Regional Research Frameworks 2017: Roman Period – draft version

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Introduction

The last decade has seen considerable advances in our understanding of the Roman period in the north west, through new discoveries made since 2006 as well as older projects reported or published in some form since then.

A number of important excavation reports published since 2006 have enhanced our understanding of key regional sites. Most are in the southern part of the region, including excavations at Nantwich (Arrowsmith and Power 2012), Wilderspool (Rogers and Garner 2007); Manchester (Gregory 2007; with a summary in Redhead 2011), Middlewich (Garner and Reid 2012; Williams and Reid 2008), and Chester (Ward *et al.* 2012), but they include Cumbrian sites such as Ravenglass (Hunter-Mann 2015). A major report is imminent on the Chester amphitheatre (Wilmott and Garner forthcoming). There has been the valuable publication of the papers from a conference in October 2008 at the Grosvenor Museum, Chester (Saunders 2011) which had been organised by CBA North West in an explicit acknowledgement of the need to build on the research frameworks to prevent a static fossilisation (Carrington 2011, 7).

Recent excavations have produced new information to clarify the significance and status of sites. Thus the military origin has been confirmed of the long-known Roman site at Wigan (GM) where earlier finds indicated some kind of settlement, originally interpreted as an industrial settlement like Wilderspool Ch) and Walton-le-Dale (L) (Miller and Aldridge 2011). The discovery of a major salt-producing settlement at Nantwich discovered in 2002 at Kingsley Fields and published in 2012 has provided a coherent context for previous scattered Roman finds in the area (Arrowsmith and Power 2012).

The application of existing geophysical techniques in extensive programmes of survey on Cumbrian military sites and adjacent civilian settlements by Timescape and others has shed new light on the detail of fort interiors as well as the extent and nature of *vici*, especially in revealing the later phases of construction (e.g. Biggins 2011).

Extensive landscape surveys are often multi-period in approach and intend to characterise the archaeological resource irrespective of date. One difficulty is adequate characterisation of the multi-period landscapes which often have undated features or landscape elements. Extensive investigation of landscapes in the northern upland areas encounters the problems of establishing the origins and duration of use.

While the number of known and investigated rural sites continues to increase, too often they remain nodes within wider landscapes of which little or nothing is known. However, considerable progress has come from the investigation of extensive areas of development sites, which is revealing landscape features such as ditches, enclosures, trackways, that form components of organised landscapes of the NW. Such features often do not show up in aerial photography due to pasture and widespread glacial till subsoil. When found in in isolation, these landscape features are difficult to date, but at Chester Business Park (Ch), Saighton near Chester (Ch) or Middlewich (Ch) they can be seen to form extensive Romano-British field

systems of a kind which are not widely known from the southern part of the region but how typical they are of the settlements' hinterland is hard to assess.

The Portable Antiquities Scheme (PAS) has continued to be an important source of new information for the period (www.finds.org.uk), particularly for the Romano-British countryside. Since 2006, each county area in North West England apart from Greater Manchester has more than doubled the number of recorded Roman finds, with a new total of 3880 by April 2017, although this is skewed somewhat by the records of individual pottery sherds from known Roman sites such as Maryport and Kirkham. The quality of the records has improved considerably over recent years, with a greater emphasis on precise findspots, detailed identifications and high quality illustrations, the latter crucial for future re-assessment of finds as research continues.

The PAS has provided fundamental data for national artefact surveys, notably coins and brooches, the two most common types of metal artefact from the North West. A study of Roman brooches by Cool and Baxter (2016) examines the use of one of the most common type of artefact from Roman Britain using the growing PAS database, assisted by the publication of Mackreth's *Brooches in Late Iron Age and Roman Britain* in 2011 which records over 15,000 brooches. Philippa Walton has largely drawn from the PAS dataset of nearly 58,000 Roman coin finds to March 2008 (against a total of 232,397 in April 2017) to establish changes through time in the distribution of Roman coinage across England (Walton 2012). Although these national surveys have a broad brush approach which tends to gloss over the complexities of local conditions or circumstances, and case studies rarely focus on the North West, owing to the low level of durable material culture during the Roman period. But such work is of great value in providing a wider backdrop against which to study regional patterns, emphasising the broad regional differences in distributions across Roman Britain.

Two national landscape and settlement projects have attempted to identify regional variation across Roman Britain. The 'Fields of Britannia' project, funded by Leverhulme, investigated the legacy of the Roman period in the rural landscape of today (Rippon *et al*. 2015, 16-17) with an 'emphasis on landscape evolution during the late roman and earliest medieval period (the fifth to seventh centuries), looking for areas of continuity or discontinuity in field systems, in land management practices, through analysis of palaeoenvironmental sequences'. However, the core data sets for the project, the palaeoenvironmental sequences covering the late Roman and early medieval period, and excavated Romano-British field systems whose relationship to the historic landscape can be established, are distributed very unevenly in Britain with an emphasis which is much stronger on south and east in commercial developments, especially for the latter. More successful for the North West has been the New Visions of the Countryside of Roman Britain project (Smith *et al*. 2016). This has played an important role in identifying and quantifying regional differences, placing on a sound statistical basis such elements as variation in house forms, settlement types, and the composition of artefact assemblages.

Surveys of the period succeeding the Roman period are important in establishing long-term regional patterns of economic or social behaviour. The VASLE project which was completed in 2007 aimed to map national distributions of metalwork types *c.* AD700-1100 and to compare these with distributions of early medieval coinage, landscape factors and potential constraints on data recovery (https://www.york.ac.uk/archaeology/vasle/vasleoverview.html).

The early medieval period highlights similar inter-regional distributions of artefacts, with a dearth of metalwork and coinage in the North West, in stark contrast to the North East. Pervasive patterns of artefact distribution related in part of population densities but also to long-term patterns of social interaction and display and economic development.

The reassessment of surviving antiquarian collections and records has produced new insights, such as finds from the north Wirral coast at Meols (M) (Griffiths *et al.* 2007). Here, the identification of significant groups of pre-Flavian metalwork, coins and pottery suggests military use of the port in the period before the formal Roman military occupation of the area. Afterwards, it appears to have functioned as a safe haven and trans-shipment port for the fortress but a distinctive civilian element is indicated by finds such as ear-rings.

New techniques which have more widely available include LiDAR (Light Detection and Ranging) data released by the Environment Agency, which has proved an important research tool in the search for subtle earthwork indicators such as Roman roads and temporary camps. A technique of growing application to population studies is stable isotope analysis of human bone which is of great value in illuminating questions of diet, and of population movement, which is particularly appropriate for Roman Britain (e.g. Eckardt *et al.* 2009), although its potential is limited over much of the region by the poor survival of human bone. At the University of Manchester a potentially powerful new technique of dating ceramics through rehydroxylation analysis is under development (Wilson, Carter *et al.* 2009). The application of a cheap and effective technique to date all ceramics offers the potential to date accurately building materials, of particular value in forts and major urbanised settlements, and to refine dating of pottery production independently of typology or archaeological context, with potentially far-reaching impact on site chronologies.

There are some constraints particular to certain sites in the region. A core principle of development–led work in the historic core of the city of Chester (Primary Zones as defined in the Chester Archaeological Plan) is the preservation *in situ* of significant archaeological deposits through careful foundation design, which reduces the impact of new works on archaeological strata to the absolute minimum. This has limited the amount of new archaeological information from the city with regard to the Roman and all subsequent periods. However, the **Chester Urban Archaeological Database**, an English Heritage-funded project undertaken by the Cheshire Archaeology Planning Advisory Service between 2011 and 2013, has seen vast amounts of disparate archaeological data from Chester integrated into the Historic Environment Record and used to define archaeological Character Zones. The data also form the basis of the **Chester Archaeological Plan** which is part of the Evidence Base for the Cheshire West and Chester Local Plan. The results of this project have proved invaluable in the continued provision of robust development-management advice.

Some major gaps remain –animal bone survives poorly at many sites, except certain types of military/urban locations, denying us the opportunity to investigate such questions as dietary preferences, livestock management and butchery practices. Inimical soil conditions mean that unburnt human burials are notable by their absence, so data on inhumation burial practices are scarce and the opportunities for the developing areas of isotope and genetic analyses which allow us to investigate population movement and composition are accordingly lacking at most places, although isotope analysis is planned for burials from Dog Hole Cave, Haverbrack (H. O'Regan pers. comm.).

Environment

Two major regional English Heritage surveys, of invertebrates in archaeology published in 2010 (Hall 2010), and of charcoal and wood (Huntley 2010), provide valuable syntheses of data and sites, and
and summarise the findings to publication date but both have identified almost no new sites since 2006 for the north west.

Similarly, all the palaeoenvironmental work for the Fields of Britannia Project was undertaken prior to 2006 – in Merseyside and Lancashire Plain. Rippon *et al.* 2015 suggest that the examples adduced show considerable variation within the land-use across the Western Lowlands in the Roman period with predominantly open landscapes to the south, and greater areas of woodland to the north (the Cheshire Hills, upper Trent catchment, Merseyside and Lancashire Plain, and western Pennine Foothills). 'A total of forty-nine sites …. Have been identified within this region that have yielded late Roman (or broadly dated 'roman') ditches whose relationship to the historic landscape can be established. The sites are spread across the region, although most are in the south. Unlike the regions in southern and eastern Britain, however, there is a dearth of post-Roman material culture and therefore no instances where early medieval pottery has been identified within the upper fills of Romano-British ditches (thereby confirming that the ditch remained open). Overall, 59 per cent of the Romano-British sites have boundaries that share alignments or orientation with historic landscapes characterized by medieval Closes or former Open Field (Rippon *et al.* 2015, 258)

The Ravenglass (Cu) vicus excavations produced evidence of iron smithing, through hammerscale, metallic slag and magnetic material. The charcoal from the site indicates selection of hardwood types which sustained high temperatures over long periods when burnt, notably oak and alder with some ash (Miller in Hunter-Mann 2015, 102). Hazel, cherry type, alder and poplar/willow charcoal was also identified and could reflect utilisation of structural wattle panelling or collection of local woodland resources for kindling for domestic fuel or industrial fires. Only limited quantities of cereals were recovered, from a small number of contexts. The assemblage included spelt and emmer wheat, possible emmer and six-row barley (probably hulled). This is consistent with other Romano-British assemblages, and indicates consumption of bread, and perhaps beer and potage, although too small to determine dietary preferences. The excavators suggest grain was brought in from outside the immediate area; the first major deposits of carbonised bread type wheat are found in the Roman period, for example at South Shields (Carruthers 1993). [S5448]

The Chester Business Park excavation was important for 'out of town' site close to but separate from Chester fortress. Although poorly preserved and suffering from truncation and sediment movement during earlier phases of development, good recovery of the ditch system suggested control of livestock movement between enclosures. The site was notable for good preservation of environmental remains (mainly macrobotanical and insect remains, many indicating presence of animal dung) from three waterholes or wells, dating from the Iron Age through to the Roman period. The ditched enclosure and trackways are a possible indication of a pastoral economy or livestock management on the outskirts of the fortress of a type paralleled at Metchley in Birmingham (in a series of publications by Jones in BAR Brit Series) and in the upper Thames valley (Booth 2016).

Settlement and Land-use

Defence, Warfare and Military activity: Military sites

In Cheshire a number of reports have been published since 2006 on the legionary fortress and associated settlement at Chester (Ch). They include the report on the excavations at **25 Bridge Street** in 2001 (Garner *et al* 2008), the report on the excavations within the **western and southern extramural settlements** undertaken between 1964 and 1989 (Ward *et al* 2012), and the report on the excavations at **Gorsestacks** immediately to the north of the Roman fortress between 2005 and 2008 (Cuttler *et al* 2012).

Publication reports on excavations in Chester since 2006 are currently in preparation for the **former Odeon site on Hunter Street** for the post-excavation assessment) and the eastern part of **Gorsestacks** where a new bus station is under construction (post-excavation assessment in preparation).

The **Hunter Street** (new theatre site) confirmed robbed out Roman walls close to the centre of the Roman fortress. Several phases of road metalling were found with a pair of drains. There are signs of a side road or alley leading north off the main road. An earlier timber phase of construction on the north side of the road was identified, and later sandstone rubble wall had cut through it and sill-beam features. Pottery dated from the late 1st to 4th centuries (Wilson 2015, 309)

Notable grey literature reports incorporated into the Cheshire Historic Environment Record since 2006 include reports on work at the **former George Street Centre** where evidence of Roman clay extraction and burial was encountered (ECH6208), **Bollands Court** where a complex sequence of Roman deposits was recorded in a new lift pit (ECH6061), the **Weaver Street car park** where the remains of Roman granaries were recognised during evaluation work and subsequently preserved in situ (ECH6182), and the west end of **Hunter Street** where the remains of the western fortress defences and intramural structures were identified and will be preserved *in situ* (ECH6177). These sites all lay within the Roman fortress but notable extramural sites were investigated to the north at **Tower Wharf** (ECH5564) and **nos 51-56 Upper Northgate Street** (ECH5659) where Roman ditches, a burial, and wells were recognised.

The publication is imminent (autumn 2017) of the first of the reports on the excavations carried out on the site of **Chester Amphitheatre** between 2003 and 2005, dealing with the evidence for the Roman period (Wilmott and Garner forthcoming).

A new insight into the character and status of the long-known site at **Wigan** (GM) has come from a major programme of archaeological excavation for the Grand Arcade shopping development off **Millgate, Wigan** (2004-5) (OA North 2008; Miller and Aldridge 2011). The Ship Yard site produced the first identified remains of a Roman fort at Wigan, in the shape of two east-west ditches set 3.5 m apart, with V-shaped profiles. Waterlogged deposits in one included numerous wooden pegs of oak, typical of those used by Roman army for tents, and probably dated to the late 1st century (Miller and Aldridge 2011, 28-30). The second and larger excavation at Stairgate yielded a substantial stone-walled Roman building containing three hypocaust chambers), a cold bath, dressing areas and colonnade (with stone column fragment). Externally there were rubbish pits and remains of an aqueduct. The excavators concluded this was a bath house for a cavalry fort and dated late 1st century AD to around

AD 160. A little 3rd-century pottery was recovered from this site, suggesting the site was not completely abandoned.

Further evidence for the fort came through OAN excavations in 2008 at the Joint Service Centre on the west side of Millgate where features excavated by GMAU in the 1982-84 were re-examined as well as new features coming to light. The previous interpretation of timber workshops was re-assessed and it was concluded that the structural evidence related to a late 1st century AD Roman barrack blocks, thus lying within the Roman fort. After demolition in the early 2nd century, a series of iron-working hearths was constructed, used for iron smithing. There is no sign of 3rd or 4th century Roman activity on this site. The full post-excavation analysis report was produced in 2011 with a popular publication in the Greater Manchester Past Revealed series (Miller and Aldridge 2011) and a monograph is planned on the OAN excavations.

At **Castleshaw Roman Forts, Oldham (GM) a** community archaeology excavation in 2014, run by the Friends of Castleshaw Roman Forts and Salford University archaeologists, re-excavated several trenches dug in 1907/8 and the early 1960s as well as opening up a new trench in the centre of the Agricolan phase fort. The results showed that there were no defensive ditches on the east side of the fort, even though a rampart was present. A possible road and evidence for structures outside the rampart suggest the presence of a previously unrecognised annexe. Within the fort, the archaeological remains were multi-phased with evidence for timber buildings, roads and drains, hearths, workshop floors and industrial waste pits. It would appear that, following abandonment, parts of the northern half of the former fort were re-used in the later fortlet phase (CfAA 2014 and summary in Wilson 2015).

The east gate was exposed and a section of road was recorded where it left the gateway. There were at least two phases of Roman road, the first belonging to the timber and turf fort dated AD 79. The gate structure was supported by large oak posts set in substantial post-pits (Wilson 2015, 306-8). A Conservation Management Plan was produced for the scheduled monument of the– see http://www.castleshawarchaeology.co.uk/documents.htm.

At **Vicarage Fields and Quay Meadows, Lancaster (L),** geophysical survey and community excavations have been directed by the 'Beyond the Castle' project. The Quay Meadows work revealed what may be Roman riverside activity and a well within the NE wall of the fort (http://beyondthecastle.org/).

In Cumbria a large body of new work over the last decade has consisted of extensive geophysical surveys at military sites, shedding new light on the extent and layout of the extra-mural settlements and some fort interiors. At the coastal fort of **Ravenglass** (Cu) a community archaeology project in 2013 and 2014 was complemented by a magnetic survey in 2013 covering 35 hectares, extending the 2010 survey to the north, east and south and including the fort and bath house. In addition, more detailed resistivity survey was carried on about 5 hectares of land within the area of magnetic survey. The geophysical survey indicated that more of interior of fort survives than previously supposed, and identified four barrack blocks (or four pairs of smaller blocks) which occupied the east end of the fort with long axes along the width of the fort. There were six identified in the western section in 1970s excavations. This arrangement may be explained by division of fort into two, with four cavalry *turmae* housed in the east section and six infantry cohorts housed in the west. This is typical for an *equitata* cohort (standard infantry with additional cavalry), and is supported by the Ravenglass diploma of AD 158 which records the *equitata* cohort here. The barracks

alignment suggests that the front of the fort faced west towards the sea, which supports the 1970s conclusions regarding the north gate and *via principalis* but it is contradicted by earthwork evidence which shows that north and south gates lay towards the east end of the fort. There appears to be a*principia* in the expected central location, but this has an unusual layout.

Geophysical survey at Ambleside fort identified a number of features including internal structural remains, and external features, such as former defences. The outline of the fort is visible, along with some internal structural elements, including the *via principalis* and two of the corner turrets. Some defences and ramparts are also visible. Externally, the outer defences are particularly clear in the resistivity data, especially at the north-east corner. Settlement evidence may be present, particularly in the field to the north of the fort beyond the outcropping rock, but the nature of the responses makes interpretation difficult and conjectural. A feature of particular interest is a linear response with wide halo just to the north of the fort platform, suggested to be a buried structure. There is evidence for the line of the road out of the fort through Borrans Park. There may also be evidence for settlement in this area, although the data is complex and there are no obvious patterns. S5442

At the auxiliary fort of **Maryport (Cu),** with its extensive adjacent civil settlement north and north-east of the fort, several excavations have taken place. One was a community archaeology excavation aimed at answering a series of academic research questions**.** Geophysical survey between 2000-2004 on the fort and extra-mural settlement revealed a highly detailed plan of the settlement, and showed a series of regular building plots extending for several hundred metres on either side of the road leading from the north-east fort gate (Biggins and Taylor 2004; Fig 2).

Excavations to the immediate north of the Roman fort at **Stanwix** (54 Scotland Road, Carlisle) and approximately 100m north of Hadrian's Wall recorded a cobbled area which might be a parade area or possibly a market (Martin 2010). A military-type ditch, running north-south, was superseded by an extensive cobbled surface, laid in the 2nd century or later, which produced a total of seven Roman coins dated from AD 119-337, with a well nearby. A rectilinear timber building appears to have post-dated the ditch, as did the extensive cobbled surface, which was interpreted as a possible parade ground or market area, although the suggestion of an area 'for quartering animals before procurement to various parts of the Roman military' is attractive, given its location close to the putative line of road through the fort at Stanwix and the Wall, and access point to the major urban centre of Carlisle. The excavator considered the cobbled area to have remained in use from the 2nd to at least the mid 4th century.

At **Low Boroughbridge** geophysical survey by OAN in 2015 revealed in detail internal features of the visible fort including the *principia* (headquarters building), *praetorium* (commanding officer's house) and a possible granary (OAN 2016). Resistivity and magnetometer surveys to the south and south-east of the fort have identified ditched enclosures

Despite the often substantial nature and distinctive signature of many Roman military sites, new sites have continued to come to light since 2006, notably the relatively slight remains of short-lived temporary camps. In the north of the region a newly discovered temporary Roman camp at **Castle Lane, Castlerigg (Cu)** was identified by geophysical survey and trial

excavation through one of its ditches, and thought to be a broadly 1st-century marching camp.

Geophysical survey at **Caermote, Bewaldeth (Cu)** suggests an initial larger fort layout with four gates and four roads. The survey has also revealed a road with apparent built structures on either side running north-south in the smaller fort and a possible corner tower in the south west. S5349

Examination of the LiDAR data has produced several new sites. At Bewcastle LiDAR has revealed a possible temporary camp, measuring 148m east-west by 145m, overlooking part of the Roman road known as the Maiden Way (Wilson 2016, 303, fig. 11). LiDAR has revealed a possible Roman fortlet NE of Farndon in a meander of the river Dee and two linear earthworks which may represent Roman road alignments but require further investigation (Hardwick 2017, 36, fig. 21). The existence of a possible fort at **Wayoh Bridge**, Edgworth near Bolton (GM), which had been previously recorded, was confirmed by LiDAR, during investigation of the Roman road alignment between Manchester (GM) and Ribchester (L) (Wilson 2016, 317), fig. 19). The dimensions at 80 x 60m, the configuration of subrectangular form with double ditches on two or possibly three sides, and the location, 12 miles from Ribchester, and 14 miles from Manchester, are all appropriate for a fort. Previously recorded as *Coccium* on Historic England's Pastscape database (Site 44354), that name is usually now applied to Wigan.

Civilian settlements attached to military sites

A national research synthesis (Scotland, England and Wales) of extra-mural sites has recently been completed as a University of Liverpool PhD by Helen Murphy-Smith which brings together a wide range of different types of evidence (from epigraphic to geophysical) to consider activities and functions of the extra-mural spaces and the people living in them (Murphy-Smith 2016).

Excavations on five areas carried out by UMAU within the Roman vicus at **Manchester** (*Mamucium*) during 2001-2005 have been published (Gregory 2007). The excavations revealed a ditch, possibly of military origin and defining an irregular military annexe, with an early vicus protected by a palisade and ditch further to the north, flanking either side of the Ribchester road. The ditches of both the annexe and vicus were infilled in the early 2nd century and the vicus expanded over the area. The road was then lined with a series of timber strip buildings. There was a building which may have served as a *mansio*, and a hybrid classical/Romano-Celtic temple. Industrial activities included smithing and tanning. There were also a series of field and allotment boundaries, with possible evidence of vegetable cultivation (summarised in Carrington 2011, 107). The vicus appears to have been abandoned in the mid 3rd century, although the fort may have remained in occupation later.

Chester Road, Manchester, within an Archaeological Priority Zone, as defined in the Unitary Development Plan of Manchester City Council, was excavated by Pre-Construct Archaeology in 2008, on the opposite bank of the river Medlock to the Roman fort and vicus, revealing evidence of a ditched enclosure, pits and agricultural ditches (PCA 2009), and adding considerably to our knowledge of the extent and character of the Roman settlement.

Three Roman phases of activity were identified. The earliest Roman activity (Phase 2) of the early to mid-2nd century AD saw a series of boundary ditches delimiting plots of land set out

to the south of the Roman road. The plots contained probable quarry pits for sand, gravel and clay, filled with refuse. A substantial pit in the southernmost plot yielded a well-preserved sandstone altar, dedicated by Aelius Victor to the mother goddesses of a German tribe known to have provided auxiliary units for the Roman army and it is surmised that this individual was a member of the Roman military in Manchester. The altar was probably set up as a roadside shrine and was presumably disposed of in the pit when obsolete. Antiquarian discoveries in this area have long indicated that the southwestern approach to the Roman fort and associated settlement had particular religious significance. This is only the third Roman altar ever found in Manchester and the first since 1832.

The extramural settlement attached to the Roman fort extended beyond the River Medlock by this time. Although no direct evidence of buildings was identified for this phase, domestic refuse within the refuse pits certainly indicates the presence of nearby habitation and it is considered likely that dwellings and shops may have lined the road, with their backplots utilised for refuse disposal and other activities. In Phase 3 (the late 2nd century AD) a change in layout at the site saw relatively small, regular plots defined by relatively shallow ditches replaced by a more substantial boundary system. The large size of the new boundary ditches, along with evidence of fairly elaborate methods of construction, for example, traces of a wooden box drain linked with lead fittings was recorded in the base of one ditch, suggest that these features were of greater importance than the previous land divisions; they may even have delimited the south-western extent of the extramural settlement beyond the Medlock at this time. In Phase 4 saw a change in the layout of the site, with the previous boundaries being replaced with a system of smaller boundaries, similar to those of Phase 2, which seemingly returned the site to a group of plots. Within these plots traces of possible structural features, such as beam slots and postholes, were exposed, although no clear building plans were discernible. Again, clusters of refuse pits yielded domestic refuse that presumably originated from nearby habitation. A substantial ditch bounding the south-western side of these plots may have delimited the extent of the extramural settlement at this time. The pottery assemblage recovered from this phase of activity suggests that it dates from the early to mid- 3rd century.

The excavation yielded a modest sized assemblage of Roman pottery, comprising local wares, Romano-British traded wares and imported material such as samian ware and Spanish amphora. Several ‘small’ finds were also recovered, the majority being of domestic or structural function. Faunal remains and palaeoenvironmental evidence were scarce due to the acidic nature of the subsoil, which is not conducive to the survival of such material (Pre-Construct 2009).

As mentioned above, new information on military sites in Cumbria has been dominated by the investigation of the extra-mural areas of forts through geophysical survey, many of these by Timescape, followed up by selective excavation to target specific research questions. The surveys have revealed, sometimes in remarkable detail, the layout and extent of the extra-mural settlements, but the limited excavations subsequently carried out show that, inevitably, the surveys focus on the latest phases, they are better at identifying masonry buildings and ditches than relatively ephemeral timber structures, and do not reveal the full complexity of the occupation phases. They have greatly enhanced our understanding of the extents and diversity of extra-mural settlements although several do not reach the furthest extents of the areas of activity and almost none of them put the roads and extra mural settlements and cemeteries into their landscape settings.

At Roman **Papcastle (Cu)**, a large-scale geophysics and evaluation programme undertaken by Grampus Heritage with the assistance of Wardell Armstrong Archaeology, has uncovered amongst other things a substantial extra-mural settlement, a bathhouse, bridge, and mill (http://www.discoverderventio.co.uk/),

At **Ambleside (Cu)** vicus, geophysical survey identified potential boundary ditches delineating a feature following a course from the lake inland, parts of the fort's ramparts and ditches, extra-mural settlement and settlement inside the fort. Substantial areas north of the fort appeared blank on the survey, although some features further north may indicate the location of furnaces. There is no conclusive evidence of earlier phases of the fort other than that identified by Collingwood to the north. Responses in the south of the survey area do not exactly match the ramparts reported by Collingwood but they could represent the earlier phase. Other possible features cross the northern ramparts at an oblique angle and these may represent earlier archaeological features. This explanation is not strongly supported by the geophysical evidence, however. S5443

Patchy archaeological remains survived beneath Borrans Road, and complex remains beneath Borrans Field. Archaeological evidence encountered appears to relate to the 2nd century AD. No evidence for the vicus was identified outside the Scheduled area. [University of Edinburgh Centre for Field Archaeology Archaeological Excavations and Watching Brief within the Roman vicus at Ambleside: Interim Report 1993]. A Roman road associated with the vicus was identified, suggested to relate to the latest of four phases of Roman activity in this area. University of Edinburgh Centre for Field Archaeology Archaeological Excavation within the Roman vicus at Ambleside: Interim Report 1993] (*The CfA Excavations were published in TCWAAS 2004 – Drury and Dunwell 2004*)

Excavations at **Ravenglass** (Cu) revealed evidence for an extensive vicus to the east of the fort, mostly in the form of large timber strip buildings alongside roads and streets. These were accompanied by evidence for domestic and industrial activity, including iron working and possibly also lead. One particular building on the slopes east of the vicus may have been associated with metalworking. It was difficult to identify phases of activity within the vicus, although one possible enclosure may pre-date the vicus. Occupation within the vicus appears to have commenced around AD 150, and most pottery was dated to 2nd/3rd century AD. Although there is some late 4th century the usual range of 4th century pottery recovered from this fort is absent from the vicus, suggesting that occupation of this part of the vicus settlement had ended by c. 300 AD. The small assemblage suggests that the military vicus conforms to the usual pattern of late 3rd century abandonment, with the fort occupied until the end of the Roman period. S5441

At **Brougham** (Cu), pipeline development allowed investigation of the little-known vicus to the south-east of the fort, revealing three phases of occupation, beginning in the late 2nd/early 3rd century and continuing into the second half of the 4th century, or possibly recommencing in the late 4th after a period of reduced activity (Zant). An area of ditched field boundaries, associated with trackways, pits and wells or water holes was identified. This was adjacent to a cemetery area where possible cremations and pyre debris were found. Brougham appears to have had an 'extended vicus', where settlement was concentrated at several foci with less intensive occupation between, and dispersed over a relatively large area around the fort.

Other major settlements

Cheshire's major Roman settlements have also seen significant fieldwork and publication of the results since 2006. Publication and synthesis of excavations carried out prior to 2006 has also been achieved. In Nantwich (**Kingsley Fields**), the excavation of the extensive industrial settlement by the University of Manchester Archaeological Unit in 2002 has now been published (Arrowsmith and Power 2012). Excavations revealed a previously unknown Roman road at Kingsley Fields, linking the settlement to the main Roman road network. Along the road, evidence for the collection and storage of brine and production of salt, with a series of enclosures, buildings, a well and a cluster of cremation burials; waterlogged conditions provided high quality preservation of organic materials including timber tanks. Development along the road began the Hadrianic period and intensified in the later 2nd century, ending in the AD 180s, before a second major phase began in the early 3rd century and ending largely by the mid 3rd with only small scale brine collection continuing in the late 3rd and 4th centuries.

The results of the archaeological work in **Middlewich** (Ch) from the 1960s onwards have recently appeared in a synthetic article (Garner and Reid 2012), and reports on excavations at King Str**eet** in 2001 and **Jersey Way** in 2013 have now appeared (Williams and Reid 2008; Gregory *et al* 2015).

At **Stockton Heath** (Ch) excavations in 2007 on the site of the Roman road and associated ribbon development to the south of the industrial settlement at **Wilderspool** have been published (Dodd *et al* 2010). Excavations since the 1930s have enabled the progressive understanding of a section of the Roman industrial settlement at Wilderspool. At **Loushers Lane, Wilderspool** (The Horizon Centre site) a previous excavation had identified a well-appointed and substantial Roman stone building in the 1930s. Wall- and roof-tiles and painted wall plaster suggested a suburban villa. Later excavations, including 2012, suggested the presence of several Roman stone buildings. In 1976 large-scale open area excavations to the east of the site revealed an east-west lane serving a series of plots defined by ditches, which was interpreted as 'apparently unplanned' ribbon development of the 2nd and 3rd centuries (Wilson 2015, 311). The adjacent area to the north was investigated in 2014, revealing an east-west ditch, probably a boundary parallel to the lane found in 1976. Pottery from the ditch fills included late Roman shell-tempered ware, Huntcliff-type ware and Crambeck ware, suggesting infilling in the late 4th century, The presence of quantities of building materials appeared to derive from the large Roman stone building, suggesting it was ruinous, falling into disrepair in the 4th century. A small clay oven and sandstone wall foundations were found on the eastern edge of the site. The 4th-century occupation was interpreted as agricultural/domestic occupation, including cooking jars, bowls and mortaria. A stone spindle whorl suggested textile processing and hammerscale indicated blacksmithing. A low yield of charred cereal grains from the ditch fill suggested crop-processing (Wilson 2015, 311).

The work provides confirmation that occupation of Wilderspool continued into the late 4th century at least on this part of the settlement, although the usual caution should be applied to the end-date of occupation since there is no guarantee that occupation ended when the latest pottery was deposited.

Rural settlement and Landuse

The New Visions of the Romano-British Countryside project aims to 'allow us to assess the integration of settlements in different parts of Britain with the Roman provincial economy

and provide a new characterisation of the Romano-British countryside. The project places special emphasis on the ways in which commercial archaeological work in advance of development and in particular that only reported in grey literature, changes our picture of the countryside of Roman Britain' (http://cotswoldarchaeology.co.uk/community/discover-the-past/developer-funded-roman-archaeology-in-britain/). The creation of a major national database of rural settlement embracing England and Wales enables comparability both within and between regions, although partly due to a paucity of excavated rural sites in northern England, the survey included extra-mural settlements as 'rural'. Publication of this major national survey (Allen *et al.* 2015), remains in progress at the time of writing and will result in an important series of volumes. Three volumes will be published by the Roman Society in the Britannia Monograph series between 2016 and 2018 under the series title *New Visions of the Romano-British Countryside* edited by Michael Fulford and Neil Holbrook. Volume 1 appeared in 2016, *The Rural Settlement in Roman Britain* by A. Smith, M. Allen, T. Brindle and M. Fulford (2016). Volume 2 *The Rural Economy of Roman Britain: Farming, Industry, Transport and Markets* and Volume 3 *The Peoples and Rituals of the Romano-British Countryside* will appear by 2018 (http://www.reading.ac.uk/archaeology/research/roman-rural-settlement/
http://www.cotswoldarchaeology.co.uk/developer-funded-roman-archaeology-in-britain/
). Further outputs include a journal article examining previous approaches to the investigation of Romano-British rural settlement, and suggesting future best practice (2017), a journal article examining the principal advances in knowledge of Romano-British small towns over the last 25 years (2018). There is a link to the ADS database (http://archaeologydataservice.ac.uk/archives/view/romangl/.)

Excavation and fieldwork are beginning to reveal a more nuanced view of complexity within rural settlement. There are different settlement types in the countryside, with growing evidence of a mixed population of diverse origins while artefactual assemblages reveal differing levels of engagement with the Roman economy. Thus, Court Farm, Halewood, excavated in 1996 but not yet published, is an unusual example of a small unenclosed nucleated settlement, with oval buildings of a type which has a restricted distribution along the Mersey estuary.

Significant work in the hinterland of Chester has shown the extent of planned and organised landscape up to 3km from the fortress. Investigation of the remains of Roman rural settlement close to Chester has been rare. Two main sites are the Roman settlement and associated field system at **Saighton Camp, Huntingdon** (Ch) which was excavated by Northern Archaeological Associates in 2014 , and an area at **Chester Business Park** (Ch) south 3km of the fortress.

At Saighton Camp, archaeological investigation has revealed part of an extensive and complex Roman period settlement, divided into a number of enclosures. The north, west and eastern extents of the settlement were established, but the site extends for an unknown distance to the south. Within the enclosures, the remains of several probable and possible structures were identified, although only one building could be defined with any degree of certainty. Located at the northern edge of the settlement, it consisted of a rectangular post-built structure, 14m by 6.5m in size and made up of ten roughly-paired posts, with a possibly internal partition and further smaller posts possibly associated with it beyond its northern side. There was no indication of its function. It straddled a ditch which appeared to mark the northern edge of the recorded sub-rectangular enclosures and so post-dated them. Pottery

from the building gives a late 4th century date for construction, making it the latest identified feature (NAA 2016).

The site displays extensive evidence for use of Romanised ways of food preparation and eating, and for buildings using a range of stone and ceramic building materials, including the remains of a probable hypocaust elsewhere within the wider settlement, outside the excavated area. In addition, a number of items (stonework including two altars, together with ceramics) suggest religious practices and ceremonies were carried out here. Assessment of the recovered artefacts suggests that the site was occupied during the Roman period from the late 1st century until the late 4th century AD, and possibly beyond.

The types of overtly 'Roman' materials used or consumed on the site, and the possible religious activity mark out the settlement as unusual and significant. The excavations at Saighton were therefore an important opportunity to add to existing knowledge of the range and diversity of settlement close to the important Roman site at Chester (*Deva*) (NAA 2016).

Chester Business Park, excavated by Network Archaeology in 2003, revealed an area of landscape 3km south of the legionary fortress of Chester. Occupation began with a pond, two wells and a probable pit in the mid-late Iron Age. An Iron Age settlement with two roundhouses, one with a probable hearth so apparently a dwelling, was cut by a co-axial ditched field system, which appears to have been laid out in the early Roman period. A metalled Roman road 5.0-6.5m wide with side ditches ran east west along the southern edge of the site. Finds of Romano-British date are sparse; non-ceramic objects consisting of five lead weights, a jet bead, two melon beads, a hone, a few nails, a fragment of quern and part of an inscription, but no brooches or coins (Hutton forthcoming). Pottery dated from the late 1st to late 3rd or early 4th century, with the emphasis on the 2nd century.

The proximity to the fortress indicates the nature and extent of land division in the vicinity of the fortress; probably laid out in the late 1st century, and displaying a pattern of formal co-axial land boundaries, served by a trackway of considerable width which may imply provision of grazing along the verges (S Stallibrass pers. comm.).

Small enclosed rural settlements , usually identified as discrete enclosures, remain the predominant settlement form in the region and have been examined in a number of locations. Aerial reconnaissance has been moderately successful in this region at located such sites through the cropmark signature of the buried ditches but other site types do not lend themselves to aerial reconnaissance, or have not historically produced identifiable cropmarks. Further examples of discrete enclosure sites to add to those excavated by 2006 extend the geographical extent of excavated examples into Lancashire, which has been notoriously poor in excavated Romano-British rural sites.

In the southern part of the region, several rural settlements have now been examined and published. A broad distinction can be made between rural sites with Iron Age antecedents and those which appear to be established *de novo.* Of the sites which can be seen to occupy, or re-occupy, Iron Age settlement locations, the character of the archaeological deposits and finds assemblages means that continuity of occupation is often hard to distinguish from episodic use.

At **Poulton** (Ch) close to the river Dee an Iron Age site which has produced radiocarbon dates from the 4th-1st centuries BC also saw activity in the Roman period. There is evidence

of field boundaries, enclosure ditches, and small-scale industrial activity, along with a 1st-4th century AD ceramic assemblage which includes local and imported wares. Building material and small amounts of glass have also been recovered. Medieval activity at the chapel appears to have destroyed or removed any structural remains within Trench 1 (K. Cootes pers. comm.). Although the main structural, and settlement focus in the Roman period has not yet been identified at Poulton, the character of the assemblage and building materials suggests possible veteran settlement (J. Axworthy pers. comm.).

A rural site at **Irby**, Wirral (M) excavated 1987-1996, was finally published in 2010 (Philpott and Adams 2010). An Iron Age phase produced a substantial assemblage of Cheshire VCP, as well as features with mid Iron Age radiocarbon dates, but contemporary structures were difficult to identify. Romano-British occupation followed from the late 1st or early 2nd century through to the late 4th century and probably beyond. A palisaded enclosure was succeeded by a ditched enclosure, to which a second ditched enclosure was then appended. The earliest structures were roundhouses, but in the later Roman period rectilinear and subrectangular buildings were constructed within the interior. The intensity of occupation, which resulted in a dense mass of post-holes, rendered the identification and dating of individual structures problematic.

The site at **Town Farm Quarry, Norley** which was excavated in 2003 (Cooper and Speed 2009), was badly plough-damaged. Two areas of Roman features were identified. The first to the north-east consisted of an enclosure defined by slots, ditches and lines of pits, with a concentration of pits within the enclosure, and clusters of post-holes which probably belonged to one small rectangular building, and a line of post-holes probably from one side of a large structure, the rest of which had been removed by quarrying. Associated pottery was Romano-British in date, confined to the mid-late 2nd century. To the south-west of this concentration was another set of ditches on the same alignment, forming an enclosure with entrance, and part of another, so despite the lack of finds, a broadly contemporary date was postulated. Small amounts of hammerscale indicate smithing in the vicinity, but no other metal finds were recovered.

An enclosure at **Southworth Quarry, Winwick,** evaluated in 1993, was more fully excavated through the Aggregates Levy in 2003 for prehistoric settlement in the vicinity and the enclosure excavated in 2013 (Philpott *et al*. 1993; Cowell 2010; Moore *et al* 2014). The finds suggest the enclosure was occupied in the mid 2nd century, but internal features were few and heavily plough-damaged. The relatively slight enclosure ditch which measured a maximum of 1.7m deep and 2.36 wide, but mostly less than 1.0m deep, had been recut in some sections. Finds in both the original and recut ditch dated to the mid 2nd century indicating a relatively short occupation. Pottery from the ditch included samian ware, BB1 from Dorset, Severn Valley ware and local oxidised wares; a fragment of South Spanish amphora was found. Parallel with the enclosure ditch were a number of stakeholes and possible postholes. Several internal features were noted, irregular pits, post-holes, a pit with probable wood or wicker lining, and linear features; the latter probably formed a truncated structure, while a section of curvilinear gully is possibly a heavily truncated ring ditch (Moore 2014, 23). The finds assemblage is very small. Metal finds number only four, of which one was unstratified and probably modern. There was a very small amount of iron slag, possibly furnace slag. Plant remains from Southworth were heavily dominated by oats (grains, awns and floret bases) with only two barley grains and one wheat (hexaploid bread wheat type). Wild plants were present in small quantities, notably possible wild turnip.

Norley and Southworth had both suffered heavily from plough damage, which had removed all occupation deposits apart from the remains of deeper cut features. Both sites, as with many others in the region on clay or sands and gravels had poor survival of bone, so faunal remains are rare, usually surviving only when burnt.

Methodological issues involve the question of how to maximise finds retrieval on heavily ploughed sites, and systematic metal-detecting under archaeological supervision may be the only way to recover the metal finds ploughed out of occupation deposits. Fieldwalking will be possible only for actively ploughed sites, and the despite assertions that pottery is relatively indestructible, the degradation of Romano-British pottery in the ploughsoils of NW England has been observed by several writers. At Southworth fieldwalking in advance of the initial evaluation produced a thin scatter of pottery none of which lay within the enclosure (Philpott et al. 1993).

Archaeological work at Congleton Road by Wardell Armstrong has confirmed the presence of previously unknown Romano-British remains in **Sandbach** (Ch). They consist of enclosure ditches, and some possible limited evidence of a structure within Area 8. There were the possible remains of a sheep race in Area 10, which indicated a local economy which included animal husbandry, as did the environmental evidence from Romano-British ditches in Areas 5, 7 and 14. The relatively small quantity of Romano-British artefacts from Congleton Road, would suggest that the main focus of settlement was elsewhere (Wardell Armstrong 2015).

In Salford a Romano-British farmstead on a sandy promontory above the river Irwell near **Barton** Aerodrome (GM) was examined in 2008 and again in 2012-13. A network of gullies and ditches formed a series of small rectangular enclosures, each roughly 20m by 45m, with a trackway at the western end of the site giving access to these fields. East of the trackway a shallow gully, which produced Roman pottery, represented the remains of a roundhouse, *c.* 9m in diameter. West of the trackway were two curving gullies, forming an area *c.* 6.5m across, which were probably the foundations of another small roundhouse. Artefacts were scarce from this settlement, suggesting that the main focus of the farmstead may have been to the north, beyond Liverpool Road towards Barton aerodrome. These finds included a glass bead, a fragment of a rotary quern and a small number of Roman pottery sherds, including a Black Burnished Ware jar, a Grey Ware jar manufactured in Cheshire and fragments of a mortarium, from kilns in Cheshire (perhaps Warrington). These items belonged to the 2nd century to 4th century AD and the excavators considered were probably acquired at the civilian settlement outside the Roman fort at Castlefield.
(https://archaeologyuos.wordpress.com/2017/01/29/salfords-early-past-pt-5-roman-rural-settlement/)

On the upland margin the **Mellor** Heritage Project (GM) produced evidence for the movement of goods east to west across and outside the region, with traded pottery from Derbyshire and the Cheshire Plains. The finds suggest occupation from the 1st through to the 4th century– the only settlement in Greater Manchester to be occupied right through the Roman period (see http://www.mellorarchaeology-2000-2010.org.uk/archaeology/periodbyperiod/romanobritish.htm)
Within the Iron Age enclosed settlement, with its substantial enclosure ditch and series of intercutting Iron Age roundhouses, Romano-British period structures are absent, although the quantity and date of the artefacts indicates prolonged occupation, with Roman coins from 1st to mid 3rd century, several brooches, and pottery including Derbyshire Ware, Cheshire Plains

oxidised ware, BB1 and samian. The location of the site on the upland margin enabled occupants to acquire ceramics from east and west of the Pennines (Leary 2005). Small quantities of Derbyshire ware have been recorded at Middlewich and Warrington but the core distribution area is east of the Pennines (Connelly 2005, 102).

The consistent pattern of an absence of recognisable building remains from rural sites, often with apparently blank enclosure interiors, suggests there may have been forms of building either with very shallow foundations or timbers set on the former ground surface of which traces will survive only in the most favourable circumstances.

Small-scale trial excavation in 2010 at **Burton**, Wirral (Ch) produced evidence of Roman activity on a circular enclosure, with Black-Burnished 1, late 3rd-mid 4th century Mancetter–Hartshill mortarium, and an undated sherd of prehistoric pottery in a primary fill (R. Philpott). Less than 200m to the north a subrectangular enclosure was excavated in advance of the Wirral HVDC cable route, producing a clay oven, at least three structures, in one case defined by a gully and the others post-holes; the pottery assemblage suggested two occupation phases in the late 1st-2nd century and mid 3rd to 4th century. Other finds were very sparse, with very little metalwork, two quern fragments and two glass beads. The two enclosures are unusually close; the curvilinear form of the southern enclosure, together with fragment of prehistoric pottery in the ditch, argue for a pre-Roman Iron Age date. A Roman date for subrectangular forms of enclosure has been suggested in the lowland NW of England and may in this case relate to intensification of agriculture in the zone around the fortress at Chester. The hints of prehistoric activity on the northern enclosure site, such as a little VCP, may predate the construction of the enclosure itself.

Continued metal-detecting of many years at a site in South Wirral (location confidential) has produced a large assemblage of metal finds, including at least 20 brooches, 00 coins, a stylus, a cosmetic mortar, eagle on globe (symbol of Jupiter), a bull's-head bucket mount, a phallic lead ornament and 00 lead spindle-whorls; a hint of late prehistoric origin from a single cup-headed pin of Iron Age date. The potential for such an assemblage to represent rural settlement potentially on the *prata* of the legionary fortress, with metalwork including Roman military gods, writing implements, a concern with personal appearance, and large textile production – beyond the requirement of family farm? Implying specialist production of textiles for the military market? – might be contrasted with Southworth

Few securely dated Romano-British rural settlements have been discovered or investigated in Lancashire. One exception is **Barker House Farm, Lancaster** on the SW Campus of Lancaster University, excavated by OAN in 2003 (OAN 2004) on a low promontory overlooking the river Wyre (348297 456500). A circular ring gully 12m in diameter containing a 9m diameter ring of ten post-holes had an entrance to the east; to the south of this was a circular 'ditched enclosure' consisting of two segments of ditch with opposed 5m wide entrances. Three phases of gully were identified, while a pit which cut the gully near the terminal contained a smithing hearth bottom. There were also linear arrangements of postholes interpreted as fence lines. The farmstead was bounded by a ditch 38m to the west beyond which was a large water hole. Some further Romano-British activity occurred outside the main excavation area. Finds were very scarce. The first building had a single Romano-British sherd from a posthole (206), and a fragment of beehive quern was recovered from a pit within the building. The circular enclosure produced another beehive quern fragment with a central large posthole and is interpreted as a possible stock enclosure. The boundary ditch has C14 dates from the 1st-3rd century AD, with only a tiny assemblage of five sherds of

Roman pottery (1 BB1, 3 grey ware, 1 amphora) despite its proximity to the Roman fort at Lancaster. The site once again was plough damaged and all occupation surfaces were lost (OAN 2004).

On the **Wyre Estuary Pipeline/Garstang Road East, Poulton-le-Fylde.** 335930 439297 a settlement site with several ring-gullies dated to the Romano-British period with plan (Smith *et al.* 2016, 317).
A Romano-British settlement was excavated by OAN in 2010, [details needed*]; OAN, 2010, *Wyre Estuary Pipeline, Poulton-le-Fylde, Lancashire: Archaeological Post-Excavation Assessment,* Unpublished Report, Oxford Archaeology North]

Further Romano-British remains were discovered in the area in the adjacent field in 2014, in excavation by Wardell Armstrong (WA 2014), the latter consisting of ditches (possibly the continuation of an enclosure ditch found by OAN), ring-gullies (including one probable roundhouse in Tr. 1) associated with the Romano-British settlement found by OAN. A further possible ring-ditch on the hill in the NE corner of the site may belong to a separate Romano-British settlement. No finds associated with the Romano-British features were recovered in limited excavations in the Wardell Armstrong site.

Dutton's Farm, Lathom, near Ormskirk (Cowell 2005) continued to be investigated after the interim publication in 2005. At least four Iron Age roundhouses were found, The Iron Age, roughly 1st century BC roundhouse in the centre of the field had a smaller (c.6m diam) roundhouse (damaged by post-med boundaries) to the west, which had Romano-British pottery in the gully representing a shift in the settlement focus. This settlement was then succeeded by a trackway. About 100m to the west there are several inter-cutting broad trackways for local estate or agricultural use rather than public roads, one of which had a small early 2nd century coin hoard with tile and Romano-British pottery. It is hard to be sure of the total sequence of intercutting tracks, though the others were not as substantial as the one with Roman material in it. The presumed 2nd/3rd century farm indicated by pottery and other finds was not located. There are thin scatters of Romano-British pottery elsewhere in the enclosure that may pinpoint it. The small Roman ceramic assemblage (98 sherds by 2005: Cowell 2005, 70) consisted of BB1, Oxfordshire ware, local sandy wares, probably from Wilderspool, and ceramic tile.

Amongst the main characteristics of rural settlements north of Mersey are the continued preference for circular buildings and very low levels of artefact assemblages. Coins are absent from the sites, and other finds are very sparse. Rural pottery assemblages in the NW were dominated by jars, and some mortaria, with very few jugs or cups. The use of locally produced wares as well as a frequent preference for BB1 ware – durable cooking vessels, thick hand-made vessels –reinforces the impression that we are seeing here the descendants of the native Iron Age population, who have only the slightest adoption of Roman practices and manners evident in material culture.

In the Western Lake District, the National Mapping Programme has identified a few monuments that can be attributed to the Iron Age or Roman period within the aerial photography and LiDAR project, particularly in comparison with the earlier periods, and surprising given the proximity of Glannoventa, the Roman fort at Ravenglass. This dearth does however reflect the existing archaeological record. S5452

Investigation of an enclosed settlement at **Glencoyne Park** (Cu) showed through radiocarbon evidence that occupation began at the start of the first millennium BC. The enclosure wall was constructed in at least two phases and with two different building techniques. Artefactual and radiocarbon evidence indicates a phase of rebuilding at the start of the Roman Iron Age in Cumbria. The first phase is dated by two radiocarbon dates to some time after the start of the first millennium BC. The second phase is not as yet dated but appears to have fallen into disuse before the Roman period. Geophysical evidence reveals external buildings and courts which may indicate the enclosure wall had become disused. The enclosure wall pre-dates the Roman Iron Age. Internally some of the range of cut features probably belong to the latest phase before the Roman Iron Age. The Roman Iron Age period sees extensive construction and reconstruction, including a gravel platform for the construction of a stone footed roundhouse, a cobble courtyard and a flagged area. This phase appears to have lasted for some considerable time as the house walls appear to be remodelled on several occasions and the entrance orientation altered. (S5306)

The project revealed substantial earthworks forming parts of field systems, some at least associated with a known late prehistoric/Romano-British settlement, but others less easy to date. The remains identified represent extensive and significant evidence for activity in the valley from at least the late prehistoric period onwards, possibly continuous. It demonstrates the extent to which these remote valleys were occupied, and it fits well with evidence for large-scale settlement in Glencoyne and elsewhere. [Greenlane Archaeology 2013]

The settlement at Gossipgate near Alston (Cu) is the best-preserved of about 20 ‘native’ settlements in the vicinity of Whitley Castle Roman fort (3.5km to the north west), identified by English Heritage’s ‘Miner-Farmer landscapes of the North Pennines APNB’ project (Wilson 2011, 344, fig. 130). In 2010 after aerial photography, a detailed field survey was undertaken which revealed an agglomerated settlement of about 18 irregular compounds, each containing evidence of several circular buildings, most facing into a central yard. The settlement is surrounded by a field system of former arable plots, including cultivation terraces so narrow they can only have been worked by hand, while the site is overlooked by enclosed pasture. Dating evidence is sparse, but a beehive quern built into a field wall could indicate settlement before 50 BC, while two Roman pottery sherds from molehills within house sites, indicate occupation lasted into the 2nd or 3rd century (Wilson 2011, 344).

In the Lake District a report prepared in 2013 on two seasons in 1997 and 1998 of archaeological work at **Baldhowend**, Matterdale (OS NY 396226) near Penrith, Cumbria, jointly by the Universities of Edinburgh and Glasgow, was aimed at investigating an unenclosed settlement, a type of site little researched in Cumbria. In the first season in July 1997, an intensive topographic and geophysical survey at Baldhowend Farm (Hoaen and Loney 1999a, b; Loney and Hoaen 2000), found remains which were interpreted as a small, possibly unenclosed, settlement, with an adjacent field system and hollow-way. This field system appears at the northern edge of the site to overlie an earlier phase of activity. This earlier phase may consist of two hut circles. The final phase of activity on the site is the old trackway, which may be seen to truncate or impinge upon several of the field boundaries. Selected structures of the ancient settlement were investigated by excavation, while also recovering environmental data relating to the land use and economy of the inhabitants, to provide a dated sequence of landscape and settlement change for the late prehistoric period to immediate post-Roman period. The investigations at Baldhowend formed part of a wider programme of work in Matterdale (Loney and Hoaen 2000; 2007; Brennand *et al*. 2006; Quartermaine and Leech 2012, 20).

At **Maryport**, land off Netherhall Road CFA Archaeology Ltd investigated a square enclosure 60 by 60m and identified as a farm, serving the Roman fort of Alauna 250m to the north (Wilson 2011, 345). Roman pottery of 2nd and 3rd-century date was associated.

Ritual, Religion and Ceremony

Temples, Altars and other inscriptions

New evidence of religious or ritual activity is limited, with the exception of burial which is considered separately. At **Chester Road Manchester** the PCA excavation in 2008 produce a well-preserved gritstone altar found in a rubbish pit which also contained a fine Samian bowl depicting a hunting scene dated c AD 180. The altar was dedicated by Aelius Victor to the continental mother goddesses of the Cananeftis (north Rhineland). It is thought that the altar once stood next to the main road to Chester but was later moved. The strip of land beside Chester Road, where shrines, temples and mausolea might be expected, had been badly disturbed by 20th century development. The altar is now on display in Manchester Museum and Paul Holder provides a detailed account in *Britannia* 2008 (and PCA 2009 pages 68-72).

Re-examination in 2011-12 by Newcastle University of the 1870s findspot where a series of 17 2nd-century altars had been discovered north-east of the fort showed that rather than ritual burial, as first interpreted, the altars were re-used as packing in a series of large post-pits. The pits supported a substantial late Roman (or early post-Roman) timber building. At Maryport in 2013-2014 two stone temples, one circular, the other square and of classical style, were investigated and found to be contemporary with the altars. The temples stood within a cobbled enclosure 50m by 95+m, of which three sides were confirmed. It was suggested the altars were free-standing within the cobbled enclosure along with a large structure of which substantial foundations were identified. Under the cobbled surface were Roman ditches, interpreted as part of a temporary camp (Wilson 2016, 304).

At Ravenglass fort, fragments of one certain and one possible face-jar with general parallels at York and in north-east England and fragments of a pipeclay figurine may suggest the presence of a shrine in the vicinity. (S5448)

Burial practices

A number of excavations in the last decade on cemeteries have contributed to the poorly understood subject of burial practices in the region. Recovery of data for burial practices is constrained by acidic soils in the North West which are inimical to bone survival. The chief exceptions are in the limestone regions and certain urban or waterlogged contexts where particular soil conditions enable bone to be preserved.

With a few significant exceptions, notably Brougham (Cool 2004) and Low Borrowbridge (Hair and Howard-Davis 1996), where relatively isolated military communities maintained distinctive burial traditions over many decades, the Romano-British cemeteries of North West England have not been extensively investigated or published. Less well recorded data from extra-mural cemeteries at Carlisle and Chester have been re-evaluated in the light of new discoveries. A significant addition is the synthesis of information on Lancaster's cemeteries (Iles and Shotter 2009). Here the publication of research into both historical and more recent discoveries of Roman (and Bronze Age) cremations, has attempted to disentangle the

incomplete 19th-century reports of cremations, maps the findspots, assesses the surviving evidence, including antiquarian accounts and unpublished notes, comments on its reliability, and reports on recent finds.

A preliminary attempt at synthesis on Roman cremation practices for northern England has been published, based largely on sites at Beckfoot, Carlisle and Herd Hill all in Cumbria, and two outside the NW at Lincoln and Malton (Thompson *et al*. 2016). Focusing on the technology of cremation, the study examined the cremation efficiency and pyre technology of the process through Fourier Transform Infrared- Attenuated Total Reflectance (FTIR-ATR) analysis of the cremated bones, and concludes that the condition of the cremated bone reflected a consistent Roman military practice in northern England in terms of the pyre technology and in the highly selective retention of the human remains.

A number of features of Lancaster's cemeteries are found elsewhere in northern England. The use of single urns, often in a black-burnished ware jar, for cremation burials, with any additional vessels apparently deposited on the pyre, appears to be a common feature characteristic of burials in the Roman north. Unurned cremations often have only token deposits of cremated human bone rather than the whole collection. Occasional hobnails are present but other furniture is rare.

At the Arla Foods Depot, Lancaster, a rectangular enclosure had been laid out in late 1st or early 2nd century along the Roman road south of Lancaster. Although used for cremation burial, the structured laying out of rectilinear enclosures along the roads out of forts can be seen at Carlisle and elsewhere. The partition of the landscape near the fort may have been intended originally for agricultural or pastoral use, but their changing function may have been response to varying pressures on land in the vicinity.

Cremation cemeteries have been investigated at several Cumbrian sites. The Roman cremation cemetery at **Beckfoot** (Cu), *c.* 350m to the south-west of the auxiliary fort (NY 0876 4868), and in the proximity of Milefortlet 15, was subject to trial excavation in 2006 by Oxford Archaeology North, in advance of increasing coastal erosion. Three phases of burials were found, from the late 1st/early 2nd to 4th century (Howard-Davis *et al.* forthcoming 2017). Beckfoot had previously produced unusual evidence of *busta*, pyre sites, in one case with military equipment and a funeral bed (Caruana 2004).

A previously unrecorded cremation cemetery was identified on a flat-topped hill NE of the line of a possible Roman road at Maryport; the pottery associated with the cremations dated to the 3rd century AD.

At **Birdoswald**, Cumbria, the cremation cemetery was investigated in 2009 in a 12m wide strip of an eroding cliff-edge following major landslip. A series of Hadrianic to late 2nd century cremations. Includes two busta, box burials and bone veneers. Two probable 5th century probable inhumation graves were found, which blocked the earlier entrance to the burial enclosure and may be contemporary with the post-granary timber hall inside the fort; however, as so often the bone has not survived (Wilmott 2010).

Part of the Roman cemetery on **Botchergate, Carlisle**, by Wardell Armstrong Archaeology was excavated in advance of a new County Council building. The site does not appear to have been intensively occupied until the beginning of the Roman period. The early Roman features relate to the military expansion of the area, as they appear to predate the formalised

route of Botchergate. After the establishment of the Roman road on Botchergate and the Roman civilian settlement, a formal cemetery was created which was in use in the late 1st-2nd century. A total of 19 cremation pits was recovered with the remains of at least 46 individuals, located within organised burial plots along the Botchergate frontage. Of particular significance was the discovery of several cremation urns and a large number of accessory vessels.

The cemetery appears to have been relatively short-lived and the function of the site had completely changed by the early-mid 2nd century AD. It is likely that this change in emphasis at the site related to the continued expansion of the civilian settlement, and probably represents the establishment of Botchergate as a suburb of the Roman town. This phase of activity was unusual in that it was largely represented by two circular buildings, rather than the usual rectangular strip buildings typical within Roman civilian contexts and noted elsewhere along Botchergate. One of these circular buildings also provided evidence of possible small-scale industrial activity. Whilst the environmental evidence has ruled out metal working, it does suggest that processes such as dyeing or glass working may have been undertaken within the structure. The final phase of significant Roman activity at the site appears to have occurred during the mid-late 2nd century and possibly into the 3rd century AD. The transition between this phase and the preceding phase appears to represent a planned change rather than representing the abandonment and subsequent reoccupation of the area, and probably relates to the continued development of the Botchergate suburb. It is probable that the remains dating to this phase represented strip buildings along the street frontage with back plots and a series of enclosed areas located to the rear. The site appears to have been largely abandoned during, or shortly after the early 3rd century AD, which was marked by the presence of accumulated soils blanketing most of the site, suggesting the area reverted to 'open fields' on the periphery of the settlement at this time.

In the southern part of the region, little new burial evidence has come to light. In Cheshire, three cremation groups excavated beside the road at **Stockton Heath, Warrington** were associated with a roadside settlement that was also associated with pottery kilns (Dodd 2006). At Kingsley Fields, Nantwich a similar roadside location had seen a small group of three cremation burials (Arrowsmith and Power 2012).

Unburnt bone survives poorly in many of the region's soils so Inhumations are under-represented in the Roman cemeteries of the north-west. One exception is the remains of at least 28 individuals from the cave at Doghole Cave, **Haverbrack (Cu)**, probably Cumbria's largest assemblage of human bone dating from the Romano-British period. Excavations in the 1950s (Benson and Bland 1963) were followed up by Hannah O'Regan (University of Nottingham) as a result of damage to deposits by caving (Wilkinson *et al*. 2011). Here although the human bone survived in the limestone environment, post-deposition disturbance had severely disrupted the burials and none remained *in situ*. Careful retrieval of the remains through sieving of deposits produced a suite of Roman artefacts, including hobnails, and personal ornaments including glass and gold-in-glass beads, copper-alloy and silver bracelets, typical of later Romano-British inhumation burials elsewhere in Roman Britain. An unusual suite of faunal remains is currently undergoing analysis. The identification of such burial rites in a rural location distant from the nearest forts may point to the settlement of former military personnel and their families in the countryside. Planned isotope analysis may contribute further to a study of origins of the individuals (H. O'Regan pers. comm.).

The potential for the application of stable isotope analysis of human bone to the North West is discussed by Stallibrass (2011, 114-116) but such studies are hampered by the poor preservation of bone in the relatively acidic soils common in the region. However, in one case study a sample from a male inhumation recovered from the hypocaust of a bathhouse at Papcastle (dug in 2010 after the flood) demonstrated strontium and oxygen isotope compositions that are compatible with a local Lake District origin with a diet typical for Roman Britain (Chenery 2010). Stable carbon isotope analysis of an inhumation from Leasowe near Meols (M) found that the individual had a diet in which marine protein played only a very low part (Griffiths *et al*. 2007, 350-351). Isotope analysis is also planned for a sample of the Dog Hole Cave (Cu) inhumations (H. O'Regan pers. comm.).

Trade, Exchange and Interaction

Roman roads

The main outline of the Roman road network in north-western England has been subject to research for over 150 years (cf. Watkin 1883), although there are significant gaps in detailed alignments, some of which are now irretrievably developed, and some suspected road alignments are missing altogether.

The new technique of LiDAR, especially following the open release of LiDAR data by the UK Environment Agency has made an important contribution to archaeological research especially in landscapes where ploughing has not largely or wholly erased earlier earthworks. LiDAR captures the slight remains of surviving earthworks of road alignments which may not appear as cropmarks or shadow marks on aerial photographs. Significant new information has been recovered by David Ratledge who has located the long-sought route of the Roman road from Ribchester to Lancaster along a previously unsuspected alignment. The road ran from Ribchester to Catterall near Garstang, where it was seen to join the northern route towards Lancaster (Wilson 2016, 311-315).

Other routes which have seen minor adjustment or confirmation of accepted alignments or infilling of gaps include Ribchester to Kirkham (Margary 703), Ribchester to Elslack (Margary 72), Ribchester to Burrow-with-Burrow (Margary 7c), and Lancaster to Burrow-with-Burrow (Margary 705), the latter providing a confirmed context for the milestone found in 1803 at Artle Beck, Caton (http://www.romanroads.org/gazetteer/roman1.htm; Wilson 2015, 303-307).
Revised or new alignments provide a context for previous discoveries such as the probable funerary statues from Burrow Heights near Lancaster.

Investigations of the Roman road between Wigan and Walton-le-Dale north of Wigan have been undertaken by Wigan Archaeological Society at Brimelow Farm. The route from Wigan to Manchester has been examined at Ellesmere Park in 2005 and Amberswood in 2003 (Miller and Aldridge 2011, 20-21).

In Cumbria, Toller has used LiDAR data to confirm the course of a road from the Roman fort at Low Borrowbridge, near Penrith, to Kirkby Thore. This is a missing part of a well known road called the Maiden Way that continues towards Whitley Castle and Carvoran Roman

Fort, Northumbria, (near Hadrian's Wall). LIDAR also provides evidence for a new section of this road past Kirkland (ref).

Several sections across supposed Roman road alignments have been excavated, with the largest site being the Wigan to Manchester Roman road at **Wentworth School, Salford (GM)** (CfAA 2013) where about 25m length of a gravel metalling was exposed, sealing a layer of burnt heather.

Minor roads have been discovered in large area excavations. Excavation of large development areas such as Saighton Camp at Huntingdon near Chester have revealed the crossroads of two trackways (Wilson 2015, 309-310), while a minor trackway was identified at Dutton's Farm, Lathom, W Lancashire (Cowell 2005).

As well as detecting road surfaces at Kentmere Horseshoe (Cu), other features believed to be associated with the prevention of flooding or possibly to stop the encroachment of peat onto the road were identified. The excavation confirmed the presence of a metalled surface, which corresponds to surviving earthworks in the immediate area. Although the ditches identified are common in the construction of Roman roads, the banks may be unique to this site, possibly necessitated by the difficult terrain. S1688

Agriculture

At Ravenglass fort, carbonised cereals together with seeds of typically associated crop weeds tentatively suggest local small scale cereal processing (Hunter-Mann 2015, 109). It is likely that the grains are residual from accidental loss during the parching stage of cereal processing, a process which by the Roman period was often carried out in purpose-built cereal drying kilns. Wheat generally requires better soils for cultivation in comparison to other cereals and may signify the presence of such here. However, it is also possible the grain for the garrison and vicus to have been transported from other locations rather than grown in the immediate area. [S5448]

Industry

The 2006 assessment noted the extensive evidence across the region for industrial production, including the working of iron, lead and copper-alloy, pottery and glass manufacture, and production of leather and salt. The function of the Lancashire and Cheshire industrial settlements, including Walton-le-Dale, Nantwich, Middlewich, Wilderspool, in supplying the military in the frontier region has a distinct profile of activity, in which markers such as coarse pottery demonstrate a major decline in the early 3rd century and only low level activity into the 4th.

Metalworking was practised in forts, vici, industrial settlements and at rural sites. Major industrial production has been argued for salt in the 'wich' towns of Cheshire. Publication of excavations at Nantwich and Middlewich (Arrowsmith and Power 2012; Williams and Reid 2008) has presented
Several sites have produced additional evidence for metalworking, notably of iron.

At Ribchester excavations in 2016 by UCLAN identified a clay floored building with evidence of use as a workshop in the form of a hearth, kiln fragments, slag, and waste from glass working. The building was subsequently demolished but dating is not yet published.

Iron working is the most readily identifiable non-ceramic industrial production process due to the copious waste. Minor evidence for iron smithing, possibly of Roman date was recovered in evaluation by the University of Manchester Archaeological Unit (UMAU) at Stormy Point, Alderley Edge, Cheshire (NGR SJ86037788). Traces of evidence for possible Romano-British or medieval iron smithing were recovered along with evidence for medieval activity close by, probably at Saddlebole.

At Parkhouse Coppice and Rabbit How Bloomery, geophysical survey probably identified a spread of debris from the known Roman tile kiln at Muncaster (Cu), and defined the Forge End bloomery area to an area approximately 45 x 10m, clearly limited by a small stream on its southern edge, which may have provided the water power for working any bellows on the site. The presence of four very high magnetic anomalies at the Forge End site may designate furnaces (ref).

At Ravenglass (Cu) Roman fort iron-working waste was noted in levelling deposits associated with the east-west road, though no in situ smithing activity was identified. High-temperatures are thought to be industrial in origin, including iron working and possibly also lead, but the source is not clear. S5449 One building on the slopes east of the vicus may have been associated with metalworking. (S5441)

Rural copper-alloy metalworking waste from a rural site in south Wirral was examined by McIntosh and Ponting (2011).

There was evidence for firesetting at Goldscope near Kewsick, at Coniston Cobblers Level, and possibly at the Back Strings. S5309

An isolated pit, or possible kiln, provided a very late Roman or immediate post-Roman period date. This is exceptional in the context of the site and the region, and in association with the early medieval settlement containing evidence for metalworking the site is potentially of national significance. [Oxford Archaeology North 2016 (OAN) NETHER WASDALE PIPELINE, CUMBRIA: Post-excavation Assessment Report]

Pottery kilns were identified at 7a Fisher Street, Carlisle (Cu), producing wasters and potters' stamps as well as kiln structures (Johnson *et al.* 2012).

Further evidence for Roman tile manufacture was recovered from **Ochre Brook, Tarbock (M)**, excavated in 1993, in the field to the north of the farmstead enclosure (Cowell and Philpott 2000). A palaeochannel of the Ochre Brook contained fragments of Roman roof tile and metalworking debris showing the channel began to silt up in the Roman period. A further example of the only dated tile stamp from Roman Britain were recovered (Cowell 2012). Adjacent to the channel was a sandy terrace which had extensive evidence of metal working waste, alongside small abraded tile fragments, interpreted as a smith's disposal area next to the channel, in hollows and a series of intercutting pits, which also included hammerscale and iron smithing waste. Pottery was scarce (13 sherds) and no structures were found. Nearby two Iron Age pits were found 500 m to the SW of the Romano-British farmstead, providing evidence of thinly dispersed activity across the landscape, indicated the earlier use of the landscape.

At **Whitley Castle**, just over the Cumbria border in Tyneside, a detailed examination of the Roman fort, its vicus and field systems has concluded that the fort was constructed to oversee the production of lead and silver.

Pottery and other artefacts: production and trade

Pottery as the most prolific type of artefact found on Roman sites has traditionally been important for establishing chronologies and identifying patterns of production and trade. In addition, distinctive consumption patterns are evident, with 'military type' supply for industrial and military settlements and rural assemblages have different composition. The last decade has seen the publication of finds assemblages from a range of site types, rural settlements, nucleated industrial settlements, *vici* and forts.

The broad outlines of pottery production, trade and consumption are becoming clearer across the region through comparative inter-site studies (e.g. Leary 2005). Within the broader patterns, assemblages provide nuanced examples to indicate the complexity of local factors at individual site level.

Military sites and urban centres provide the largest and most wide-ranging assemblages in the region. The potential of finds assemblages from forts to inform on trade, interaction, acculturation and chronology is exemplified by that from Ravenglass fort. Despite its small size, the pottery assemblage from Ravenglass is important as fully-quantified assemblages from this period are rare in the region. The nearby Muncaster kilns provided a substantial proportion of the cooking wares at Ravenglass into the second half of the 2nd century AD, but seem to have been supplanted by major industries from further afield by the 3rd century as such industries and trade developed, perhaps reflecting the rise of civilian enterprises as military production diminished. (S5449) There is one example of a fine-oxidised ware dish of probable Hadrianic date in an Upper German tradition. Black-burnished ware from south-east Dorset was common across the site, and indicates that this was an important supply source throughout the life of the vicus. Pottery from the Severn Valley, the West Midlands and the Lower Nene Valley was also well-represented in the assemblage, with a dominance of Mancetter-Hartshill mortaria in the 3rd century being a common feature in assemblages from north-west England (Hartley 1991, 173). Some of the thin-walled oxidised wares may be later 2nd- to 3rd-century local imitations of Severn Valley ware, similar to vessels found in a kiln dump at Carlisle (Swan *et al*. 2009). (S5449) The quantity of amphorae at Ravenglass is typical of coastal sites, indicating the importance of sea trade and connections with the wider Roman trading network, and the ubiquity of samian across the site also testifies to this. The date range of the pottery indicates that occupation of the vicus continued until at least c. AD 270, with an upper date limit suggested by the absence of East Yorkshire wares, which became common in forts along Hadrian's Wall from the late 3rd century AD. Two fragments of a face jar with applied bosses and incised lines offer a parallel with a hitherto unique face jar from Old Penrith (Braithwaite 2007), with the applied bosses distinguishing them from other face jars where the bosses are pushed out from the body of the vessel. (S5449) The presence of imported pottery from the continent, and from potteries in the province on the coast (or with access to the sea) strongly suggests coastal trade and presumably the importance of Ravenglass as a port. Other imported materials, such as jet and Skiddaw Slate probably also reached Ravenglass by river and sea rather than by road. (S5449)

Other major assemblages included Wigan which consisted of over 2000 sherds of pottery, including samian ware, of South Spanish olive oil amphorae, black-burnished vessels from

Dorset and locally-produced grey and oxidised wares. Three glass vessels, a glass bangle and window glass fragments were also present.

Rural sites in the southern part of the area have in general low levels of pottery use, typified by the 217 sherds (2462g) from Southworth (Ch) dating to the mid 2nd century, and a further 43 from the evaluation in 1993, or the Burton N Enclosure (291 sherds 4348g). Ruth Leary's comparative work on ceramic assemblages from rural sites – Mellor and Norley, has benefited from an increase in the sample size – and recurring patterns are beginning to emerge.

A consistent suite of pottery ware types is present amongst the military, civil and rural settlements (cf. Webster 2011). Assemblages are dominated after AD 120 by Black-burnished ware (BB1), and oxidised wares from the Cheshire-Lancashire Plain; with low levels of samian (examined in detail by Ward 2011). The power of the marketing networks of the major pottery production centres can be seen in the 2nd century with the rise of Mancetter -Hartshill mortaria and Nene Valley products. Dominant wares of the later 4th century largely consist of Huntcliff and calcite-gritted wares, while shell-tempered wares from the South Midlands from the later 3rd century. The influence of coastal trade is evident in the strong showing of BB1, in both rural and military sites, and South Spanish amphorae. Within the overall patterns, detailed variation due to local geographical patterns is exemplified by the rural site at Mellor on the margin of the Pennine upland area which has Derbyshire ware showing interaction with the production and marketing areas to the east of the Pennines.

Peter Webster (2011) has recently discussed the mechanism for regional manufacture and supply alongside trade and importation of pottery, and sale by local merchants or itinerant traders at regional centres such as Chester, Lancaster and Walton-le-Dale from where it was distributed to the rural hinterland. The network of local pottery manufacturing in the immediate vicinity of military and associated civilian population centres was either established by the army or provided sufficiently large markets to stimulate potters from outside to move in to meet the demand (Webster 2011, 60-61). He suggests some Flavian pottery production was private enterprise on the back of tile manufacture. Webster addresses the question of the identity of the potters who supplied military centres from Holt or elsewhere. He notes that pottery production was not exclusively for military use and argues that a low level military bureaucracy was engaged in purchasing from private enterprise and a multiplicity of suppliers, as indicated in the *Vindolanda* tablets. By the early 2nd century the importation of BB1 in large quantities seems to have spelt the demise of the Flavian local manufacturers and during the 2nd century larger producers began to capture large swathes of the market (Nene Valley; Mancetter-Hartshill mortaria).

Webster (2011, 68) argues that the concept that there were separate military and civilian markets is probably false and it is likely that merchants will have regarded any settlement of any size as a potential marketing opportunity. Thus rural settlements will have acquired their pottery from merchants based in military or civil markets. The overall trade was dominated by a small number of large merchants who controlled extensive distribution networks, at first including the continent, but after demise of much imported wares, throughout Britain.

A national survey by Willis (2011) compares samian use at different types of site, military sites, extramural settlements outside military installations. There are high levels of samian use in extramural settlements which suggest vici were 'closely articulated with the exchange systems of the Empire via the road system and association with a fortress/fort, but

additionally, a large proportion of their occupants are likely to have been accustomed to Roman practice and material culture' (2011, 182).

Margaret Ward has examined the samian supply to the North West (2011), using a statistical profile for each site to investigate questions of site chronologies, status and lifestyles and trade patterns (2011, 99). She draws close parallels between the methodology of numismatists and samian specialists, both artefact types are closely datable in manufacture though production, circulation and use-life patterns may diverge and need to be judged for coins at least on their own terms. The small size of samples means they are open to distortion through individualistic events, importation of vessels as personal possessions or small groups of vessels as special orders.

Metal artefacts – coins, brooches and other objects

The two most common types of metal artefact from the North West have been studied in national surveys. Walton has examined the distribution of Roman coinage across England with an analysis of changes through time, largely based on the dataset of nearly 58,000 Roman coin finds to March 2008 recorded by the Portable Antiquities Scheme (Walton 2012). (In April 2017 the total stands at 232,397). However, methodological issues emerge from such studies. Walton's took a base line of 20 coins per parish (Walton 2012, 19-20), but the PAS records have no parishes which qualify in the Cumbria, Lancashire, Greater Manchester or Merseyside and only a handful in Cheshire (Fig. 4). Amalgamating with other data sets of coin finds produces only a small number of parishes above the base-line, a methodology which significantly under-represents the distribution if not the density of coin finds in the North and West of England. Conclusions include the fact that the military north was supplied predominantly with *denarii* to facilitate payment of the army, with some bronze coinage to enable smaller transactions within the military community (Walton 2012, 55); however, the possibility that the finds pattern visible in the Roman north which is predominantly rural may indicate rather a conscious preference on the part of the native population for silver coinage, perhaps as one of many prestige goods, a pattern suggested for Scotland (Walton 2012, 55). A cluster of Cheshire Republican and early Imperial coins has been identified around Middlewich and a smaller one around the legionary fortress at Chester (Walton 2012, 65-66, fig. 35)

Against this national picture, detailed studies flesh out the complexities of local intra-regional patterns to provide a nuanced regional picture of Roman coin use. In the North West, David Shotter's ongoing research into the Roman coin finds has been published in a series of four volumes, the latest supplement in 2011 (Shotter 2011). Shotter uses historical finds alongside new material recorded through the Portable Antiquities Scheme to focus in detail on the implications of chronological and spatial patterning of coins finds. The analysis of individual site profiles helps determine the origins of settlements and fluctuations in levels of activity, while the pattern of chance or individual finds indicates the varying levels of integration into the market system across the region.

Coinage is one index of the degree of integration into the Roman economy (Shotter 2011, 86). Large areas of the rural north and west of England were either devoid of coinage or show very limited coin loss throughout the Roman period so were not strongly monetised in the sense of habitual coin use (Walton 2012, 168). However, the persistence of these long-lived patterns which determine native coin use are revealing. There is for instance a striking similarity in the overall distribution of Iron Age coin finds and the dense coin distributions of

Roman Britain, a pattern which persists into the early medieval period with sceattas (Walton 2012, 168-9; Fig 120). There are thus strong and persistent patterns within coinage, and wider material culture, from the Iron Age through to the early medieval period, which appear to denote deep-rooted attitudes to wealth and value, and which indicate different economic value systems operating in the western and northern Britain as opposed to eastern and southern.

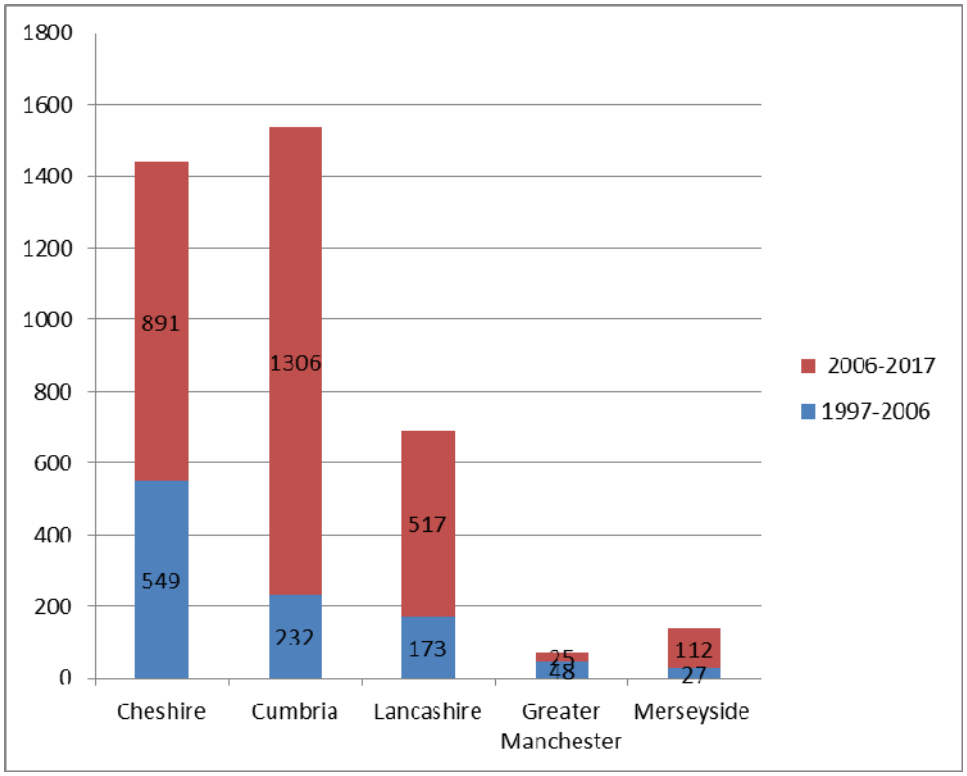

Table 1: Roman finds recorded on the PAS database by county (total 3880 finds by April 2017)

A distinctive pattern of artefact finds in PAS with a high ratio of brooches to coins, by comparison with other areas of the country, has been highlighted for Cheshire and other West Midland counties (Staffordshire, Shropshire, Herefordshire) (Worrell and Pearce 2016, 363). These were all areas which did not have a tradition of coin manufacture and use in the late Iron Age and were low-level users in the Roman period. These distributions are allied with differences in settlement pattern – an absence of formal temples apart from the forts and nucleated settlements, and an absence of villa estates. Cool and Baxter have pointed out the need to examine the social distribution of finds across different site types (2016, 73), and the biases inherent in the data need to be made explicit. They observe that the rural brooch use in the North is relatively low compared with other regions, and a chronological pattern differs from the rest of Britain in starting later, in the mid –late 1st century AD and peaking later, with sharp decline in brooch use in the early 3rd century and a further decline in mid century (Cool and Baxter 2016, 85-86).

The analyses show that the Cheshire and north Wales assemblages bear a closer similarity to the North region than to the West Midlands (Cool and Baxter 2016, 82, fig. 3). McIntosh and

Ponting's (2014) study of Wirral brooches has identified interesting patterns. First, the type has a core area strongly associated with Wirral and Cheshire extending into NE Wales, where the brooches are found almost exclusively on rural sites; but two other concentrations in the military zone of northern frontier, and native Scottish and northern England sites. The distribution suggests different mechanisms of trade and exchange which resulted in dissemination of the type beyond its assumed core area, through both military networks, and perhaps through contacts between native groups. They have also identified subtle indicators including preferences for certain colours which may convey messages of kinship or group identity which are now difficult to interpret.

For the most part, the PAS records finds from what are currently rural areas and recent research has identified many of the biases of survival, retrieval and reporting inherent in the data (e.g. Walton 2012, 27-30; Robbins 2013; 2014). These studies provide a valuable corrective to earlier archaeological studies which emphasised investigation of known 'sites' at the expense of the countryside. The PAS is beginning to yield significant results in terms of rural settlement which are low in material culture. Supplemented by the dispersed but largely rural material from the PAS, the artefact use and a range of material culture assemblages can be assessed over the region. However, heavy truncation by the plough may have had an impact on the survival of artefacts.

The scheme is an actively used resource which helps to shape our understanding of the complex regional questions within the North West and the archaeological potential is beginning to be exploited through research into specific artefact types, such as regional types of Roman brooch (McIntosh and Ponting 2014), while national surveys show that the North West lacks certain types of artefact common elsewhere (Worrell 2008). Thus cosmetic mortars show small concentration in Cheshire, while button-and-loop fasteners occur in Cheshire and around northern Lancashire/south Cumbria, with major differences from the trans-Pennine and Midland patterns.

Positive working relationships with metal-detectorists have stimulated reporting of hoards enabling some to be investigated under archaeological conditions (Oakden 2015). The Knutsford hoard had been dispersed into ploughsoil but excavation by Cheshire West and Chester and NML archaeologists recovered the pattern of dispersal from the original findspot but also fragments of the pottery vessel in which the hoard was deposited.

The Knutsford hoard and related finds provide new insights into identification of elites and their cultural preferences. The Knutsford hoard contains ostentatious, highly decorated petalled trumpet brooches, in silver gilt, in the second half of the 2nd century which indicate the presence of individuals in the countryside who had the ability to amass significant wealth. In addition, the brooch has a strongly western and northern distribution (Mackreth 2011, 120). The employment of archaic decorative patterns may represent a native elite consciously marking and reinforcing their ancestral identity through the use of La Tène III forms of decoration.

Other markers of adherence to traditional practices may include the presence of fire-cracked stones in the ditch of the short-lived rural site at Southworth Quarry appear to provide an indication that the use of organic containers for heating water pot-boilers continued into the Roman period in Britain. The persistence of circular houses on rural sites, and their occasional appearance within the nucleated settlements, as an example with opposed

entrances at Walton-le Dale in the mid 2nd century which appears to have been a blacksmith's workshop or forge (Iles 2011, 42-43, fig. 6). A roundhouse in the earliest phase of settlement at Wilderspool may have been an enclosed farmstead overtaken by the expansion of the nucleated settlement.

Integrating systematic metal-detector survey within the panoply of techniques to identify archaeological potential as required in advance of extensive development projects in Cheshire. A recent survey of their effectiveness has shown a good correspondence between metalwork in the ploughzone and subsurface archaeology, resulting in one Roman site, at Sandbach (Ch), where ploughzone finds produced a small concentration (Philpott 2017). It has raised the issue of what constitutes a significant concentration of finds sufficient to trigger archaeological investigation of a development site.

Legacy

Late Roman-early post Roman transition

New evidence for occupation spanning the very late Roman to post-Roman period has come from military sites. The classic site is Birdoswald (Wilmott 1997) but activity in this period can be seen through stratigraphical analysis to persist in Lancashire forts, although the sites have so far only been examined in restricted areas. How these places functioned, whether as lineal descendants of the military garrisons, with regional commanders protecting the local agricultural population in return for a customary levy, or part of a wider administrative network, is uncertain (Wilmott 2008).

The breakdown of economic systems after the end of formal Roman administration in AD 410 makes very late Roman or early post-Roman deposits difficult to recognise archaeologically, although new studies of the northern frontier region have identified certain artefact types, including military equipment, brooches and pottery, which have been recognised as continuing into the 5th century (see the papers in Collins and Allason-Jones 2010a). The scarcity of all types of these metal artefacts in the North West by contrast with east of the Pennines is attributed in part to much lower level of metal-detecting and excavation in the former region, but also biases in modern settlement (Collins and Allason-Jones 2010b, 134).

While some military sites appear to have been occupied until the end of the Roman period (e.g. Ravenglass), some have activity which appears to continue into the post-Roman period. This has been identified at the Ribchester (L) fort in excavations by UCLAN beginning in 2015. A newly identified fort in West Lancashire (location confidential) has produced late deposits including an oven or hearth and stone platforms, the latter apparently for structural foundations, which overlie deposits with Crambeck/calcite-gritted wares dated AD 360-400+. Some structural platforms overlie internal fort roads.

A late 4th or early 5th century military belt plate from Meols, a site with a coin list ending with Magnus Maximus (383-388), hints at late Roman military activity on the Irish Sea coast (Griffiths *et al.* 2007). This is one of the few sites in the North West where artefacts appear to hint at continued activity through the early medieval period, supported by the hinterland distribution of 6th century Byzantine copper coins in north Wirral (Philpott in prep.).

Many rural sites in the North West, where datable, have a peak in the 2nd century with a decline in the 3rd but very few continue to the end of the Roman period (Nevell 2011, 48-50, fig. 3). Rural sites with late Roman or potential early post-Roman occupation include Mellor and Irby, Wirral; at the latter stratigraphic analysis, C14 dating and finds, including late 4th pottery, suggest occupation continued beyond the end of formal Roman occupation. Within the Saighton enclosures, the most clearly defined building (discussed above) consisted of a rectangular post-built structure, 14m by 6.5m in size and made up of ten roughly-paired posts, with a possibly internal partition and further external smaller posts. It appears to post-date the series of recorded sub-rectangular enclosures, and construction was dated by pottery to the late 4th century date, making it the latest identified feature (NAA 2016 report). On the face of it the decline in presumed agricultural units, and production, may be a consequence of lower demand due to a reduction in the size of the late Roman military garrison in the region, but a suggestion that this may be in part a reduction in visibility through a decline in engagement with the Roman money economy is also possible.

Other evidence is less coherent. An isolated pit, or possible kiln, provided a very late Roman or immediate post-Roman period date. This is exceptional in the context of the site and the region, and in association with the early medieval settlement containing evidence for metalworking the site is potentially of national significance. (Oxford Archaeology North (OAN) NETHER WASDALE PIPELINE, CUMBRIA: Post-excavation Assessment Report 2016). A late hoard of silver siliquae from Dutton (Ch), with coins minted in the mid 370s onwards, is the only siliqua hoard from the NW with a secure provenance (Oakden 2015, 52-53).

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