the 230s, not in the Severan period as once thought (Stephens 1989, 224–6). Of particular significance from the excavations is a large oxidized flanged bowl in a coarse Holt fabric (illus 6, no 66), which was inscribed before firing with a graffito of its maker’s name, *M’QRYN’* (= Macrinu[s]), the lettering of which is in neo-Punic (*RIB* II.8, 2502.14). The Punic language remained in official use in the towns of North Africa as late as the second century, and it has been reasonably suggested that Macrinus was of North African origin, and was probably a soldier-potter in, or working directly under the supervision of, *Legio XX*. At the time of its initial publication, the style of the neo-Punic lettering was deemed unlikely to have been as late as the early third century, and the graffito was automatically assigned to the period of known Trajanic activity at Holt (Guillaume 1940; Thacker & Wright 1955; Guillaume 1955). No profile of the vessel had been published until an illustration by the late George Boon recently appeared in print (*RIB* II.8, 2502.14). This has proved to be crucial, for the vessel type can be clearly recognized as a straight-sided basin, similar in profile to the distinctive vessels made at Bearsden fort (illus 4, no 39), and probably belonging to the same basic ceramic tradition.

If Macrinus had been recruited or transferred into *Legio XX* when a detachment was operating in Mauretania, he is more likely to have been an inhabitant of one of the coastal towns, where Punic was still being spoken, than a Moorish tribesman, as Alan Rushworth (pers comm) has suggested. Indeed, John Spaul (pers comm) has kindly pointed out to the author that the lettering of the graffito resembles Caesariensian Punic. The coastal town of Tipasa (Algeria) in Mauretania Caesariensis, just to the east of Caesarea (Cherchel), seems to have been a point where Pius’ Pannonian expeditionary forces were assembled (Baradez 1954, 89–139), perhaps on initial disembarkation, or in readiness for shipment to Tingitana. Transport between the two Mauretaniae was generally easiest by sea (cf Tacitus, *Historia* II, 59), so other military contingents

may have congregated at adjacent ports; there are gravestones of cavalry troopers from other towns along that coast, though most are undated (Speidel 1993, 126, n 9). Local recruitment or the transfer of men from North African units might have taken place at any of these locations; indeed the British legions were probably perpetually short of citizen-recruits due to the late establishment of the province.

Indigenous utilitarian pottery from settlement sites (as opposed to cemeteries) in the Mauretaniae has only rarely been illustrated in excavation reports, and certainly never studied in depth. The limited ranges of *ceramique commune* from Caesarea (Leveau 1984, 461–3, fig 248) and Tipasa (Anselmino 1989) appear to share many of the same forms as vessels from other parts of the Maghreb, even as far as Tripolitania, and include large flanged bowls. Leveau remarked on the use of a tempering of crushed tile (or grog) in a number of the oxidized local products; though not a particularly unusual technique, this is one of the more distinctive characteristics of the fabric of the large basins made at Bearsden and Holt.

The probable affinities and significance of the bowl with the Macrinus signature are further emphasized by the recognition of other vessels of North African type from the excavations at Holt; these include published and unpublished vessels in the National Museum of Wales (illus 6, nos 67, 69–73; Grimes 1930, fig 66, nos 91, 96–7; fig 67, possibly no 118; fig 68, nos 119, 123–5, fig 69, nos 135–7 [some unpublished examples of this platter form have grooving on the underside], nos 148–9; fig 70, no 168; fig 74, no 221). More vessels with North African traits (casserole, platters, domed lids and flanged basins of various sizes) can be distinguished among the ‘coarse’ wares in G Bevan’s substantial unpublished surface collection in the Grosvenor Museum, Chester (eg illus 6, no 68). A preliminary study by K Hartley of Holt mortaria in general suggests (pers comm) that the main production emphasis lay in the Hadrianic period, but continued into the middle of the second century, since small numbers occur on the Antonine Wall, particularly in the western sector. In the Chester fortress, part of an interesting and unusual mortarium or ornamental basin in a Holt fabric was recovered during excavations on the amphitheatre (Hartley 1976a, 209, fig 36, no 4). It has an incomplete inscription ‘[. . .]PTI’, the letters being formed of tiny quartz grits impressed into the surface of the flange (*RIB* II.6, 2495.3). The employment of this unusual technique is noteworthy, since it is very similar to that used on interior of some North African mortaria, where the trituration grits are sometimes arranged in decorative linear patterns (eg at Simitthus, Types 180, 192).

## CERAMIC SEQUENCE ON THE ANTONINE WALL

If, as seems likely, British legionary and auxiliary reinforcements, supplemented by a number of North Africans of varying origin, had been sent back to the province from Mauretania early in the 150s, could their return perhaps be associated with the unit changes, or internal structural alterations to the Antonine Wall forts that have often been described as ‘Antonine II’? At Bar Hill (Appendix 1), the kiln which was making mainly pottery of North African type seems to have been constructed at a time when the fort’s internal bath house was not in use (Keppie 1985, 60, fig 5). Stratigraphically, it can be shown to have been dug into the stoke-hole of the bath-house when the *praefurnium* was already partly choked with ash. The bottom of this stoke-hole lay well below the bottom of the combustion-chamber of the kiln (‘waist height’), and by implication below the bottom of the kiln stoke-hole. For ease of stoking and raking out, the bottom of this kiln furnace-chamber and the stoke-hole opening from it would normally have been at approximately the same level. The black, burnt condition of both stoking deposits meant that in the excavation, no distinction could be made between the ash in the lower part of the stoke-hole

of the *praeurnium*, and that at a higher level belonging to the stoking area of the pottery kiln which had been cut into it. In practical terms, the pottery kiln and the bath-house could not have been in operation simultaneously. In fact, the kiln seems to have been used for only a relatively short period, and its North African-type products, in particular, were scarce elsewhere within the fort, though not absent (Appendix 1; *pace* Keppie 1985, 72–3). On disuse, the flue at the junction of the kiln stoke-hole and combustion-chamber was blocked off, the upper part of the firing chamber (oven) apparently dismantled, and other minor secondary alterations then made to the walling of the *praeurnium*, so that the operation of the bath-house could resume. At this stage, the new stoking level of the *praeurnium* must have been slightly higher than had originally been the case.

Why had the bath-house been disused when the kiln was built? Could there have been a brief period when the fort was unoccupied, perhaps prior to the arrival of a new garrison, or when the occupying garrison was insufficiently large to warrant the firing of the baths? Could such a situation have pertained if the fort was being held on a care-and-maintenance footing? There was no structural evidence for a break in the occupation at Bar Hill (Keppie 1985, 71; Hodgson 1995, 34, 48). In fact, Keppie has suggested that one of the official altars of the presumed first garrison, *Cohors I Baetasiorum*, probably remained in the *aedes* when the second garrison took up its posting (Robertson *et al* 1975, 26–7; see also discussion in Appendix 1). If a new unit, which included some men from North Africa, had moved into an empty but intact and recently occupied, or semi-occupied fort, one of the first tasks of these non-British elements might well have been to equip themselves with the wherewithal to cook and eat, particularly if the appropriate pots (ie vessels suitable for North African-style cuisine) were otherwise unavailable.

If the local manufacture of pottery of North African type was secondary at Bar Hill, and seemingly related to a change in the occupancy of the fort, can a similar sequence be seen at other establishments on the Antonine Wall? Should the local production of North African and other types of pottery be associated with later units or garrisons, and possibly also with internal structural changes or modifications to Wall forts? Can the provision of annexes, mostly late additions to the fort-building programme (Bailey 1994), also be assigned to this period? The evidence is not wholly conclusive but is worth examining nevertheless.

Inveravon lies at the extreme end of the possible eastern extension of the curtain wall, but its strategic position, commanding the crossing of the River Avon, could perhaps have given it precedence in the building of that sector. A relatively recent excavation there (Dunwell & Ralston 1995, 521–76) produced evidence for three structural phases, the first associated with the building of the curtain wall (Phase 1), and the subsequent two (Phases 2 & 3) reflecting activity in connection with the occupation of the fort and its annexe. Though the area investigated (in advance of a pipeline) was very restricted, the ceramic assemblages of Phases 2 and 3 were distinctly different from one another. That associated with Phase 2 was particularly homogeneous, limited in range and orthodox in character, comprising mainly Black-burnished ware (BB1) and grey wares. In contrast, the pottery of Phase 3, the second occupation phase (mainly relating to destruction/demolition deposits), showed a much greater variety of form and fabric, including not only imports from standard sources in Britain and the Continent, but also a number of orange wares thought to be local, either to the site, or to the Antonine Wall in general (Thomas 1995). Further work on these local wares is clearly desirable; as will be discussed below, there are hints of generally similar changes in the pattern of ceramic supply elsewhere on the Wall.

For many forts, adding an annexe would have necessitated deliberately infilling, either all or part of the original fort ditch(es) on that side. If a change of unit, or a change in the composition of the garrison, was accompanied by alterations to the fort interior and the

construction of an annexe, the infill of the fort ditch(es) on the annexe side would most likely have comprised mainly rubbish from the previous phase of occupation. This would probably have included discarded pottery from the clearing-out of the original buildings, particularly those in the course of modification or demolition. If there had been marked changes in the character of ceramic supplies — for example if the second unit or garrison had been making a significant proportion of its own pottery — it should be possible to distinguish between the primary ceramic assemblage in the original fort ditch, and the mainly secondary material within the annexe, or the admixture of primary and secondary material from the fort interior. Unfortunately, most relevant excavations took place in the early decades of the 20th century, and the stratigraphic contexts of the artefacts are no longer known, if, indeed, they were ever recorded. There is, however, possible evidence from the ‘primary’ fort of Mumrills, where the fort interior was explored in 1923–8, but where a segment of the innermost west ditch was excavated in 1958–60 and its contents recorded and published (Steer 1961, 86–132). This had apparently been deliberately infilled, since it contained burnt wood, abundant nails and daub from the demolition of buildings, as well as substantial clusters of pottery unevenly distributed (at least 322 separate vessels) and was clearly a short-term dump and not a gradual accumulation. The vessels were represented predominantly by large fragments. Many of these had been burnt after breakage but the vessels may have been intact when discarded. The group included at least three complete or near complete mortaria, at least one unused. The assemblage as a whole (except for a small amount of residual Flavian material) was of a homogeneous and unremarkable character, comprising new and used vessels quite limited in range. These were dominated by Black-burnished ware (BB1 and BB2) and other grey cooking wares, but also included relatively ordinary tablewares and mortaria from standard sources in south-eastern Britain. No certain locally made products and no vessels of North African type were apparent. In contrast, the mainly undifferentiated material from the early excavations in the interior of the fort (presumably rubbish from activity both before and after the alterations) included locally made mortaria with profiles unparalleled elsewhere (Hartley 1976, fig 2, nos 31–4), and distinctive, perhaps locally made grey-buff jars and bowls. A casserole and a cooking-platter of North African type, not local to the site, but made probably in the vicinity of the Antonine Wall (illus 2, nos 1–2; Macdonald & Curle 1929, fig 99, nos 7 & 8), occurred in secondary contexts within the fort (Curle MS; Appendix 1). A ‘corroded but not much worn’ coin of 154/5 was also found in the infilled ditch. This might constitute a *terminus post quem* for the construction of the annexe; and perhaps by inference an approximate date for modifications in the composition of the garrison. The relative lateness of the date, however, could argue against this, though this might perhaps have stemmed from the staged withdrawal of troops from Mauretania that Christol (1981) has proposed. Nevertheless, one cannot absolutely discount the possibility either that the annexe could conceivably have been constructed some time after the change in garrison, as part of a long-term programme on the Wall as a whole, or that the excavated material in the Mumrills ditch deposit was dumped there when the fort was finally abandoned.

The results of very small-scale excavations on the southern defences of the annexe at Carriden fort could be compatible with a possible link between the construction of secondary annexes and the emergence of local pottery production. The assemblage associated with the presumed secondary annexe contained relatively few BB1 and BB2 wares and higher levels of other coarse wares, including a mortarium and other vessels probably local to the Antonine Wall, as well as fine wares (Bailey 1997; P Webster 1997). However, the amount of pottery was rather too small to be statistically significant (Appendix 1).

It is too early yet to say whether the occurrence of probable locally made pottery, in the infilled east ditch (adjacent to the annexe) of the ‘secondary’ fort at Falkirk constitutes a

contradictory strand of evidence (Appendix 1). The excavations have been very limited and the stratigraphy often subject to later disturbance. Thus, in the eastern part of the Wall, we can say at present only that the evidence is generally unclear. There may have been changes in the composition of garrisons, but there is a marked absence of pottery of North African type in that sector (with the minor exception of a very small number of vessels at the cavalry fort of Mumrills, discussed below). Annexe-construction in this part of the Wall need not always have gone hand-in-hand with changes in troop complements, though the provision of annexes may still have had a similar place within the general constructional sequence.

Another phenomenon, which has generally been considered 'later' in the history of the Antonine Wall, is the apparent abandonment, near disuse, or restricted use of a number of the mile-fortlets (Keppie & Walker 1981, 160), which had been 'an integral part of the initial blueprint for the frontier line'. Some, such as Croy Hill, had been superseded by an adjacent 'secondary' fort at a relatively early stage in the construction of the frontier. Others had been subject to later alterations, when parts of the interior were sometimes cobbled over (eg Seabegs Wood: Keppie & Walker 1981, 143–9), covering internal buildings (eg Wilderness Plantation: Wilkes 1974, 55–7). This suggests the absence of resident garrisons, and use now limited to cooking and shelter for those manning the gateway, or for intermittent patrols (Bailey & Cannel 1996). At Wilderness Plantation and Kinneil, for instance, the hearths had continued in use after the barracks had been demolished and most of the interior had been cobbled over (Wilkes 1974, 57; Bailey & Cannel 1996). At the latter, the southern part of the fortlet defences may have been demolished, leaving only the northern gatehouse. The quantity of pottery from such sites is admittedly small, but it may be significant that vessels of North African type are wholly absent. The pottery from most mile-fortlets seems to be completely conventional, and very restricted in range, mainly Black-burnished wares or grey copies of Black-burnished ware types, a phenomenon which may be indicative of little or no later activity. The only explicable exceptions comprise the secondary assemblages of pottery (overlying the cobbling, or associated with hearths or a well) at Wilderness Plantation and at Kinneil, which include mortaria probably manufactured in the western sector of the Antonine Wall (Wild 1974, fig 6, no 13; cf Hartley 1985, fiche, fig 18, no 36; K Hartley, pers comm).

## CHANGES TO THE ANTONINE WALL-BUILDING PROGRAMME

If it is accepted that significant alterations to individual Wall forts and their buildings, changes in their units or troop complements, the disuse or semi-use of the mile-fortlets, the local manufacture of at least some pottery, and the appearance of vessels with North African affinities (and, by implication, men of North African origin) were usually relatively late and perhaps approximately synchronous, then it is possible that a number of elements in the revised blueprint for the Antonine Wall may have still been unfinished or even unstarted at the time of the postulated troop departures for Mauretania in about 145 x 147.

The building of the curtain wall is generally thought to have proceeded from east to west. It has been argued convincingly that the task was divided originally into about 13 large work-stints of uneven size. These were between approximately 2 and 4.7 wall-miles, and were apportioned between the three legions (*Legio XX Valeria Victrix*, *Legio II Augusta* and *Legio VI Victrix*), but with the construction of the forts allocated quite separately (Hanson & Maxwell 1983, 104–36). The final western sector (from Castlehill to the end of the wall at Old Kilpatrick on the Clyde) was probably assigned originally to *Legio XX*. However, this sector was apparently later subdivided into six small building-stints of more-or-less equal size. These were re-allocated among

all three legions (two building-lengths each, recorded in feet, not miles as elsewhere), *Legio XX* undertaking the extreme eastern and the extreme western parts (Hanson & Maxwell 1983, 122–9, 135–6; figs 6.5–6.6; Keppie 1982, fig 4). It has generally been suggested that this was intended to speed up completion of the curtain wall, because the decision to add secondary forts to the original blueprint had caused the task to fall behind schedule. An alternative and logical explanation could be that a decision to send troops from *Legio XX* to Mauretania had unexpectedly reduced the capacity of that legion to finish its original allocation, and that the two other legions were commandeered to reduce its workload. This may have occurred at the point when the building gangs of *Legio XX* had already begun to tackle the extreme eastern part of that last sector of mural barrier. N Hodgson (pers comm) has suggested to the author that it might have been troop movements, precipitated by trouble in Mauretania, which actually caused the decision to build secondary forts on the Wall, because the splitting of units to send vexillations necessitated a reorganization of Wall dispositions. However, it seems unlikely that the army would have embarked on a programme of extra building work, involving the construction of more forts, when its numbers were being depleted. Moreover, if this was the case, it would be difficult to find an appropriate explanation for the very marked changes of plan which occurred in the course of the construction of the fort at Bearsden. These are now discussed below.

#### BEARSDEN FORT

The small fort at Bearsden is generally accepted, from its spacing and size, to belong to a ‘secondary’ stage in the construction of the Antonine Wall as originally planned. Although, due to erosion, it was not possible to establish by excavation whether its defensive circuit was structurally earlier or later than the adjacent curtain-wall, its location in what was originally the penultimate (western) work-sector suggests that work began relatively late in the building programme. Moreover, the unequal gaps between the northern terminals of the east and west perimeter ditches and the course of the Wall might indicate that the fort had been built first and ample space had been left (particularly on the eastern side) for the curtain wall to join the fort. The excavator has suggested (Breeze 1984, 63) that the fort’s construction could well have been as late as 145 x 146. The relatively minor structural alterations recorded within the fort have never been interpreted as showing more than one phase of occupation. Moreover, the decision to reduce the size of the fort by subdividing its original defended area to accommodate the annexe as well, and the modifications made to several internal buildings (for example, the demolition of the possible intended *principia*, Building 10 and the north room of the partly built bath-house), presumably in connection with the construction of the annexe, seem to have taken place while the establishment was under construction. The bath-house was altered even before it had been fired.

Could it be that the fort was unfinished, maybe without a proper garrison, when troops were removed from Britain c 145 x 147 for service in Mauretania? Bearsden’s eight-contubernia barracks, which have unusually small rooms, are thought to have been intended for a cavalry detachment, as the total size of the fort would have been inappropriate for a full unit; moreover, in its final form, it lacked a *principia*. There would have been no compelling reason to complete the internal buildings until the return of the expeditionary force was imminent or in train, by which time, the detailed and up-to-date (perhaps revised) requirements of the incoming garrison would have been known.

The ceramic and other evidence from Bearsden is not incompatible with this proposition. Locally made pottery (a significant portion with North African or non-British affinities) is very strongly represented on the site, probably comprising up to 70% of the total coarse-ware



assemblage (illus 4, nos 32–43 & 45). Concave-walled cooking-dishes with combing on the underside constituted the most common vessel type (illus 4, nos 31–2); many have sooting and burn marks commensurate with their use over a brazier. The percentage of locally made wares is higher than on any other site on the mural barrier, and could represent an occupation which was predominantly late in the history of the Wall. Kay Hartley (1997 and pers comm) has demonstrated an exceptionally close link between a distinctive type of mortarium (one of several apparently made locally at Bearsden), and an unusual type of mortarium manufactured by the *Legio XX* at Holt, and apparently nowhere else (cf Grimes 1930, fig 61, no 3). It is therefore appropriate that the sole epigraphic record of building work in the fort, found (unstratified) close to the north granary and probably relating to it, was a centurial stone of *Legio XX VV* (Keppie 1983, 401). The location of this granary, as David Breeze (pers comm) has pointed out to the author, suggests that it was erected after the decision to include an annexe, and at the same time as the other buildings of the revised fort plan; thus the earlier building work need not be associated with the *Legio XX*.

A very substantial part of Bearsden fort was excavated (almost 0.5 ha), but remarkably no ovens of the normal military type (ie clay-lined and set in the back of the fort rampart) were found. In fact, the only recognizable hearth was a small *ad hoc* affair, located in the broken-off bottom of an amphora, inside one of the barrack rooms. As already noted, the Bearsden workshop also made portable clay braziers (illus 4, no 43), and brazier cuisine may have been the dominant cooking tradition within the unit; quantities of ash and fragments of possible braziers were found in Buildings 12 and 16, in the southern part of the fort.

Among the ironwork dumped in the middle west ditch of the fort, probably when the site was abandoned, were 44 flat-bladed barbed arrowheads (Breeze 1984, fig 19). Their form is unusual and may show the influence of traditions outside the northern provinces of the Empire. When sharpened, the type would have accorded with heads recommended for soft-skinned targets; Coulston (1985, 266) has pointed out that the arrow type, which may have been made on the site, is reminiscent of the triangular point on a Dura-Europos incendiary ballista bolt head. Even so, the intended soft-skinned targets could have been enemy mounts, rather than the wild animals of the chase that he suggested. Although this evidence does not necessarily indicate a specialist unit, since Vegetius (I.15; II.23; III.4) mentioned that all soldiers should be given training in archery, the unusual shape of the arrowheads might reflect exotic origins for some of their makers/users who were in post in the fort. In sum, the Bearsden evidence taken together, may reasonably be interpreted as indicative of a single-period African-dominated garrison, perhaps cavalry, possibly under the aegis or supervision of *Legio XX*, which had probably been posted there relatively late in the history of the frontier.

#### DUNTOCHER FORT

The other late fort in the building sequence which must now be considered is Duntocher. This lay in what was originally the final western sector of the Wall (that part subsequently re-allocated to *Legio II*), and had replaced an earlier fortlet on the site. The results of the 1947–51 excavations, as published by the excavator (Robertson 1957), pose a number of interpretative difficulties, partly due to the generally very poor preservation of the stratigraphy and structural remains, particularly in the south-western parts of the fort and annexe. The stone foundations of the rampart of this very small fort, and the annexe to its west were of similar construction, and appear to have pre-dated the building of the mural barrier in this sector. The three eastern ditches of the fort had clearly preceded the curtain wall, but the single west ditch (west of the annexe) stopped

short of it. This might have been because the ditch had been dug later and respected the line of the Wall, or merely because the Wall had followed its intended course, in this particular instance, where a deliberate gap had been left for it. It has always been supposed, from Robertson's published drawing (1957, fig 23), that the south rampart of the annexe had been built abutting the south-west corner of the fort. Nevertheless, there were no ditches on west side of the fort, and the three perimeter ditches continued in a straight line to the south of both the fort and the annexe. Because of this apparent structural contradiction, it has sometimes been assumed that the decision to add an annexe to the west occurred at a very early stage in the construction of the fort (before the perimeter ditches were dug), and that both fort and annexe should be considered as essentially contemporary. The evidence, however, is not as secure as the excavator's drawings would imply.

Is it possible that the whole defended area of Duntocher had originally been built as a larger fort, like Bearsden, and had subsequently been subdivided by a rampart to convert it into a small fort with a proportionately large annexe? The crucial test of whether the whole enclosure had been partitioned, or whether the annexe had been added to a small fort, is the character of the junction of the south rampart of the annexe with the fort's west wall, and south-west corner (the last was drawn as rounded in Robertson's 1957 report (fig 23), thus implying that the fort had originally existed as a separate unit). Robertson (1957, 35) wrote, 'no doubt the south-west corner [of the fort] had also been rounded [ie, as well as the south-east corner], although the foundation was here too ruinous for this to be established with certainty'. In other words, the corner could well have been square, but this possibility was not allowed by the excavator (it was almost 30 years before Bearsden had been excavated). Of the vital rampart junction, Robertson (1957, 64) stated, 'The poor preservation of the south rampart base of the annexe made it impossible to determine with certainty what sort of a junction it had made with the rounded [*sic*] south-west corner of the fort. A few stones in a significant position, however, suggested that . . . the south rampart of the annexe had run straight on to join the south-west corner of the fort, thus maintaining a course parallel to that of the three south ditches.' In other words, there was no deviation in the rampart or ditches, such as might be expected if the annexe had been built abutting the fort rampart.

Thus, not only does the Duntocher evidence allow the possibility that a small fort was made by partitioning the larger enclosure, but, indeed, it would make better sense structurally, and help to explain several other features recorded in the excavations. It has always seemed strange that the small fort should occupy a topographically less favourable position than its supposed later annexe. To explain away this obvious anomaly, the excavator made the even more problematic suggestion that the fortlet, which occupied the prime position, had been 'retained in use as a small military enclosure' after the construction of the small fort (Robertson 1957, 14). There are also difficulties with the plan of the small fort; its east and west entrances were not built opposing one another, and there was no south gate; both features might be expected, if that perimeter had been built as a unity. In contrast, the west gate of the annexe lay more or less opposite the east gate of the fort, suggesting that both gates may have been designed and constructed as part of the same unit. The foundation of the eastern rampart of the earlier (demolished) fortlet had been reused as a base for the northern part of the west rampart of the small fort (itself not exactly parallel to the eastern rampart), but the new southern part of this west rampart was not on precisely the same alignment as the northern part, and veered slightly to the west. This awkward deviation might have constituted an unacceptable flaw, if the small fort had been conceived and constructed as a single entity, but for the internal partition of a fort/annexe, such a misalignment might well have been viewed as of no consequence.

Also noteworthy is the evidence within the small fort for internal buildings of more than one phase (Robertson 1957, 55–9): two stone buildings on different alignments, more than one series of post-holes in close proximity, and two phases of roadway. Such marked alterations to the plan (with no evidence of a gap in occupation) seem incompatible with a fort that had evidently been constructed so late in the history of the Wall. They would, however, make better sense if they had constituted part of a reorganization of the whole larger fort's (?unfinished) layout, consequent upon its partitioning to make an annexe. This could explain why one or more of the secondary buildings seem not to have been positioned on the same plots as their predecessors (ie the structures were not replacements with the same functions as their predecessors), why some post-holes were cobbled over and others dug through cobbling, and why the stone foundations of the smaller (earlier) building were aligned with the eastern rampart, but those of its later (longer) replacements were aligned with the suggested internal partition (*ibid*, 55). The addition of the stratigraphically secondary 'sentry-path' extension against the north rampart of the fort (probably a support for the continuation of the rampart-walk of the wall along the north side of the fort) would also fit comfortably in the context of a logistical re-planning of the fort interior. So too would the evidence from the north gate of the fort, where deposits of ash and rubbish pre-dated the cobbling of the passageway, and which lacked a corresponding break in the Antonine Wall ditch. The rampart here was very badly preserved, though the excavator did remark on the 'strange' absence of gate post-holes. However, this entrance may never have been built as a formal gateway, but could well have been a late feature, little more than a 'postern' gap breached through the north rampart, when the internal dispositions of the enclosure were revised.

One potential objection to the interpretation of the whole enclosure as an original unpartitioned fort, is its very elongated east/west proportions. These, however, were clearly dictated by the topography. The ground falls away so sharply on the southern side of the fort that the stones at the base of the annexe rampart had to be laid 'upended' to prevent the rampart superstructure from slipping. Moreover, on the southern half of the east side and on the south side of the small fort, the slope had to be banked up with turf to lay the stone foundation of the rampart. If Duntocher was initially built as a larger fort, then the outer northern ditch, north of the Wall (which, significantly, mirrors the east/west dimension of the whole defended area), and the unexplained turf layer just to its north (Robertson 1975, 67), may represent an extra defence, and not part of the original fort blueprint. This would have been built as a stop-gap (as at Old Kilpatrick, see below), in order to provide adequate security on the unprotected side of the fort perimeter, in the face of serious and unpredictable hold-ups in the construction of the curtain wall and the digging of the Wall-ditch.

The total ceramic assemblage was very small (Appendix 1), so any conclusions can be no more than tentative. Local wares were present, and there does seem to be a significant showing of African-type vessels (*illus* 5, nos 48–9, 51–3). In sum, the general emphasis of the pottery (suggestive of a North African presence in the garrison) and the probable structural history of Duntocher (partitioned and replanned to incorporate an annexe) both closely resemble the more secure evidence from the better preserved and recorded late fort at Bearsden.

#### OLD KILPATRICK FORT

The primary fort at Old Kilpatrick, at the western end of the Wall, provides further evidence suggestive of protracted delays and disruption in the construction of the mural barrier. It has long been recorded (Macdonald 1932, 220–30) that though Old Kilpatrick was built in advance

of the curtain wall with all four corners rounded, the layout of its ditches indicated that the builders knew that the Wall would ultimately butt against the fort at its northern angle, and that its ditch would run parallel to the fort's west side. In the event, the garrison seems to have waited so long that it decided to complete the security of the fort perimeter (as at Duntocher) by digging additional ditches at the north angle and along the west side, even though this work ultimately had to be undone before the Wall could be brought up to meet the fort. That the garrison took its own defensive measures, regardless of the projected course of the curtain wall, suggests not only very substantial delays in its construction, but also doubts and uncertainties over the management, logistics and even the reality of the builders' work schedule.

#### OTHER WALL FORTS

If the completion of the basic building programme in the final (western) sector of the Wall took place during the Mauretanian war, what was the nature of the occupation at the other Wall-forts which had already been finished? As Hodgson (1995) has pointed out, the structural evidence in general does not suggest a total break or dislocation in the internal arrangements within the forts. Pius would almost certainly not have wanted it to appear that he was letting slip his recent conquests, particularly if they had originally been undertaken primarily to consolidate his own position as emperor (Birley 1974, 17; Breeze 1976, 75–8). However, if this had been so, and if Pius' annexation of Scotland had been a politically motivated project, and not a response to trouble from local tribesmen, any short-term reductions in the garrisons of the Antonine Wall forts might not have constituted a serious risk. Either way, it is not necessary to assume that detachments dispatched to Mauretania (legionary or auxiliary) had all been drawn from the Antonine Wall itself. There may well have been simultaneous reductions in the garrisons of other forts in Wales and the Pennines. This may also have been the period when activity in the fortlets was reduced or curtailed, both on the Antonine Wall and in south-west Scotland. The forts on the mural barrier could have been held with smaller caretaker garrisons, perhaps the rump of some of the units from which detachments had been sent to Mauretania. Legionaries, *agentes in praesidio*, might have supplemented the auxiliary frontier force. There is no general agreement as to whether all the legionary inscriptions on the Antonine Wall should be associated with primary building activities, or whether some may be related to legionaries in residence in several of the forts (Hanson & Maxwell 1983, 153–7, 167; Breeze & Dobson 1987, 107–8; Breeze 1989, 19–20, 23). The latter view, however, is now gaining increasing acceptance (Keppie 1998, 49). Breeze (1989, 13) has pointed out that since the whole of *Legio II Augusta* moved north to build the Antonine Wall, building inscriptions referring to detachments must record later work, for example, at Auchendavy (*RIB* I, 2180), at Bar Hill (*RIB* I, 2171, 2312) and at Cadder (*RIB* I, 2188). An objection to this suggestion had hitherto been that the style of the Auchendavy dedication stone, for example, resembled that of the primary distance slabs of that legion, which should date to c 142 x 145. However, if the present hypotheses are accepted and these vexillations were engaged in work around 150 (not in the early 160s as hitherto suggested), the earlier style could easily have persisted until then. Moreover, at Auchendavy, the presence of four or five altars dedicated (presumably over some time) by one man in *Legio II* (*RIB* I, 2174–5; Birley 1961a), a tombstone of an ordinary soldier in that legion (*RIB* I, 2181), as well as the building slab of the vexillation already mentioned, should suggest that a detachment of that legion was in residence there on rather more than a temporary basis (Breeze 1989, 19–23). Legionaries, initially involved in long-term care-and-maintenance duties in the forts in the face of manpower reductions from c 145 x 147 to at least 150, as well, perhaps, as undertaking building alterations or

renovations in preparation for the return of troops or changes in the garrisons, might provide appropriate circumstances. At Bar Hill, four mortaria found well outside their normal distribution areas seem likely to have been carried there by men from all three legions (Appendix 1; Hartley 1975, 142–3, stamps 1, 3 & 4; Hartley 1985, fiches 51 & 92, fig 18, no 33); it would be surprising if all three had been resident and involved in building there. At the Chester legionary fortress, the structural evidence and significantly reduced levels of samian suggest that parts of the *retentura* (and possibly of the *praetentura*) were not continuously occupied between c 130 and the early third century (Strickland 1978, 27–8; 1981, 418–19; 1983, 11; 1999, and pers comm; Ward 1998b, 59–60); neither the Caerleon nor the York fortresses suggest full occupation in the Hadrianic to early Antonine period, though the total areas excavated are quite limited (Boon 1987, 31–2; Ottaway 1993, 52).

There is an additional factor which could have contributed to manpower shortages in the military zones of Britain at this period. A vexillation of at least one British unit, *Cohors II Tungrorum Milliaria equitata*, was evidently away in Noricum from c 128 x 138 to c 140, and then in Raetia from c 140 until 155 x 157 (Nouwen 1997, 462–4), while its (quingenary) rump remained at the fort and port of Cramond on the Forth for at least part of that time (*RIB I* Addenda, 2135; Davies 1989a, 119–20). It may have returned as part of a larger, perhaps mixed, British contingent (including men from all three legions possibly sent from the province in the early 150s), which is thought to have been shipped back to northern Britain from the two Germanies in the governorship of Gn Julius Verus (*RIB I*, 1322 (Newcastle upon Tyne); Speidel 1987, 236–7), though the interpretation of the Newcastle inscription is not universally agreed (Maxfield & Dobson 1995, no 61; cf *RIB I* Addenda, 1322). This may well have occurred in time for the building season of 158 (A Birley 1981, 118–22; Tomlin 1997, 463, n 32), since the unit is recorded building at Birrens outpost fort in 158 (*RIB I*, 2110), but is absent from the Ravenglass diploma of 27 February 158 (Holder 1997), though the omission could merely indicate that the cohort was not discharging veterans then (it might have done so just before its transfer).

#### BRITISH UNITS AND MAURETANIA: POSSIBLE EPIGRAPHIC EVIDENCE

It is impossible to be certain which British units or detachments were sent to Mauretania and which troops from the returning force were posted to the Antonine Wall. However, it seems appropriate to draw attention here to some potentially significant strands of epigraphic evidence and to explore some informed possibilities, even though some elements in the discussion inevitably border on the speculative.

For the study of units in Britain, there are many interpretative ambiguities in the evidence from the military diplomas. The diploma of 146 features an unusually low number of units in comparison with the preceding and succeeding British diplomas, which probably relate to the York command: (AD 124: *RIB II.1*, 2401.6 = *CIL XVI*, 70 (6 *alae*, 21 *cohortes*); AD 126/7: Nolle & Roxan 1997 (7 *alae*, 27 *cohortes*); AD 135: *RIB II.1*, 2401.8 = *CIL XVI*, 82 (4 *alae*, 16 *cohortes*); AD 145/6: *RIB II.1*, 2401.10 = *CIL XVI*, 93 (3 *alae*, 11 *cohortes*); AD 158: Holder 1997 (4 *alae*, 17 *cohortes*); AD 178: *RMD III*, 184 (5 *alae*, 16 *cohortes*). Indeed, Holder has suggested that the garrison of Britain in the reign of Antoninus Pius was 12 *alae* and about 44 *cohortes* strong. This could mean that in the year 146, some auxiliary units had already left for Mauretania, or that other units, depleted by the detachment of vexillations, were not discharging veterans then. Nevertheless, the number of diplomas known from Britain is very small and some are fragmentary. Uncertainties remain as to whether all relate to the same commands; patterns of initial recruitment, too, may have been uneven. Moreover, there are problems with their

reliability. M Roxan (in litt) has pointed out that ‘in the middle of the reign of Pius there was a great deal of carelessness in the preparation of diploma lists’, but ‘a return to neater script and more accurate lists, c 160 x 161, which continued’ (*RMD IV* forthcoming). All these factors inhibit unequivocal conclusions.

*COHORS I FIDA VARDULLORUM MILLIARIA EQUITATA*

At Castlecary, a detachment of the part-mounted *Cohors I Fida Vardullorum milliaria equitata* appears to have constituted the secondary garrison, since the fort was insufficiently large to accommodate a full milliary unit. The unit is recorded on an altar (*RIB I*, 2149), which was set up at a time when it was being commanded by a *praefectus*. This was a rank appropriate to a quingenary unit, since milliary units were normally commanded by a *tribunus*. There is, however, a milliary sign depicted on the inscription: these inconsistencies might indicate that the unit had been split in the recent past, but was about to be reunited. The impending movements or postings of officers are sometimes indicated on their dedications (Birley 1988b), so this Castlecary dedication could perhaps record a proposed change, possibly synchronous with a unit transfer. Alternatively, the unit might have been split by function and part stationed nearby; unfortunately, the unit of the nearby auxiliary fort at Westerwood, to the west of Castlecary, is not attested epigraphically. Birley (1981, 122–3) has proposed that Trebius Verus, the *praefectus* who had dedicated an altar on behalf of the unit, is almost certainly the same man as the commander recorded on a diploma issued to a former soldier of *Cohors I Fida Vardullorum*, probably in 159 (*RIB I*, 2401.12, found at Colchester; Roxan 1980). There, the cohort is indicated as milliary. Following this, Jarrett (1994, 51) has suggested that the Castlecary inscription ought to belong to between 156 and 164. A date within 156 x 158 seems preferable, if the date of 158 proposed by Hodgson (1995, 38–41; see also discussion below) for the start of the withdrawal from the Antonine Wall is now accepted. It is quite likely that the detached part of the unit would have been reunited with its parent cohort when the Wall was abandoned, so the Castlecary inscription may have been set up in c 158, when this unified posting was already in view. This would be compatible with the evidence of the new Ravenglass diploma of 27 February 158 (Holder 1997), where the cohort is apparently indicated as milliary. Birley (1979, 64) has suggested that the reason why this Castlecary altar was dedicated to Neptune in particular (unusual for a unit located a substantial distance from the sea or a major river) was that the cohort was soon to sail further south, possibly at the close of the occupation of the Antonine Wall. If so, its destination was presumably the fort at Lanchester (Longovicium), though some soldiers seem to have been on secondment at Corbridge within the period 161–9 (*RIB I* Addenda, 1128), perhaps while Lanchester was under construction. Lanchester was purpose-built for a full equitate milliary cohort (?significantly) by *Legio XX*, apparently at some time in the early/mid Antonine period (*RIB I*, 1093; Swinbank 1953, 394–5; Casey *et al* 1992, 70–1), and may have been planned specifically for this unit, as *Cohors I Fida Vardullorum* is attested there in 175 (*RIB I*, 1083).

When had the unit been split, or reduced in size? Jarrett (1994, 51) suggested that the detachment from the parent unit at Castlecary may have been that recorded at Milecastle 19 (*RIB I*, 1421). This is improbable, however, in the light of Hartley’s (1972) demonstration that the two Walls ‘cannot have been held concurrently for more than the briefest period’. The milecastle inscription is far more likely to relate to the presence of the unit in the Hadrianic period, since *equites Vardulli* were already in the area in 104–20 (and possibly beyond) at the fort of Vindolanda on the Stanegate (Birley & Birley 1993, 5, 56). The *milliaria* title of the unit is present on the diploma of 135 (*RIB I*, 2401.8), but is lacking on the diploma of December 145/6 (*RIB I*, 2401.10).

Margaret Roxan (*RIB* II, 2401.10, n 3) has noted that although this omission could simply have been carelessness on the part of the scribe — who had also failed to indicate that the cohort had the additional title of *c(ivium) r(omanorum)* and also had omitted the milliary sign for *Cohors I Aelia Dacorum* (also apparently omitted on the Ravenglass diploma of 158; Holder 1997, 10) — it might indicate that the two units had both been reduced to quingenary size (for example, by the removal of a detachment from each to serve outside the province).

### *Sittius and Cohors I Fida Vardullorum*

If part of *Cohors I Fida Vardullorum* (perhaps a detachment of cavalry) had been sent to Mauretania in the mid 140s, this would provide a very appropriate context for the command of Sittius [. . .] from Cirta (Thibilis), in Numidia, a region with large numbers of Sittii (Birley 1979, 67). He died at the age of 50, and his memorial at Cirta, Algeria (*CIL* VIII, 5532; Jarrett 1972, 208–9), records him, as *praefectus* (again, not *tribunus*) of *Cohors I Fida Vardullorum*. Once more, the milliary title of the unit is lacking, but here it seems improbable that this omission would have been accidental, as the inscription is quite fulsome. This was apparently the only military post that Sittius had held before his retirement. Davies (1977, 169–70) suggested that his appointment to a unit in such a far-away province might best be attributed to the patronage of Lollius Urbicus, governor of Britannia from 139 to 142, who was also native to the *ager Cirtensis*. The post of *praefectus*, normally the gift of the governor of a province, was quite often awarded to men prominent in local public life (Birley 1961b, 141–3). Nevertheless, it does seem a little strange that Sittius should have been posted to such a distant and unfamiliar province with no previous military experience. A more fitting explanation might be that he had been appointed as a convenient and relatively local commander for a detachment of *Cohors I Fida Vardullorum*, which had arrived in North Africa as part of the British *exercitus* against the Moors. Unfortunately, whether or not that part of the unit recorded at Castlecary was the same as that which had been in Mauretania is impossible to tell at present; the pottery surviving is insufficient to be informative, though an odd (?hybrid) plain-rimmed dish from that fort with scratching on the underside may have been intended for use over a brazier (Appendix 1).

### NUMERIANUS, *ALA I ASTURUM* AND VICTOR THE MOOR

Numerianus was a cavalryman in *Ala I (Hispanorum) Asturum*, from which a detachment may well have sent from the province to fight in Pius' war. He set up a tombstone at South Shields to his freedman Victor, a Moorish tribesman, who died at the age of 20 (*RIB* I, 1064), well below the official legal minimum age for receiving his freedom. The monument is not datable epigraphically, but seems to have been executed by the same sculptor (probably Palmyrene-trained) as the tombstone of Regina, the Catuvellaunian freedwoman and wife of Barates of Palmyra (*RIB* I, 1065), who was also buried at South Shields. Stylistically, a number of Palmyrene features on both monuments were going out of fashion in the homeland in the middle of the second century, and are unlikely to post-date the 170s. These include, for example, the pose of Victor's extended left leg, Regina's hairstyle, the inclusion of her spindle and distaff, and the form of one of the letters in her Palmyrene inscription (*CSIR* I.1, 247–8; Colledge 1976, 231–3, pl 149 & 150). The *Ala I Asturum* seems to have been continuously in Britain since the late first century, but few details of its movements are known (Jarrett 1994, 39), and a detachment could well have left the province without record. A lead tag from London stamped with its probable abbreviated name (*RIB* I, 2504.23) could have dropped off a parcel in transit to the unit, and does not constitute

evidence for its station. It was evidently at Benwell by late 180 x 181 during the first governorship of Ulpius Marcellus (*RIB* I, 1329; *RMD* III, 184), and may have gone there, like so many Hadrian's Wall units, when Scotland was abandoned and the Wall recommissioned. Stamped tiles of the *ala* from Wallsend (*RIB* I, 2464), of the same die as those at Benwell, presumably relate to building by the unit while it was based at the latter. The *ala* is not known to have been in garrison at South Shields, and it is unclear why Numerianus should have been there. It is tempting to suppose that he had arrived there by sea, en route to the unit's new base when Victor died. This could have been either directly from North Africa, if the unit had not been sent back to Britain immediately on the conclusion of the war, or from an intermediate posting in Scotland or northern England; the *ala* was clearly in Britain in February 158, on the evidence of the Ravenglass diploma (Holder 1997, 12). A fragment of a probable Bar Hill mortarium found at South Shields was presumably carried there by a soldier who had come from Scotland (Dore & Gillam 1979, fig 37, no 82; K Hartley, pers comm). Also from South Shields is an ARS bowl of Hayes Form 9A (Dore & Greene 1976), which, in the light of Hayes' revised chronology (1980, xlviii–xlix), is now most likely to date to the Antonine period. If, as seems quite feasible, Victor had been acquired in Mauretania during Pius' war, as a young captive/slave, he might have already served Numerianus eight to 10 years by the time of his death, which would explain why his master then showed him such affection. Obviously this can be no more than informed speculation, but the chronology and historical background would fit the evidence rather better than some explanations previously advanced (Davies 1976, 366).

#### OFFICERS OF LOWER RANK

Though officers of various rank might be posted from one province to another in the course of their careers, the transfer of men of lower rank, such as centurions, between widely separated provinces, tended to occur much more commonly (though not invariably) in the aftermath of a war or other crisis, when expeditionary forces were despatched from one province to another (Birley 1979, 73). Troop movements in connection with Pius' war might account for the otherwise unexpected presence in Britain of several soldiers and centurions from distant provinces. The splitting of units for the manning of the many Antonine Wall forts too small for full units, as well as for the despatch of detachments to fight overseas, would have required considerable numbers of centurions as acting commanders. It is eminently likely that there was a shortage of suitable qualified men in the province. Rough Castle (*RIB* I, 2144), Cramond (*RIB* I, 2135), Westerwood (see below) and Old Kilpatrick (see below) are all known to have had stop-gap commanders of similar low rank. An unexpected long-distance transfer made by Antoninus Pius to a British unit was that of Honoratus of Thuburnia to the centurionate of *Legio II Augusta* (*ILS* 2655). Birley (1979, 80) suggested that the post might have been the gift of Lollius Urbicus, who was himself from North Africa; but this explanation is less compelling now, since Honoratus could perhaps have been despatched to Britain with troops returning from the Mauretanian war. Another Antonine North African officer in Britain, Q Sittius Caecilianus, *praefectus* of *Cohors I Aquitanorum* at Brough-on-Noe, Derbyshire (*RIB* I, 278), may have reached Britain in similar circumstances. *Cohors I Aquitanorum* was building at Brough-on-Noe under another prefect, in the governorship of Gn Julius Verus (c 157–9), presumably at the time of the evacuation of Scotland (*RIB* I, 283). Caecilianus may have been promoted prefect, or transferred from another British unit shortly after that period. The 38-year old North African, M Julius Quadratus, who died on active service in Britain while a centurion in *Legio II Augusta*, but who had previously been in *Legio III Augusta* in North Africa, may be yet another officer transferred from that region



following the Mauretanian war; unfortunately his memorial cannot be dated precisely (*AE* 1957, 249).

#### NORICANS AND ITALIANS AT CASTLECARY

The presence on the Antonine Wall of Noricans and Italians in *Legio VI Victrix*, recorded on the dedication of a temple at Castlecary (*RIB* I, 2148), is an anomaly that has never been satisfactorily explained. Mann (1963) has suggested that after the reign of Hadrian, Noricans and Italians were likely to be found together only in a single legion in any numbers within the period AD 165–90 (at that time, the Italians would have been amongst those who had enlisted in one of the two legions raised by Marcus in 165, *Legio II Italica*, which subsequently served on the Danube, and which would presumably have been recruiting in that region from provinces such as Noricum). However, Italians were not wholly absent from the legions of the first half of the second century, some having been enlisted by Hadrian (Dobson & Mann 1973, 191–2). Moreover, the date proposed by Mann for their presence in Scotland (mid 170s or later) is after the generally accepted date for the evacuation of the Antonine Wall. Even if the fort at Castlecary had survived later, as a very isolated element in a long-distance policing system (Appendix 1), such patrols were unlikely to have been drawn from the legions; moreover, these soldiers would hardly have involved themselves in the expense of constructing a permanent shrine-building with a statue in such uncertain circumstances.

Two explanations are possible. The Noricans (and perhaps also the Italians) might have been among those men thought to have been sent back from the two Germanies with the British legionary vexillations under Julius Verus in 157 or early 158. Since these expeditionary forces were probably operating in both Germania Superior and Raetia, Noricum and possibly northern Italy would have been obvious sources of recruits (Mann 1983, 29, 35, 129). Davies (1978, 367) has drawn attention to the dedication at Castlecary of an altar in rather indifferent lettering (*RIB* I, 2151), by one C Julius Speratus of *Legio VI Victrix*. He is described as *n(atione) Mat(tiacus)* (ie from Upper Germany), and may have arrived in Britain in generally similar circumstances. An alternative suggestion might be that the Norican and Italian legionaries at Castlecary had been sent to Britain from Mauretania with other troops transferred into the British forces there following Pius' war, and were then drafted into *Legio VI*. Auxiliaries from Noricum and Raetia, quite possibly accompanied by a legionary vexillation, are certainly known to have been involved in that war (Speidel 1975a; Nouwen 1997). Moreover, since Pius clearly took the Moorish threat so seriously, he might well have held a special (unrecorded) *dilectus* of Roman citizens in Italy for the crisis, as did Marcus Aurelius barely 20 years later, when there was a major war on the Danube.

#### FLAVIUS VERECUNDUS AND VIBIA PACATA OF WESTERWOOD

A centurion from the Sixth Legion on the Antonine Wall, who is thought to have seen service in Pannonia Superior at some point in his career, but who may also have been in North Africa long enough to acquire a wife there, is one Flavius Verecundus (Wright 1968; E Birley 1984). His wife was Vibia Pacata and both of her names are well attested in, but not exclusive, to North Africa. She made a dedication at the fort of Westerwood: *Silvanis [et] Quadruiis Ca[e]lestib(us) sacr(um)*. The Silvanae and Quadriviae, goddesses of the crossroads, are well documented in the German and Danubian provinces. These deities may reflect the background of her husband (Birley 1984, 231), but the epithet Caelestis relates them to a cult centred in Carthage (ie *Dea*

*Caelestis*), and is evidenced only rarely outside North Africa (occasionally in the Severan period or later). This is strongly suggestive of an African origin for Vibia Pacata. Flavius Verecundus could have served in North Africa before he came to Britain; he may well have been the stopgap commander of an auxiliary detachment at Westerwood, since his family was evidently resident at the fort.

#### JULIUS CANDIDUS OF OLD KILPATRICK

Julius Candidus, the interim commander recorded at Old Kilpatrick, is of particular interest (Barber 1971; Birley 1983). His altar, which had probably constituted one of the unit's annual official New Year dedications, indicates that, as a centurion of *Legio I Italica*, he was acting on behalf of Publicius Maternus, the probable prefect of the garrison, *Cohors I Baetasiorum*. The inscription was found in the middle fill of the outermost of the fort's four defensive ditches. Keppie (1998, 110) has, therefore, suggested that at the time of its disposal, it evidently did not stand within the fort, but it must have been tipped in from an annexe or civil settlement. This might indicate that *Cohors I Baetasiorum* (the only recorded garrison at Old Kilpatrick) had not been the latest unit on the site, its altar having been moved by a subsequent garrison. Though this cohort was most probably the primary garrison at Bar Hill (see Appendix 1), the use of a stand-in commander led Keppie (1998, 110) to suggest that it might have been split temporarily between the two sites, with the smaller part at Old Kilpatrick.

The employment of a centurion as a *praepositus* of auxiliary troops is well attested. However, the use of a man from the legion of a province as distant as Moesia Inferior, which is not known to have served in Britain or sent detachments there, is anomalous and demands exceptional circumstances. The suggestion by Birley (1983, 76–7) that Maternus had arrived in Britain with the task force of Septimius Severus is not appropriate chronologically, as there are no coins or pottery of that period at Old Kilpatrick. Breeze & Dobson (1970, n48) have argued that Maternus was a British officer about to take up a post in *Legio I Italica*, and that the inscription anticipates his new posting. However, against this, Summerly (1990, 17) has pointed out that when a centurion or equestrian officer is about to be transferred, the relevant inscriptions seem always to record the post which he held before his transfer, as well as that to which he was going. This is not the case with the Old Kilpatrick dedication. An alternative explanation might be that Maternus had been sent from Pius' task force in Mauretania to take charge of one of the detachments being sent back to Britain. Davies (1977, 171; 1981, 209–11) has cited a generally similar situation, in which a centurion was acting as a transit officer helping to supervise the transfer of a unit from one province to another. *Legio I Italica* was stationed at Novae on the Danube (Moesia Inferior) at this period. It had a long recorded history of the frequent detachment of officers and men (Zahariade & Dvorski 1997, 69, n 22), but it is not known whether any were sent to the war in Mauretania. However, auxiliaries were sent from the neighbouring province of Moesia Superior (Southern 1989, 93), and it is not improbable that a centurion from a legion in the adjacent province would have been allocated responsibility for a detachment of this nature and subsequently transferred on. Whether or not it was a port for seagoing cargo ships, Old Kilpatrick seems likely to have been the point where units which had recently disembarked at the west end of the Wall were accommodated. The unusually varied quantity of North African-type vessels found there, and indeed the very mixed nature of the ceramic assemblage in general, would be consistent with this (Appendix 1). If Maternus had been acting as transit officer from Mauretania to Britain, he might well have remained temporarily at this staging-point, as a stopgap commander, until troop dispositions were finalized and the unit

reunited under its designated *praefectus*. This, however, can be no more than an intriguing possibility.

#### CONCLUSIONS FROM THE EPIGRAPHIC AND CERAMIC EVIDENCE

In conclusion, the hints provided by this epigraphic evidence are consistent with the interpretation of the other archaeological evidence; it would be surprising if all of these correspondences were purely coincidental. As discussed, the local production of small ranges of vessels of North African type at Bar Hill, Bearsden and possibly Croy may be seen as indicative of the presence of North African potters and small groups of North African consumers; both are unlikely to have made the journey on their own initiative. The much smaller quantities and more diverse vessel types on other forts on the Wall might well reflect the presence of other individuals or tiny groups with a variety of origins: North African wives and families, slaves, officers, conscripts, regular soldiers recruited from various North African provinces or transferred from North African units, or even British personnel who had served in that region during the war and had adopted African cooking styles.

#### LATER GARRISONS ON THE ANTONINE WALL: EVIDENCE FOR CAVALRY

It has long been suggested that the latter part of the occupation of the Antonine Wall was characterized by a decrease in the number of men in each garrison (Hanson & Maxwell 1983, 171). The demolition of barracks in some forts, or alterations to buildings to provide non-standard accommodation, were both seen as indicators of an overall reduction in the availability of living quarters. This may indeed be so, but rather than a simple reduction of men, it is possible that some of these modifications may also reflect a change in the character of the units in post, and perhaps a greater dependence on mounted or mixed part-mounted detachments. The internal accommodation at Bearsden (above) was associated with a cavalry garrison. Hanson & Maxwell (1983, 157) have argued for a secondary cavalry presence at Balmuiddy based on the structural evidence (Appendix 1), though the indications (five rows of post-holes) are rather too slight to be entirely convincing. At the coastal fort of Inveresk, a stone granary was demolished and replaced by what has been interpreted as a stable (Richmond 1980). At Cadder, pits associated with secondary industrial activity on former Building Site IV and in the possible annexe to the east of the fort, contained objects associated with cavalry (Clarke 1933, 43, 83, pl IXb).

Hyland (1990, 37, 94–7) has stressed the very substantial additional space that would have been required for large numbers of horses. The provision of more open spaces in forts by the demolition of buildings, and the cobbling-over of some building sites (for example at Mumrills, Cadder, Croy Hill, Bearsden (Building 10), and probably at Bar Hill, Duntocher and Old Kilpatrick) would have been particularly appropriate for cavalry, in providing hard-standing for tethering and tacking-up horses. Highly relevant to this proposition is the evidence from recent excavations at Wallsend (Hadrian's Wall), which was purpose-built for a part-mounted quingenary cohort. An unusually wide open area, just south of the central range, lay immediately north of the four barracks, in which the horses and men of four *turmae* were accommodated in the Hadrianic and Antonine periods; this free zone is thought to have been 'intended for the movement and exercise of horses' (Bidwell 1999, 87–8). On the Antonine Wall, a by-product of the construction of secondary annexes (though perhaps not the initial *raison d'être*) would have been the provision of extra room for horses; indeed it may be worth considering whether some of

the apparently random arrangements of post-holes recognized within several forts and annexes could perhaps have been connected with tethering.

As described above, the epigraphic evidence at Castlecary certainly appears to suggest a later increase in cavalry, with the probable first garrison, a detachment of the peditate, *Cohors I Tungrorum milliaria* (RIB I, 2155), having been replaced by a part-mounted unit, a detachment of *Cohors I Fida Vardullorum milliaria equitata* (RIB I, 2149). At Bar Hill, the only other fort with epigraphic evidence for a change of unit, both cohorts were peditate (Appendix 1). The *Ala I Tungrorum quingenaria* now seems likely to have been at Mumrills throughout (RIB I, 2140), since the tombstone found nearby of a trooper from another unit, *Cohors II Thracum* (RIB I, 2155), now seems unlikely to be Antonine (Appendix 1).

One possible explanation for the presence of some less standard accommodation might be that very small groups of cavalry, perhaps including some North Africans, such as Moorish irregulars or allies, may have been scattered in forts in the western sector of the wall (this would accord with the very small numbers of North African-style vessels in some forts). Moorish tribesmen traditionally fought on horseback, using light javelins, which they could reputedly hurl as far as Parthian archers could shoot their arrows (Lucanus, *Belli Civilis* IV, 679–83). Their skills in warfare had long been celebrated and imitated by the Romans (Speidel 1993; Cassius Dio, *Epitome* lxxviii, 32.4–5) and they had been used regularly as allies for over a century (Tacitus, *Historia* II, 58–9; Cassius Dio, *Roman Hist.* lxxviii, 32.4–5; for a contemporary depiction of Moorish cavalry on Trajan's column, see Lepper & Frere 1988, 269, pl XLIV, cast 157–8). Indeed, the ratio of horse to foot in the garrisons of Mauretania grew markedly in the course of time (Salama 1977). Moorish prowess in the cut-and-run tactics of ambush and guerrilla warfare (Caesar, *Bello Africano*, 6–7; Herodian VI, 7.8) would have been particularly appropriate in the hilly terrain of central Scotland. It is, therefore, highly relevant that the auxiliary detachments known to have been despatched to Pius' Mauretanian war from Pannonia Superior and Inferior, Noricum and Raetia, almost all seem to have been drawn from *alae* or *cohortes equitatae* (Speidel, 1977, 131; Nouwen 1997). M Roxan (pers comm) has suggested that any British auxiliary reinforcements would probably have comprised mostly troopers from such units. It is clear from Arrian (*Ectaxis* 1–2, 4, 8–9, 20–2, 27–31; Davies 1989, 142–3), who was writing in about AD 135–7, that the *equites cohortales* generally fought alongside the *alae*, both flanking the legions in battle-formation. J Casey (pers comm) has suggested that it is even possible that the British legionary contingent to Mauretania could have been primarily cavalry, drawn from the 120 mounted men in each legion, perhaps presaging the future development of specialist fighting components, such as the *equites promoti* (cf Casey 1991, 10–11); this, however, can be no more than speculation. Whatever the precise details, at least some of the North Africans transferred to Britain could well have been skilled horsemen. If levies, they would probably have been brigaded in small numbers with the regular troops for the purposes of training. In this context, it is perhaps significant that the only establishment in the eastern part of the Wall to have produced ceramic evidence of a North African presence is the cavalry fort of Mumrills; moreover, one of the relevant pots apparently originated from the same production source as several found at Bar Hill and Old Kilpatrick.

The challenges experienced by Rome itself in the Mauretanian war would, no doubt, have re-emphasized the strategic value of cavalry in mixed terrain. In the light of this, the old Hadrianic-style strategic blueprint for the manning of the Antonine frontier may have seemed rather dated by the early 150s. Mobile patrols of small mounted detachments could well have appeared a more effective technique of control, though the retention of some infantry units would still have been necessary. The mile-fortlets would have been rather small for groups of cavalry,

and unnecessarily close to one another for a more mobile force; their abandonment or semi-occupation would be quite explicable in this context. Similar logistics may account for the apparent disuse of a number of fortlets in south-west Scotland and the reduction of others beyond and behind the Wall (Hanson & Maxwell 1983, 148–9).

## THE ANTONINE WALL AND THE MILITARY NORTH-WEST

Is the Antonine Wall the only part of Britain where a North African presence can be deduced at this period? Or can comparable evidence be cited from Antonine military sites elsewhere? Whether the presence of at least one North African potter at the works depot of *Legio XX* at Holt, and the evidence from Chester (discussed below) should be associated with the return of troops direct from North Africa, or with the southward transfer of men when the Antonine Wall was abandoned, cannot be always distinguished at present. Moreover, there is the additional possible complication of a North African presence at Chester (and elsewhere) in the Severan period (Swan 1992). Where undated, the evidence outlined below should be viewed with these caveats.

### CHESTER

The total amount of Roman pottery published from the fortress at Chester is surprisingly limited, and little has been included in the few excavation reports or summaries issued in the past two decades. Nevertheless, in a preliminary publication on the Abbey Green excavations, just inside the northern defences in the *retentura* of the fortress, a small number of vessels of North African origin, or African affinities (but not in Holt fabrics), were discussed or illustrated (Bulmer 1980, 27–8, fig 5, no 7, and fig 7, nos 1 & 2). These included sherds of a second-century hemispherical bowl (Hayes Form 9) and other vessels in polished orange fabrics (either ARS or close copies, and probably imports), several sandy-red or orange cooking-platters with under-rilling (illus 6, no 76), and a small lid-seated casserole, whose distinctive profile and fabric almost certainly originated in the Bar Hill kiln (illus 6, no 74). This last could represent troops who had been transferred from Bar Hill to the Chester fortress; the other vessels may have arrived by similar mechanisms. The Abbey Green site seems to have been without standing buildings at this period, until the reconstruction of the barracks in stone early in the third century (Strickland forthcoming), but rubbish was evidently being deposited on the site in the Antonine period by those living in adjacent parts of the fortress. Less than 150 m to the west, however, on the Northgate Brewery site (excavated 1972–5), the barracks had apparently been rebuilt in the 160s or soon after, following a period of dereliction (Ward & Strickland 1978, 19–23). Two rare stamped *tegulae* from the site, with a consular date of 167 (*RIB* II.4, 2463.59), may confirm the approximate date of the roofing (and perhaps the completion) of the barrack accommodation, presumably for centuries returning to base at this period (Swan & Philpott forthcoming). These may have been the soldiers who were dumping their discarded African-type cooking-vessels and other rubbish on the conveniently derelict Abbey Green site; though men in other (unexcavated) barracks adjacent could have been responsible. No intensive search of the very large unprocessed and unpublished excavation assemblages has been carried out, and more African-type vessels probably await recognition. There are sherds of ARS and allied wares (of unspecified date) from several other sites within the Chester fortress (G Dunn & A Jones, pers comm), and a sandy orange cooking-dish (illus 6, no 75), very similar in form to examples from Old Kilpatrick and Croy Hill, was recorded just outside the west defences. Without petrological analysis, the production sources remain uncertain. It is worth emphasizing, nevertheless, that none of the

known cooking-vessels from Chester matches the African-type pottery made at York by *Legio VI* in the Severan period; all must originate elsewhere.

In the fortress baths at Chester, a mosaic in a room south of the basilica had a line of five triangles, and a bottle-shaped figure topped by a circle with four irregular spokes; these are thought to be possible symbols of the Punic goddess Tanit (Raine 1973, 42). As P Bidwell (pers comm) has pointed out to me, this is the sort of place which might have served as a club room for special groups of people, and the symbol of Tanit would be consistent with an African group within the legion. Though the baths were built in about 79, the room and/or its floor seem likely to be secondary and could be Antonine or Severan (Bidwell 1982). The latter is thought to be the period when the baths were reroofed using ceramic vaulting tubes (*tubi fittili*). This distinctive architectural technique is particularly common in North Africa and Sicily, and occasionally found in other provinces of the empire. Its use in the baths of the legionary fortresses of York, Caerleon, and Chester has been associated with the presence in the legions of one (or more) *architectus*, perhaps of North African origin, in the Severan period (Swan 1992, 5–6; Mason 1990, 222); an earlier date may now be open to consideration.

#### CARLISLE

At Carlisle, a casserole recovered from a sewer trench in Fisher Street in the early 1990s, and shown to me by Louise Hird (formerly of Carlisle Archaeological Unit), is in a ware quite similar to the Bar Hill kiln products. This may furnish another possible link with North African troops on the Antonine Wall. Moreover, there is now the prospect that some of the other casseroles, cooking-dishes and lids of North African type found in Carlisle, and hitherto thought to be Severan, may prove to be of Antonine date and perhaps of local manufacture. More published stratified assemblages are needed to resolve chronological uncertainties, and a planned programme of petrological work would help determine the sources of the various fabrics. Carlisle has also produced evidence of *tubi fittili*. On the Annetwell Street site, one fragment apparently came from a context with a *terminus post quem* of c 165 x 170 (Period 6B), while others were scattered around in deposits of third-century date. Many more were found nearby in 1989, in the excavations at Tullie House, concentrated at the east end of the building (both sites: I Caruana in litt). The presence in Carlisle of legionary vexillations from *Legio XX*, in the early third, and probably also the second century, now seems to be attested with reasonable certainty (Tomlin & Annis 1989; I Caruana in litt; note also the undated lead sealing *RIB II*, 2411.80). The dated epigraphic evidence for *Legio XX* is Severan or Caracallan, but if, as seems likely, Carlisle's role towards the western end of Hadrian's Wall was comparable with that of Corbridge towards the eastern end, it may be reasonably assumed from this, and from *RIB II*, 2034, that legionary vexillations were probably present in the latter part of the second century, most likely following the evacuation of the Antonine Wall. The latter might have included men sent back from North Africa with, or under, the aegis of that legion. Alternatively, North Africans may have been posted to Carlisle from the Antonine Wall with auxiliary detachments.

#### BOWNESS-ON-SOLWAY

Another casserole of North African type probably made on the Antonine Wall comes from Bowness-on-Solway, towards the western end of Hadrian's Wall (illus 6, no 77). This vessel cannot now be found, but the fabric description and very distinctive profile published by Gillam (1960, fig 2, no 12) strongly suggest that this, too, is a Bar Hill product. This and the probable

Bar Hill mortarium (already mentioned) from a mid Antonine context at South Shields (Dore & Gillam 1979, fig 37, no 82; K Hartley, pers comm) may both represent the movements of individual soldiers who had been on the Antonine Wall, although they could also be indicative of the transfer of larger military contingents (for comparable ceramic evidence of Flavian troop-movements, cf Swan & Bidwell 1998).

#### BURGH-BY-SANDS

One additional piece of evidence could perhaps relate to this ‘post-evacuation’ period. At the fort of Burgh-by-Sands (Aballava) on the western end of Hadrian’s Wall, an inscription (*RIB* I, 2042) set up within the period AD 253 x 258 records the garrison as the *Numerus Maurorum Aureliatorum Valerianus Gallienusque*. John Mann (in litt) has pointed out that Marcus Aurelius raised a number of units to which he attached his family (and therefore its permanent) name, and suggested that the *Numerus Maurorum* was most probably one of these. However, another possibility is that, in settling the province on the abandonment of Scotland, Marcus Aurelius gathered together existing Moorish tribesmen (originally levied at the close of Pius’ war but hitherto scattered amongst other units for training), and formed them into a formally constituted *numerus*, which he posted to Aballava. Alternatively, a transfer of Moors to Britain could have taken place under Pius quite separately from the return of any Mauretanian *expeditio*, on a similar basis to the later transfer of Sarmatian tribesmen to the province by Marcus Aurelius, at least some of which were then formed into one or more cavalry units (*RIB* I, 583; *RIB* II.4, 2479). Whatever the details, such a transfer was a presage of later military trends, for by the early third century, if not before, Moorish units in general had emerged ‘as crack troops in the expeditionary armies of the emperors’ (Speidel 1975a, 212).

#### SUGGESTED HISTORY OF ANTONINE FRONTIER: SUMMARY

This broad excursus over the stratigraphic, historical, epigraphic and especially ceramic evidence offers a refined history of the Antonine Wall. The sequence and its underlying evidence are summarized here and in Table 2 (below).

Between 142 x 143 and c 145 x 147, the building and garrisoning of the Antonine Wall proceeded in the now-accepted ‘primary’ and ‘secondary’ sequence proposed by Gillam (1976) and amplified by others (Keppie 1982; Hanson & Maxwell 1983). In c 145 x 147 when the construction of the curtain wall was still in progress immediately west of Castlehill, and the buildings of the ‘secondary’ forts at Bearsden and Duntocher were incomplete, troops were suddenly withdrawn to participate in Pius’ war against the Moors. This British expeditionary force, possibly led by the former *primus pilus* of *Legio XX VV*, would most likely have included a vexillation of that legion, and mounted detachments of auxiliary units; some may have been drawn from forts in Wales and the Pennines, as well as from the Antonine frontier in Scotland. From 145 x 147 until about 149 x 150, the Antonine Wall forts continued to be held with caretaker or reduced garrisons, some perhaps the rumps of detachments away at the war. At the same time, there was a reallocation of the work on the residue of the final original western sector of the mural barrier, the task now being shared between vexillations from all three legions.

On the return, or on the impending return of the Mauretanian task force, in 149 x 150 (or perhaps even staggered over several years), the ‘annexe decision’ was taken. The incomplete forts of Bearsden, and probably Duntocher, were partitioned to provide an annexe and small fort, and the layout of their internal buildings was replanned, and in some cases rebuilt. A programme was

begun to attach secondary annexes to many of the other forts, but its execution may ultimately have been protracted. At that time, at least two of the Antonine Wall forts (Castlecary and Bar Hill) were assigned new units. In some forts (including Bearsden, Bar Hill and perhaps Croy Hill), where they made significant numbers of North African-style pots, the composition of the garrisons may have been supplemented by the addition of various North Africans brought back from the war, perhaps including transfers from regular African units or irregulars (though never a majority element in those forts). At other forts, very small quantities of vessels with North African affinities were manufactured alongside more normal products to cater for the presence of very small groups of Africans, perhaps levies dispersed among the various units, or other individuals native to the Maghreb or recently in that region. The evidence is strongest in the western forts of the mural barrier, which might reflect a link with the putative command area of the Twentieth Legion. There may also now have been a stronger cavalry presence on the Wall than hitherto.

At Holt (North Wales), the Twentieth Legion's works-depot, at least one North African potter was active, presumably part of a vexillation sent back from Mauretania in 149 x 150; other North Africans may have been present in the Chester fortress now or subsequently.

#### END OF THE ANTONINE OCCUPATION OF SCOTLAND

Troop reductions for Pius' Moorish war may well have been followed by further transfers from Britain of legionary (and perhaps auxiliary) detachments for service in Germania Superior and Raetia, a region facing the threat of incursions by tribes from beyond the frontier (Speidel 1987, 236–7). In the long-term, this sequence of manpower cuts may have contributed to a general state of insecurity in Britain, especially in the frontier zone and its hinterland. This seems to have culminated in a military 'event' in the province, perhaps a major confrontation or a victory by the army in a war. (The supposed 'Brigantian' revolt is no longer acceptable as the cause of problems in Britain at this period, nor can the deposition of coin hoards in the Pennine region in the 170s and 180s be taken as evidence for disturbance in that region in the mid 150s (Casey & Wenham 1990, 10–11, *contra* Robertson 1974, 31, fig 4).) Casey (1987) has shown how coins minted in Alexandria with the figure of Victoria (Nike) as the reverse type can be seen to reflect empire-wide events. The issue of one of these in 154/5 coincides with the issue in Britain of a large number of coins depicting *Britannia*. These circulated mainly on military sites within the province, and may reasonably be interpreted as a donative paid to the troops at the close of a war or campaign (Casey 1986, 39–40). The appointment in c 157 of a new governor, Gn Julius Verus, most probably resulted in an immediate and far-reaching reconsideration of troop dispositions in northern Britain, with a view to effecting a practical long-lasting solution, compatible with the ever more frequent demands of emergencies in other parts of the empire, particularly the unsettled Danube provinces. Evidently the decision was taken to abandon the strategically outdated system of holding Scotland in force, which was overstretching the military capacity of the province. British legionary and auxiliary detachments, probably operating in Germania Superior and Raetia, may now have been brought back to the northern part of the province in 157 or early 158 (to Newcastle; *RIB* I, 1322), possibly with other reinforcements. These could also have included a detachment of *Cohors II Tungrorum*, already in Raetia (Nouwen 1997, 462–4) and subsequently recorded building at Birrens outpost fort in 158 (*RIB* I, 2110). There may well have been other unrecorded transfers of auxiliary detachments from Upper Germany. Roy Davies (1978, 364–5) suggested that a special *dilectus* from Raetia also arrived in Britain with the returning auxiliaries. The legionaries, in particular, were needed for building and other renovations in preparation for



TABLE 2

Summary of the suggested historical sequence of the Antonine Wall

AD 142 x 143–145 x 147

Start of building of mural barrier, mile-fortlets and six primary forts  
Secondary forts completed (except Bearsden and Duntocher)

AD 145 x 147

Defences of Bearsden and Duntocher completed and work on internal buildings in progress  
Building interrupted for transfer of detachments to Mauretanian war

AD 145 x 147–149 x 150

Reallocation of building tasks on west end of the Wall, and completion of barrier (in feet) by all three legions  
Some forts now held with reduced and/or caretaker garrisons, possibly including some legionaries; now or later, some mile-fortlets are abandoned or manned as gateways

AD 149 x 150 +

Preparations made for return of troops from Mauretania and decision taken to build annexes at most forts  
Bearsden and Duntocher fort enclosures are partitioned to make annexes, and the layout of the unfinished internal buildings is revised and completed  
Troops return from Mauretania with small numbers of North Africans; new units posted to Bar Hill and Castlecary; adjustments made to the composition of the garrisons at other forts (perhaps with detachments from more than one unit, and including small groups of cavalry)  
Pottery production takes place at a number of forts (including vessels with North African affinities in the western sector of the Wall)  
Internal buildings altered/demolished and cobbling laid at several forts (for cavalry?)  
Mile-fortlets abandoned now (if not before), or altered and downgraded to a gateway function  
Programme of annexe-building set in train at many other forts ('primary' and 'secondary'), though full implementation may have been protracted

AD 157

Decision taken to abandon the Antonine Wall and associated forts in Scotland

*Early* AD 158

Legionary and auxiliary detachments return from Germany direct to northern Britain in time for the building season

*Summer of* AD 158 onwards

Refurbishment begins on Hadrian's Wall, Birrens outpost fort and Brough-on-Noe Pennine fort; similar renovations probably set in train on other military installations  
Gradual run-down and dismantling of forts on the Antonine Wall, pending completion of accommodation further south

AD 164–167/8

Demolition of Old Kilpatrick fort completes the dismantling of the Antonine Wall  
Scotland now evacuated except for Birrens, Cappuck, Newstead and possibly Cramond  
Return of detachment(s) from the Antonine Wall to Chester fortress

a modified reoccupation of Hadrian's Wall (Hodgson 1995, 40–1) and some of the Pennine hinterland forts, and to provide appropriate accommodation for the new mobile mounted units (or groups of units) engaged in holding southern Scotland by means of long-distance patrolling from outpost forts such as Birrens. Within a couple of decades or so, even some of the more distant of these inland patrol-forts (eg Birrens, Cappuck, and possibly Castlecary) had fallen into disuse.

The withdrawal from Antonine Scotland was inevitably gradual. Evidence from a number of the Antonine Wall forts indicates that the demolition of some buildings was very thorough and careful; when the Balmuildy bath-house was dismantled it was carefully covered with a layer of clay (Miller 1922, 54–5). Moreover, the progress of the widespread and substantial refurbishment programme further south (a prerequisite of evacuation), which was taking place in a climate of recent trouble and unsettled conditions, may have been quite protracted, probably lasting well into the 160s. A change in military dispositions as drastic as this would have been particularly

difficult to effect at a time of internal unrest. The choice of Sex Calpurnius Agricola to the governorship of Britain in c 162 (Birley 1981, 127–8) may have been conditioned by the need for an experienced military man, who would regain full control of the province and finally settle the situation. His tasks would have included the completion of the evacuation of Scotland and the refurbishment of Hadrian's Wall, and the co-ordination of the repair and re-establishment of troop dispositions in the Pennine forts and on strategic routes. The latest coin from an excavation on an Antonine Wall fort, a denarius of Lucilla dating from 164+, found 'in the granary' of the supply-base of Old Kilpatrick, the westernmost fort on the Wall (Miller 1928, 34), could well date (or provide a *terminus post quem* for) the activities of the final demolition parties on that frontier. The movements of the withdrawing North African troops may be tentatively traced from the presence of North African-type pottery (probably made on the Antonine Wall), at Bowness-on-Solway, Carlisle and Chester, where new barracks seem to have been roofed for returning troops in about 167. This distribution tends to support a link with *Legio XX* and its possible zone of command. (It is uncertain whether formally defined areas of legionary command existed in the first and second centuries, but the grouping of units in diplomas, and Tomlin's (1996, 461) suggested reading of one of the Vindolanda documents, strongly hint that such an arrangement may already have existed by the Trajanic period.)

In the light of the Antonine Wall evidence, it may now be timely to undertake a reconsideration of the chronology, structural history and ceramic assemblages of other forts in Wales, the Pennines and the Northern frontier.

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### *Illustrations*

Illus 1–6 are by the author and illus 7–11 are by Graham Hodgson (Arbeia Roman Fort, South Shields). Unless otherwise stated, the pottery drawings are based on published illustrations, but often changed to a standard 1:4 scale, and (in the case of the British material), sometimes revised from the author's personal examination of the sherds. The sources are as follows: nos 1 & 2, Mumrills, after Macdonald & Curle 1929; no 3, Westerwood, after Webster 1994; nos 4–6, Croy Hill, after L Hird (unpub GU); nos 8–10, 17, 93, 94, Bar Hill after Keppie 1985; nos 11 & 12, Bar Hill, after Hartley 1975a; nos 13–16, Bar Hill, after Robertson *et al* 1975; nos 18 & 19, Bar Hill, author; nos 20, 22, 23, Balmuildy, after Miller 1922; no 21, Balmuildy, author; nos 31–46, 78, 79, 104, 105, Bearsden, after L Hird & D Gallagher (Historic Scotland unpub); no 47, Cadder, author; nos 48, 49, 52, Duntocher, after Robertson 1957; no 50 Duntocher, author; nos 51, 53, Duntocher, HM archive (unpub); nos 55–62, Old Kilpatrick, after Miller 1928; nos 54, 63–5, Old Kilpatrick, author; no 66, Holt, after G Boon in RIB ii; nos 67, 69–73, Holt, after Grimes 1930; no 68, Holt, after G Bevan (unpub, Chester Archaeol); nos 74, 76, Chester, after Bulmer 1980; no 75, Chester, after Chester Archaeol (unpub); no 77, Bowness-on-Solway, after Gillam 1960; no 80, Carthage, after Holst *et al* 1991; nos 81, 83, Sabratha, after Dore 1989; nos 82, 84, Sabratha, after Kenrick; nos 85, 88, 91, Lepcis Magna, after Sartorio 1970; nos 86, 92, 96, 102, 103, Simitthus, after Vegas; nos 87, 90, 95, 97, 99, 100, African Red Slip ware, after Hayes 1972; no 89, Leptiminus, after Dore 1992; no 98, Tipasa (Western Cemetery), after Lancel 1967; nos 101, 111, 112, Tipasa (Maison des Fresques Cemetery), after Baradez 1961; nos 106 & 107, Tipasa (Nador Castellum), after Anselmino *et al* 1989; nos 108–110, Uzita, after Van de Werff 1982; no 113, Sitifis cemetery, after Guéry 1985.

## APPENDIX 1

### POTTERY PRODUCTION AND OTHER EVIDENCE

The information presented here is restricted to that which can amplify the main themes of the paper: evidence for local pottery production on the Antonine Wall, possible indications of North

African personnel or of similar connections, hints of the presence of cavalry in the later history of the Wall. Epigraphic, structural and other artefactual information is mentioned only when it seems to be relevant to these themes. The structural sequences within the forts and fortlets have recently been rehearsed in other papers (Hodgson 1995, 46–9; Bailey 1994). Roman pottery in North Africa and its implications for the British material are discussed in Appendix 2.

The forts of the Antonine Wall are discussed in sequence from east to west, and the accompanying dates are those of the principal excavations. Very little modern work has been carried out on the pottery. In the present study, the material examined in the National Museum of Scotland, the Hunterian Museum, Glasgow, and Falkirk Museum included all the pottery (published and unpublished) from the Antonine Wall, and almost all unpublished Antonine assemblages from Scotland as a whole. The very large mixed Flavian and Antonine Collection from Newstead, a non-standard site with unusual strategic relationships, where mortarium production was already known (Hartley 1976), was excluded, partly due to its size. The survival of documentation from the excavations in the early 1900s suggests that a dedicated project could result in the reconstruction of some elements of the Newstead assemblages, and plans are currently in progress for the author to prepare a catalogue of this material for the National Museum of Scotland.

As the writer's work on the present project was self-financed and time was finite, the ceramic information presented here is necessarily summary and generally geared to the main themes of the paper. However, other vessels of unusual interest have sometimes also been noted or illustrated. The mortaria and 'coarse wares' from each site were weighed separately in bulk to establish a quantified background against which the relative amount of North African-type vessels could be viewed, and also to give some indication of how reliable the recognition of local production of any types was likely to be (several assemblages proved too small for certainty). Samian ware (already studied) and amphorae (Fitzpatrick 1992) were deliberately excluded from the quantification — the latter because these had had a packaging rather than a culinary function, and their sources, seemingly relatively normal, were presumably a reflection of their contents.

Limitations of time precluded the quantification of individual fabrics. The local, or probably local products, in fact, tended to be more easily recognized from the repetitive occurrence of their distinctive forms, rather than from their relatively undistinguished, and sometimes randomly variable fabrics, though both were taken into consideration. Since they were not on the whole commercially 'traded' wares, but were mostly made by the military (or under direct military supervision) for its own use, there was considerable diversity in the colour, treatment and texture of their fabrics. When viewed in context, the fabric variations did not seem to be of great significance, since the vessels of identical form often occurred in a range of slightly different fabrics. Many of these differences seemed to have been the result of less particular selection in the digging of the raw clays and a less standardized approach in their processing and preparation for potting. There was, for instance, much less correlation between fabrics (coarse or fine) and forms (cooking or tablewares) than is usual with the 'traded' products of (wholly civilian) commercial workshops. This marked lack of fabric standardization, common in pottery produced on many military sites in both the first and second centuries, has long been known to ceramic researchers in northern Britain, though it has rarely been discussed in print.

As far as possible, the quantification presented here conforms to a uniform standard (weight), but circumstances sometimes prevented this or made it superfluous (eg when the quantification of an assemblage by another method had already been published, when pot-processing by others was in progress, or such work was awaiting publication and the material inaccessible). Though the ceramic assemblages from the mile-fortlets were also examined by the

author, these have not been discussed here because of their very small size. No African-type vessels were recorded in them. Nor were such vessels recorded in the Antonine forts and ports immediately adjacent to the Wall, such as Bishopstone and Inveresk (also omitted); as mentioned above, the local Cramond ware seems to fall within the Commodan to Severan period.

Though considerable quantities of samian ware from older excavations on the Antonine Wall often survived *in toto*, the ‘coarse’ (utilitarian) pottery, except sometimes for stamped mortaria, had generally been less fortunate. In many instances, it was obvious that only rim sherds, bases and decorated body-sherds (or even less) had been retained by excavators or museums (Appendix 1). Particularly unfortunate was the lack of material from Sir George Macdonald’s many excavations, undertaken at a time when his more far-sighted contemporary, Stuart Miller, was saving and publishing substantial excavated assemblages. That so much survived from Mumrills was probably due to the efforts of Macdonald’s collaborator, Alexander Curle (see below). (The different levels of selectivity or survival of pottery are indicated under each entry, below.)

The repositories of the pottery mentioned in Appendices 1 and 2 are abbreviated as follows:

UG = University of Glasgow

GM = Grosvenor Museum, Chester

HS = Historic Scotland, Edinburgh

NMW = National Museum of Wales, Cardiff

FM = Falkirk Museum

HM = Hunterian Museum, Glasgow

NMS = National Museum of Scotland, Edinburgh

### *Carriden fort*

**Excavated:** 1946 (St Joseph 1949, 167–70); 1994 (Bailey 1997)

**Ceramic evidence:** 1994 excavations, full assemblage surviving, FM; small-scale excavation only on the southern fringe of the annexe. Total sherd numbers: 30 (including four mortaria, but excluding samian and amphorae).

The pottery is too small in quantity for firm conclusions, since the proportionately high amount of associated samian (16 sherds) was thought perhaps to have derived from a high-status building (Webster 1997). Nevertheless, the small amount of BB1 and BB2 (three and five sherds respectively) in relation to the oxidized and reduced wares (eight and nine sherds respectively) could be significant, since many of the latter may well be of relatively local origin; one mortarium sherd had probably originated in a Newstead workshop. If this assemblage is representative, its greater emphasis on relatively local products would be in keeping with what might be expected from a probable secondary annexe.

**African-type vessels:** none.

### *Inveravon fort*

**Excavated:** 1991 (Dunwell & Ralston 1995)

**Ceramic evidence:** full assemblage surviving, FM. Sherd count: ‘c 1700 sherds and c 300 fragments’ (including mortaria, amphorae and samian).

The very restricted nature of the excavation (in advance of a pipeline), the relatively small size of the assemblages and their poor preservation argue caution over the published conclusions. Moreover, there is currently disagreement as to whether the excavated area at Inveravon related to the interior of the fort, as the excavator believed, or whether it lay within the annexe (Bailey 1994, 304; W Hanson, pers comm).

The pottery from Phases 2 and 3, the main layers of occupation associated with the fort (or its annexe) showed that the patterns of ceramic supply had differed from one phase to another. The material associated with Phase 2 was particularly homogeneous, limited in range and orthodox in character, comprising mainly BB1 and grey wares. The pottery of Phase 3 exhibited a much greater variety of forms and fabrics, and included not only imports from standard sources in Britain and the Continent, but also a number of orange wares thought to be local (Thomas 1995), either to the site or to sources elsewhere on the Antonine Wall (possibly including Inveresk ware: cf Swan 1988; Tomber 1988).

**African-type vessels:** none.

### *Mumrills fort*

**Excavated:** 1923–8 (Macdonald & Curle 1929); 1958–60 (Steer 1961; Gillam 1961); 1995 (Burnham *et al* 1996, 398–9; 1997, 408; G Bailey, pers comm). Additional information on the pottery from the 1923–8 excavations can be found in Alexander Curle's two manuscript notebooks (Curle MS I & II in NMS), which contain sketch-profiles of many of the vessels (apparently made at the time of their discovery), often giving their precise provenance. Only general locations (by field number) were included in Macdonald & Curle's (1929) published report, and there are sometimes discrepancies between these and the (probably more reliable) details contained in the Curle MS. His valuable and little-known compilation deserves fuller examination for the additional light it could shed on this site and its assemblages.

**Ceramic evidence:** 1923–8 excavations: selective assemblage surviving (mostly rim sherds and decorated sherds), NMS, mainly from the interior of the fort. Total weight: 65,470 g (mortaria: 28,491 g; other coarse wares, excluding amphorae: 36,979 g). 1958–60 excavations: selective assemblage surviving (mostly rim sherds and decorated sherds), NMS, from dump in the west ditch. Total weight 17,241 g (mortaria 2226 g; other coarse wares 15,015 g).

There is some contamination of the Antonine assemblages by late first-century pottery from a probable fort to the west (see below). This earlier material is not always easy to separate out with any certainty, because substantial, securely stratified, first-century deposits have yet to be excavated, and because, as already noted, Antonine pottery on the Wall is often idiosyncratic for its period and sometimes resembles earlier material (see below).

Among the material from the 1923–8 excavations, Hartley (1976, 86–7) has discussed two distinct types of mortaria in pale-coloured clays, likely to have been made at or close to Mumrills in the Antonine period; of these, her (probably later) Group D is unparalleled elsewhere. Several white ware flagons may emanate from the same source (Macdonald & Curle 1929, fig 100, no 4, and unpub). Grey ware cooking-jars, necked bowls, and other vessels, perhaps with affinities in North Gaul, could be local products, but their dating is not absolutely secure. The deliberate backfilling of the outermost ditch on the west side of the fort, excavated in 1958–60, has already been discussed.

**African-type vessels:** a lid-seated casserole and a cooking-dish (Macdonald & Curle 1929, fig 99, nos 7 & 8), both probably local to the Antonine Wall in general, came from the 1923–8 excavations; they were unabraded. The former (illus 2, no 1) occurred in a large pit '5 ft 6 ins deep on the south of the west end of the bath building' attached to the praetorium (Curle MS I, 6, entry dated 26.1.24). As this area had originally been covered with an east/west road, the pit is likely to be a secondary feature, perhaps even relating to a demolition phase. The latter vessel (illus 2, no 2), recorded as in 'several pieces', but with only one now surviving, was found in the 'North pit among the postholes in the *retentura*', ie south of the east granary (Curle MS II, 59, entry dated X.7.27). This feature lay hard against, or overlapped with, the edge of a north/south road, and is likely to be secondary, and perhaps also a demolition pit. A fragment of a white costrel from the same excavations came from a probable secondary context ('level B') in the extreme western

ditch of the fort (Macdonald & Curle 1929, fig 105, no 8). An 'oven', found in the early excavations to the west of the west granary, could possibly have been a pottery kiln, though proof is impossible (Macdonald & Curle 1929, 499–500, fig 75). Its size and shape are appropriate, and, perhaps more significantly, it was lined internally with broken tiles and pottery and then over-plastered with clay. A Roman rectangular kiln for tiles (and also possibly for pottery) was found to the east of the fort, but is not precisely dated (Macdonald 1915, 123–8).

**Cavalry-related evidence:** the cavalry unit, *Ala I Tungrorum quingenaria*, the only Antonine garrison recorded, is attested on an altar (*RIB* I, 2140), which stylistically resembles other primary building inscriptions on the Wall. The fort was too small for a full milliary cohort, so part must have been stationed elsewhere. Nouwen's suggestion (1997, 462) that a detachment of *Cohors I Tungrorum* was at Housesteads from 140 cannot be accepted, since Hadrian's Wall was not occupied at this period, but it may have continued in the fort of Vindolanda on the Stanegate (Bidwell 1985, 3). The recent confirmation of late first-century occupation at Mumrills, from samian and other material excavated in the annexe of the Antonine fort (coarse pottery examined courtesy of G Bailey), now provides an appropriate context for the tombstone of a Brigantian serving in *Cohors II Thracum* (*RIB* I, 2142), which was found nearby. Long thought by most to refer to an Antonine unit, Birley (1988a, 300) had independently dated this to pre-100 (from the *Dis M* formula).

Pits dug in the vicinity of barracks could suggest that the probable primary timber buildings had subsequently been demolished and replaced by open spaces, though the pits may relate to a demolition phase.

#### *Falkirk fort*

**Excavated:** 1991 (*Britannia*, 23 (1992), 262).

**Ceramic evidence:** full assemblage surviving, FM (post-excitation work currently in progress). The total amount of Roman pottery is very small and there is much post-Roman contamination.

Excavation showed that the fort ditch, which may have been infilled when an annexe was added, contained some locally made grey imitations of Black-burnished ware jars with hand-burnished facets (pottery kindly shown to the author by the excavator, G Bailey).

#### *Camelon fort*

**Excavated:** 1899–1900 (Christison & Buchanan 1901); 1975–81 (Maxfield 1979; A King, Ceramic Archive Report in Dept Archaeol, Exeter Univ; Swan & King forthcoming).

**Ceramic evidence:** 1899–1900 excavations: relatively little pottery surviving, NMS (not examined). 1975–81 excavations: full assemblage surviving, FM. Total weight: 211,186 g (mixed Flavian and Antonine pottery, excluding mortaria and amphorae).

The very great variety of Antonine vessels, with a strong emphasis on imports from the Thames estuary, particularly BB2, would be compatible with the suggested role of Camelon as a port. The pottery in general suggests possible local production of grey ware copies of Black-burnished ware cooking-pots, bowls and dishes, but the evidence is relatively slight and these do not seem to have constituted a significant element in the supply of the site.

**African-type vessels:** a sherd of either a small flanged basin or a flanged lid, and a domed grey ware lid, could perhaps be imitations of North African forms. Also recorded was part of a costrel in a fine white

fabric Nevertheless, in such a relatively large assemblage, the absence of the African-type cooking-dishes, such as occur in the western sector of the Antonine Wall is highly significant.

### *Rough Castle fort*

**Excavated:** 1903 (Buchanan *et al* 1905); 1957–61 (MacIvor *et al* 1980).

**Ceramic evidence:** selective assemblage surviving (mostly mortaria, and rims or decorated sherds from 1903 excavations; more from later excavations), NMS. Total weight (both excavations): 22,728 g (mortaria: 11,652 g; other coarse wares, excluding amphorae: 11,076 g).

There was no evidence of local production, and the whole assemblage showed a very strong emphasis on supply sources in the south-east, particularly the Thames estuary. Mortaria local to the Antonine Wall occurred in quantities much smaller than is normal in forts further west. These phenomena presumably reflect the greater accessibility of sea-borne imports to the eastern end of the wall, and could also perhaps relate to the organization of supplies within different military (?legionary) commands.

**African-type wares:** none. The peditate unit, *Cohors VI Nerviorum*, which built the *principia* (RIB I, 2144), was the primary (and probably the only garrison) and the accommodation is also appropriate. This, and the fort's easterly location, may account for the lack of evidence for a North African presence.

### *Castlecary fort*

**Excavated:** 1902 (Christison *et al* 1903)

**Ceramic evidence:** relatively little pottery surviving, NMS. Total weight: 5057 g (mortaria: 1041 g; other coarse wares, excluding amphorae: 4016 g).

The pottery is too small in quantity for the easy or secure recognition of local production. However, there were several vessels in a distinctive grey fabric containing sparkling grits, which may have been made in the vicinity of the fort; these included imitations of Black-burnished ware jars and bowls, and bowls with a flat grooved flange. Castlecary is the only site in Scotland (apart from Newstead) to have produced an example of the developed standard late Antonine samian bowl, Drag 79/80 (Hartley 1972, 29), possibly suggestive of late Antonine activity. However, it is a single sherd in an otherwise normal early Antonine samian assemblage, and not enough to suggest a full garrison in continuous later occupation. Though only a small quantity survives, the coarse wares provide no suggestion of the later Antonine occupation at Castlecary proposed by Mann (1963). Later BB2 forms such as occur at Birrens (Robertson 1975, fig 83, nos 11–12, 15, 16 n) and at Cappuck (unpublished BB2 bowls/dishes with rounded rims, examined by the author in NMS), where the samian suggests occupation continuing until at least the 180s, are wholly absent, though the small size of the Castlecary assemblage argues caution.

**African-type vessels:** there are no typical cooking-platters. Among the possible local grey wares is a proportionately deeper, plain-rimmed dish with a slightly concave wall, and a rounded basal angle, which appears to have been hand-made or substantially hand-made. It has deliberate rough concentric scratching at this junction and on the underside of the slightly concave base, as if it were intended for use on a brazier. It could perhaps be viewed as a hybrid African/British form and its profile is, in fact, similar to hand-made vessel types recorded at Chemtou (Simitthus Form 421). A fragment of a costrel in a smooth pale fabric is unpublished.



**Cavalry-related evidence:** the first garrison was probably a detachment of the peditate unit, *Cohors I Tungrorum milliaria* (RIB I, 2155); stylistically its dedication slab resembles other primary building inscriptions on the Wall and must surely reflect the construction of a major building. This unit was apparently replaced by a detachment of the part-mounted *Cohors I Fida Vardullorum milliaria equitata* (RIB I, 2149). As the fort was too small in size for a full milliary cohort of any type, detachments of both primary and secondary units must have been stationed elsewhere (see main discussion, *Fida I Vardullorum*).

#### *Westerwood fort*

**Excavated:** 1930 (Macdonald 1933, 277–86); 1985–8 (Keppie 1994; Webster 1994, and the author’s personal examination of the pottery).

**Ceramic evidence:** 1986–8, full assemblage surviving, HM; almost all the pottery comes from a limited area west of the fort. Total number of sherds: approx 240 (mortaria: 18; other coarse wares: approx 220). No pottery survives from the earlier excavations

The relatively small amount of material is dominated by oxidized vessels of probable local origin (hereafter termed Westerwood oxidized ware). The brick red to reddish-pink fabric, of varying coarseness, tends to be so soft that the tempering often stands proud of the surface of the vessel. The ill-sorted inclusions comprise large angular white quartz grits (many 1 mm or more in diameter), smaller reddish and grey quartz grits, and very obvious fragments of red haematite of variable size (up to 3 mm in length). Among the products are oxidized mortaria, flagons, jugs, large jars, beakers, carinated bowls, imitations of Black-burnished ware bowls and dishes, cheese wrings, tazze, lids, and a possible cooking-dish of North African type. Grey ware copies of Black-burnished ware latticed cooking-pots may also have been made in the same workshop (Webster 1994, fig 8, nos 24–5, 35–66; fig 9, nos 67–72; and microfiche catalogue).

Although the local pottery was severely eroded by poor soil conditions, some at least could be identified as possible waste from a nearby kiln site. A stone-built kiln was located in 1932, west of the north gate, and set into the north face of the mural barrier. At the time of the excavation it was interpreted as medieval, presumably because of its location, but it could have been Roman (Macdonald 1933, 282, fig 15; 1934, 254, fig 31).

**African-type vessels:** just one small fragment of a possible cooking-dish apparently in Westerwood oxidized ware (illus 2, no 3; Webster 1994, fig 8, no 64, and personal examination by the author). A centurion recorded on an inscription may either have had a North African wife or recently been in that region (see Flavius Verecundus and Vibia Pacata, above).

#### *Croy Hill fort*

**Excavated:** 1921 (Macdonald 1925, 288–90); 1930 (Macdonald 1932, 248–76); 1935 (Macdonald 1937); 1975–8 (Goodburn 1978, 413–5; L Hird, *Archive Catalogue of the Coarse wares* and K Hartley, *Preliminary report on the mortaria*, in UG Croy Hill Excavation Archive; inf W Hanson; examination of selected pottery by the author).

**Ceramic evidence:** 1975–8 excavations, full assemblage surviving, UG pending publication. Total weight: 40,495 g (excluding mortaria, but including a very small quantity of amphorae); approx 80 sherds of mortaria. Very little pottery survives from the pre-1975 excavations. The main areas excavated in 1975–8 (east and south-west of the fort) may reflect military extra-mural activities or a *vicus*. Whether this was earlier or later in the history of the fort is not possible to ascertain, though the latter seems more probable. The function of an oven structure from this area, originally thought to be a possible pottery kiln (Swan 1984, fiche 6.723), now seems less certain, as little pottery was found in even its general proximity.

The pottery itself, however, provides clear evidence for the local manufacture, up to 23% (by weight) of the coarse oxidized wares, excluding mortaria, and up to 15% of the reduced wares. Some of the same distinctive forms occur in both fabrics, suggesting a common source. The oxidized fabric-grouping (hereafter called Croy oxidized ware) was also confirmed as local by Gillings (1991). It ranges from pinkish-buff to reddish brown, sometimes with lighter surfaces, and the variable texture tends to feel fairly sandy; the surfaces are generally burnished or smoothed and sometimes may have had a thin red slip. Among the more obvious inclusions are angular, often ill-sorted, translucent and white opaque particles of quartz (up to 2 mm in diameter), sparse mica and occasional red-brown sandstone, ?haematite, and small pellets of (?unprocessed) clay. Croy reduced ware (not investigated by Gillings) is mid to light grey, but is not always thoroughly reduced and sometimes has a yellowish-orange tinge. It can be quite heavily burnished and the inclusions are similar to those associated with the oxidized ware. The local wares (illus 2, nos 4–7) include cooking-dishes (at least five examples), beakers, and small vessels of ‘tulip-bowl’ profile, all with probable North African affinities; also, various flanged bowls of unusual (probably non-British) form, unguent flasks, lids, imitations of Drag 37 and 38 bowls and BBI cooking-pots and bowls. In addition, K Hartley (1976, 88, n19) drew attention to an overfired (?local) mortarium from the old excavations.

**African-type vessels:** apart from the local African-type products, there are basal sherds of up to eight examples of cooking-dishes in other grey and orange fabrics, some with a small flange at the wall/base junction and others with under-rilling; most were probably local to the Antonine Wall in general. A fragment of a small orange moulded head-pot, possibly also local, is unparalleled in Britain; the nearest similar vessels were produced in North Africa or the eastern Mediterranean and Black Sea coasts. No other moulded head-vases are recorded from Britain (G Braithwaite, pers comm), and other known head-pots (much larger and hand-sculpted) have recently been shown to have been made in York in the Severan period at a time when there were North Africans in the garrison (Swan 1992, 15–22; Swan & Monaghan 1993).

**Cavalry-related evidence:** a store building adjacent to the *principia* was demolished and the site cobbled over at a later stage in the history of the fort

### *Bar Hill fort*

**Excavated:** 1902–5 (Macdonald & Park 1906; Robertson *et al* 1975; Hartley 1975); 1979–82 (Keppie 1985).

**Ceramic evidence:** 1902–5 excavations, selective assemblage surviving (mostly rim sherds or decorated sherds), HM; almost none was precisely provenanced within the site. Total weight: 67,327 g (mortaria: 21,658 g; other coarse wares, excluding amphorae: 45,669 g).

The material from the 1979–82 excavations was not quantified, as the amount was small; the kiln assemblage, published with basic quantification, is clearly unrepresentative of the pottery found elsewhere in the fort. Of the stratified mortaria from the whole site, all those probably made in Scotland were from secondary contexts. Four mortaria seem likely to have been carried to the site by men in all three British legions. These comprise: a product of Appletree Farm, Heworth, near York, a kiln site which mainly supplied *Legio VI Victrix* and the York fortress and *colonia*; a vessel probably made in the vicinity of Wroxeter, Salop (well outside its normal distribution area, but often supplied to *Legio XX* at Chester); and two other mortaria from workshops near the Caerleon fortress, which mainly served *Legio II*.

The kiln excavated inside the fort in 1979–82 had been built into the stokehole of the bath house, apparently between its two main phases of use (see ‘Ceramic sequence on the Antonine Wall’, above). Its products (almost 80% with clear North African affinities) were in a fine pinkish-brown powdery fabric, sometimes with a grey core, and with occasional traces of a thin reddish slip (hereafter called Bar Hill ware). The sparse inclusions mainly comprised very fine white quartz, mica and rare small particles of red

ironstone. The vessels (illus 2, nos 8–12, 17; illus 10, nos 93–4), over 80% with North African affinities, included cooking-dishes (the most common form), casseroles, table-dishes, lids, flagons and basin-like mortaria, as well as other less diagnostic forms such as flanged bowls, beakers and everted-rim jars. Most of the African-type products were extremely rare within the fort and must have been made for a small minority of consumers. However, numerous other forms in the same fabric, found in the fort but absent from the kiln assemblage, are presumably local (illus 2, nos 13–16; Robertson *et al* 1975, fig 51, nos 5, 10, 16; fig 52, no 10; fig 53, nos 1–6, 22–6; fig 54, nos 1–7, 21–2, 24–7). These comprise jugs, flagons, beakers, cheese-wrings and also straight-sided bowls with a gentle carination (illus 2, no 13), the last perhaps used like the African-type casseroles. Grey copies of Black-burnished ware jars and bowls may also have been made nearby. Ten fragments of at least six basin-like mortaria with white quartz grits were found in the fort interior (illus 2, nos 11–12), but only the chip from a flange occurred in the kiln assemblage (Keppie 1985, fig 15, no 27). The discrepancies in the assemblages from different locations may have no particular significance, as the kiln group might represent its sole or last (idiosyncratic) commission. Alternatively, there might have been another kiln in the locality, making the vessels in similar fabrics. Nevertheless, none is known, and the ‘furnace’ recorded immediately west of the fort in the early excavations had no pottery associated with it.

**African-type vessels:** apart from the kiln products, other African-type vessels from the fort (965 *g in toto*, non-local but possibly made in the vicinity of the Wall) comprise at least seven cooking-dishes and two lids of characteristic form (Robertson *et al* 1975, fig 54, nos 9 & 10). Of these, a lid and a platter (illus 2, nos 18 & 19) are in the Antonine Wall granular ware also recorded at Mumrills and Old Kilpatrick (cf nos 1, 54–8; Appendix 2). This may suggest connections between troops or garrisons. A fragment of an imported costrel in a pale-coloured fabric was also present.

**Cavalry-related evidence:** a snaffle-bit hints at the presence of horses.

**The garrisons:** the sequence has been the subject of some debate, but *Cohors I Hamiorum sagittariorum* (a peditate unit of archers), as the secondary garrison (Keppie 1975), would best fit the evidence. The ornate leaf-stops and lettering on the commemorative building-slab (*RIB* I, 2170) and altar (*RIB* I, 2169) set up by the other unit, the peditate *Cohors I Baetasiorum*, are stylistically similar those found on other primary building inscriptions on the Wall and in marked contrast to the generally poorer lettering of the inscriptions associated with *Cohors I Hamiorum* (*RIB* I, 2167, 2172; *RIB* I Addend, 2166). Keppie’s (1986, 56) later argument that, because the records of *Cohors I Hamiorum* substantially outnumber those of *Cohors I Baetasiorum*, the former occupied the fort ‘over the longer period’ (ie during ‘Antonine I’), is not appropriate to the chronology proposed here. Another possibility, recently proposed independently by the author and Keppie (1998, 110), but consistent with the survival of the altars of the *Baetasii* in the *principia* to the end of the occupation, is that the fort was garrisoned jointly by small detachments of both units (cf Hassall 1998). Bar Hill stands detached from the wall, so it is not known whether it was ‘primary’ or ‘secondary’. It lay in the sector built by *Legio VI*; however, the epigraphic evidence suggests that vexillations of *Legio II* and *Legio XX* participated in the construction of the *principia* (*RIB* I, 2171; *RIB* I Addenda, 2312); on stylistic grounds, the secondary alterations to that building seem likely to have been carried out by *Cohors I Hamiorum* (Keppie 1986, 54–6).

### *Kirkintilloch fort*

**Excavated:** 1953–61 (Robertson 1964a, 180–88).

**Ceramic evidence:** selective assemblage surviving (mostly rim sherds or decorated sherds), HM. Total weight: 6457 g (mortaria: 2135 g; other coarse wares, excluding amphorae: 4322 g). Relatively little is known

of this fort, as the excavations were on a small scale and there was much disturbance of the site from later activities. The assemblage is too small for local products to be recognizable.

**North African vessels:** none in the very small assemblage.

### *Cadder fort*

**Excavated:** 1929–31 (Clarke 1933).

**Ceramic evidence:** selective assemblage surviving, HM; most pottery is not precisely provenanced within the site. Total weight: 12,479 g (mortaria: 4323 g; other coarse wares, excluding amphorae: 8156 g).

This collection appears highly selective; only fine wares, mortaria, and more complete vessels having been retained. It is insufficient in size to identify local pottery products with reasonable certainty. Nevertheless, Hartley (1976, 88, n 19) has drawn attention to a mortarium of 'Raetian' type from the site, in a very pale brown fabric with a grey core, lacking the normal red slip and of very unusual form, which could be local to Cadder (or perhaps elsewhere in the western part of the Antonine Wall).

Of particular interest among the non-local pottery is a white ware sherd, with a row of dots between two parallel lines painted in red slip, which probably originated in the potteries at South Carlton, just north of Lincoln (Clarke 1933, fig 17, no 14; cf G Webster 1944, fig 9).

**African-type vessels:** an unpublished orange cooking-dish may be local to the Antonine Wall in general (no 47). Also of interest is a deep buff bowl with a gently rounded carination and an out-turned rim, probably local to the Antonine Wall and perhaps a Bar Hill product (cf no 13). There are signs of deliberate external scratching on the carination; the vessel is worn at that point, and has a very precisely defined area of burning on the underside, suggesting that it had been intended, and indeed used, for brazier cuisine. There was also a fragment of a fine white costrel (unpublished).

**Cavalry-related evidence:** secondary pits associated with industrial activity on former Building Site IV, and in the possible annexe to the east of the fort, contained objects connected with cavalry (Clarke 1933, 43, 83, pl IXb). Some of the barracks apparently passed out of use and were demolished, leaving open spaces in the fort (Clarke 1933, 34–52; Hodgson 1995, 32–3).

### *Balmuildy fort*

**Excavated:** 1912–14 (Miller 1922).

**Ceramic evidence:** selective assemblage surviving (mostly rim sherds or decorated sherds), HM; very little pottery is precisely provenanced within the site. Total weight: 65,422 g (mortaria: 22,665 g; other coarse wares, excluding amphorae: 42,757 g).

Balmuildy was mentioned by Hartley (1976, 85, fig 2) as a probable source of mortaria, and this has since been confirmed analytically by Gillings (1991). Macroscopic examination by the author suggests that in addition to mortaria, a wide range of other vessel types, forming a very substantial proportion of the whole assemblage (at a guess perhaps 50%), could well have been made locally, probably in the same workshop. The rather variable sandy-textured fabric (hereafter Balmuildy oxidized ware) is brownish-orange sometimes with a pinkish tinge, and occasionally with a light buff or grey core. It is often burnished or smoothed on the surface to a soapy texture, or coated with a thin brownish or whitish slip. The inclusions mainly comprise moderate amounts of ill-sorted white quartz and fine silver mica, with sparse fine particles of fine red and black ironstone. Also, probably made in association, were vessels in a grey fabric (hereafter

Balmuilty reduced ware); often quite heavily burnished, these share similar inclusions and some of the same forms as the oxidized fabrics (illus 3, no 23). These products (illus 3, nos 20–30) apparently included flagons, narrow-mouthed jars, storage-jars, cornice-rimmed beakers, everted-rim jars, copies of BB1 and BB2 cooking-pots and bowls (including carinated bowls), a range of tableware bowls (many of them flanged and of forms unusual for Britain), imitations of samian forms Drag 33, 44, 38 and 37 (some decorated with crude barbotine), tazze, face-pots, and also cooking-dishes of North African type (Miller 1922, pl xxxix, nos 5–8; pl xliii, nos 4–10; pl xlv, nos 13, 19–18, 21–3; pl xlvi, nos 3–4, 7–8, 10–12; pl xlvii nos 1–2, 4, 8, 12; pl xlviii, nos 19–21, 24–30, 33; pl xlix, nos 7, 12–17; pl 1, nos 18–28). One of the last (illus 3, no 20), with a red internal slip and the characteristic internal groove at the wall/base junction, has a flat underside with a clearly defined roughened circle area of wear near its circumference, possibly suggestive of brazier use.

Severn Valley ware is more strongly represented than on any other Antonine Wall fort (Webster 1977, 171, fig 11.1, nos 14, 16, 17, 20, 21, 24; fig 11.2, nos 25, 32–4, 37). This could have some bearing on the origin or connections of the garrison (in western Britain?); alternatively, some of the material distinguished as Severn Valley ware might be of local manufacture, as the fabrics are very similar. A ‘kiln’ cut through the floor supports of the northern end of the eastern granary, apparently a secondary insertion post-dating its use, may have been for pottery manufacture, but details of its interior and associations were not recorded. At least four local mortaria from the excavations were badly warped and perhaps unsaleable, and a substantial number of other vessels of probable local origin appear under-fired, or have other minor manufacturing defects. Miller (1922, 87, 90) mentions a group of jars of which ‘some pieces were very hard and had a burnt appearance, while others were soft, crumbly and porous’, and also grey and red ware bowls in a similar ‘soft inferior fabric’. The actual workshop may therefore have lain within the area excavated. Kiln facilities would certainly have been required for the manufacture of the pilae and other tiles used in the secondary bath house (Miller 1922, 53); these might well have been shared by a workshop making pottery.

**African-type vessels:** two cooking-dishes, already mentioned, are in the local oxidized fabric (nos 20 & 21; Miller 1922, pl xlvi, no 23). A costrel in a creamy-white ware is unpublished.

**Cavalry-related evidence:** A secondary cavalry presence at Balmuilty has been argued (Hanson & Maxwell 1983, 157), from structural evidence — a small secondary barrack block and ancillary unpartitioned building reminiscent of the Bearsden accommodation — but the indications are tenuous.

### *Bearsden fort*

**Excavated:** 1973–81 (Breeze 1984, L Hird, Bearsden Pottery Archive; Breeze forthcoming; Swan forthcoming).

**Ceramic evidence:** full assemblage survives, HS, pending publication. Total weight: 72,483 g (mortaria: 19,369 g; other coarse wares, mainly excluding amphorae: 53,114 g).

Between 60% and 70% of the pottery (excluding mortaria) appears to have been made locally. It includes a group of pale orange to bright orange fabrics, sometimes containing pockets of reddish or cream clay, and with a grey core and traces of a reddish slip (Bearsden oxidized ware); also mid to pale grey fabrics, sometimes with a pinkish-orange core (Bearsden reduced ware). Some items in the oxidized group of fabrics were confirmed as local by Gillings’ (1991) analyses, but he failed to investigate the grey wares, though numerous identical forms suggest a common source. There are some minor variations in the fabrics; these often have a fine sandy or powdery texture with variably sorted inclusions of fine angular clear quartz (in moderate amounts), and occasional moderate to large particles of red-brown sandstone and fine red, brown or black haematite, and possibly grog.

Among the products are a range of forms of North African type including cooking-dishes, some with traces of a red slip on the interior (the most common oxidized form), lid-seated casseroles, lids, and probably

flagons, small jars and an imitation of an ARS tableware platter (illus 4, nos 31–3, 41, 42, 45); also large flanged basins (illus 4, no 39; illus 11, nos 104 & 105) and braziers (illus 4, no 43; illus 8, nos 78 & 79). Other vessels comprised oxidized flat-rimmed carinated bowls of non-British type, copies of Drag 37 samian bowls (some with crude barbotine and rouletted decoration), beakers, and reduced narrow-mouthed jars, lids, crucibles, triple-vases, open lamps, and copies of Black-burnished ware jars and bowls (illus 4, nos 34, 35–8, 40). Some of the last have a rounded (as opposed to angular) external wall/base junction, and scoring on the sagging underside, suggesting that the potter was more familiar with the techniques of North African bowls and perhaps intended these vessels to be used on a brazier.

The fabrics of the locally made mortaria are mostly generally similar, suggesting a sharing of the same basic clay sources, though the potters were working in several different traditions. Apart from the relatively ordinary mortaria with hooked flanges, there are others with a red slip on the rim and interior (a 'Raetian' tradition), including several mortaria with very unusual fine flanges, which are paralleled only by a small number of Holt products (K Hartley, pers comm). Sarrus, the civilian potter-entrepreneur, also apparently made mortaria at Bearsden (Hartley forthcoming), but his fabrics are generally finer, although he too may well have been drawing his raw materials from the same basic sources.

**African-type vessels:** apart from the local wares, there are several cooking-dishes with basal rilling, possibly from other workshops on the Antonine Wall. A small 'tulip-shaped' bowl (illus 4, no 44) may be an import, but could just be local. Also recorded was a fine white ware costrel (illus 4, no 46). It is clear that the local African-type vessels should be associated with the occupants, as a number of unused cooking-dishes, together with mortaria and other local vessels (all evidently unused), had been dumped in the annexe, apparently on the abandonment of the fort.

**Cavalry-related evidence:** barracks with eight unusually small *contubernia* are thought to have been intended for a cavalry detachment, as the fort is too small for a whole unit. One suggestion is that a detachment of *Cohors III Gallorum quingenaria equitata* had been drawn from Castlehill, the next fort to the west; detachments from Balmuildy, or a mixed garrison are both worthy of consideration. The small size of the accommodation might relate to the possible presence of North African irregulars. Evidence for brazier cuisine seems to be confined to buildings in the southern part of the fort.

#### *Duntocher fortlet and fort (illus 5, nos 48–53)*

**Excavated:** 1947–51 (Robertson 1957); 1977 (Gawthorpe 1980; Keppie 1982, 105, both only summaries; unpublished notes and drawings by the excavator, Frank Newall, in HM); for a reconsideration of the structural sequence see main text.

**Ceramic evidence:** 1947–51 excavations inside the fort and annexe, selective assemblage surviving (mostly rim sherds or decorated sherds), HM; 1977 excavations to the south-west of the annexe, only a fraction of the excavated assemblage can now be located, HM (not quantified as much missing). The fort and annexe had been eroded by modern activities, and much of the material from the 1947–51 excavations occurred in disturbed or unstratified contexts. The meagre assemblages comprised mostly relatively small sherds. Total weight (1947–51): 4983 g (mortaria: 3079 g; other coarse wares, excluding amphorae: 1904 g).

The 1977 excavation, immediately to the south-west of the annexe, located the probable site of a pottery workshop, and possibly also a kiln. The records are difficult to understand, and the kiln furniture and most of the pottery is missing. Only a fraction seems to have been transferred to HM, and the remainder is now known only from brief descriptions and drawings made by a Government-sponsored job-creation scheme. Most of the surviving sherds are sub-standard kiln waste (over-fired or unevenly fired) making fabric characterization less than certain. However, the products seem to have been deep brownish-orange to orangy-buff (Duntocher oxidized ware) or mid grey (Duntocher reduced ware), smoothed or burnished on

the surface, but with a granular texture not dissimilar to BB1. The variable fabrics contained abundant to moderate ill-sorted white quartz, sparse to common fine mica, and moderate amounts of fine black and red ?ironstone and sandstone particles. The drawings of the missing pottery suggest that the workshop was probably making copies of Black-burnished ware jars, bowls, dishes and mortaria, as well as flat-rimmed campanulate dishes (illus 5, no 50), small flanged basins (illus 5, no 51) and possibly cooking-dishes of North African type (3–4 examples from the fort; illus 5, nos 48 & 49; Robertson 1957, fig 17, possibly nos 24–7, 31, 33 & 34).

**African-type vessels:** none of the possible locally made cooking-dishes from the fort interior occurred in a primary context. Also from the fort was a pale, lid-seated casserole, not necessarily local to the Antonine Wall (illus 5, no 52). The details on two drawings (by different hands) of a domed lid found on the kiln site (now missing), particularly the groove on the rim (illus 5, no 53), together with the accompanying description ('probably burnt samian'), suggest ARS ware (Hayes Form 182). Though the paucity of the total fort assemblage argues caution, this seems to be a proportionately large showing of African-type vessels. If this is so, the assemblage might be likened to that from Bearsden, another late secondary fort probably with a similar structural sequence.

#### *Old Kilpatrick fort and possible port*

**Excavated:** 1923–4 (Miller 1928); 1931 (Macdonald 1932, 219–42).

**Ceramic evidence:** selective assemblage surviving (mostly rim sherds and decorated sherds), HM; although much pottery was recovered by Miller's excavations, little is precisely provenanced. None appears to have survived from Macdonald's 1931 excavations. Total weight: 37,697 g (mortaria: 7298 g; other coarse wares: 30,399 g excluding amphorae).

It is uncertain to what extent the River Clyde has silted up since the Roman period and whether it was navigable to sea-going vessels as far as Old Kilpatrick at that time, or whether the fort was reached by road or barge from an (unlocated) harbour a short distance down-river, perhaps at Dumbarton. Evidence from Camelon (Swan & King forthcoming) and South Shields (Bidwell & Speak 1994), both apparently supply-bases, suggests that pottery from such establishments tends to be much more varied and often more plentiful than in a normal fort. At Old Kilpatrick there is a significantly greater variety of imported and other wares from unknown sources (including North African vessel types) than at any other fort in the western sector of the Antonine Wall. This could well stem from a role as a supply-base or port or its proximity to a sea-going port. This great diversity of forms and fabrics makes the definition of possible local pottery less secure, but some grey and orange wares were distinguished which may have been made in the vicinity; these include flagons, a range of flanged bowls, flat-rimmed carinated bowls, copies of BB2 forms and perhaps a flanged basin (nos 59–61). Some appear to have had a white slip. A cracked and underfired mortarium with a herringbone stamp may also have been made nearby, though it may be a 'second'. The quantity of mortaria of 'Raetian'-type, generally similar to the products of Bearsden and Holt have lead Hartley (forthcoming) to suggest connections with *Legio XX*.

**African-type vessels:** apart from the (?local) flanged basin, there are rim sherds of at least 18 cooking-platters or dishes, and probable bases of another three (some with under-rilling), in no less than six or seven different fabrics (illus 5, nos 62–5). Some are relatively large in diameter; most seem likely to have been made on the Wall or its immediate vicinity. Unusually, a small (unpublished) platter with a concave base of similar form to the Croy Hill products is in a reduced grey burnished fabric. A white costrel sherd (unpublished) was also noted.

A distinctive pale, coarsely sandy ware, which is represented by at least seven vessels, mostly of North African or non-British types (illus 5, nos 54–8), is identical to that of several African-type vessels recorded

at Mumrills and Bar Hill (illus 2, nos 1, 18 & 19). The fabric, which may well have been made in the vicinity of the Wall, has, for convenience, been termed Antonine Wall granular ware. It is hard, pale brown to pinkish-buff, with a slightly darker thin matt slip, and contains abundant rather poorly sorted medium to large grey-white quartz (up to 0.5 mm), moderate amounts of fine silver mica and small to medium particles of red and black ironstone.

**Cavalry-related evidence:** Two barracks went out of use at a secondary stage in the history of the fort and the areas they had occupied were covered with metalling. Areas of cobbling were noted within the probable site of the annexe, but the trenches were too small for intelligibility. The only record of a unit was that of the peditate *Cohors I Baetasiorum quingenaria* (probably the primary garrison of Bar Hill), which was under temporary command of a centurion from *Legio I Italica* (see Julius Candidus, above). However, this cohort might have been split between Bar Hill and Old Kilpatrick (Keppie 1997, 110), in which case, detachments from one or more other units may have also been in residence.

## APPENDIX 2

### SELECTIVE POTTERY CATALOGUE AND DISCUSSION

The material described below is, first from Antonine Wall forts (from east to west), then from related military sites outside Scotland. It includes both vessels of probable North African or western Mediterranean type (products of forts on or in the general vicinity of the Wall and imports), and other forms identified by the author as probably local to individual sites. The last group includes imitations of Romano-British types, as well as other forms not precisely paralleled within the province. Named fabrics which appear to be local to the Antonine Wall are described in Appendix 1.

#### POTTERY FABRICS

The fabrics of almost all the vessels of North African or allied type were examined under a binocular microscope at x20 magnification and their descriptions (including Munsell colour-concordances) were entered on proforma sheets. Those probably local to individual sites were given specific ware names (see Appendix 1). The catalogue of these wares includes local products with both North African, unusual and more standard forms, and also provides brief summaries of wares of unknown origin with North African-type profiles. (Fuller details are in the archive.)

Gillings' (1991) analytical work had endorsed as local products a range of the Bearsden and Croy Hill oxidized culinary wares and a Balmuildy mortarium; the fabrics of all these proved to be similar to that of numerous other vessel types identified by the author as most probably local to those sites. Gillings' local items and other vessels distinguished by the author as probably local on the grounds of fabric characteristics and repetitive/distinctive forms (see Appendix 1) shared many of the same inclusions from site to site (pale quartz, and red, black and brown ironstone, and occasionally sandstone and fine mica) in varying combinations, but usually rather ill sorted. All were probably drawn from similar geological deposits (presumably drift). A number of other vessels of less obvious origin, but containing similar ranges of inclusions (summarized below) seem likely to have been made in other workshops on the Antonine Wall or its vicinity. Clearly, until a comprehensive and carefully planned programme of scientific analysis can be financed, certainty is impossible. However, it seems worth pointing out that inclusions of limestone, which characterize much of the Roman pottery made in North Africa, were largely absent, suggesting few imports.



## ROMAN POTTERY IN NORTH AFRICA

The use of publications of pottery from North African sites to study British-made vessels with North African affinities carries with it a number of problems and pitfalls. It seems appropriate, therefore, to make a few general points here. Several valuable surveys of utilitarian and other pottery from excavations in Libya and Eastern Tunisia have been published in the past two decades, for example at Berenice, Libya (Riley 1979), Sabratha, Libya (Dore & Keay 1989), Carthage, Tunisia (Holst *et al* 1991; Fulford & Peacock 1984; 1994), and Uzita, Tunisia (van der Werff 1982). Unfortunately, the total is not large, and the material is strongly biased towards the wealthy coastal cities and ports. In general, most older reports were not well served stratigraphically; often disproportionate attention was paid to the fine slipped wares, virtually ignoring the common kitchen wares. An additional complication is that for the majority of well-recorded sites (past and present), the assemblages come from deeply stratified urban sites, where pottery is super-abundant, and the attendant problems of residuality are so considerable as to pose a major obstacle to precision in the dating of individual ceramic types. Very few kiln groups have been recorded.

Another difficulty in relation to the present study is the relative scarcity (in North Africa in general) of large published stratified deposits of the late first to mid third century; most assemblages are later. From the late first century onwards, cooking wares, as well as the better known tablewares, were exported in quantity, mainly from Africa Proconsularis, to ports on the central and western Mediterranean littoral; their distribution further inland was not common (with one or two notable exceptions) until the late second or third century. It was not until the mid to late second century that such forms began to be regularly copied by some of the workshops on the western and north-western shores of the Mediterranean, for example in Spain (Nolla *et al* 1982) and in the Languedoc (Pellecuer & Pomerades 1991). For the second and early third centuries, therefore, some of the best dated large stratified groups of North African utilitarian wares come from the excavations at the port and town of Ostia, near Rome (Ostia I, II, IV).

In North Africa itself, our ceramic knowledge is biased geographically by the dearth of published dated stratified pottery from the Mauretaniae and western Tunisia. The first- to early third-century material illustrated from Caesarea (Cherchel) and Tipasa (Mauretania Caesariensis), still relatively small in quantity (Leveau 1984; Baradez 1961; Lancel 1967; 1970; Anselmino *et al* 1989), seems to suggest that the most frequent forms were generally similar to those current in provinces further to the east, since large numbers of vessels were imports or copies of imports from Africa Proconsularis; the overall range of types and fabrics, nevertheless, seems to have been narrower. Information on the general character of pottery in the Mauretaniae is also supplemented by ceramics in Spain, where invasions and settlement by the Moors from the 170s onwards spread the use of their traditional vessel types beyond the Iberian coastal towns already receiving North African imports (Abadias 1987). In other words, though there are regional and inter-site differences, the basic ranges found in the eastern and western parts of the Maghreb show an underlying unity.

A particular problem in making valid comparisons with the Antonine Wall material is the near absence of published groups from military sites in North Africa. An important exception is the stratified pottery from the quasi-military depot of Simitthus (Chemtou), north-western Tunisia, an establishment dating mainly to the period c 175–280 (Vegas 1994). The ceramic groups there were remarkably homogeneous and restricted, with an exceptionally marked emphasis on casseroles (21–25% of rim fragments including ARS), cooking-dishes (15–20%), lids (16–27%), mortaria (6–7%), and basins (3%). Vegas considered that the distinctive character

of the assemblages (particularly the unusually strong showing of cooking-dishes and mortaria, features not normal to civilian sites in the province), was probably a reflection of the imperial ownership and control of that stone-quarrying site, with the workers' 'camp' being supplied with absolute basics, organized on similar or identical lines to the nearby military establishment (Vegas 1994, 144 155–6, 160, and pers comm). She suggested that the relatively uniform cooking-platters or dishes had been geared to the baking of the staple bread-ration. The contrast between the extremely limited range of vessel types and wares recorded at Simitthus (with its unusually strong emphasis on cooking), and the enormously rich diversity of forms and fabrics characteristic of civilian urban deposits at sites such as Carthage and Sabratha (where tablewares are abundant, and cooking-dishes less well represented), stands as a warning against the use of the latter assemblages as points of comparison for African-type pottery on military sites in northern Britain. This point gains further support from the evidence from the military site of Bu Njem, Tripolitania (Libya). The ceramic assemblages excavated there about 30 years ago, though only semi-quantified and less well stratified and researched, nevertheless also appear to have been very narrow in scope, with a strong emphasis on simple curved-wall cooking-platters and matching lids made in a narrow range of fabrics (Rebuffat *et al* 1968, figs 9–14; Rebuffat *et al* 1970, figs 10–16). There now seems a real possibility that the very simple and restricted range of North African vessel types recorded on the Antonine Wall, and indeed at several other forts in northern Britain (both Antonine and Severan), mirrors, on a small-scale, the distinctive characteristics of military assemblages in the Maghreb.

#### CATALOGUE

For contextual information and descriptions of named local fabrics, see Appendix 1. Some basic vessel types with North African affinities (casseroles, cooking-dishes and lids) are discussed in the main text. A range of comparative vessels from North Africa, set beside the British products of North African type, is set out in illus 8–11.

#### *Mumrills (illus 2, nos 1 & 2)*

- 1 Cooking-dish with internal angle-groove in Antonine Wall granular ware (see Appendix 1, Old Kilpatrick); smoothed on interior and over the rim. There are slight traces of combing on the underside, and horizontal scratching and a patch of sooting just above the basal angle. From a secondary context in the fort (cf illus 2, no 19, and illus 5, no 54; NMS; Macdonald & Curle 1929, fig 99, no 7).
- 2 Lid-seated casserole in a dark brownish-orange fabric, containing moderate amounts of ill-sorted grey quartz and sparse small to medium red haematite and fine silver mica; clumsily made, perhaps by hand, with bands of rough combing on the exterior. The fabric is cracked (?underfired), and has grey traces of burning on the exterior below the rim, perhaps from use. The form is not unlike a African Black-top ware casserole from Simitthus (Form 147); though more clumsily made, its chunky profile is closer to that of some Pantellerian ware (hand-made), vessels from that island between Tunisia and Sicily (cf Sabratha Type 286). From a secondary context in the fort. (NMS; Macdonald & Curle 1929, fig 99, no 8)

#### *Westerwood (illus 2, no 3)*

- 3 Cooking-dish in Westerwood oxidized ware, smoothed on the interior (FM; Webster 1994, fig 8, no 64).

*Croy Hill (illus 2, nos 4–7)*

- 4 Cooking-dish with internal groove and stepped concave base in Croy oxidized ware. (UG archive; Context: CR78 LBT 396(7))
- 5 Shallow lid-seated bowl in Croy oxidized ware; not a Romano-British type. Cf small bowls with generally similar rims at Sabratha (Types 165–6). (UG archive; Context: CR77 QAA(134))
- 6 Small bead-rim bowl in Croy oxidized ware; probably a version of the so-called ‘tulip bowl’, a form which occurs in Africa Proconsularis and particularly in Mauretania: eg at Tipasa, in second-century graves (Baradez 1961, pl V, Tombe XIVb, pl VI, Tombe XVc); at Sétif (Sitifis, Caesariensis), Algeria, in the eastern cemetery (Guéry 1985, pl xxxix, nos 182a & d); and at Uzita, (Africa Proconsularis), Tunisia (van der Werff 1982, pl 44, nos 11–13). Other examples of the form have been recorded at Bearsden (illus 4, no 44), Holt (illus 6, no 72) and in York, where it was being manufactured with other vessels of North African type in the Severan period (Swan 1992, fig 1, no 7). (UG archive; Context: CR78 LBT(376))
- 7 Flat-rimmed bowl in Croy reduced ware, with incised decoration on the rim and burnished lattice on the exterior; imitation of BB1 carinated bowl. (UG archive; Context: CR78 LCT(3) (503))

*Bar Hill (illus 2, nos 8–19)*

- 8 Lid-seated casserole in Bar Hill ware, probably originally with a sagging base, a widespread form in Tunisia; close to Hayes (un-slipped) ARS Form 184, the same general type occurs at Simitthus (Type 150) in African Black-top ware. As Vegas (1994, 158) has pointed out, this type was common in much of North Africa (not Berenice) in the second and third centuries, but relatively little exported, the main exception comprising small quantities at Ostia. From the kiln assemblage (HM; Keppie 1985, fig 15, no 21).
- 9 Cooking-dish in Bar Hill ware, with a slight angle-flange and rilling on the sagging underside. A widespread type in North Africa (cf Simitthus Form 139), initially in utilitarian fabrics, but in ARS ware from the early second century (Hayes Form 23A). At Tipasa (Mauretania Caesariensis) it was particularly common from the early Flavian period onwards and the excavator suggested (Lancel 1970, 239–41, fig 81, no 1) that the form might have developed from an indigenous type. From the kiln assemblage (HM; Keppie 1985, fig 14, no 1).
- 10 Tableware dish in Bar Hill ware; an imprecise copy of Hayes ARS Form 4 (cf *Atlante I*, tav xiii, no 6). From the kiln assemblage (HM; Keppie 1985, fig 14, no 6).
- 11–12 Basin-like mortaria with white quartz trituration grits in Bar Hill ware (see main text). Related forms can be seen in the flanged basins common at Uzita (pl 11, no 3), at Sabratha (Type 261), and elsewhere in the Maghreb (HM; Hartley 1976; fig 2, no 26).
- 13 Deep bowl with gentle carination in Bar Hill ware. Though superficially similar to a Black-burnished ware form, the lower rounded part is more reminiscent of a North African casserole and the rim has parallels in Sabratha (Type 161). A similar vessel from Cadder (Appendix 1) had sooting and wear near the angle, suggestive of its use over a brazier (HM; Robertson *et al* 1975, fig 54, no 3).
- 14 Flanged bowl in Bar Hill ware; not a particularly diagnostic form, but cf Sabratha Type 164 (HM; Robertson *et al* 1975, fig 53, no 24).
- 15 Ring-necked flagon in Bar Hill ware (HM; Robertson *et al* 1975, fig 51, no 12).

- 16 Flagon with 'pulley-wheel' rim in Bar Hill ware. The rim form had died out in Britain by the end of the first century, so this may represent a reintroduction (cf Uzita, fig 47, no 8) (HM; Robertson *et al* 1975, fig 51, no 15).
- 17 Flagon or flask in Bar Hill ware. The bulge of the neck immediately below the more-or-less almond-shaped rim is well attested in North Africa (cf *Atlante I*, tav xxi, no 4). From the kiln assemblage (HM; Keppie 1985, fig 15, no 22).
- 18 Large domed lid with upturned rim in Antonine Wall granular ware (see Appendix 1, Old Kilpatrick), smoothed on all surfaces (cf Hayes Forms 182/195). (HM; Acc no 1936.865).
- 19 Cooking-platter in Antonine Wall granular ware; smoothed on the interior (cf same form and fabric at Mumrills and Old Kilpatrick, illus 2, no 1; illus 5, no 54). (HM Acc no. 1936.860).

*Balmuilty (illus 3, nos 20–30)*

- 20 Cooking-dish with a thin red slip in Balmuilty oxidized ware; a hybrid form, similar to a BB1 dish, but with a marked internal angle-groove (HM; Miller 1922, pl xlvi, no 21).
- 21 Cooking-platter with internal angle-groove, in Balmuilty oxidized ware, burnished on the exterior. (unpubl; HM Acc no F1922.498/2).
- 22 Bowl with internal lid-seating in heavily burnished Balmuilty reduced ware (also occurs in oxidized ware); a smaller version of probably the same basic form is present at Sabratha, Type 176.2932 (HM; Miller 1922, pl xlvi, no 33).
- 23 Flat-rimmed carinated bowl in Balmuilty reduced ware; though the form might be seen as an imitation of a Black-burnished ware bowl, the unexpected internal lid-locator suggests non-British influences (HM; Miller 1922, pl xlvi, no 1).
- 24 Segmental bowl with stubby flange in Balmuilty oxidized ware; no precise parallel known (HM; Miller 1922, pl xlvi, no 28).
- 25 Copy of cornice-rim colour-coated beaker in Balmuilty oxidized ware with slightly darker slip, a form commonly imitated on military sites in the north-western provinces (HM; Miller 1922, pl xlvi, no 10).
- 26 Small flanged bowl with thin cream slip, in Balmuilty oxidized ware, a miniature version of the local mortarium type (HM; Miller 1922, pl xlvi, no 27).
- 27–8 Imitations of samian bowl and cup forms, Drag 44 and 33, in Balmuilty oxidized ware with a thin red slip (HM; Miller 1922, pl 1, nos 18 & 22).
- 29 Storage-jar in Balmuilty oxidized ware. Collared storage-jars of this broad type had ceased to be current in Britain by the early second century. This, and others in Balmuilty ware, presumably represent a reintroduction of the form from outside the province. Related but not identical jars occur at Simitthus (Form 269) and several other sites in North Africa and the Mediterranean (HM; Miller 1922, pl xxxix, no 6).
- 30 Two-handed jar with frilling at base of neck and below the rim, a distorted waster. The junction of neck and shoulder is clumsily executed; in Balmuilty oxidized fabric with smoothed surfaces and a grey core; one of three other examples has a white slip. (Miller 1922, pl xxxix, no 5).

*Bearsden (illus 4, nos 31–46)*

- 31 Cooking-dish with internal angle groove and shallow combing on the underside in Bearsden oxidized ware. The whole of the exterior of the vessel is heavily sooted to just below the rim, presumably the point where the wall had been protected by an overlapping lid. (HS archive; NK73 AW, Annexe).
- 32 Cooking-dish as previous, but with a sagging base and concentric wear marks on the underside. (HS archive; NK76 DD, Annexe).
- 33 Casserole in Bearsden reduced ware; this type was usually proportionately deep with a rounded base. The form without or with an external lid-seating, as here, was well-represented at Tipasa (Caesariensis) from the Flavian period (Lancel 1970, 241, fig 81, no 2, pl 83) and widely distributed along the western Mediterranean seaboard from the early second century (cf Simitthus Form 143, in *African Black-top ware*). Though common at Carthage from the Hadrianic period to the end of the fourth century, it is uncommon or absent in Berenice and Sabratha. Its North African homelands thus tend to show a distinctly western emphasis. (HS archive; NK 76, S10, Annexe).
- 34 Carinated flat-rimmed bowl with distal groove and internal lid-locator in Bearsden reduced ware; no contemporary parallels known in Britain. (HS archive; NK77 FM).
- 35 Bowl with burnished lattice imitating BB2 form (Gillam 1970, Type 222); unlike its prototype, the wall is convex and the wall/base junction lacks the knife-trimmed chamfer but is rounded instead (perhaps in the African tradition); Bearsden reduced ware. (HS archive; NK73 BJ, Building 3).
- 36 Plain-rimmed bowl in Bearsden reduced ware, perhaps an imprecise imitation of a Black-burnished ware form with a rounded wall-base junction as previous. The lower part has been roughly scratched and has a precisely defined area of dense sooting from the base to the lower part of the wall, possibly from brazier use. (HS archive; NK73 CA, west intervallum).
- 37 Flat-rimmed bowl with burnished surfaces and a gently rounded base in Bearsden oxidized ware; not a British form, but cf a similar cooking-vessel at Ostia (Ostia II, tav xx, no 361). It is just possible that this general form was ancestral to the slightly later ARS bowls, Hayes Forms 42 and 45. (HS archive; NK77 BB, fort east rampart, north).
- 38 Imitation of samian Drag 37 bowl in Bearsden oxidized ware. (HS archive; NK77 CU).
- 39 Large flanged basin in Bearsden oxidized ware. The closest parallels occur at the Nador Castellum, Tipasa (fig 33, nos 116–18), though this general vessel type can be found elsewhere in Mauretania (Caesarea, fig 248) and in central Tunisia (Uzita, pl 11, no 3; pl 33, nos 5 & 6, pl 45, nos 1 & 2; Leptiminus, p 151, nos 72 & 73) (HS archive; NK 75 CU, Building 5).
- 40 Crucible in Bearsden reduced ware. (HS archive; NK78 CF, Buildings 1 and 2).
- 41 Flask of unusual form with an internal seating for a stopper in Bearsden oxidized ware; cf Uzita, pl 47, no 9. (HS archive; NK 80 DU, sudatorium of baths).
- 42 Small jar or beaker with long sharply everted rim in Bearsden reduced ware; cf Simitthus Form 176. (HS archive; NK76 FR, Annexe).
- 43 Upper part of a brazier in Bearsden reduced ware, with protruding ‘horn’ luted to edge of rim; the vessel is cracked and sintered and has broken off at the probable junction with the fire-basket; see main text for discussion of the type. (HS archive; NK76 EQ, Building 16).
- 44 Small bead-rim bowl in a pale buff slightly sandy fabric containing moderate amounts of pale quartz and red unidentified inclusions; traces of a dark red matt slip; another ‘tulip-bowl’, possibly but not

certainly a North African import (for form see illus 2, no 6 above). (HS archive; NK 76 GG, Building 16).

- 45 Shallow tableware platter in a fine brick-red fabric containing very fine sand and with carefully burnished red-slipped surfaces, probably made at Bearsden. Both Mercedes Vegas, and Jaap van de Werff (pers comm) have suggested that this may be a local copy of a non-standard African Red Slip ware form. The only parallel (in an ARS or allied ware) known to the author comes from an unpublished cemetery at El Aouja (30 km south of Kairouan), Tunisia (Salomonson 1968, table II, no xxviii, opp 145). (HS archive; NK 76 DD, Annexe).
- 46 Ribbed costrel in a fairly fine, friable off-white silty-textured fabric with sparse red and grey inclusions and fine silver mica (neck reconstructed after Gillam 1970, Type 21 from Corbridge).

This vessel belongs to a distinctive group of containers in a pale fabric, which were not made in Britain, and which are extremely rare both here and apparently elsewhere in the Empire. They are concentrated mainly on the Antonine Wall (nine examples), and other northern military sites (three examples), with the one (non-military) outlier, Canterbury (possibly not in the same fabric). The distribution comprises: Castlecary (unpub: in NMS); Bar Hill, Cadder, Balmuildy and Old Kilpatrick (all unpub: in HM); Bearsden (*Swan forthcoming*); Camelon (*Swan & King forthcoming*); Mumrills (Macdonald & Curle 1929, 542, fig 105, no 8); Inveresk (Thomas 1988, Fiche 1-E7, no 1.88); Milefortlet 5 (unpub; Gillam 1970, listed under Type 21); Corbridge (Richmond & Gillam 1952, fig 4, no 16); South Shields (Bidwell & Speak 1994, fig 8.9, no 43); Doncaster *vicus* (Buckland & Magilton 1986, fig 35, no 89) and Canterbury (Webster *et al* 1940, 133, no 64: not made on this kiln site, and not certainly in the same fabric as the other costrels).

A microscopic examination of thin-sections of three sherds from Bearsden, South Shields, and Milefortlet 5 was made by D Williams (English Heritage Ceramic and Lithic Petrology Project, University of Southampton) and the petrological information incorporated in the discussion below is derived from his preliminary notes in advance of publication. The similarities of the fabrics and their inclusions indicate a common production centre or region. This, together with the distinctive form and distribution, suggests that such vessels were imported for their contents over a relatively short period. Their source, however, is uncertain, as the range of non-plastic inclusions is reasonably common. Costrels of similar profile were occasionally made in African Sigillata A, though the form is not otherwise recorded in that region (eg *Atlante I*, tav cxxxiii, no 5: La Baume & Salomonson 1976, 124-5, taf 52, no 544; and an example from Raqqada, Central Tunisia in a mid second-century tomb: Salomonson 1968, 106, pl III, no A18). However Williams (in litt) has pointed out that the relatively high mica content of the present sherds makes a North African origin unlikely. Costrels in pale and in brown fabrics were also made in the Eastern desert of Egypt, the Nile Valley and perhaps also in Palestine, though they are less barrel-like and more balloon-shaped in profile and lack feet. These appear to have contained fish sauce or other fish products (R Tomber, pers comm). In Williams' opinion (in litt), Egypt does seem to be a possibility on petrological grounds, since the small size of quartz, the mica content, siltstones, chert, red argillaceous inclusions and pyroxene in the samples can all be found in Egyptian Red Slip 'A' ware (Tomber & Williams 1996); however, the analogy is not exact, since the fabric of the costrels lacks the small discrete grains of feldspar and amphibole and small pieces of sandstone noted in a sherd of such ware from London (ibid). Clearly, more sampling is necessary. In general, an eastern Mediterranean origin seems most probable, since rare examples of barrel-like costrels in other fabrics at this period seem to have been made occasionally by Eastern-influenced workshops, for example at the kiln complex at Micasasa, Romania, a site also copying Knidian moulded wares in orange fabrics (unpub material in Cluj-Napocca Museum, Romania). (HS archive; NK 73 FZ; Annexe).

*Cadder (illus 5, no 47)*

- 47 Cooking-dish with internal angle-groove in a brownish-orange fabric, burnished on exterior and smoothed on interior with a paler core and possible traces of self-coloured slip. The powdery-textured

fabric contains common poorly sorted medium-coarse white quartz, moderate amounts of fine silver mica and sparse medium brown-red particles of angular haematite. (HM; Acc no FL 1940. 19).

*Duntocher (illus 5, nos 48–53)*

- 48–9 Cooking-platters with inturned rim, probably in Duntocher oxidized ware; burnished on interior and smoothed on exterior surfaces (HM; Robertson 1957, fig 17, nos 25, 24).
- 50 Flat-rimmed segmental bowl/dish, a waster from the kiln site; probably in a local Duntocher fabric, but burnt orange-grey; no British parallels are known, but of a similar vessel from Nador Castellum, Tipasa (Anselmino *et al* 1989, fig 33, no 112) (HM Acc DT 77. 195).
- 51 Small flanged basin, probably Duntocher reduced ware, a type discussed in the main text; from the kiln site; cf Sabratha Type 204.4123 (HM archive; Acc no DT 77, no 571).
- 52 Small lid-seated casserole in a hard, creamy-buff, powdery fabric with a pinkish tinge on the surface, and inclusions of abundant poorly sorted white quartz, moderate amounts of medium red haematite and a little fine silver mica; the fabric is not known elsewhere on the Antonine Wall. This is the classic form associated with African Black-top ware (Hayes Form 197), common in North Africa in ARS and utilitarian fabrics, and widely distributed in the western Mediterranean littoral from the end of the second or beginning of the third century AD. Smaller, apparently earlier, examples of the form have been recorded at Simitthus (Form 97), however, where they occur in a red-brown slipped ware; they were clearly relatively rare in North Africa earlier in the second century, and certainly not traded far. It follows, therefore, that in the Antonine period, such a form would most probably have been transmitted to Scotland by someone from North Africa itself (HM; Robertson 1957, fig 17, no 29).
- 53 Lid, found on the kiln site and now lost; the archive drawing description (unpub) records it as ‘probably burnt samian’, but it is not a samian form. The profile details, particularly the small groove on the rim, strongly suggest ARS ware, Hayes Form 22/182, the lid intended for use with corresponding cooking-platters (HM archive).

*Old Kilpatrick (illus 5, nos 54–65)*

- 54 Large cooking-platter in Antonine Wall granular ware; similar platters in this ware occur at Mumrills and Bar Hill (illus 2, nos 1 & 19) (HM Acc no. F1928 571.3).
- 55 Lid-seated casserole in Antonine Wall granular ware. This form, ultimately related to Hayes 184.1, mainly circulated in Tunisia (*Atlante I*, tav cix, nos 7 & 9) and was relatively little exported. An example from Sabratha (Type 62.622) has very similar detailing of the rim; there the dating evidence suggests a floruit for the coarse ware type mainly in the second and early third century with a peak in the Antonine period (HM; Miller 1928, pl xxii, no 19).
- 56 Bowl with one (or two) looped and tanged handle(s) in Antonine Wall granular ware. No British parallel known, but double-handled bowls in general tended to be more usual in the Mediterranean provinces (HM; Miller 1928, pl xxii, no 30).
- 57 Carinated bowl in Antonine Wall granular ware imitating a Black-burnished ware form (HM; Miller 1928, pl xxii, no 17).
- 58 Segmental flanged bowl in Antonine Wall granular ware (HM; Miller 1928, pl xxii, no 25).

- 59 Miniature flanged basin, in an orange-buff fabric, smoothed on the surface, and containing moderate amounts of ill-sorted white quartz and brown ironstone, and sparse fine mica; for the type see main text (HM; Miller 1928, pl xxiii, no 12).
- 60 Ring-necked flagon in a sintered blue-grey gritty fabric, perhaps a reject from a local kiln (HM; Miller 1928, pl xx, no 2).
- 61 Segmental flat-rimmed bowl with a distal bead; orange, possibly local fabric containing poorly sorted white quartz and red haematite and a little fine silver mica; not a normal British form for this period, but perhaps ultimately related to Hayes ARS Form 6 (HM; Miller 1928, pl xxii, no 15).
- 62 Cooking-dish with an internal angle-groove and a stepped recessed base; orange fabric similar to previous; the walls are smoothed and there is faint rilling on the underside of the base (HM; Miller 1928, pl xxii, no 1).
- 63 Cooking-dish with an internal angle-groove; burnished on the rim and interior: hard, fairly smooth-textured light orangy-buff fabric with darker brownish-orange surfaces, and containing moderate amounts of medium-fine white quartz, fine silver mica and sparse angular black and red-brown medium-fine ironstone (HM Acc no F1928. 573).
- 64 Cooking-dish with an internal angle-groove in a hard greyish-brown fabric with brownish-grey smoothed surfaces and containing moderate to sparse grey quartz, fine silver mica and ill-sorted coarse-fine black ironstone (HM Acc no F1928. 613/1).
- 65 Large cooking-platter in bright orange fabric; smoothed to a deep brownish-orange on the interior and upper part of exterior, with rough *ante-cocturam* scratching on exterior just below and above the basal angle. The fabric contains moderate amounts of ill-sorted white quartz, sparse fine mica and sub-angular fine haematite (HM: Acc no F1928. 572).

*Holt works-depot (illus 6, nos 66–73)*

- 66 Large basin in a coarse orange tile-like Holt fabric; the neo-Punic name graffito below the rim was scratched before firing. The diameter is approximate and the vessel may have been oval or sub-rectangular, like a closely similar flanged basin from Uzita, Tunisia, pl 68a-b; cf also Ostia I, tav XXIII, no 440; Ostia IV, tav XIV, no 99, tav LII, no 417 (NMW; RIB II.8, 2502.14; see main text).
- 67 Large round-bottomed casserole; this vessel cannot now be found (in NMW), but its description ('pink-buff' ware) suggests that it was probably made in a Holt fabric. Similar to Hayes Form 184.1, but larger, the type is well attested in coarse fabrics in Tunisia and Tripolitania (*Atlante* I, cvii, no 11, cvx, no 7; Leptiminus Type 18), but appears not to have been exported much (Grimes 1930, fig 74, no 221).
- 68 Large lid-seated casserole in Holt ware. The form occurs at Simitthus in African Black-top ware; close parallels have also been recorded at Sabratha (Types 27.672 and 63.662), in deposits dating to the second half of the second century, at Lepcis Magna (Lebda), Tripolitania (Sartorio 1970, tav lxxv, no 56), and in Tunisia (*Atlante* I, tav cix, no 6). Its distribution in North Africa is uneven and it never seems to have been a frequent export (Bevan Coll, GM).
- 69 Small flanged bowl or casserole with rounded base in Holt 'red ware'; same general type as Simitthus Form 104 (NMW; Grimes 1930, fig 69, no 148).
- 70 Bowl with internal lid-seating in Holt 'red ware': variants of this type occur in southern Italy and North Africa; cf Nador Castellum, Tipasa, fig 31, nos 65 & 66; Sabratha Type 153 (NMW; Grimes 1930, fig 69, no 149).



- 71 Large flagon with angular body of Mediterranean type, in Holt 'buff ware with burnished buff slip' (NMW; Grimes 1930, fig 68, no 125).
- 72 Small bead-rim 'tulip bowl' with North African affinities, in Holt 'red ware with red slip'; see no 6 for discussion of type (NMW; Grimes 1930, fig 70, no 168).
- 73 Bowl imitating Hayes ARS Form 9B, in Holt grey ware (NMW; Grimes 1930, fig 66, no 96).

*Chester legionary fortress (illus 6, nos 74 & 75)*

- 74 Small lid-seated casserole; the form and fabric closely resemble Bar Hill products; from the Abbey Green site (GM; Bulmer 1980, fig 5, no 7).
- 75 Cooking-dish with stepped concave base in bright orange sandy fabric, possibly an Antonine Wall product (GM; from excavations in the *canabae*, at Grey Friars Court, Med Church Phase II, 1976–7, Cont 636, SF 709; original archive drawing by Chester Archaeology).
- 76 Large cooking-platter with an internal angle-groove, combing on the underside, and a thin reddish slip; orange fabric containing mica and much coarse quartz; from the Abbey Green site in the fortress *retentura* (GM; Bulmer 1980, fig 7, no 2).

*Bowness-on-Solway fort, Hadrian's Wall (illus 6, no 77)*

- 77 Lid-seated casserole in 'pinkish-orange self-coloured slightly gritty fabric'. This vessel cannot now be found, but the details in Gillam's drawing and his fabric description strongly suggest a Bar Hill product (Gillam 1960, fig 2, no. 12).

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