THE ROMANO-BRITISH PERIOD

RESOURCE ASSESSMENT

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Introduction

There is an extensive literature on the Roman period in the North West and the large number of reports and articles on individual sites reflects the long tradition of fieldwork on Roman sites in the region. Until recently, however, this literature has reflected an overwhelming emphasis on the military aspects. The high visibility of the Roman remains combined with the classical interests of early antiquaries ensured that the Roman origins of several towns and cities in the North West were recognised from Leland and Camden (1586) onwards. Overall summaries of the Roman period in the North West include those of Shotter (1997), while county surveys include the useful though heavily out of date Roman Cheshire by Thompson (1965), and the Victoria County History (Petch 1987), Lancashire (Buxton and Shotter 1996), Merseyside (Philpott 1991a) and Greater Manchester (Nevell 1992). The Roman period has been covered in surveys on the origins of the pre-1974 counties of Lancashire and Cheshire (Kenyon 1991; Higham 1993), while an overview for the northern counties includes the Roman period (Higham 1986). A synthesis of the military dispositions in Cumbria is provided by Potter (1979), though his conclusions now require modification (Shotter 1997), and of non-military sites by McCarthy (2002). A wide range of thematic studies exist, including detailed surveys of Roman coins (Shotter 1990; 1993; 1995; 2000b), the Roman invasion and occupation (Breeze and Dobson 1985; Carrington 1985a; Shotter 1997; Shotter 2000a), Roman roads (Margary 1967; with extensive subsequent literature, see below), palaeoecology (Huntley and Stallibrass 1995), and ceramics production and trade (e.g. Webster 1971; 1973; 1982; 1989; 1991; 1992; Evans unpublished a, b, c). In addition the North West figures in a range of national thematic surveys, on topics as diverse as Roman sculpture (Henig 2004; Coulston and Phillips 1988), camps (Welfare and Swan 1995), Roman coal use (Dearne and Branigan 1995), pottery production (Tyers 1996) and rural settlement (Hingley 1989).

The Nature of the Evidence

The seemingly relatively low level of material culture and poor site visibility contributes to the lack of identification of Roman period remains beyond the major military installations. The chance discovery of sites is further restricted by the nature of the surviving evidence, often consisting of exiguous traces of rural settlements heavily truncated by the plough, while the structural evidence of timber buildings lacking stone footings renders them difficult to detect even by specialist investigation. The growth in metal detecting and the introduction of the Portable Antiquities Recording Scheme (PAS) in 1997 has brought a considerable rise in the level of reporting of Roman metal finds, especially from Cheshire. From the region 596 finds are of Roman date (about 1% of the total of the finds recorded on the PAS database for England and Wales), of which no fewer than 451 are from Cheshire. The creation of a new post in 2003 to cover the two northern counties, Lancashire and Cumbria, has already begun to increase the yield of finds from that part of the region. Brooches from Stanegate have been examined by Margaret Snape (1993) and those from elsewhere in the North West have been examined by Nick Herepath (2004). In the south of the region brooches are dominated by a narrow range of types, with one distinctive regional brooch variant, the ‘Wirral type’, being researched in some detail (Philpott 1999a). Current reported finds suggest there is a major difference in the density of brooch distribution across the River Mersey, Cheshire being far more prolific than the area to the north of the river.

Despite the poor cropmark response of heavy sub-soils and the relatively low incidence of arable agriculture, aerial photography has produced an extensive body of data regarding Roman period sites in the region. From the 1940s onwards, pioneered by J.K. St Joseph and the Cambridge University Committee for Aerial Photography, concerted programmes of flying have had a revolutionary impact on
the density, distribution and nature of late prehistoric and Romano-British settlement in the region (Higham and Jones 1975; Bewley 1994; Philpott 1998; Collens 1999). In the Solway Plain settlements and military structures have been identified which in turn has led to programmes of field walking and excavation (Bewley 1994). Nearly 80 enclosures have been detected as cropmarks within Cheshire, Merseyside, and West Lancashire. There has been limited field investigation and therefore many sites remain undated, but a few have produced Romano-British pottery or other finds in fieldwalking or evaluation. There are particularly dense concentrations of enclosures in the Mersey, Dee and Weaver valleys, probably in large part because of suitable conditions for cropmark development. In general the enclosures are interpreted as enclosed farmsteads, an interpretation borne out by excavations on enclosures at Irby, Wirral and Southworth.

Geophysical survey in the southern part of area has met with variable results, owing to the variety in soils, subsurface geology and nature of the archaeological deposits. Notable successes include the rediscovery of the Roman fort at Harbutt’s Field, Middlewich, while at sites such as Mellor (GM) and Dutton’s Farm, Lathom (L), geophysics has successfully located major linear features. In Cumbria resistivity has produced dramatic results locating the vici of some military sites as at Maryport (Timescape Archaeological Surveys 2000) and has been successfully used to provide details of the forts themselves as for example at Moresby (Geoscan 2003).

Monitoring of major construction schemes such as pipelines and road schemes has produced important remains. Some, such as the Roman cemetery at Low Borrowbridge (C) (Lambert 1996), lay in the vicinity of known sites. Others, which were completely unknown before, include three rural sites within the 4 km corridor of the A5300 in Merseyside (Cowell and Philpott 2000), rural sites of Iron Age and Romano-British date in Cheshire at Brune Stapleford and Birch Heath, Tarporley (Fairburn 2003), Chester Business Park, and an Iron Age and Romano-British farmstead at Dutton’s Farm, Lathom (Cowell 2002; 2003). Similar sites have been discovered along the course of the Carlisle Northern Development Route and await full excavation (CFA 2003).

Environment

The recorded Late Iron Age woodland clearances continued and intensified into the Romano-British period. Cereal pollen is frequently recorded in pollen diagrams from this period with arable cultivation not only confined to the lowlands but also identified in the uplands. Examples of upland sites where cereal pollen has been recorded include Devoke Water, Barfield Tarn and Tewit Moss in the south west fells of Cumbria (Pennington 1970; Pearssall and Pennington 1973, 231-6; Quartermain and Leech forthcoming) and in the Forest of Bowland (L) (Mackay and Tallis 1994). Subtleties of climate change during the Romano-British period have not been well studied. During the period the climate affecting the British Isles may have been warmer and drier than at present (Lamb 1977), making the marginal uplands more suitable for arable cultivation. The plant macrofossil record from the peat at Fenton Cottage, Over Wyre (L) hints at this, when Sphagnum imbricatum, a moss characteristic of wet conditions, was briefly replaced by S sect acutifolia, a moss found growing on the drier hummocks of the mire surface (Middleton et al 1995, 152). The dating of a marine transgression in the first millennium AD has not been dated precisely, and may have occurred during or after the Roman military occupation of the region. If it occurred during the military presence, it would have had implications for coastal installations such as defences, wharves and harbours, and may have affected the navigability of major rivers.

Tribal Groupings

The North West region extends across the territory of at least three tribal groups. Although the precise boundaries to east and west are uncertain the Cornovii occupied Cheshire, Ptolemy placing Deva (Chester) in their territory, with their tribal centre at Wroxeter, Shropshire. The Mersey is considered to form the boundary between the Cornovii to the south and to the north the Brigantes, a name possibly meaning the ‘upland people’ and representing a confederation of tribes (Rivet and Smith 1979, 279). Two groups within the Brigantes are recorded by name. The Carvetii with their cantonal capital in Carlisle achieved the status of a civitas by the later second century, a recently discovered milestone from near Brougham (C) having pushed back their known appearance by about 40 years. The boundaries of the Carvetii have been discussed by Higham and Jones (1985). The Setantii, known only from the place-name Portus Setantium recorded by Ptolemy, have been variously placed in the Fylde (Rivet and Smith 1979,
456-7) or in the southern Lakes near the southern end of Lake Windermere (Shotter 1997, 114), though the similarity of the name to the Mersey (Seteia) might suggest their territory abutted the river on the southern boundary.

**Military Activity**

More is known about military activity than about any other aspect of the Roman period in north-west England, as more time and effort have been devoted to exploring it. The number of archaeological interventions in Ribchester (about 110 excavations, evaluations, and watching briefs from 1811 to 2003) is probably greater than for all the other towns in the Lancashire EUS put together. Excavations, trial trenching and other fieldwork have been undertaken on forts and other military sites from the 1920s onwards by a succession of excavators. However, the extent of excavation is generally limited with trial trenching amounting to less than 1% of the total area within the defences being examined at a range of sites. Limited excavations or trenching has occurred at Brough under Stainmore (C) (Jones 1977), Burgh-by-Sands (C) (OA North 2002a), Burrow in Lonsdale (L) (Hildyard 1954), Burrow Walls near Workington (C) (Bellhouse 1960), Kirkbride (C) (Bellhouse and Richardson 1975), Low Borrowbridge (C) (Hildyard and Gillam 1951; Lambert 1996), Moresby (C) (Birley 1948), Park House near Carlisle (Bellhouse 1953), Troutbeck (C) (Bellhouse 1956), Wray Hall (C) (Bellhouse 1953), and Old Carlisle (C) (Bellhouse 1959; OA North 2002b). Overviews of individual sites have been provided by Birley (1946; 1947; 1948; 1951; 1954; 1957; 1958; 1959)

More extensive excavation has been undertaken at forts at Ambleside (C) (Collingwood 1921), Birdoswald (Wilmott 1997), Bewcastle (Richard et al 1938; Austen 1991), Bowness on Solway (Potter 1975; 1979), Carlisle (Caruana 1992), Castleshaw (Walker 1989), Chester (Mason 2000; Mason Forthcoming), Dowbridge (L) (Buxton and Howard-Davis 2000b), Hardknott (C) (Bidwell et al 1999), Kirkby Thore (C) (Charlesworth 1964), Lancaster (Jones and Shotter 1988), Manchester (Jones and Grealey 1974), Maryport (Jarrett 1976; Wilson 1997), Papcastle (C) (Birley 1963; Charlesworth 1965), Ribchester (Edwards and Webster 1985; 1987; Buxton and Howard-Davis 2000a), Watercrook (C) (Birley and Ravenglass (C) (Potter 1979). Cumbrian coastal mile fortlets have been examined in some detail at Cardurnock and Biglands (Potter 1977) as has the vicus at Old Penrith (C) (Austen 1991). There have been a multitude of excavations carried out along the line Hadrian’s Wall investigating the walls of turf and stone, the turrets and mileforts, and the forts themselves. The most extensive excavations undertaken under modern conditions have been at Birdoswald (Wilmott 1997).

Various models of conquest and occupation have been proposed, but none can be regarded as secure. Few of the military installations are ‘sites of conquest’, but more the ‘police-stations’ of permanent occupation. The relatively ephemeral character of campaign-camps has meant that few have survived as visible remains except on land that is agriculturally marginal, for example, in the Pennines and around Troutbeck (C). Distinct groups of temporary camps are to be found on the eastern side of Chester although not necessarily all of one period (Collens 1999; Philpott 1998). Uniformity of size and dimensions of several sites may indicate broad contemporaneity of one group at Hoole, Picton and Upton, where one camp has produced a likely late first century AD radiocarbon date from the base of the ditch (Philpott 1998). Cumbria contains at least 27 temporary camps out of a total of 132 for England (Welfare and Swan 1995, 30-52). Although some are associated with Hadrian’s Wall (e.g. Beaumont, Nowtler Hill 1, 2 and Moss Side 1, 2), many of the others lie along the main route between Carlisle and York over the Stainmore Pass.

**The advance north**

It has been argued that the Roman military advance into the North West was from bases in the north-west Midlands (Carrington 1985a), such as Wroxeter and Little Chester, following the Cheshire Plain (Strickland 2001) and ‘King Street’ through ‘coastal Lancashire’ to Lancaster (Rogers 1996). From there the Lune and Eden valleys provided a route of access to Carlisle. Initially, it appears to have been the Roman intention to conquer mainland Britain, and possibly Ireland also (Robinson 2000) but this was not realised. The incidence of pre-Flavian (pre AD 69) samian ware and pre-Flavian aes-coinage (especially Claudian copies) around the North West’s river estuaries and coastline suggests that (as Tacitus indicated) sea-borne troops were used in conjunction with land-based ‘colleagues’ during campaigning in the early
AD 70s, probably sailing from the Dee estuary and a pre-fortress ‘fort’ in or near Chester (Shotter 2002; Mason 2003).

The fortress at Chester was established in a location offering proximity to the Ordovices and the northern frontier (Luttwak 1976, 72), although sea-borne as well as overland communication was essential in fulfilling this role (Carrington 1985a, 16-18). The Dee estuary may already have been used by the Roman military for embarking troops to serve in support of Cartimandua in the 50s and 60s (Shotter 2002), as well as a safe haven from which to launch the invasion of Anglesey in AD 60 (Tacitus, Annals XIV, 29-30). The initial defences consisted of turf and clay banks with timber palisade, towers (presumably), gates and a single ditch. There are now hints that Chester played a role in pre-Flavian military activity in the North West as continued study is gradually bringing forward the foundation date of the legionary fortress into the middle or even early 70s. Hartley (1981, 245) has also drawn attention to a small number of Neronian/Flavian samian stamps from Chester. The lead ingots from Flintshire dated to AD 74 found at Chester (RIB 2 (1), 2404.31-2) demand a presence there but are not necessarily associated with construction work. The accepted view is that the fortress was built by Legion II Adiutrix, which was replaced by Legion XX Valeria Victrix in the late 80s, and remained the garrison thereafter.

A series of forts appears to have been founded in the early AD 70s as part of the first advance into the North West, all initially of turf and timber construction. Moving north from Chester the important strategic position of Northwich, together perhaps with the presence of brine springs, led to the establishment of an auxiliary fort on the west bank of the River Weaver in the area now known as Castle, probably around AD 70 (Jones et al 1987; Jones 1991). In contrast the fort at Middlewich was probably founded during the later AD 70s and may have been relatively short-lived (Gifford and Partners 1993a). There is growing evidence that the military occupation of Ribchester also began during the governorship of Cerialis, probably in AD 71-4 (Shotter 1999a, 9 and 14; 1999b, 5). In the absence of other similarly early sites in the immediate vicinity, it may initially have been served by sea and river (Buxton 1996, 11). Excavations (Edwards et al 1985, 27-39) have revealed a complex phasing for the fort's interior with buildings of different phases on different alignments. The first fort on Castle Hill, Lancaster was probably contemporary, established in the early 70s AD. A series of three temporary camps at Dowbridge (L), probably dating from the later first and early second century, were overlain by a signal station and subsequently a Hadrianic stone fort (Buxton Howard-Davis 2000b, 67).

Dendrochronology of preserved timbers and associated artefacts (Caruana 1992) suggest the first timber fort at Carlisle was constructed in AD 72-3, on the bluff where the medieval castle now stands. Present understanding of the layout and development of the fort at Carlisle is based largely on the results of the Annetwell Street excavations of the 1970s and 1980s and the Millennium project of 1998-2001, although a significant part of earlier work remains unpublished (cited in Tomlin 1998). Dating other Cumbrian forts to this early phase of occupation has proved problematic although Maryport (Shotter 2000a) Papcastle and Blennerhassett (Evans and Scull 1990) may also date from the early 70s AD.

The governorship of Agricola (c. AD 78-84) saw advances into Scotland and further consolidation to the northern military system. By the late 80s, Scotland had been largely relinquished, and a frontier established based upon the road which linked Carlisle and Corbridge – the Stanegate, while a few outliers may have been left in southern Scotland (Hobley 1989; Jones 1990). The early forts have been discussed by Potter (1979, 356-63) and Shotter (1997). The construction of the limes between the Solway Firth and Tyne estuary required considerable troop redeployments which led to rebuilding and consolidation of the area west of the Pennines, and the addition of some new forts, such as Watercrook and Ravenglass.

Overlooking the confluence of the Medlock and Irwell the fort at Manchester was founded c. AD 78 and became a hub of the regional transport network. A fort was also established at Castleshaw (GM), approximately a day’s march (16 miles) to the east, by c. AD 78-9 (Booth 2001, 38) as part of the process of controlling the Pennines and its passes and routeways. There were two phases of timber buildings within the fort before it was abandoned in the mid-90s AD (Booth 2001, 43).

A major rebuild within the existing defensive perimeter occurred at Carlisle in AD 83, probably in the autumn or winter of that year. It would be logical to associate this work with a change of garrison, perhaps reflecting the arrival of the ala Gallorum Sebosiana, whose presence is attested by documents,
although there is also documentary evidence for men of Legio XX at Carlisle during the winter of AD 83. A second significant, though less extensive, refurbishment occurred in c. AD 93-4, when work on the defences is attested and some new buildings were erected. The end of this period was marked by demolition of the entire fort, probably in the first years of the second century. Likewise, excavation of the northern defences at Ribchester showed that the early timber fort was modified c. AD 82-86, and subsequently demolished c. AD 117-25 (Buxton and Howard-Davis 2000a, 13). The timber elements within the defences at Chester were replaced in stone, the rampart given a stone facing and the ditch recut. The dating of this work is uncertain but had started by AD 100 (LeQuesne 1999, 138-45; cf Carrington 2002, 16), a little earlier than similar work and enlargement at Lancaster. Reconstruction in stone within the fort at Chester was started before AD 120 but was halted by redeployment of much of the legion to the North and further constructional details of the fortress through the second century mirror the known absences of large parts of the legion.

In c. 105 the Romans returned to Castleshaw and erected a smaller fortlet on the earlier fort site. This fortlet, again of turf and timber, also had two phases of building before it was abandoned in the mid-120s AD. Most fortlets in Britain were used to house garrisons and therefore contained barrack blocks. However, excavations by GMAU in 1984-9 showed that the Castleshaw fortlet’s layout was unusual. Despite its large size, of 1950 sq m, it had only one barrack block, the rest of the interior being taken up by a commander’s house, workshop, overlarge granary (big enough for a fort), stables/latrines, bread oven and a courtyard building (headquarters or mansio). It has been postulated that Castleshaw served either as a ‘base’ fortlet, holding the nerve centre of a cohort with most of the troops out-stationed in smaller garrison fortlets and signal stations, or a ‘commissary fortlet’ used for supply and administration. Research excavation by GMAU in 1995-6 showed that there was a settlement just outside the south gate. This was abandoned with the fortlet in c. AD 125. Pollen analysis has shown that in the early second century, Castleshaw valley had managed herb-rich grasslands for grazing, but as soon as the site was abandoned native wild grasses, shrubs and trees quickly invaded again, indicating that there was no continuation of settlement in the valley.

The Hadrianic frontier

The layout and construction of Hadrian’s Wall have been discussed in detail (Breeze 1982; Bidwell 1999; Breeze and Dobson 2000) and a Research Framework specifically covering the Wall and its immediate hinterland is in preparation. A wall was built from the Solway Firth to the Tyne, with the western extension of the Wall continuing down the north-west Cumbrian coast with forts at Beckfoot, Maryport, and Moresby as well as a series of mile fortlets and turrets. The western end of the wall, up to the River Irthing, was initially built of turf, and replaced in stone in two stages during the second century, while the eastern end of the structure was constructed in stone from the outset.

After a short break in intensive occupation the fort at Carlisle was entirely rebuilt, again in timber. The size of the new fort is not known but it appears to have had a similar layout to its predecessor and may have been of similar size. Over most of the site two major sub-periods of activity are evident. In the praetentura (the forward area within the main gate) three primary barracks or barrack-like structures and a number of other buildings were demolished during the Hadrianic period and replaced with new structures or with external surfaces. At least one of these buildings had an industrial function, having been used as a smithy. In the central range the situation is not so clear; earlier buildings and features continued in use, as did the principal roads. The significance of these developments is uncertain but they may indicate a change, at least in part, in the function of the fort. It is tempting to speculate that this may have been connected with the construction of Hadrian’s Wall (and also the Wall-fort at Stanwix), little more than half a mile to the north.

The construction of the Antonine Wall in the early 140s AD led to a major change in strategy for the Hadrian’s Wall forts and the hinterland; some forts were evacuated, others retained with heavily reduced garrisons. Troop withdrawals in the North West may not have been total however at all sites and the area retained a sizable garrison. The withdrawal from the Antonine Wall appears to have occurred c. AD 163, based largely on coin and samian evidence, and a number of sites in the North West can be shown to have been re-occupied at about that time. The western extension of the limes appears to have been re-commissioned and building work at Ribchester and Watercrook may relate to this phase (Potter 1979, 179).
Post-Hadrianic development of the forts

There is evidence for the fort at Manchester being destroyed and abandoned in the mid second century but by c. AD 160 it was rebuilt, again in turf and timber, but on a larger scale covering 2 ha to accommodate extra granaries. The final phase of construction came c. AD 200, when the rampart was faced with a stone wall and the gatehouses also rebuilt in stone. This phase is represented in the reconstructions of the North Gate and sections of the north and west rampart and ditch system (Walker 1986, 131-40). At Ribchester rebuilding of the principia (headquarters) in stone may have been done by the Sixth Legion c. AD 161-9 (based on RIB I, 589), and again in c. AD 198-209 (RIB 591), but it has not been determined whether this dating is applicable to the other central range buildings (Simpson 1985, 15; Edwards 1981, 11). The period of approximately 50 years from the demolition of the second fort around the middle of the second century is one of the most obscure in the history of the fort at Carlisle. Extensive deposits attributable to this period have been recorded and it is clear that several sub-phases or sub-periods of activity are represented, although their significance is still poorly understood. It is not even clear if the remains are those of a conventional fort, although this is looking increasingly unlikely. Work at Chester did not resume until the 160s at least, and continued through the Severan period (AD 190-225), when the ditch was also recut.

By the early 180s AD there was renewed campaigning in Scotland under Ulpius Marcellus, in response to attacks from the north. In AD 196/7 the governor Clodius Albinus withdrew troops from Britain to support his imperial claim, and this may have resulted in further attacks from the north, possibly related to a series of rebuilding inscriptions on the frontier in the period 202-208. Between c. 180 and 200 the Cumbrian coastal defences appear to have been abandoned except perhaps for the forts. Other than Ravenglass, forts such as Lancaster or Bowness-on-Solway were run down in the early third century or evacuated as at Watercrook. After the early third century the North West appears to have entered a period of some stability, with rather more dispersed garrisons and an absence of demonstrable activity at several forts. At Lancaster, Ribchester and Old Penrith, however there appears to have been renewed building activity. Carlisle was probably reconstructed in stone during the early third century. A building stone of Legio VI Victrix in the south-east corner of the principia possibly demonstrates that the entire fort was built by the York legion. It is also possible that a vexillation from Legio VI formed the primary garrison (or part of the garrison). However, epigraphic and other evidence from Carlisle strongly suggests that detachments from the two other British legions were jointly in garrison during the first half of the third century. By the later third century, the greater volume of coin loss enables patterns of activity to be discerned with greater clarity. Coastal sites such as Maryport and Lancaster, and valley forts such as Watercrook and Ribchester, accessible from the coast, have larger volumes of coins than inland sites. This suggests an emphasis on reconstruction of the coastal defences, either anticipating or responding to coastal raiding.

Ravenglass was burnt down in the late third or early fourth century, perhaps as a result of coastal raiding. The attempt by Carausius to set up an independent empire, may have resulted in a period of instability. Early in the fourth century the coastal defences appear to have been strengthened. This is most evident at Lancaster where the newly constructed Wery Wall, constructed after 326 on the evidence of a coin from beneath the structure, forms part of a defensive system closely similar to the Saxon Shore forts in the south east of England though later than most of them in date. Caer Gybi on Anglesey has been seen as part of the same coastal system, and a new coastal fort constructed in the first half of the fourth century, was built at Burrow Walls, while garrisons were present at Ravenglass and Maryport. Inland fourth-century activity is attested at many forts, and renewed rebuilding on Hadrian’s Wall is also found in the early part of the century. Two small fortlets at Wreay Hall (C) and Barrock Fell (C) in the Eden valley were occupied in the later fourth century, presumably to guard the important road to the south (Potter 1979, 364-6).

At about the end of the third century some barracks within the fort at Chester seem to have been demolished, while others were reconstructed. Repairs to the major buildings continued in the fourth century (Mason 2001) although later details are particularly obscure as the volume of coinage declines rapidly from the 370s. Whether occupation continued to be military to the end has been debated. The fortress seems to have been abandoned rather than to have been demolished. Clearance of the site
probably did not start until the tenth century and was pursued more vigorously after the Norman Conquest.

Intensive occupation of the fort at Carlisle continued throughout the fourth century. At Annetwell Street it was suggested that military occupation ceased around AD 330, after which activity of a non-military nature continued into the last quarter of the century or later. At the Millennium site a shift from military to non-military occupation during the fourth century was not readily apparent, but occupation almost certainly continued into the fifth century on numismatic and stratigraphic evidence. The latest phases of occupation in the vicinity of the principia (headquarters building) included re-surfacing of the via principalis (main street) with broken sandstone rubble and the possible erection of timber structures to the south and east. This activity was associated with a large number of late Roman bronze coins, including two of the period AD 388-402, which were almost certainly deposited as a result of casual loss rather than dispersal of a hoard. The loss of so many coins in this area may point to the existence of a market within the fort at the end of the Roman period, as has been suggested at Newcastle on the basis of similar evidence.

Similarly, there was limited occupation at Ribchester until the fourth century, the latest coin so far found being minted in AD 367, but final evacuation may have been as late as AD 383, or even under Stilicho in AD 396 (Simpson 1985, 16). It has been suggested that occupation of parts of the fort may have continued into the Post-Roman period (Jones 1971a, 279). The coastal forts presumably remained in occupation to the end of the fourth century or early fifth, with timber-framed buildings of this period present in Ravenglass, Maryport, and Wall forts, but varying in form from small irregular buildings at Bowness to versions of the standard barrack block at Ravenglass. The best evidence for continued use of forts into the fifth century comes from Birdoswald (Wilmott 1997). Potter notes that although a widespread network of forts appears to have been maintained in the late fourth century there are disparities in architectural style between different sites that may mark more local traditions emerging towards the end of the Roman period (Potter 1979, 365-6).

**Settlement and Landuse**

The most important economic base for the North West in the Roman period was undoubtedly agriculture. The ubiquitous presence of grain storage facilities within the military forts and of cereal grains themselves indicates that cereals were an essential part of the military’s requirements of food and livestock. Information culled from such sources as the writing-tablets from Vindolanda suggests that a strong working-relationship was established early on between forts, vicus and farmers in the forts’ hinterlands. These tablets, with their frequent references to the monetary value of products, would suggest that some farmers, at least, were drawn into a money-using economy to some degree. Where exactly these cereals were being grown and processed, however, is still uncertain.

The pollen from the southern part of the region indicates a wider range of crops was being grown. Alongside the wheat and barley that were present in the Iron Age, oats and rye become more common, together with Cannabis (probably hemp), flax and legumes. The crops themselves may have changed somewhat, at least in emphasis, since the Iron Age, but the extreme paucity of Iron Age material in the region precludes any specific synthesis. The other important products reared within the region were livestock, notably cattle and sheep. The cattle bones found on military and military-related sites appear to be raised locally, although the sample size is still relatively small, especially for the later part of the period. So far, there is little or no evidence for the importation or creation of new types of larger cattle during the Romano-British period. The age profiles of sheep recovered from Roman forts in the region indicate that the sheep were slaughtered at prime ages for meat provision (Dobney & Stallibrass in prep.) although it is likely that sheep were also reared for wool away from the sites of military consumption. In contrast the animal bones at Birdoswald indicated that the soldiers consumed beef from elderly cattle. At Annetwell Street, Carlisle, the soldiers consumed beef from young animals and meat from older beasts, whilst people living in the civilian area of The Lanes only had meat from the older animals. The bulk of the evidence has been recovered from military and urban sites, reflecting the density of work undertaken at those locations. Environmental evidence from rural sites in the North West is almost entirely unknown. Recent reviews have noted low quantities of plant remains from four rural sites (two in
Cumbria and two in Merseyside) and sparse remains of animal bones from five rural sites (three in Cumbria and two in Merseyside) (Huntley and Stallibrass 1995). As yet, there are no plant or animal bone assemblages that can be used in comparison with the military and urban sites.

**Industrial settlements**

Much industrial activity appears to have been undertaken on a commercial scale but other material suggests relatively localised manufacturing and in many cases it is difficult to draw a line between industrial activity and what may be deemed domestic or household production. Equally the exact processes undertaken at some sites are not discernible (e.g. at Wilderspool: Thompson 1965, 72; Petch 1987, 195) although some hearths and kilns may have been used for a manner of different activities.

There is evidence to suggest that many of the so-called industrial sites, and even parts of the *vici*, operated as part of the infrastructure created by the Roman army soon after the conquest, to support and supply its operations in the north. It has been argued that the Cheshire Plain was ideally suited for the development of meat production with the availability of brine for curing purposes, and to meet the requirements of military bulk supplies (Jones and Mattingly 1990, 232). To what extent manufactured items represent the visible component of a broader based supply involving agricultural produce, such as cereals and livestock for meat, milk and leather, and other perishables such as timber and textiles, remains a question for further research. One broadly common characteristic of the industrial sites of Cheshire and Lancashire is the chronology of activity. Most began in the last decade or so of the first century but declined in the later second century, showing markedly decreased activity by the fourth century. Excavation has revealed with varying degrees of detail the chronology and activities of these small settlements.

In the Cheshire and Lancashire Plain several nucleated settlements developed during the late first century AD, both around early forts and on possible non-military sites. The settlement at Middlewich developed alongside the fort and was probably occupied from around the last quarter of the first century AD to c. 400. The discovery at Middlewich of a bronze diploma issued to an auxiliary soldier on his retirement in AD 105 indicates that there was still a military presence in the area at this time (Strickland 2001, 30-1). The army probably withdrew from Middlewich by c. AD 130, but military interest continued in Middlewich due to its important strategic location and the salt industry. The settlement may have declined from about AD 250. A series of excavations on King Street have revealed regular timber strip buildings, measuring 6.4 to 7.3 m wide and over 15 m long, with their narrow ends fronting onto the street. Similarly at Northwich excavations revealed evidence of kilns and furnaces in the area of the military annexe, including a find of an iron auxiliary helmet in 1969 (Jones 1972).

In contrast sites at Heronbridge (Ch) (Hartley 1954; Mason 2002a), Wilderspool (Hinchliffe and Williams 1992), Nantwich, Wigan (Jones and Price 1985) and Walton-le-Dale (L) do not have known forts, but all appear to have a strong manufacturing base, and are all associated with navigable rivers. Jeremy Evans has noted that Walton-le-Dale and possibly Wilderspool have military type ceramic assemblages, with high levels of samian ware, high levels of decorated samian and high levels of amphorae, nearly all form Dressel 20. While they may not actually be military sites they do not conform to the usual model of a lowland zone ‘small town’ (Evans Unpublished d) and may have operated as hubs within a distribution and supply network.

The occurrence of large rectangular timber buildings on the majority of sites also suggests a common architectural influence or origin, such as at the Wiend, Wigan, where the second phase of activity saw the construction of substantial timber buildings (Jones and Price 1985). At Heronbridge the earliest phase of timber buildings were erected c. AD 90 and in the Hadrianic period the settlement was replanned with stone strip-buildings laid out in blocks with lanes between them. The first phase of buildings at Walton-le-Dale is of Flavian (69-96 AD) date and was superseded by a series of more substantial timber-framed buildings, probably with large doors opening onto the street. Evidence from the Kingsley Fields site demonstrates the extensive scale of industrial activity in Roman Nantwich, although the full extent of the settlement is still unknown. It is likely, however, that the main settlement area was on the east bank of the river, away from any industrial and cemetery areas.
Vici and Towns
The Roman military presence in the North West is not merely represented by the forts themselves but by a supply network of roads and coastal trade, artefacts and coins, and a series of settlements either deliberately founded or evolving organically to meet the needs both of the army and the local population. Most of the forts attracted civilian settlements within their hinterlands, which in many cases led to the formation of proto-urban settlements or ‘towns’. It is noteworthy that the region does not appear to have conventional Roman towns in the strictest definition of the word, and only Carlisle appears to have had a civic responsibility.

The vici started to develop around the major forts in the later first century and early second centuries AD and only Hardknott seems to have lacked a vicus, presumably because of its location. Whilst few vici have been substantially sampled by excavation, aerial reconnaissance and non-intrusive ground-survey have shown how extensive they might be. Recent geophysical survey at Maryport has revealed extensive evidence of the extra mural settlement outside the fort (Timescape Archaeological Surveys 2000). Some appear to have a planned layout such as Lancaster and Ribchester, while others had a more organic development. The small number of inscriptions currently available from vici-locations leaves us few clues as to who lived and worked in them, but the small amount of evidence suggests a truly ‘cosmopolitan’ mixture both from Britain itself and widely-separated places in the empire at large. Chester is an exceptional example of this with inscriptions indicating the origins of soldiers and their dependents from 25 places elsewhere in the empire.

To the east of the legionary fortress at Chester lay strip buildings with probable commercial functions, with the amphitheatre located at the south-east corner of the fort, and the mansio to the south. To the south-west and west were more scattered buildings of uncertain plan, but often high quality, as attested by hypocausts, highly decorated wall plaster and reports of mosaics. North of the west gate lay a large bath house and an inhumation cemetery (Mason 2001, 101-18, 181-92). Recent evaluation has also shown traces of extramural buildings near the north-east corner of the fortress (Dodd 2002). The harbour facilities remain a matter of debate. There only seems to have been the simplest extramural street grid, and the main western arm seems to have been virtually blocked in the second century. Just over a mile to the south was the roadside settlement at Heronbridge (Mason 1988; 2002a). This seems to have originated as a small-scale industrial and agricultural settlement in the late first century, and again consisted of strip buildings. In the early second century it was rebuilt in more substantial form, with signs of overall planning in the grouping of the buildings, which survived into the third century. Tombstones found in 2002 and 2003 suggest a level of prosperity for some of the inhabitants. The settlement may have lain in the civitas Cornoviorum rather than in the legionary territory, although the material culture of the inhabitants was extremely similar to that of the Chester canabae (the legionary fortress civil settlement).

Excavations at Manchester through the 1970s found extensive evidence for successive building phases beginning in the late first century and continuing into the early third century (Jones and Grealey 1974; Jones and Reynolds 1978). The vicus appears to have been a linear development alongside the road from the fort’s north gate, and extending westwards (Connelly 2002), with the cemetery and religious complex on the east and south-east sides. A rich collection of material from Northwich including large quantities of first-century pottery, coins, spearheads, melon beads and a possible hearth discovered along Queensgate indicates that activity extended north and west of the fort and this may represent traces of a vicus alongside Chester Road. Excavations at the site of the old Zion Chapel in Beeston Street in 1974 revealed traces of an early second-century rectangular building with post holes and pits containing second-century pottery. At Lancaster an extramural settlement was established at the beginning of the second century, some 20 to 30 years after the foundation of the fort. Buildings were located within distinct, planned plots, the boundaries of which had a significant longevity (Ian Miller pers. comm.).

There is a case for army involvement in the construction, ownership, and tenancy of the extra-mural settlement at Ribchester (Buxton and Howard-Davis 2000a, 122-6 and 420). On the Ribblesdale Mill site large timber buildings of military pattern were first constructed c. AD 125 (Buxton and Howard-Davis 2000a, 139-47). Hypotheses put forward for these include additional garrisoning, stables, and/or that this was part of an extra-mural veteran soldiers’ settlement, implied by the name Bremetennacum Veteranorum. The presence of defences around the extra-mural settlement at Ribchester is unusual in the North West, but by no means exceptional. The defended annexe to the fort at Carlisle is likely to have
been for military and official use only, with evidence for buildings of a distinct military type (McCarthy 2002, 76), the repair and maintenance of equipment, and corralling and slaughter of animals. Recent excavations have begun to unravel the mysteries of the vicus at Kirkby Thores, near Appleby (C). It had been postulated that this vicus had also developed into a walled town (Charlesworth 1964) but excavations to the north of the fort (LUAU 2001) and adjacent to the Roman road that is now the A66, have not only failed to identify the putative defences (Gibbons 1989) but have shown that there was considerable roadside development to the south of the fort (LUAU 1994; CAL 1999). A major reconsideration of this vicus based on the recent explorations remains to be published.

The majority of the vici buildings were of timber post and beam-slot construction, with evidence for multiple phases of buildings at most sites. Building styles are typically rectangular although variations at Manchester included the addition of a veranda, a type comprising a shed open along one side, and a U-shaped complex around a central yard. There is some evidence at Manchester for dwarf stone walls to support timber-framing and for buildings of stone construction at Lancaster during the third century. Evidence from excavations in Lancaster and Walton-le-Dale has indicated that early buildings of the second century tended to be of sill-beam or beam-slot construction, but this technique was superseded by the use of vertical timber posts (I. Miller pers. comm.). Final occupation at the Lancaster vici involved the construction of a massive timber-posted structure or building, although details of its purpose remain obscure.

The civilian settlement at Carlisle developed out of the fort vicus (McCarthy 2003), initially in an organic nature along the roads leading southwards (McCarthy 2002, 69) although possibly within a series of controlled zones (McCarthy 2003, 147). By AD 105 Carlisle had a centurio regionarius (military administrator for a particular area) indicating it performed an important regional function, and by the later second century it had expanded to a settlement of over 32 ha. A densely concentrated development in the Blackfriars Street area resembled medieval burgage plots, beginning with open-ended structures which were interpreted as storage buildings, but were followed by others resembling domestic structures perhaps for retired soldiers or merchants. In the Hadrianic and early Antonine periods the houses were rebuilt as storage buildings. In the Lanes a large ‘official’ building of uncertain function was burnt down, to be replaced by a succession of long multi-roomed structures, resembling storage buildings at Corbridge. Nearby, a less dense area of rectangular timber buildings set in spacious ditched and hedged enclosures, appear to have been primarily for domestic, agricultural or craft purposes. In the Botchergate area a series of planned domestic properties, with yards and metallised lands overlay earlier forts or camps (McCarthy 2003). Botchergate was also used during the late first century as a cemetery and, during the early second century, as an industrial area (Miller and McPhillips forthcoming). The third century saw a more stable settlement with property boundaries remaining fixed for long periods, and it was at this time that the town was probably granted self-government. New roads were laid out, creating rectilinear insulae. Perhaps in the mid to late Antonine period a series of stone public buildings were built and a possible forum found near the southern gate of the fort.

Most of the vici appear to be on the decline by the third century along with other urban centres, although the true nature of a seeming urban decline is not fully understood. Towards the middle of the second century, the buildings on the Ribblesdale Mill site, Ribchester, were demolished, and the land appears to have been returned to agricultural use for the remaining lifetime of the vicus. The Manchester vicus declined considerably during the third and fourth centuries despite coin finds and evidence for re-cutting of the fort ditches demonstrating that the fort continued during this period. In contrast some parts of the town at Carlisle continued to be inhabited well beyond the fourth century, for example in Scotch Street where a hypocausted structure, probably a house, had a gold solidus of Valentinian II (AD 375 to 392) sealed in a hypocaust below several subsequent floor surfaces. The two lives of St Cuthbert refer to Roman walls and a fountain in ‘Lugubalia’ still functioning in the late seventh century. Building work and street repairs continued at Heronbridge into the early fourth century (Mason 2002a).

Rural Settlement
The generally held view that hillforts were abandoned by the middle Iron Age (e.g. Matthews 2002, 8) is based on a few limited investigations and the status of hillforts at the time of the Roman occupation is uncertain. The general impression in the North West is of a Late Pre-Roman Iron Age landscape of dispersed enclosed settlements with some unenclosed structures. It is not known whether the numerous
upland enclosures were seasonal grazing establishments or occupied throughout the year. The evidence currently available would suggest a lower concentration of settlement in lowland areas of Cheshire and Lancashire, although this may be due to modern biases in site visibility and fieldwork. Long-term programmes of fieldwalking, in Merseyside, northern Cheshire and surrounding areas have produced an increasingly valuable body of data. Enclosures of various forms at Winwick (Ch), Greasby (M), Hale (M), and Telegraph Road, Irby (M), have all produced Roman pottery.

The arrival of the Roman military appears to have had little effect on the location of some settlements, and many smaller enclosure sites have both late Iron Age and Romano-British phases, although continuous occupation is difficult to prove without good sequences of closely datable artefacts or closely targeted sequences of radiocarbon dates. The presence of even small amounts of Roman pottery on some rural sites has inevitably resulted in their occupation being dated to the Roman period (Higham 1982, 31) although it has been recognised that this merely dates a phase of occupation, and that both earlier and later activity may be archaeologically under-represented (Higham 1982, 32; Higham and Jones 1983, 63; Bewley 1994, 35). Other settlements appear to have been established de novo with no sign of earlier occupation on the site, such as Court Farm, Halewood (M) (Adams and Philpott forthcoming).

The middle to late Iron Age double-ditched hilltop enclosure at Mellor near Stockport (GM) has produced an important Romano-British finds assemblage from the upper fills of the inner enclosure ditch, dating from the late first to early fourth century AD. The presence of samian, Black Burnished, Cheshire Plains and Derbyshire wares demonstrate cross-Pennine trade patterns and a relatively high status site, which in turn might suggest continued occupation by a high status native Romano-Briton. Likewise the probable enclosed settlement at Dutton’s Farm, Lathom (L), contained roundhouses probably dating from the late Iron Age to early Roman period, which in turn had been rebuilt on the site of earlier structures. Nearby a series of trackways and field boundaries was identified, with at least one trackway with a series of well defined wheel ruts at being used during the Roman period, as it contained a small hoard of Roman coins and Roman pottery sherds (Cowell 2002; 2003)

Similarly at Great Woolden Hall (GM) and Castlesteads (GM), settlements founded in the mid to late Iron Age continued well into the Roman period (around AD 200). At Great Woolden Hall the Late Iron Age phase was followed by an oval palisaded enclosure and a roundhouse which produced a date of 120 BC to AD 80, succeeded by a final Romano-British phase indicated by pottery from the fill of the inner ditch and the ploughsoil, although a hiatus was postulated between the late Iron Age and Romano-British activity (Nevell 1999). A third site, a hill-top enclosure at Rainsough near Prestwich (GM), has produced late prehistoric pottery sherds as well as an abundance of first and second-century Roman wares. Radiocarbon analyses suggest a Middle Iron Age date for the double-ditched enclosure at Brook House Farm, Halewood (M), but after a Late Iron Age hiatus a small amount of South Gaulish samian dated AD 70-110 indicates an early Roman reoccupation (Cowell and Philpott 2000, Chapter 3). Irby on the Wirral (M), has evidence of an Iron Age phase of activity on a site which was also occupied in the Roman period, although Iron Age buildings could not be distinguished (Philpott and Adams forthcoming).

In Cumbria and northern Lancashire earthwork sites are much more common in the uplands with extensive survival of both enclosures and field systems, the two occurring sometimes in association (Higham 1979; Higham and Jones 1985). A range of different settlement types is present, with a range of types of field system, although few rural sites in Cumbria have been evaluated in sufficient detail to determine whether or not they are specifically Romano-British. Indeed, the majority of sites are simply massed together as ‘native’ or ‘Iron Age/Romano-British’, and since little excavation has taken place to give reliable dating evidence, it is impossible to distinguish. Evidence gleaned from the SMR and from Monument Protection Programme class descriptions suggests that many settlement sites were multi-period in function and continued in use from the Iron Age and earlier, into the post-Roman period. This may be visible at Wolsty Hall (C) where second century pottery was found in the upper fills of ditches (Blake 1959), or Dobcross Hall (C) where an undated but potentially Iron Age enclosure was possibly redefined with an inner enclosure ditch and occupied during the Romano-British period (Higham 1981). A trawl through the Cumbria SMR reveals up to 332 settlements of unknown period, 167 of which have upstanding earthworks, and another 90 appear as cropmarks. Additionally, there are 866 enclosures of unknown period (498 recorded as earthworks). Because of their greater visibility, especially in the uplands, enclosed farmsteads are the most commonly recorded rural settlement type, although few have
been dated, and other types of settlement undoubtedly existed. Excavations at Court Farm, Halewood (M) revealed an unenclosed settlement with up to a dozen buildings representing over two hundred years of occupation, from the second to fourth centuries. These included large sub-rectangular structures, sometimes in a figure of eight plan, which have been found elsewhere in the area north of the Mersey. Rural buildings other than roundhouses are not recorded in great numbers from the region.

Throughout the whole region, the traditional Iron Age building form, the roundhouse, continues in use well into the Roman period (Nevell 1999; Cowell 2002; Hoaen and Loney 2003). Early Roman roundhouses are known from rural contexts at Irby, Wirral, Dutton’s Farm and from early phases of industrial settlements at Wilderspool and Walton-le-Dale. Romano-British roundhouses have been excavated at Kirkby Thore (C) (LUAU 2001) and Barker House Farm (L), near Lancaster University, where excavation produced radiocarbon dates spanning the later first to third centuries but no diagnostic artefacts (J. Quartermaine pers. comm.). In Matterdale (C) glass bangles have been the main artefact recovered from the excavation of several roundhouses, although one phase of one house also produced an unexpectedly exotic assemblage including samian and other fine wares (Hoaen and Loney 2004). At Crosshill (C) a roundhouse is recorded with an outer ring of stake impressions and daub staining and an inner ring of post-holes for uprights to support the roof, with a total diameter 12.7 m (Higham and Jones 1983). At Wolsley Hall (C) a similar roundhouse measured 14 m in diameter but a third-century roundhouse at Silloth Farm (C) had a diameter of only 4-5 m. At these northern sites the change to rectilinear construction occurred during the third century (Higham and Jones 1985, 97).

The change from the roundhouse was slow throughout the region by comparison with many sites in the south and east of England, and the social circumstances of the region may have resulted in a greater degree of conservatism in house form and in the adoption of Roman material culture. The presence of military and urban sites meant that many amongst the population were not unaware of Romanised building styles but apparently they saw no reason to adopt them. By the second century in the southern part of the region a sub-rectangular building form is found at three sites in Roman contexts, at Halewood, Tarbock (M) (Cowell and Philpott 2000) and Wilderspool (Hinchliffe and Williams 1992). A rectangular building at Ochre Brook, Tarbock, was associated with a probable nearby tileworks. There is also a polygonal house, possibly of fourth century date at Irby (Philpott and Adams forthcoming), a rectangular building with stone foundations from Saltney near Chester (Newstead 1935) and sub-square buildings from Birch Heath (Ch) (Fairburn 2003). Further north in Cumbria, the roundhouse within the enclosure at Crosshill was superseded by a group of rectangular timber buildings, occupied by the late third century (Higham and Jones 1983). Buildings in upland rural settlements such as Crosby Garrett (C) contain both stone built round structures and in some cases rectangular or bow-sided structures (Higham and Jones 1985, 85).

Cumbria has examples of most categories of Romano-British settlement types as defined by the Monument Protection Programme, with the upland limestone areas in particular demonstrating good preservation of earthworks, situated above the areas subject to later intensive cultivation (Higham and Jones 1975). A large proportion of the identified sites are located in the areas to the south and east of Penrith, with another concentration to the west of Carlisle (mainly cropmarks) and yet another on the west coast to the north of Maryport. There are few recorded sites within the Furness Peninsula, although findspots would suggest a larger Romano-British population than this implies. In general the upland areas of Lancashire and Cumbria have proved amenable to the discovery and recording of earthworks (e.g. RCHME 1936; Lowndes 1963, 77-95; Bewley 1994) as opposed to the areas of lowland permanent pasture. In 1997 a detailed landscape survey of approximately one square kilometre of land at High Park above Cowan Bridge (L) showed that the earthwork remains there that had been identified by Lowndes (1963; 1964) were both more extensive and complex than previously thought (C. Newman 1997; Jecock 1998) with a considerably greater length of occupation. Many of the upland sites were discovered from aerial photography and in 2003 alone new sites at Gawklands, Clifton and Warcop Army Range were recorded on the Cumbria County SMR, all of sufficient quality to be scheduled. Some of the Cumbrian sites appear to have been relatively isolated but the majority are close to major communication routes and there are also several examples of sites linked to a Roman road such as Sandy Brow and sites at Stainmore. Sites such as Barnscar, in western Cumbria, appear more isolated but are situated close to the port of Ravenglass. Some sites show a carefully planned reorganisation of the landscape into orderly field
systems such as at Aughertree Fell and Hartley (OA North 2003), but there are also vast sprawls of loosely connected farmsteads as well as farms in isolation which do not have this ‘planned’ character.

On the Solway plain sites tend to cluster in dry land locations on the sand and gravel eskers supporting often dense concentrations of settlements, with evidence of rectangular single-ditched enclosures and ditches subdividing the dry land into blocks of 6-10 hectares (Higham and Jones 1985, 72, fig. 33). This is in contrast to the areas to the north of Hadrian’s Wall, where enclosures of multi and bivallate sites, often of curvilinear form, are prevalent but field systems are less common. It has been suggested that the construction of the Wall may have led to the development of stable agricultural communities to the south (Higham and Jones 1985, 77-80) although an alternative view could be that the prevalence of potentially defendable sites might reflect the insecurity of this enclave in the pre-conquest period.

On the edge of Saltney Marsh, to the south-west of Chester, was another settlement, which flourished in the second and third centuries. The buildings seem to have been poorer quality than those in the canabae, apparently consisting of stone-founded, rectangular houses with tile roofs, possibly set within ditched enclosures. Nevertheless, a wide range of pottery was in use, including samian and fine wares, and other finds include an intaglio, a shale amulet, quernstones (including one ‘beehive’ type) and iron tools (Newstead 1935). Excavations in the autumn of 2003 on the Chester Business Park 3.5 km south-south-west of the city have revealed a further settlement, on a road from Heronbridge to Ffrith. This seems to have consisted of timber buildings surrounded by cobbled surfaces and wells. The earliest buildings were roundhouses, while those in later phases were rectangular. Surrounding the settlement were small plots, stock enclosures and droveways. It is possible that this site and Heronbridge were surrounded by a single field system.

Villas are virtually absent from the North West. Only one certain example has been located, at Eaton-by-Tarporley (Ch) where excavations revealed two successive stone houses of winged corridor type were occupied from c. AD 170-200 through to at least the mid-fourth century. The first stone villa was preceded by short-lived timber buildings, perhaps of aisled plan (Petch 1987, 211, Fig. 34; Mason 1982; 1983). Other villas have been claimed in Cheshire on the basis of finds of masonry and other finds in the 19th century (e.g. Petch 1987, 212-3; Matthews 1994, fig. 8.3) but definitive evidence is lacking and the distribution of villas has been seen as a concomitant of a relative lack of urban development (Jones and Mattingly 1990, 240, map 7.6).

Field Systems

Recent work in Cheshire has started to reveal field ditches partitioning the landscape in the immediate environs of Middlewich, Nantwich and possibly east of Chester, towards Boughton (Mark Leah pers. comm.). At Middlewich, small fields may have been utilised for agricultural purposes, saltworking and pottery production (Cheshire Archaeology News 2002) and there is evidence of expansion over a series of probable agricultural enclosures at Wilderspool (Hinchliffe and Williams 1992). Barri Jones has drawn attention to the presence of rigg and furrow in association with a native site at Askriigg in the Eden valley (1975, 100). Field systems at Eller Beck (C), 200 m above the Lune valley comprise an extensive Romano-British landscape of settlements and fields extending over 60 ha. Irregular paddocks are superimposed on rectilinear fields, suggesting the possibility that the maximum extent of arable cultivation was reached in the second century to recede and be returned to pastoral use (Miles 1989, 119 - citing Higham 1986). There is evidence for systems of roughly rectangular fields surrounding and associated with enclosed farmsteads of potential Romano-British date on Aughertree Fell (C) and on the limestone fells, such as at Crosby Garret (C), Crosby Ravensworth (C), Waitby (C) and Yanwath (C) (Higham 1983). It has been proposed that the field systems represent a system of mixed farming with the larger, less regular fields for stock or fodder, and the smaller, more regular fields within the vicinity of the settlement enclosures used for arable cultivation (Higham 1882; 1983).

In the southern part of the region extensive ploughing has removed most surface traces of field systems. However, undated cropmarks of rural field systems have been found in association with enclosure sites, such as Winwick and Glazebury (Ch). At Court Farm, Halewood, a field ditch was recognised but contained only abraded Roman pottery and was thus potentially post-Roman in date (Adams and Philpott forthcoming). Similarly, fragments of potentially early field systems such as so-called ‘Celtic fields’ at Kelsall (Bu’Lock 1954) could belong to the Roman period but remain undated. The possibility that large
oval boundaries visible on early Ordnance Survey maps represent the survival of enclosed arable or pasture has been suggested for Merseyside (Cowell and Philpott 2000) and Lancashire (Atkin 1985), although such features are notoriously difficult to date.

Centuriation

Centuriation was the official Roman state field system (Dilke 1971; Campbell 1996). The fields were usually square and organised in blocks to form a legal entity known as cadaster. Areas of centuriation in Cumbria have been proposed by Richardson (1982; 1986a; 1996; Ferrar and Richardson 2003) for a possible cadaster between Penrith and Carlisle and possibly another east of the Old Penrith fort. A third has been proposed at Hayton, east of Carlisle. There is also potential evidence of at least one cadaster east of the Manchester fort (Crofton 1905; Richardson 1983; 1986b; Richardson 2004) between Ashton Moss and Hough Moss, covering 50 centuriae. It has been suggested that the remnants of the limites (lines of division) persisted as mediaeval boundaries and salt ways and the quintarius (every fifth line of division) was still reputed to be Roman in the nineteenth century. There were probably two more cadasters covering the manor of Heaton and the Tame valley, north east of Stockport (Richardson 2004).

Ritual, Religion and Ceremony

In the early years of Roman Britain, Roman religion acted as a unifying influence which brought and held Roman and Briton together. Later on, particularly in the fourth century AD, its effect was more divisive because of competition between cults (Christianity and Mithraism; Christianity and other pagan cults) and between different Christian heresies (Ogilvie 1968; Ferguson 1970; Green 1976; Henig 1984; Webster 1986). There are few Romano-Celtic temples known in the North West or referred to on surviving inscriptions (e.g. RIB 1, 589),

There are numerous examples of the Imperial Cult on surviving inscriptions for oaths and dedications on the opening and refurbishing of buildings (e.g. RIB I 604, 605 etc.) but for broader purposes, the Olympian deities dominated the religious life of Romanised communities. Evidence includes fine dedicatory inscriptions to Jupiter Optimus Maximus, from Maryport (RIB I 814ff). In some cases, units of the army might bring with them a dedication peculiar to their home-territory, as Mars, paired with the German equivalent, Thinesus, from Housesteads (RIB 1593). In time we find gods ‘invented’ to act as overarching tutelary deities of places (e.g. Carlisle) or communities (Dea Brigantia RIB I 2091).

The gods of this polytheistic system tended to be identified with functions or trades, and often appeared on dedications coupled with a local equivalent, such as Mars Ocelus (RIB1 949) or Mars Cocidius (RIB I 602). This formed the core of the Romano-British religious system, and the ‘combined deities’ were a backbone of social and commercial life (for distributions of dedications see Jones and Mattingly 1990, maps 8.9, 10). Groups of workers looked to particular gods as the patrons of their guilds (or ‘trade unions’) – such as Vulcan to metal-workers (RIB I 1700 from Vindolanda). Apollo is depicted on a monumental inscription from Ribchester (RIB I 589) with his lyre (Apollo Citharoedus); this may signify Apollo as the patron of a guild of musicians, perhaps connected with ceremonial in forts and vici. The discovery of a small (15 cm high) bronze statuette of Marsyas at Papcastle is again suggestive of Apollo and a musical connection. The small size of this object also suggests the likelihood of its use on domestic altars. Some gods had more than one function; thus we find Apollo associated not only with music but also with commerce and health.

In some cases, we find local gods used alone as objects of observance, though this may point to an ‘audience’ that was primarily of British origin – Ialonus (Lancaster), Cocidius (Bewcastle), Coventina (Carrawburgh) and groups of three ‘Mother Goddesses’ (Kirkham). The superstitious nature of Romans and Romano-British alike is shown in frequent representations on stone-buildings of erect phalli or, as at Birdoswald, of a stallion with an erect penis. Such representations were thought to ward off ill-fortune. These Romano-Celtic deities were thus concerned with the material world; as Cicero remarked, the objective of invoking the aid of the traditional pantheon of gods was to make people wealthier rather than better. Inscriptions which survive complete often indicate appeals to various (appropriate) gods to help in ‘human projects’, and the repayment of ‘dues’ after a successful conclusion. This is demonstrated particularly well in the use of ‘curse-tablets’ to seek revenge for wrongs done (Woodward 1992; Buxton and Howard-Davis 2000a).
The commonest of the mystery-cults in the North West were Mithraism and Christianity. No Mithraic temples (Daniels 1989) are known within the region although Chester, Manchester and possibly, Lancaster have all yielded evidence of Mithraism in the form of sculptures (Edwards 1977; Bruton 1909; Shotter and White 1990). It is likely that Mithraic worship will have been conducted on an occasional basis at most military sites in the region.

Christianity (Watts 1991; Petts 2003), whilst it must have grown in strength through the fourth century, has left surprisingly little evidence in the North West. Artefactual evidence, such as the ‘chi-rho’ oil-lamps from Lancaster and Ribchester cannot be regarded as having secure provenances, whilst the portion of a ‘word-square’, found at Manchester in the 1970s (Jones and Reynolds 1978, 15-16), is not now generally regarded as having a Christian significance. The evidence with which we are left is mostly epigraphic – tombstones from Brougham (RIB I 787) and Carlisle (RIB 955) ‘identified’ from the use of the formula, ‘more or less’, attaching to the deceased’s age, and a lost inscription containing a Chi-Rho from Maryport (RIB I 856). The strongest evidence to date comes from two lead brine-tanks from Shavington (Ch). These appear to indicate Christian involvement in the salt-industry, presumably late in the fourth century --or even later (Penney and Shotter, 1996). Carlisle has been suggested as the centre of a diocese in the late fourth century (McCarthy 2002, 153).

The pervasiveness of religious practice in military contexts can be seen at Ribchester. Of the 18 inscriptions on stone recorded from Ribchester, at least eight relate to temples. The temple re-dedication slab RIB 587, interpreted as relating to the cult of Jupiter Dolichenus was found re-used in the praetorium (commander’s house) of the fort. Of the other altars recorded in RIB whose dedications survive, all were found before the advent of scientific excavation and their findspots are unknown. RIB I 583 is dedicated to the Romano-Celtic ‘fused’ deity Apollo Maponus (Shotter 1997, 74), RIB I 584 and 585 are dedicated to Mars, and RIB I 586 is to the Mother Goddesses, as is the 1982 find from Church Street (Hassall and Tomlin 1994, 298).

Burial Practices

The few recorded burials from Cumbria suggest that Late Iron Age native practice was similar to native inhumation practices elsewhere in northern and western Britain of the time (Whimster 1981), in the use of crouched inhumation, and the presence of occasional worn personal ornaments. Dating of individual burials has in some cases proved problematic, and some burials assigned an Iron Age date may in fact be Romano-British (Hughes 1912; Bellhouse 1984; Bewley 1994, 85) or even post-Roman. The preserved bog body of ‘Lindow Man’ has been dated to the first century AD, although parallels for the form of deposition are more regularly found to date from prehistory. Debate continues as to whether the individual was the victim of a murder or ritual sacrifice (Briggs 1995, 181; Turner 1995, 122). Rather more difficult to interpret are the cave deposits containing human bone from north Lancashire and south Cumbria. Excavation at the Dog Hole, Haverbrack (C), recovered human and animal remains associated with finds dating from the first to ninth centuries. Metal finds included four twisted wire bracelets, a bronze finger ring with spiral bezel, an iron axe head, iron penannular brooch and glass and jet beads (Benson and Bland 1963). Human bone from Rawthey Cave (C) has been radiocarbon dated to the middle of the second century (Hedges et al 1998).

Early Roman funerary practice

Most burials in the North West are associated with military sites or urban centres. Notable formal Roman cemeteries are known from military sites, at Chester (Newstead 1914; 1921), Manchester (Watkin 1883), Lancaster (Shotter and White 1990), Low Borrowbridge (Lambert 1996), Brougham (Cool 2004) and Carlisle (Charlesworth 1978), though few have been excavated either using modern techniques or over extensive areas. Excavations have revealed small groups of burials from industrial settlements such as Nantwich and Northwich while relatively extensive areas were examined outside forts at Brougham (Cool 2004), and south of Low Borrowbridge (Lambert 1996).

Cremation appears to have been introduced to the North West by the Roman army. The most common version involved placing the cremated bones in a single pottery jar, with examples from the south of the region at Nantwich, Middlewich (Strickland 2001, 37), Northwich (Watkin 1886, 254), Wigan (Watkin 1883, 201), and Chester (Watkin 1886, 219). Occasionally other types of vessel were used, or charred
bones were placed directly in a pit, as at Nantwich (Burnham et al 2003, 318), though an organic container may not have survived in these cases. Associated grave furniture is found occasionally, in the form of one or more accompanying vessels, and in Romanised centres a coin, lamp or glass unguentarium. Occasional finds of burials at northern forts are also often simple urned cremations, e.g. at Overborrough (L) (Watkin 1883, 198), Kirkham (L) (Watkin 1883, 207) and Lancaster (Watkin 1883, 185). Variants include the use of samian vessels as an urn at Manchester (Watkin 1883, 120-1).

The region’s most cosmopolitan military and urban settlements, Chester and Carlisle, display the greatest variety in burial, using practices introduced from other parts of the empire, and comprising a wider range of accompanying grave furniture. These include the use of a lead canister to contain the ashes, at Eaton Road, Chester (Watkin 1886, 218) and the use of inscribed tombstones from Chester and other sites, although they are rarely found with burials in situ so the burial rites of individuals of known origin can rarely be determined. Carlisle has produced a bustum burial (in situ cremation) at Botchergate (Miller and McPhillips forthcoming) as well as a glass bottle with a jar as a stopper, associated with a jar and lamp (McCarthy 2002, 153). In the northern frontier zone, distinctive rites may reflect the use of burial traditions derived from the homeland where the units were raised or from native populations drawn to the vicus.

Extensive excavations have been few, the main exceptions being outside forts at Brougham and Low Borrowbridge. At the latter rectangular and penannular ditched plots appear to be a distinctive local rite, potentially of Iron Age origin (Hair and Howard-Davis 1996, 124), though the virtually complete lack of excavated cemeteries in the North West means that this has yet to be confirmed. At Low Borrowbridge inhumations within pits post-dated many of the enclosures, but seemed to pre-date cremations, where the sequence was clear (Hair and Howard-Davis 1996, 104). One of the inhumations was buried with a bead necklace, including glass beads of probable Mediterranean origin. Grave furniture with cremations was restricted to a few accompanying pottery vessels, a small number of coins, three brooches, three beads, some hobnails and possible wooden boxes or caskets. Inhumation furniture was even more restricted, with two pottery vessels, a bead necklace and a box. The Low Borrowbridge cemetery indicates the wide range of data to be obtained from modern excavation techniques and analysis. Information on age and sex were obtained from some cremations, in addition to detailed evidence of the stratigraphy, development and dating of the cemetery, while careful excavation revealed the presence of small numbers of finds in the cremation fills. The cemetery also provided a rare example of a gravestone associated with a grave (Hair and Howard-Davis 1996, 103), and although the bones were lost in the acidic soil, the grave pit may have contained a wooden box. A sizeable sample of cremation burials was also excavated east of the fort at Brough (C) in 1971. About 57 cremations were recorded; most lacked pottery vessels, though two had been placed in lead caskets and another in a cylindrical wooden box (Jones 1977).

Elsewhere in the north, distinctive rites have been observed. At the cemetery of Beckfoot fort (C) one of two pyre sites contained military equipment in the form of a spearhead, sword and arrowhead, and bronze shield boss, and probably represented the cremation of a soldier. The other pyre held an oak bier (Bellhouse and Moffat 1958). A cremation in a samian bowl echoes the occasional use of this form in northern military cemeteries. At Ribchester a group of six cremations in amphorae enclosed in cists was found in the Transport Yard in 1967 (Olivier 1987, 29), which may represent a form of burial which may be continental in origin (Philpott 1991b, 256-7).

Late Roman funerary practice

During the second century most Romanised sections of the population in Britain moved from cremation to extended inhumation, although in relatively remote areas, such as parts of the North West, cremation persisted for much longer, such as at Low Borrowbridge (Hair and Howard-Davis 1996, 123-4). Excavation at St Nicholas Yard, Carlisle, to the south-east of the first century cemetery on Botchergate, revealed a pottery vessel containing cremated remains and a possible coffined burial, although no bone survived, probably dating from the second to third centuries (Howard-Davis and Leah 1999). At Brough a cemetery spanned the whole third century (Cool 2004), and pottery analysis suggested three phases of activity (Jeremy Evans pers. comm.). About 277 graves containing cremated remains were recorded in any detail, though the original total was higher. Pottery was found in 234 graves, with most containing three vessels, or fewer. Most common were Black Burnished Ware (1) jars, but samian bowls were present in quantity. Other vessels, from the Nene or Severn valleys, were relatively infrequent. Other furniture included boxes, metal and glass vessels, personal ornaments such as brooches, finger-
rings, beads and a fragment of gold chain, ear-rings, military belt-fittings and a Venus figurine. Despite the salvage nature of the excavation, a large amount of material was rescued, giving valuable information on funerary rites, status of community, and connections with distant areas of the continent.

Inhumation burials have not been recognised in any numbers outside the urban and military centres, partly a legacy of the acidic soils which destroy unburnt bone, as at Low Borrowbridge, but also perhaps a reflection of the persistence of cremation. It is significant that the few native burials occur in limestone regions where bone survival is good. The possibility that the Iron Age practice of crouched inhumation continued requires confirmation. Some of the earliest recorded inhumations of this type in Britain occur in the cemetery at Infirmary Field Chester, dating from the early second century. The cemetery has a range of burial practices typical of early inhumation, employing types of grave furniture which were formerly used to accompany cremations. The bodies, mostly male but including some females, have on occasion hobnailed footwear, pottery vessels, a pottery lamp, a coin or a mirror (Newstead 1914; 1921). Several military and urban sites have produced inhumations in tile tombs, including Manchester (Watkin 1883, 120), Chester, Carlisle and Lancaster, where the tiles are stamped for the Ala Sebosiana (Shotter and White 1990, 46; Philpott 1991a). It has been suggested that burials with officially stamped tiles represent military burials (Shotter and White 1990, 37).

Heronbridge has a group of three rock-cut graves, two adults and a child, situated close together near the edge of a river-cliff and interpreted as a small family group buried in isolation. One grave produced fragments of a sepulchral relief sculpture of a funerary banquet scene, provisionally dated to the mid third century (Burnham et al 2003, 318). In the southern part of the region, isolated inhumations are known from Warrington, in a lead coffin (Hinchliffe and Williams 1992, 116-8), and at Leasowe, north Wirral (Cust 1864). The latter was dated as Roman through radiocarbon dates (S. Gonzalez pers. comm.), and was probably associated with the port at nearby Meols (M). The Botchergate and London Road cemetery at Carlisle has also produced several inhumations, in stone, lead and wooden coffins. Two vaults were found in the nineteenth century and two inscribed tombstones have also been recovered, one apparently in association with a burial.

The lack of inhumations, and the apparent predominance of cremation, has limited the opportunities to recover information on the geographical origin of individuals, diet, trauma, age and sex of the population of the North West. This is further diminished by the lack of inhumations subject to modern excavation and analysis. Rural burial practices are under-represented in the archaeological record and have considerable potential to shed light on the question of acculturation.

Technology and Production

Industry
Numerous sites have produced evidence for industrial production on a large scale, including working of iron, lead and copper-alloy, manufacture of pottery, glass, and leather and salt. Waterlogged deposits in several places have yielded evidence of leather and wooden objects, together with offcuts indicative of leatherworking. Large quantities of leather and wooden objects from waterlogged deposits suggest manufacture at Carlisle (Caruana 1992) and Ribchester, where fabrica have also been identified. Middlewich has produced evidence of leatherworking (Burnham and Wacher 1990, 228), shoemaking, weaving and window glass making (Harris and Thacker, 1987, 206; Strickland 2001, 36). Wicker-lined pits and roughly built wooden troughs associated with leather working have been found in close proximity to brine storage tanks at Nantwich, displaying a close relationship between salt processing and leathercraft.

The ‘industrial’ settlements of Lancashire and Cheshire appear to have been instigated or founded by the army for the production, processing and distribution of military supplies, although details of their day to day operation are largely unknown. The function of the large timber buildings within the industrial settlements is not fully understood. At Walton-le-Dale the largest buildings contained furnace or fireboxes and a well, although no residues or slag were recovered and the nature of the industrial processes here is uncertain. In contrast at Middlewich small-scale metalworking of iron, bronze and lead was carried out to the rear of the larger buildings in workshops, containing the remains of furnaces with built-in anvils, heaps of iron slag, nails, spades and brooches.
Iron
There were numerous sources of iron ore deposits within the North West, including bog iron from the wetlands. Major iron working sites from Manchester and Northwich have been published together because of the similarity of the furnace remains at the two sites (Jones and Grealey 1974). Within the vicini at Manchester and Lancaster a large number of hearths have been found, either within buildings or in the open to the rear, and many of these were used to forge weapons, tools or other equipment. There is also evidence for iron smelting in the form of bloomeries and a large number of ‘industrial’ pits have been found that are of uncertain function. The second-century phase of activity at the Wiend, Wigan, involved industrial activity, using hearths for smithing and probably as bloomery furnaces. The presence of an iron industry in Cheshire may owe its origin to the ample fuel supplies. While excavation of numerous furnaces from Northwich has been undertaken (Curzon 1972) several important sites remain unpublished. They have also been observed at Middlewich (as yet unpublished) and in various excavations at Wilderspool (B. Curzon pers. comm.) where a large numbers of iron objects have been recovered, ranging from nails and bolts, to knives, locks, keys and even a carpenter’s plane, many of which were probably produced on-site. Similarly second-century iron working has been identified at Carlisle (Zant pers. comm.) and small amounts of slag and crucible fragments have been recovered from Ribchester (Buxton and Howard-Davis 2000a, 124-5). Previous excavations at Heronbridge (summarised in Mason 2002a) revealed first-century masonry buildings fronting the Roman road which were interpreted as furnaces. Quernmore 2 (L) produced two kilns (one probably for lime) and an iron roasting hearth, which were excavated in 1971-2 (Leather and Webster 1988). Iron smithing as distinct from smelting is found on rural sites, including Irby, and Court Farm (M).

Non-ferrous Metals
Non-ferrous metalworking is evidenced at numerous sites of differing status in the region. The industrial production of copper-alloy objects is found in the small towns in Cheshire (Middlewich, Northwich, Wilderspool, Heronbridge) and the vicus at Manchester, as well as at rural sites in the southern part of the region such as Court Farm, Halewood and Irby, with waste from another site in Wirral. Wirral has been proposed as the centre of production for one type of highly distinctive brooch (Philpott 1999a). A workshop producing bronze objects has been postulated at Brough or possibly Kirkby Thore in the Eden valley on the basis of a large number of objects found at Brough (Higham and Jones 1985, 120). Rarely can the objects produced be identified as well-preserved moulds are not common but Heronbridge was producing three types of article: fittings for small chests or boxes, thin plates with crescentic decoration for attachment to wood or leather, and small bars of unknown function (Hartley 1954, 5-7). An open-sided building at Heronbridge was operating as a bronze-smith’s workshop during the Hadrianic period (Mason 2002a). There is also slight evidence for copper-alloy working in a military context at Ribchester (Howard-Davis 2000, 255-61). At Botchergate, Carlisle, the area occupied by a first-century cemetery was given over to industrial activity. Remains recently excavated included a lead smelting furnace, with the last firing dated by thermoluminescence to AD 135 (Miller and McPhillips forthcoming).

Salt
The common factor with the central Cheshire sites is salt production, centred on the salt-rich brine springs, and it is probable that the pre-existing salt industry exerted some influence in the location of a number of Roman settlements. Industrial-scale production of salt during the Roman period is attested at Northwich, Nantwich and Middlewich and no fewer than five inscribed lead salt pans have been found in Cheshire (Penney 1999, 8-9).

At Middlewich there is currently insufficient evidence to separate salt processing areas from domestic ones. The recovered material takes the form of evaporating kilns, brine storage pits, lead salt pans, briquetage and the waste from brine storage pots found over a large area of the settlement. Evidence of Roman saltworking spanning the late first to mid fourth century has been found centred on King Street (Bestwick 1975), south of the recently located fort. Here brine was extracted from unlined, vertical-sided brine pits sunk into the natural sand. Large amphorae (dolia) set into the ground nearby (on at least one site) appear to have acted as brine tanks in which the brine was allowed to settle. Brine was heated in fired clay or lead pans supported over brine kilns of horizontal draught (or trough) type. A wide range of material was associated with these structures, including fire bars and cylindrical supports. Paired circular kilns have tentatively been identified for the final stoving or drying of salt. Site C, the most complete site
investigated (1964-69), consisted of a small-scale industrial unit where brine pits, dolia, brine kilns and briquetage were grouped in a yard partially covered by an open-sided timber shelter (Bestwick 1975). Similarly at Northwich four lead salt pans were discovered in the nineteenth century by the river to the south-east of the fort, and a further one was found more recently in excavations at Ryders Place. A first-century brine kiln was discovered close to the find spot of the four lead pans in 1968 (Petch 1987, 201-2).

Excavation at St Anne’s Lane, Nantwich, uncovered a plank tank, which was probably used for salt making, along with possible fragments of briquetage (McNeil and Roberts 1987). Two lead brine pans discovered c. 500m north of the town bridge on the west bank of the river may indicate brine working in this area also. Most spectacular are two large brine storage cisterns or reservoirs excavated in 2002 at Kingsley Fields on the west bank of the River Weaver. These were lined with an initial layer of clay, with an inner lining of planks, held in place by a timber frame. Preservation conditions were excellent in both features and they produced a number of wooden artefacts including a bucket, a bowl and several spades or large paddles.

There is increasing evidence that smaller centres of salt production were also scattered in rural locations where brine springs occurred. This is suggested by brine kilns or briquetage at Tetton and Moston, and lead salt pans of Roman date from Nantwich and Shavington (Penney and Shotter 1996). The extent of saltworking in Northwich (Condate) is unclear, although a number of salt pans have been found outside the fort (Petch 1987).

Pottery

The Roman period in the North West is characterised by relatively high levels of durable cultural material, at least in the military and urban centres, and in contrast to the preceding and following periods. The use of pottery becomes common in the military sites with the permanent occupation of the area, with local production becoming established reasonably quickly to supply the military market.

The location of Chester, founded in an area with little Late Iron Age ceramic production, necessitated a reliance on national and international products, although from the settlements earliest years there were also coarse ware forms from local sites (Carrington 1977, 147-8). Although no kilns are known for any of these products, and the variations in the details of form and fabric suggest a variety of suppliers, the kilns may reasonably be assumed to be local and to be under the control of the military. Around AD 90 local coarse ware suppliers were replaced by the kilns at Holt, producing a wide range of oxidised coarse wares, as well as ‘legionary’ fine wares (Grimes 1930; Greene 1977). Major pottery production at Holt seems to have ceased in the 120s (presumably with the departure of vexillations of Legion XX VV to help build Hadrian’s Wall), although the massive quantities produced ensured a degree of prolonged use and deposition that makes precise dating difficult. A number of distinctive African forms were produced, probably on a small scale in the 150s, possibly by troops posted to Britain after the Mauretanian War (Swan 1992, 1999).

Pottery was produced at Ribchester and Manchester, Chester (City Road and St Anne/St George Street), Middlewich, Northwich and Stockton Heath, Wilderspool (Swan 1984, 134, 141). As early as the 1870s it was realised that much of the pottery at Wilderspool was locally produced (Harris and Thacker, 1987, 195). Two matching kilns from Northwich and Middlewich had a circular kiln chamber with a fire box on either side of a central pedestal of solid unexcavated clay. Like the Wilderspool kilns and one discovered in Deansgate, Manchester, all had long narrow stoke holes dug into the ground forming a continuous hole with the fire box and separated by a clay arch formed by the floor. Wasters were found in the kiln at Middlewich including a fine ring necked flagon of around AD 100. A small number of wasters were found in the kiln at Northwich including a moratorium stamped MACO. Both the Northwich and Middlewich kilns operated at similar periods and both had been purposely filled and abandoned. Large quantities of wasters were excavated by the South Trafford Archaeology Group in a waste tip in a stream valley to the south of the Northwich site indicating the presence of other kilns. All the kilns produced a similar range to Wilderspool and the other well known local kiln at Trent Vale in Stoke on Trent.

Kilns at Stockton Heath (Ch) appear to have been abandoned during the last firing with the dome of one kiln more or less complete, with the pots inside. Webster (1973) published those vessels which could be safely allocated to the local kilns. They were made from the late first through the second century, in a soft
orange fabric and sometimes decorated with white slip (in imitation of better quality white clay flagons made in the south) and with some applied decoration. The small kiln found in the vicus at Manchester stood away from the main road to the north of the fort behind a building containing an iron furnace. It was like the other kilns, but the pierced floor was supported on a circular central pedestal. No wasters were found with the kiln which again had been purposefully filled in and abandoned. Pottery wasters of principally white-slipped orange mortaria and flagons were found during construction of the Chester Inner Ring Road in 1970, outside the north-east quadrant of fortress. The material suggests production although no kilns or other evidence for production is known.

Since Swan’s survey of kilns in 1984, new kilns have been discovered at Carlisle (CFA Archaeology 2002), Walton-le-Dale (Evans and Rátkaí forthcoming) and Middlewich. Production is strongly suspected at Tarbock (Swan and Philpott 2000) and possibly Wigan, where wasters have been found (Clark 1991). The discovery of large quantities of pottery in excavations at Weaver Road, Northwich, around 200m south-west of the fort area (Pierce 1988; Maude and Pierce 1993) suggest the area may be a more major pottery production centre than has hitherto been recognised.

Most kilns in the region flourished in the period from about AD 90 but little pottery was produced in the region by the third century, a notable exception being a kiln with an archaeomagnetic date of AD 260-300 at Walton-le-Dale (Evans and Rátkaí forthcoming). The earliest coarse wares in the south of the region were made in soft, black-surfaced brown and grey fabrics. No kilns are known for any of these products, and the variations in the details of form and fabric suggest a variety of suppliers, by contrast, with Wroxeter and Usk (Darling 1977). Nevertheless, the kilns may reasonably be assumed to be local and possibly under the control of the military. Pottery production in the region was associated with military garrisons from the Trajanic period or a little earlier (Swan 1984, 87). Two separate sites at Quernmore near Lancaster have produced evidence of pottery and tile manufacture and presumably supplied the forts at Lancaster and Burrow. Similarly a pottery was probably established at Scalesceugh to supply Carlisle, though excavations on Fisher Street, Carlisle, identified two kilns producing pottery including stamped mortaria (CFA Archaeology 2002). The military tiley discovered at Brampton (C) in 1963 comprised eight kilns producing bowls, mortaria and jars, as well as tiles (Hogg 1965). Although outside the boundaries of the North West region, special mention must be made of the production at Holt, situated just over the Welsh border by the River Dee. The kilns at Holt, produced a wide range of oxidised coarse wares, as well as ‘legionary’ fine wares (Grimes 1930; Greene 1977) and a wide range of building materials, which are widely spread within the south of the region.

Tiles
Tiles are the most commonly found diagnostic building material and Holt tiles are found throughout the southern part of the region. The date and origin of ‘Lion’s head’ and Jupiter Ammon antefixes found at Chester is uncertain. They have been assumed to be pre-Holt, as no examples have been found there, although Jones (forthcoming) points to similarities between the decoration found on these tiles and that found on legionary ware. Likewise the vaulting tubes (tubi fittili) found in bath houses at Chester are not attested at Holt. These seem to be another African introduction. Their dating is not wholly certain but seem most likely to be third-century (Mason 1990; forthcoming). In the 160s some tiles were produced at kilns operated by Aulus Viducus at Tarbock on Merseyside (Swan & Philpott 2000).

Glass
A recent review of glass production in northern England records only two production sites in the North West. Glass making has been indicated by the discovery of a crucible containing black glass paste and glass waste and slag from Wilderspool (Petch 1987, 196) although this may only represent the melting and reworking of glass. Similarly, an evaluation at Burgh-by-Sands (C) produced a large assemblage of glass vessels, which had been broken and then part-melted in antiquity. These were recovered in associated with a hearth-type structure, suggesting glass recycling (OA North 2002a). A fragment of a pottery crucible containing glass was also found at the Lanes, Carlisle (Price 2002, 86, 90).

Mining and Quarrying
Copper and lead deposits occur at Alderley Edge (Ch), the Peckforton Hills (Ch) and in Cumbria at Alston Moor, Coniston and Keswick (Tylecote 1986). The evidence for clearance and the discovery of a
late Roman coin hoard deposited c. AD 340 in the partially backfilled Pot Shaft at Alderley Edge revealed the first Roman mine-shaft in England, dating to the first century (J. Prag pers. comm.). Roman mining has been postulated for copper and silver on Alston Edge (C), with extensive pitting of uncertain date close to Whitley Castle, where unusual multiple defences have been suggested as protecting the precious proceeds of mining (Higham and Jones 1985, 120).

Building stone is found in various areas of the region. Permo-Triassic sandstone occurs widely in Cheshire, Merseyside and Lancashire, and was exploited for building stone in Chester. A Roman quarry is known at Edgar’s Field, Handbridge, though the stone was rather friable and was perhaps not in use beyond the early third century. Other Roman quarrying is attested at Helsby (Ch), where an unfinished altar was found, and probably at Storeton in Wirral, stone from which is said to have been used in inscriptions in Chester (Petch 1987, 226-7). Slate was imported from Llangollen to the fortress at Chester for roofing purposes and occasional inscriptions, while excavated fragments of slate roofing tiles used within the vicus at Old Carlisle were of Borrowdale Volcanic origin (Miller and McPhillips in preparation). Stone for Hadrian’s Wall was quarried at Coombe Crag (C) overlooking the Irthing valley west of Birdoswald, as well as Grinsdale (C). Other quarries served individual sites, such as Shawk (C) for Old Carlisle and its vicus, while the quarries with inscriptions including one dated AD 207 demonstrates Roman exploitation of quarries south of Brampton on the river Gelt. Other quarries are known on the banks of the Crowdunle Beck (C), 4 km north of the fort of Kirkby Thore (Higham and Jones 1985, 116-7). The stone sculpture school based at Carlisle utilised local sandstone.

Stone querns are known from rural contexts, unassociated with known sites, as well as from excavated sites. Millstone Grit and local Permo-Triassic sandstone querns were found at Court Farm, Halewood, while Permo-Triassic sandstone querns at Irby were probably of immediately local production. Other examples are known from west Lancashire.

Coal
Coal was widely exploited during the Roman period from the Lancashire coalfield and the western Cumbria deposits. Military involvement is likely in the initial discovery and exploitation of deposits. Coal was found at Carlisle from early military phases in the mid 70s to late 80s AD, it is also found at Ravenglass, Birdoswald and elsewhere along the frontier. However, the use of coal spread to sites of all types including rural settlements. Coal has been recovered from a number of sites in the region including Chester, Manchester, and at Heronbridge, where an ash pit and a layer containing coal were associated with a copper-alloy working hearth (Dearne and Branigan 1995). At only four sites has the coal been analysed for source. Coal from Wilderspool was considered to have come from the Lancashire coalfield, in the Wigan/St Helens and Wigan/Burnley areas. Coal at the rural site at Irby was sourced to a small outcrop at Neston, South Wirral whilst coal from Court Farm, Halewood was dug from the adjacent Crombourke Seam at Cronton (M). Wigan has produced cannel coal in Roman contexts at the Wield, which may have been dug from the extensive outcrops under the town. Coal is found often in association with iron smelting waste though it is difficult to prove that it was used in the smelting process (Dearne and Branigan 1995, 83-5). Some fluctuation in the use of coal is suggested by distribution maps and histograms of dated sites but the inadequate reporting of the material in early archaeological excavations, combined with problems of dating sites in the third century suggest this may be an artificial effect (Dearne and Branigan 1995, 76-7).

Trade, Exchange and Interaction

While pre-Roman trade was undoubtedly widespread (e.g. Matthews 2002) the evidence is currently sparse. A few early non-Roman Mediterranean coins and Iron Age issues from other parts of Britain found at Meols (Thompson 1965, 97) and Manchester (Bruton 1909) indicate the breadth of trade between the Mediterranean and the North West, around the time of the Roman arrival. It seems that Roman coinage was first introduced directly into the North-West in the 50s and 60s, and that this was more likely to have been a result of military rather than commercial activity. However, the arrival and permanent disposition of Roman troops in the North West from c. AD 70 had an impact that would have influenced local culture. The presence of the army provided the market for the greater proportion of imported goods, and the monetary currency to facilitate exchange, although it has been suggested that a proportion of the rural population continued to live largely outside a monetary system, making payments
to the government and military in kind (Evans unpublished a). The paucity of *vicus*-excavations also means that relatively few coins can be given precise provenances. The little evidence we have indicates that coin-use rapidly dominated *vicus*-life, though this is unsurprising, as a substantial proportion of *vicus*-inhabitants are likely to have been retired soldiers or from military families. Jeremy Evans has argued that the military *vicus* have material assemblages similar to the forts, with a good supply of coins, ceramics and small finds. Virtually all the ceramics are imported into the region or produced in the *vicus* and industrial settlements. In terms of artefacts there is little evidence of wide-scale trade or interaction with local rural sites, just as there is little evidence from the rural sites that they had any serious level of interaction with the *vicis*.

**Traded Goods**

The most visible evidence for traded products are ceramics, which in some cases may actually only represent the containers for the imported products. The presence of figs and coriander within the fort at Carlisle represents rare evidence for what is likely to have been extensive importation of exotic foodstuffs. The urban and military sites have obviously produced the most diagnostic ceramic assemblages although the low number of imported artefacts on rural sites may in itself suggest limited interaction with the Romanised economy. With the exception of the Chester Business Park and Birch Heath near Tarporely (Fairburn 2003) which have produced over 1800 and 960 sherds respectively, rural Romano-British sites in Cheshire are not well known, and fieldwalking usually produces only odd sherds of pottery. In terms of material culture some of the rural sites of the Mersey Basin have produced relatively large assemblages of pottery for the North West. Irby and Court Farm each have over 2000 sherds, while other sites such as Dutton’s Farm in West Lancashire has produced an assemblage of about 150 sherds with a wide range of types. Jeremy Evans has remarked on the small size of pottery assemblages from excavated sites in Cumbria and elsewhere in the North West.

In Cumbria few Roman period sites produce more than a few sherds of pottery, and some of the later material is handmade locally produced wares, rather than commercially produced material. Probably the largest assemblage from a rural site, comes from the settlement site at Stainmore close to the principal Roman route over the Pennines, and nearly all of it is Black Burnished Ware imported in to the region. There is little evidence that any of the pottery arrived on Cumbrian rural sites in the first century. Some sites show evidence of pottery from the second century onwards, others seem to be exclusively third or fourth century. One interesting aspect is the high use of mortaria in Cumbrian sites, perhaps with some specialised function. The apparently aceramic Romano-British site at Barker House Farm, near Lancaster University, was dated only from radiocarbon determinations, (J Quartermaine pers. comm.).

The main visible, traded goods within the archaeological record at Chester are South Gaulish and Central Gaulish samian, amphorae from south-west Spain and the Marseille area and Black Burnished Ware from around Poole Harbour, Dorset. These were probably imported by sea, although the latter could have travelled overland as well. The amphorae are of significance especially for the likely items they contained such as wine and olive oil, and represent evidence for an otherwise invisible import. It seems likely that from Chester many of these products were then dispersed to smaller settlements, and samian and amphorae are found even at minor sites in the area, such as the farmstead at Birch Heath near Tarporely (Dunn 2003, 77-85). By the mid-fourth century a dramatic change saw the introduction of ‘Huntcliff’ type and Crambeck wares with a marked decline in the importation of Black Burnished Ware from Dorset (Webster 1991). There were occasional imports of Purbeck marble and later North Welsh slate. At a more local level, Flintshire lead was ferried up the estuary for use in Chester or for onward transport overland, as with the ingots found near Watling Street at Tamworth. The discovery of ingots on the Mersey shore at Runcorn in the seventeenth century could imply transport around the tip of the Wirral and up the Mersey. Some of these imported goods may be ‘tracers’ for otherwise invisible commodities, as the shortage of cereals at the Birch Heath farmstead suggests that they were not grown in sufficient quantity to supply domestic demand, let alone the military. The occupants of some rural settlements may have traded cereals at Chester in return for dairy products (Carruthers 2003, 96). Grain pests (weevils and other beetles) are present, sometimes in large numbers, at almost every Roman period site with good preservation conditions, often from the very earliest levels onwards Kenward (in press). These insects were not native to England, and must have been inadvertently imported with grain from elsewhere in the Empire. It is not clear whether they were able to establish themselves as local breeding populations, or if the numbers were regularly increased by further imports.
The few recognisable exports through Chester include Cheshire sandstone, ceramic building materials and pottery from Holt, which have been found, for example, at Caernarfon (Grimes 1930, 43-4; Casey et al. 1993, 78). It is possible that Severn Valley pottery reached Chester overland and was then transported to the north Welsh sites and the northern frontier by ship (Carrington 1977, 153-5). Roman material may have reached Ireland via Chester, such as that reported at Drummanagh (Sunday Times 21 January 1996; Carrington 2002, 18). Lastly, Cheshire salt, if packed in barrels, could have been a major invisible export.

**Road System**

The Roman military road network in the North West comprises two main north to south routes connecting Cheshire with the frontier, running between Chester and Lancaster (utilising King Street) (Margary 1973, 302, 367, 368, 375; Graystone 1996) and from Manchester along the western Pennine edge to the Lune valley and thence to Carlisle (e.g. Ross 1916; 1920; Maxim 1965; Margary 1973; Graystone 1992; 1996; 2002; Richardson 1987; Richardson 2004). The date of King Street and its part in the initial invasion has been debated (Rogers 1996; Wild 2002) but it may be later, constructed in the decade AD 80-90 and associated with a series of late Flavian or Trajanic forts at Rocester, Chesterton and Middlewich. The major east to west routes run between the network of forts ultimately connecting Chester to Manchester, Chester to York, The Ribble estuary to York, the Lune valley to York, the Eden valley to York and Carlisle to Corbridge, (e.g. Middleton 1920; Bellhouse 1956; Margary 1973; Allan 1994; UMAU 1995; Graystone 1996; Richardson 2004). There are also roads associated with the Tyne Solway frontier (e.g. Bellhouse 1954; Margary 1973; Richardson 1984; Graystone 1994; Wild 2002). There are a series of roads associated with the northern frontier, connecting the outlying forts to the stations on Hadrian’s Wall and the main military infrastructure (Collingwood 1937; Richmond 1949; Hogg 1952; Bellhouse 1952; 1957; Margary 1973; Richardson 1984; Richardson and Allan 1990; Graystone 1994; Richardson 2002).

However, there are a number of other roads associated with these routes that may be regarded as local roads. At least seven roads are believed to have met in the vicinity of Middlewich, some converging south west of the River Croco, but there may have been more than one junction (Strickland pers. com.). King Street is confidently asserted to run south from Wilderspool to Ravenscroft Bridge on the River Dane, but its route through the town south of this point is uncertain. It then continues south to Sandbach and onto Chesterton. Its route south of Middlewich is uncertain, but it has been identified at Elworth 5km to the south-east (Petch 1987, 220). Other major Roman roads ran west to Chester, east to Buxton and south to Whitchurch. A well-preserved length of Roman road was excavated in 2001 running east to west from King Street towards the River Croco. The construction of the road was too substantial to represent a minor road leading to back yards and the likelihood is that it led to a former river crossing.

**Ports and Harbours**

During the Roman period diagnostic goods such as pottery and stone indicate the passage of vessels along the coast. Furthermore traceable goods such as stamped pottery from several industrial settlements in the lowland north west enable the direction and destination of trade to be determined at least in outline, though the potential for these to be accompanied by perishables or untraceable goods is high.

The North West has one of the few explicit Roman references to a harbour in Britain, *Portus Setantiorum*, known from a name recorded by Ptolemy (Rivet and Smith 1979, 456-7), but the location is uncertain. It has been variously suggested to lie near Rossall Grange (Watkin 1883, 77), Dowbridge, Kirkham (Shottler and White 1995) or in the southern Lake District (Shottler 1997, 114). A port did not necessarily require permanent quays or other installations for loading and unloading vessels since they could be beached to provide safety from storms, as at Hengistbury Head, Dorset (Cunliffe 1990). Many sites may have operated as busy ports but may not be recognisable from structural evidence. It is most probable that Lancaster served as a port, although the physical evidence is as yet tentative, and there is some merit for the suggestion that Walton-le-Dale had harbour facilities. No Roman-period shipwrecks or abandoned vessels are known from the region although the potential is illustrated by the discovery of the remains of a boat of unknown date, together with Roman coins and other artefacts in 1898, in the in-filled Pool of Liverpool during excavations in Tryon Street (Gladstone 1932, 8).

The existence of a major west coast trade route from the Iron Age onwards is demonstrated by finds from Meols, Wirral, the one identifiable Iron Age port in the North West, (Matthews 1996; Philpott et al...
forthcoming). Finds recovered largely in the nineteenth century from the eroding coastline indicate it was active as early as the fifth century BC, but continued in operation from the mid first century to the late fourth century AD and beyond (Hume 1863; Watkin 1886; Thompson 1965; Philpott forthcoming). A diagnostic group of pre-Flavian finds strongly suggests activity before the permanent Roman occupation of the North West, using the existing harbour as a springboard for intervention by the Roman army against tribes of North Wales or Brigantes, if not both (Philpott forthcoming). The site may also have been a port from which merchants, and military forces, sailed to Ireland (Robinson 1999). The coin list ends with Magnus Maximus (AD 383-88) (Hume 1863; Watkin 1886; S. Bean forthcoming).

Given the size of the garrison at Chester, its port must have been a regionally important node in this network. The evidence for port installations at Chester largely derives from nineteenth-century excavation and salvage recording and is ambiguous. Wooden piles found associated with an ingot of Deceanglian lead and other Roman finds during construction of the gasworks in 1885, seem best interpreted as part of a jetty extending from the east bank of the river, rather than as part of a bridge (Waddelove 2001, 134-5). Further piles found outside the Water Gate in 1874 may be associated. The ‘Quay Wall’ by the Roodee was in fact probably monumental or defensive in character: it could only be approached by ships at high tide and was probably too high for convenient off-loading (Mason 2001, 114-17; 2002, 66-70). In addition, the Roman road underlying the lower part of Watergate Street, which would have been the obvious approach to the fortress from the jetty, seems to have been drastically narrowed in the later second century, suggesting achange in harbour arrangements: ships could have docked/been beached near the Old Dee Bridge or in the medieval Port Pool.

Recent work at Heronbridge has confirmed the existence of the dock at the mouth of a small inlet on the river Dee adjacent to the industrial settlement, and may have served to accommodate barges using the rivers Dee and Alyn to transport copper and lead from the Wrexham/Minera/Frith area for manufacturing (Mason 2002a). The dock appears to have gone out of use by the second half of the third century when three rock-cut graves were dug beside it. Wilderspool almost certainly operated as a port on the Mersey for the importation of raw materials and the exportation of manufactured goods although no structural evidence has been found (Hinchliffe and Williams 1992, 171). Ravenglass, a coastal fort in Cumbria, has a well protected natural harbour and it has been suggested that this was the base for a naval squadron (Potter 1979, 363).

**Legacy**

Official Roman administration in the North West ended in the early fifth century. In the countryside this may have had little impact on local communities. There may have been little change in the agrarian systems from the Late Iron Age to the Early medieval period, but we cannot be certain, especially when there is such a lack of palaeoenvironmental evidence on which to base such assertions (Huntley 2000; Stallibrass 2000). There must have been changes in material culture, however, since the collapse of industrial-scale manufacturing meant the cessation of the established flow of pottery and other durable goods. The material culture of the rural sites was never high but by end of the fourth century the rural finds assemblage at most sites becomes seemingly invisible. The occupation of rural sites may therefore appear to close artificially at the end of the Roman period and the full span of occupation will not be appreciated without a sequence of radiocarbon dates. Radiocarbon dates suggest a possible longhouse at Tatton was likely to have been in use c. AD 300-600. Although potentially a building of some status no chronologically diagnostic artefacts were recovered from associated deposits (Higham and Cane 1999). A small number of post-Roman finds hint at continued activity on some Romano-British sites beyond the official end of the Roman administration. These include a sixth-century small-long brooch from Irby, Wirral (Philpott 2000), a coin and radiocarbon date spanning the mid fourth to sixth century from building gully at Mill Hill Road, Irby (Philpott and Adams forthcoming), and a ninth century radiocarbon date from the Romano-British hamlet at Court Farm, Halewood (Adams and Philpott forthcoming). Two ninth century metal items were also found near Hale, close to an enclosure (Philpott 2000).

The development in the late Roman period of a coastal defence system against pirates of the Irish Sea, including sites in North Wales at Caernarfon and Holyhead analogous to that of the Saxon Shore of southern England has been proposed for the North West and coast of Wales, extending to Cardiff and the Bristol channel, though how coherent is uncertain. Several coastal forts in Cumbria, including Ravenglass
and Maryport, were occupied into the late fourth century (Shotter 1997, 98). The Wery Wall at Lancaster forms part of a ‘Saxon shore’ type defences on Castle Hill, erected c. 330-340. Chester has been proposed as a command centre for this fourth century activity (Mason 2001, 208-11).

Unlike the rural settlements, forts, vici and towns were alien introductions and dependant on Roman governance and economic activity for their existence. The question has been raised as to how we can recognise the changes that took place in such settlements at a time when cultural assemblages are changing (McCarthy 2002b, 109) or are virtually absent. At several major forts occupation continues into the fifth century. The continuation of administrative structures in some form is suggested by the use of Roman titles as late as the seventh century. At Carlisle, both St Cuthbert’s prose vitae refer to a ‘marvellously constructed fountain’ in working order and conducting business with a praepositus, during the course of his visit in AD 685. The title praepositus may suggest an official holding a post which had survived from the Roman period (Higham and Jones 1985, 52).

Excavation at Birdoswald on Hadrian’s Wall has suggested continuation of occupation into the sixth century AD (Wilmott 2000). Here the south horreum was altered in the late fourth or early fifth century with the inclusion of a hearth. Round the hearth were lost a number of coins and high quality items and this phase has been associated with a small garrison which evolved through the late Roman and early post-Roman periods into a community similar to those which inhabited defended enclosures elsewhere in the north and west of Britain. After the collapse of the horreum a timber building was constructed nearby on the north horreum and a second timber building partly over the via principalis, a phase perhaps lasting into the early sixth century (Wilmott 1997). The possibility that defended communities in the sub-Roman period were based in the Roman forts of northern England provides an important research aim for future investigations of northern forts (Wilmott 1997, 409).

Ecclesiastical structures which are all but invisible archaeologically in the late Roman period appear to represent a sphere of continuity into the early medieval period. Later literary sources might suggest that Chester was the location of a sub-Roman bishopric, and the amphitheatre has recently been postulated as the site of the first church (Matthews pers. comm.). Two fourth-century salt pans from Shavington inscribed Viventius, one VIVENTI [EPIS]COPI, are thought to have Christian associations, suggesting the involvement of the church in the salt industry in the late Roman period. The finds are lent particular significance by the discovery nearby of a sixth to seventh-century bronze penannular brooch, suggesting continued activity beyond the Roman period at the brine springs of Shavington (Penney 1999; Penney and Shotter 2001).

The continuation of the long distance west–coast trade route in the late Roman and early post-Roman period is indicated by finds from Meols and its hinterland. The coin list at Meols itself continues as late as Magnus Maximus (AD 383-8) and the site has produced a late fourth century military belt buckle plate (Philpott forthcoming) while a scatter of late Roman coins from the hinterland indicate continued activity at the port. A small number of finds of early post-Roman date, including penannular brooches, show that it continued as a port into the post-Roman period (Bu’lock 1960) while long range trade is indicated by a St Menas flask and three Byzantine coins of the sixth or very early seventh century (Thompson 1955; Philpott 1999b).
Romano-British Contributions

Carrington, P.  Roman Chester, the fortress, the port, and pottery production
Collens, J.  Roman Towns in Cheshire
Collens, J.  Roman Small Towns
Collens, J.  The Nature of the evidence (for the Roman Period in Cheshire)
Connelly, P.A.  A Brief Summary of Roman Nantwich
Curzon, B.  The Central Cheshire Sites
Evans, J. (with contributions by B. Dickinson, B.R. Hartley)  The Brougham cemetery Roman pottery
Evans, J.  This small harvest: pottery from ‘Highland zone’ sites in north Wales and the North-West
Evans, J.  ‘Romanization’, pottery and the rural economy in the North West
Evans, J.  Regional identities in Roman Britain; the north
Evans, J. (with contributions by M. Ward)  The Roman pottery from Middlewich; an assessment
Evans, J.  King Street and the Roman frontier in the North-West
Evans, J.  Roman pottery from Burgh-by-Sands
Evans, J. and Rátkai, S. (with contributions by Kay Hartley, Kathryn Knowles, Kirsty Nichol, R.S.O. Tomlin, Felicity Wild, D.F. Williams)  The Roman pottery from Walton-le-Dale
Fielding, A.  Salt production and the salt industry
Fielding, A.  The Salt Industry and the Monument Protection Programme
Herepath, N.  Portable Antiquities Scheme Data as an Archaeological Resource
Herepath, N.  A Survey of Roman Brooches from Cheshire
Hopkins, B.  Romano-British Rural Settlement in Cumbria
Huckerby, E.  Pollen and Environmental Overview
Iles, P.  Notes on Roman Archaeology in Lancashire, High Park survey and coastal change
Miller, I.  Roman Lancaster civil settlement and burial in Carlisle
Neil, N.  Ribchester
Newman, C.  Ribchester
Philpott, R.  Romano-British burial practice; Romano-British rural settlement; Meols and ports; industry; legacy; buildings
Prag, J.  Recent work at Alderley Edge
Redhead, N.  The Romano-British Evidence for Greater Manchester
Richardson, A.  Centuriation and the Roman road network in the North West
Shotter, D.  Early military occupation; inscriptions, religion, trade and commerce; coin loss; Roman frontier
Wigan Archaeological Society (Bill Aldridge)  Notes on recent research and fieldwork projects
Zant, J.  The Roman Fort at Carlisle: Summary of Current Knowledge

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