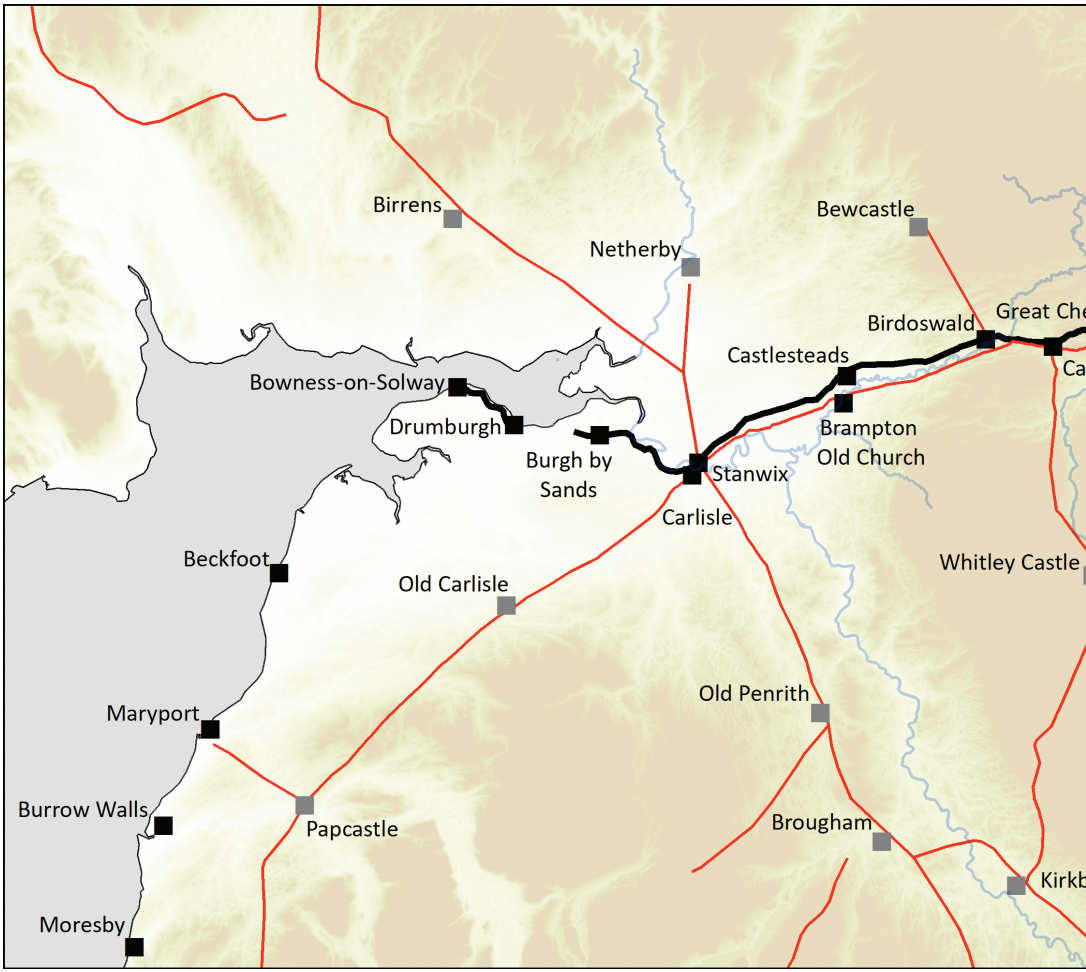
Hadrian's Wall 2009-2019

Compiled by

Rob Collins and Matthew Symonds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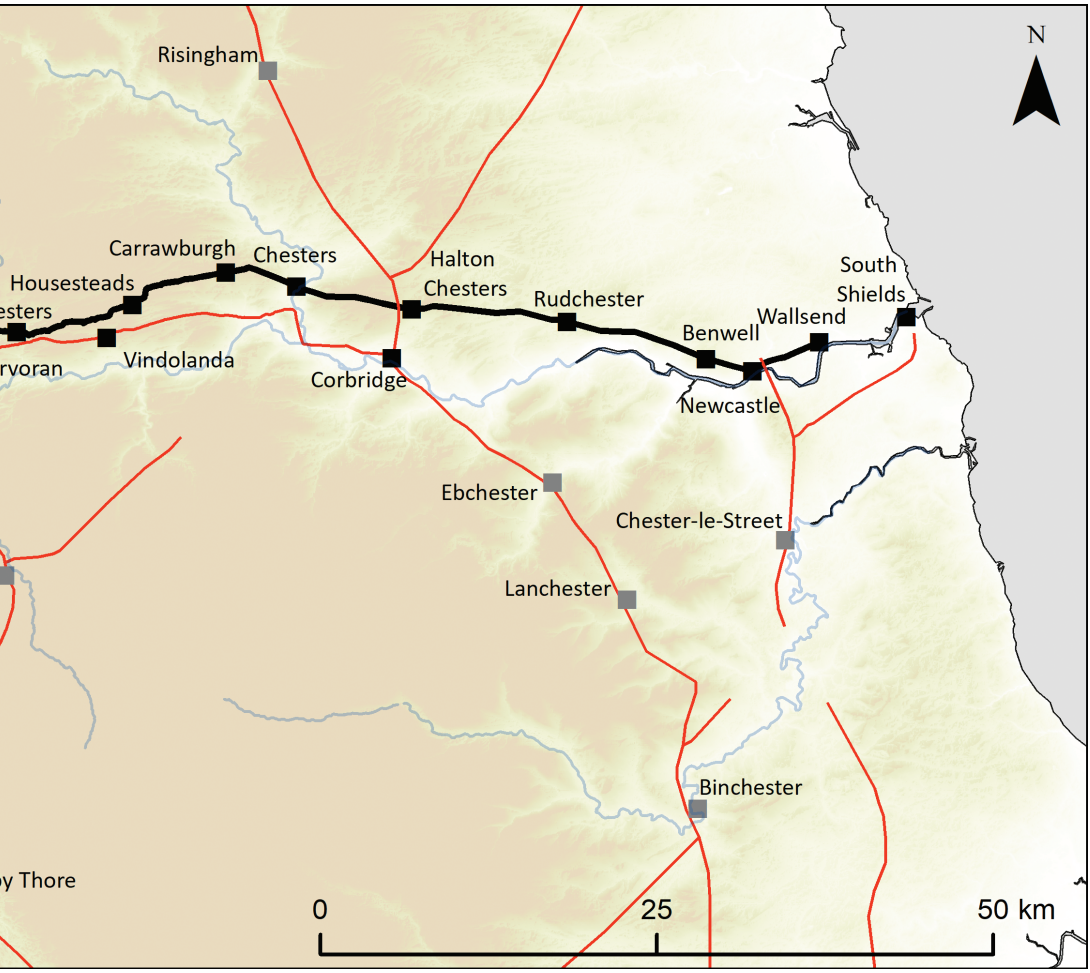
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CUMBERLAND AND WESTMORLAND ANTIQUARIAN AND ARCHAEOLOGICAL SOCIETY

THE SOCIETY OF ANTIQUARIES OF NEWCASTLE UPON TYNE

HADRIAN'S WALL 2009-2019

A Summary of Excavation and Research

prepared for

The Fourteenth Pilgrimage of Hadrian's Wall, 20-28 July 2019

compiled by

Rob Collins and Matthew Symonds

Kendal, 2019

Cumberland and Westmorland
Antiquarian and Archaeological Society
and the
Society of Antiquaries of Newcastle upon Tyne

Hadrian's Wall 2009-2019: A Summary of Excavation and Research, prepared for the Fourteenth Pilgrimage of Hadrian's Wall, 20-28 July 2019

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FOREWORD

David J. Breeze

The first Pilgrimage of Hadrian's Wall was held in 1849. It started with a visit to Wallsend on Monday 25 June, followed at 4 o'clock by dinner (with eighteen toasts!) in the Castle of Newcastle. The party left Newcastle at 8 am the next morning for Benwell and points west. Each day when in Northumberland the day started at that time, but once in Cumberland the timing was relaxed and departure was at 9 am. They reached Bowness-on-Solway on 30 June, and returned to Newcastle on 3 July. About 20 Pilgrims, which included three ladies, undertook the whole excursion, but they were joined along the way by members of the Society of Antiquaries of Newcastle upon Tyne (the Cumberland and Westmorland Antiquarian and Archaeological Society had yet to be formed), local antiquarians, and members of the gentry. Most of the journey was done on foot, though a 'brake' drawn by two horses carried the luggage. One hundred and seventy years on, this Pilgrimage will consist of ten times the number of Pilgrims and we will travel by coach.

The first Pilgrimage was the brainchild of John Collingwood Bruce. A Newcastle schoolmaster, head of the Percy Street Academy, he came late to the study of Hadrian's Wall. Bruce was 42 in 1848, when he was prevented from going on his planned holiday to Rome because of the revolutionary activities on the continent. So he turned to his own back-yard, journeying along the Wall that summer. He took with him his son Gainsford, later his biographer, and the brothers Charles and Henry Burdon Richardson, local artists, the latter drawing master in Bruce's school. The fifth member of the group was the groom, alas only known to us as William. Bruce took copious notes, Henry Richardson created 44 sketches of the Wall.

That autumn, Bruce lectured on Hadrian's Wall to the Literary and Philosophical Society of Newcastle. His audience was surprised at the state of survival of the Wall on their doorstep and so Bruce offered to lead a Pilgrimage the following summer to allow them to judge for themselves. He followed this up with a book, *The Roman Wall*, published on 2 January 1851. Two more editions followed, and, in 1863, a synopsis, *The Wallet-Book of the Roman Wall*, subsequently renamed *The Hand-book to the Roman Wall*. The fourteenth edition of the *Handbook to the Roman Wall* was published in 2006. So, we have much to thank Bruce for; what is probably the oldest tour of an archaeological monument and the oldest guide-book to an archaeological site continually revised and republished – in the world.

The second Pilgrimage was held in 1886 and was organised jointly by the Society of Antiquaries of Newcastle upon Tyne and the Cumberland

and Westmorland Antiquarian and Archaeological Society. Bruce was now 80 and was hailed as the Chief Pilgrim. On this occasion an official report was published, and this practice continued until the Centenary Pilgrimage in 1949. In 1930, however, R. G. Collingwood introduced a handbook for the Pilgrims, *The Book of the Pilgrimage of Hadrian's Wall*, and after 1949 this type of handbook took over from the reports. For the 1999 Pilgrimage, the organising committee decided to extend the remit of the handbook and produce an extended review of work on Hadrian's Wall over the previous ten years and this has now become the accepted pattern. The 1999 handbook edited by Paul Bidwell and the 2009 version compiled by Nick Hodgson remain essential items on the bookshelf of anyone interested in Hadrian's Wall.

There are perhaps three main problems in organising each Pilgrimage. The first is to find sites that reflect recent work on the Wall, bearing in mind the difficulties in parking coaches and moving over 200 people across the countryside. The second is to find a good balance between these new sites and the traditional visits to sites such as Chesters, Housesteads, Birdoswald, and Vindolanda. The third is to find a framework that does not simply repeat the previous occasions. In 2009, for example, the daily visits were divided into the Cumbrian coast, the Turf Wall, the central sector, the Stanegate, the eastern sector, and Tyneside. This time two broad themes were chosen, the evidence for the building of the Wall and its history in the Late Empire. Once these issues were determined, the programme fell into place, the guides invited, coaches booked, hotels chosen, and so on. The first meeting of the organising committee was held on 17 October 2014, though Rob Collins and Matthew Symonds had been invited to edit the handbook even before that. Starting to plan five years in advance is not a luxury for this timescale allows for reflection and changes.

The thinking behind the composition of the organising committee is lost in the mists of antiquity. It consists of three members nominated by each of the two societies and a representative each of Durham and Newcastle Universities, with power to co-opt. It is an arrangement that has worked well for the six Pilgrimages with which I have been involved. The organising committee for the 2019 Pilgrimage has given careful thought to the programme and the general arrangements and trust that the Pilgrims will enjoy seven days exploring Hadrian's Wall in the company of like-minded students of this famous Roman frontier.

PREFACE AND ACKNOWLEDGEMENTS

Traditionally, the Pilgrimage Handbook is not a guidebook to the Wall, nor a synthetic account of the Wall's history and interpretation. The Pilgrimage Handbook is an account of new discoveries and research, both on general themes and at individual sites, as well as providing an update on other aspects that affect our understanding of the monument. The most recent and scholarly up-to-date account of Hadrian's Wall was published in 2017 by Nick Hodgson, *Hadrian's Wall: Archaeology and History at the Limit of Rome's Empire*, which is recommended to readers alongside the fourteenth revised edition of the *Handbook to the Roman Wall* (2006) by David J. Breeze. By the time the 2019 Pilgrims board their coaches for the first time, it is also anticipated that the Rhind lecture series given by David J. Breeze and devoted to Hadrian's Wall will have been published as a monograph (Breeze 2019a).

The Pilgrimage Handbook covers developments over the course of the last decade, since the Pilgrimage of 2009. This book follows the style and format established by Paul Bidwell for the 1999 Pilgrimage Handbook and further refined in 2009 by Nick Hodgson. You will find that we have made some minor changes (we hope improvements!) to formatting and illustrations. Some of these are first-time occurrences, such as the production of a digital bibliography and the addition of an index. The bibliography of research since 2009 is not comprehensive, and is primarily designed to support the text of the book. We wish to signal other contributions from the past 10 years, though, and so readers will find some sources in the bibliography that are not cited in the text. Given the increasing importance of webpages and other digital resources that are not always convenient to reference in text, we have taken the decision to compile a distinct digital bibliography that separates the digital resource, and provides the name and accompanying url or other locational information. We found this to be the least cumbersome manner in which to provide information with the least amount of disturbance to the main text.

Readers wishing to reference this work should assume that the editors have written the text, unless otherwise indicated. Where individual authors have contributed sections, they are named directly underneath the relevant heading or subheading. If a bold heading is not followed by a name or names, it was compiled by the editors.

Some effort has been made to include plans and illustrations of sites to be visited by the Pilgrimage in 2019, and following convention, Chapter 4 has been organised so that sites are presented from east to west.

We are grateful to the organising committee for inviting us to compile this volume and for their guidance, and particularly to David J. Breeze and Nick Hodgson for their interest and support throughout the process of writing, compiling, and editing. We would especially like to thank the contributors to this volume, who responded promptly to requests for material, and skilfully distilled a wealth of information into succinct accounts. Humphrey Welfare and Bill Griffiths promptly and regularly helped to clarify points on heritage and museum aspects of the Wall. Copy-editing support was gratefully received from Sarah Collins. We are also indebted to David J. Breeze for reading and commenting on the text prior to publication. Illustrations and maps were supported and prepared by Dr Nicky Garland and WallCAP at Newcastle University, as well as supplied by various contributors. Copyright is indicated with each image as 'Source'. The maps provided by WallCAP were drafted using data from Ordnance Survey (GB), via EDINA Digimap Ordnance Survey Service https://digimap.edina.ac.uk, downloaded 2019-04-15, as well as data from *An Archaeological Map of Hadrian's Wall* (1:25000) published by English Heritage (2014). LiDAR images were produced with data from the Environmental Agency.

The organising committee wishes to express its gratitude to Tyne Valley Coaches, who have provided transport to Pilgrims for the last 50 years, and English Heritage for providing free entry to their sites. Receptions are graciously hosted by the Cumberland and Westmorland Antiquarian and Archaeological Society, Newcastle University, the Society of Antiquaries of Newcastle upon Tyne, South Tyneside Council, Vindolanda Trust, and WallCAP.

R. Collins — *Pons Aelius* – Newcastle, 5 May 2019
M.F.A. Symonds — *Londinium* – London, 5 May 2019

ITINERARY OF THE FOURTEENTH PILGRIMAGE

The Fourteenth Pilgrimage runs from 20th-28th July 2019, guided by Valerie Maxfield and Tony Wilmott (Coach 1), Mike Bishop and Graeme Stobbs (Coach 2), Nick Hodgson and Erik Graafstal (Coach 3), and Rob Collins and Matthew Symonds (Coach 4), with Lindsay Allason-Jones and Rachel Newman acting as roving support drivers.

The following provides a simple list of the sites that the Pilgrims will inspect and accompanying activities.

Saturday 20 July	Opening reception, Newcastle Civic Centre
Sunday 21 July	The Vallum at Benwell and Denton
	The Wall and Turret 7b
	Turret 26b
	Chesters fort
	Reception hosted by Newcastle University, Great North Museum
Monday 22 July	Housesteads fort and Turret 36b
	Milecastle 37
	Walk from Carrawburgh to Tower Tye
	Reception hosted by the Society of Antiquaries of Newcastle upon Tyne in the Royal Station Hotel Newcastle
Tuesday 23 July	J. Collingwood Bruce's memorial, St Nicholas' cathedral, Newcastle
	South Shields fort
	Reception hosted by South Tyneside Council, South Shields Town Hall
	Wallsend fort and the Wall at Buddle St
Wednesday 24 July	Vindolanda fort
	Hog roast reception hosted by Vindolanda Trust
Thursday 25 July	Maryport
	Swarthy Hill
	Reception hosted by WallCAP, Tullie House
Friday 26 July	Walk from Poltross Burn to Birdoswald
	Walk from Appletree to Birdoswald
	Reception hosted by the Cumberland and Westmorland Antiquarian and Archaeological Society, Crown & Mitre Hotel, Carlisle
Saturday 27 July	Burnhead camp
	Milecastle 42
	Walk from Turret 44b to Walltown
	Carvoran fort and Roman Army Museum
	End of Pilgrimage dinner, Crown & Mitre, Carlisle
Sunday 28 July	Pilgrims depart

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1. PREVIOUS PILGRIMAGES

Rob Collins and Matthew Symonds

The first Pilgrimage along Hadrian's Wall was led by John Collingwood Bruce in 1849, in order to demonstrate the monumentality and preservation of the Roman frontier works on the ground and consider their purpose. All subsequent Pilgrimages, from the Second in 1886 to the Thirteenth in 2009 have honoured these fundamental aims, sharing both exciting new discoveries and the latest thinking. The history of these Pilgrimages has been discussed elsewhere (E. Birley 1961; Hodgson 2009a, 1-3; for a bibliography see Edwards and Breeze 2000), with the Fourteenth Pilgrimage aspiring to follow in the august traditions of its forebears. As the Thirteenth Pilgrimage traversed the Wall in a broadly west-east fashion, the Fourteenth Pilgrimage will pursue an east-west course, following the tradition of alternating direction of travel between pilgrimages.

Pilgrimage badges

Since 1886, every Pilgrimage has been accompanied with a badge, which taken together presents an evolving assemblage of material culture. The Society of Antiquaries of Newcastle upon Tyne holds a complete set of these badges, thanks to donations made by previous Pilgrims. The 1886 and 1896 Pilgrimages featured a scallop shell, adopting the icon of traditional Christian pilgrimage. The 1906 Pilgrimage featured an eagle with spread wings resting on a plinth inscribed with SPQR. A simulated coin of Hadrian, featuring his recognisable bearded bust facing right and bearing the inscription HADRIANVS AVGVSTVS was the badge for the 1930 Pilgrimage. The 1949 and 1959 badges were circular discs featuring the recreation of a Roman coin reverse, Britannia seated left with spear and shield bearing the inscription BRITANNIA SC and Mars advancing right with spear and shield bearing the inscription SC, respectively. A replica of the dragonesque brooch from South Shields followed in 1969, while 1979 brought a drawn portrait of Hadrian (Fig. 1.1). The 1989 badge featured a simple outline of a fort in plan, inscribed HADRIAN'S WALL PILGRIMAGE XI 1989, on a square with rounded corners. A drawn silhouette of Hadrian in front of the Wall was printed on a rectangle with rounded corners for the 1999 Pilgrims. The 2009 badge returned to a disc shape, featuring an eagle with partially folded wings bearing the inscription 'Hadrian's Wall XIII Pilgrimage 2009' all in gold in a field of red enamel. Most badges have been created using some mix of copper alloy, with the exceptions of 1979 and 1989, which were made in plastic, while 1999 had a stainless-steel finish. From 1886-1956, the badges

had a simple stud reverse to fit through a buttonhole or a simple pin fixed to the back of the badge. From 1969, the more common hinged pin has been featured. Since 1979, guides on the Pilgrimage have also had a badge with a variant colour to distinguish them from the Pilgrims. The badge for the Fourteenth Pilgrimage takes the shape of an altar. Pilgrims have received a badge with red enamel, while guides have badges in blue enamel.

Figure 1.1: The badges for the 1969 (left) and 1979 (right) Pilgrimages. Source: Rob Collins.

In memoriam

Sadly, over the past decade a number of students of the Wall have passed away, and it is traditional to remember these friends and colleagues here.

Richard Bellhouse (1916-2012) was the doyen of the Cumbrian coastal cordon. His explorations of these Roman frontier works were frequently published in *CW*, shedding considerable light on a long-overlooked component of the Wall.

Alan Biggins (1951-2017) is best known for the extensive geophysical surveys he conducted of Roman military remains. These surveys revolutionised our appreciation of the scale and complexity of extramural settlements at fort sites, ushering in a new era of research into them.

Robin Birley (1935-2018) was a founding member of the Vindolanda Trust and directed excavations at the site from 1970 until 2001. His excavations have transformed our knowledge of Vindolanda, with discoveries like the Vindolanda Tablets that have led to an enriched understanding of the Roman army.

John Casey (1936-2016) was a numismatics scholar who was employed at the University of Durham from 1972 to 2000, retiring as Reader in Archaeology. He excavated a series of key sites for the study of Roman Britain.

Brian Dobson (1931-2012) was a well known and respected Wall studies teacher and scholar, as well as founder of the Hadrianic Society in 1971, and a regular collaborator with David J. Breeze. Of these shared endeavours, the most celebrated must be *Hadrian's Wall* (1976; 2000, 4th ed.).

Barbara Harbottle (1931-2012) was a pioneering medieval archaeologist and leading figure in the Newcastle antiquaries, whose excavations in Newcastle revealed information about the Roman fort built on Castle Garth.

Jenny Price (1940-2019), formerly Professor of Archaeology at Durham University. Jenny was an intentionally renowned expert on ancient glass, a previous Pilgrim, and Member of the Hadrian's Wall Management Plan Committee.

David Smith (1924-2016) helped to establish and curate the Museum of Antiquities from 1956 and was a lecturer at Newcastle University from 1972, holding both posts until his retirement in 1987.

Percival Turnbull (1953-2016) co-founded Brigantia Archaeological Practice in 1995 and excavated, among numerous other sites, milefortlet 21 on the Cumbrian coast.

2. A ROUND-UP OF DEVELOPMENTS SINCE 2009

Rob Collins and Matthew Symonds

This chapter provides an overview of various developments pertaining to Hadrian's Wall that do not sit within the archaeological and research remits of chapters 3 and 4, but are nonetheless important for shaping current and future research and management of the Wall. Since 2009, some of the most significant changes have not been related to archaeological fieldwork at all, but are attributable to that more nebulous discipline of heritage. The management of the Wall as a World Heritage Site has altered due to changes in the organisations responsible for its curation, while every museum along the Wall has been refitted in some fashion. Vindolanda has also become a designated national museum collection. Importantly, the digital realm has continued to evolve, and here too, there have been important contributions to Hadrian's Wall.

The Hadrian's Wall Research Framework

A key development over the past decade has been the publication of the Hadrian's Wall Research Framework (Symonds and Mason 2009). This document is primarily designed for professionals and researchers that are actively engaged with the monument, but it has also been presented in a way that is intended to make it accessible to a public audience. Published in two volumes, the first provides a summary assessment of what is known about Hadrian's Wall, locating the key sites and archives, and providing site-based, chronological, and thematic discussion and interpretation of the monument. The second volume presents an agenda and strategy to identify where gaps in current understanding of the Wall lie, and how we can build on existing knowledge. At the time of writing, an attempt to update the Research Framework is underway.

World Heritage and Management of the Wall

The Wall is a complicated beast, and significant changes to organisations over the past decade have impacted on the way in which the Hadrian's Wall World Heritage Site (WHS) is managed. There has never been a single body responsible for this, and it should be noted that there may be as many as 1000 landowners that hold some portion of the monument. Key stakeholders in the World Heritage Site include Local Authorities (South Tyneside Council, North Tyneside Council, Newcastle City Council, Northumberland County Council, Northumberland National Park Authority, Carlisle City Council, Allerdale District Council, Copeland District Council, and Cumbria County

Council), governmental bodies (Historic England, Natural England), trusts and museums (Tyne & Wear Archives & Museums, English Heritage Trust, National Trust, Vindolanda Trust, Tullie House Museum and Art Gallery, Senhouse Museum Trust), the research community, and innumerable landowners, businesses, and local communities.

Between 2006 and 2011, Hadrian's Wall Heritage Ltd (and thence Hadrian's Wall Trust until 2015) acted as a coordinating body for the promotion and conservation of Hadrian's Wall, including management of the National Trail and employing the Management Plan Coordinator. The closure of the Regional Development Agencies resulted in the demise of the Trust, so a rescue package was devised that led to the reformation of the WHS Management Plan Committee as a Partnership Board to provide expertise and oversight. The Board is composed of representatives of the Local Authorities, Historic England, and Natural England, and the Chairs of five specialist Delivery Groups, covering Conservation and Planning; Archaeological Research; Farming and Land Management; Marketing and Tourism; and Learning and Interpretation. The Management Plan Coordinator post is now hosted by Northumberland County Council.

Every WHS must have a Management Plan setting out why a place is special, what will be done to conserve and enhance the site over a five-year period, and how its significance will be explained to visitors. Hadrian's Wall – a pioneer in these matters – is currently in its fourth Management Plan, with the next iteration due to be published in 2020. This is the responsibility of the WHS Partnership Board, through its Management Plan Coordinator, John Scott.

Inscribed as a World Heritage Site in 1987, Hadrian's Wall is only one portion of a larger transnational WHS – the Frontiers of the Roman Empire (FRE). At present, the FRE WHS consists of Hadrian's Wall, the Upper German-Raetian Limes (inscribed 2005), and the Antonine Wall (inscribed 2008). Other parts of the Roman imperial frontiers in Europe are currently working toward nomination and inscription as World Heritage Sites. Representatives of each frontier meet regularly to share best practice across the FRE. As many Pilgrims will appreciate, new knowledge and understandings in one frontier often hold implications for the others, and the FRE encapsulates this interconnectivity through WHS status. A spin off has been the series of multi-language guides to the frontier, including one on Hadrian's Wall (Breeze 2011d). The series may be consulted on line at: www.univie.ac.at/limes/html/brochure.php

Since the closure of the Hadrian's Wall Trust the management of the National Trail has been governed by a Partnership formed between Natural England, the Highway Authorities, and Historic England, and its staff are

hosted by the Northumberland National Park Authority.

2015 saw the legal separation of two key aspects of the Historic Buildings and Monuments Commission for England, commonly known as English Heritage. The governmental advisory body is now known as Historic England, while the English Heritage Trust is responsible for the curation of properties, collections, and assets on behalf of the public through the Secretary of State. In practice, this has little immediate impact on the public, and it makes the separation of responsibilities clearer. The Inspector for Hadrian's Wall and the Regional Science Advisors are key positions in Historic England that advise and provide oversight along the Wall.

Museums, Exhibits, and Interpretation

Bill Griffiths

The last ten years have seen considerable investment in the museums of Hadrian's Wall (Table 2.1 and Fig. 2.1).

There are 11 museums with Roman remains in the Hadrian's Wall WHS, managed by five different organisations: Tyne & Wear Archives & Museums (running Arbeia – South Shields – and Segedunum – Wallsend – Roman forts and the Great North Museum: Hancock), English Heritage (Corbridge Roman Town and the forts at Chesters, Housesteads, and Birdoswald), The Vindolanda Trust (Vindolanda Roman Fort Museum and the Roman Army Museum), Tullie House Museum and Gallery (Carlisle), Senhouse Roman Museum (Maryport).

In each of the Roman museums, interpretation is based on the unique selling points of the sites and their collections, each revealing a different aspect of the story of the frontier. This is illustrated by the approach taken by English Heritage in their recent interpretations, where it is hoped that by defining the differences at each site, visitors will see the value in visiting more than just one on their trip to the area. A new range of guidebooks for nearly every visitor attraction underscores this message, while visitor signage is also appearing in new locations, such as the interperative panels in Newcastle Central Station and Carlisle Railway Station.

In addition, 2017 saw the opening of The Sill: National Landscape Discovery Centre (managed by Northumberland National Park Authority), which interprets the natural environment and landscape of the frontier.

Table 2.1: Museum refurbishments 2009-2018 in the Wall corridor from east to west. An asterisk (*) indicates displays of excavations that took place within the last decade.

	Year	Changes
Arbeia South Shields Roman Fort*	2011/12 2018	Complete gallery refurbishment Phase 1 redevelopment – new case redisplay – gateway refurbished and new film in CO's house
Segedunum Roman Fort, Baths and Museum*	2011 2015 2017	Strong Place Gallery and wider gallery refurbishment Empire and Frontier Gallery refurbishment Excavation and display of bathhouse and Hadrian's Wall, partial gallery refurbishment
Great North Museum: Hancock	2009	Complete refurbishment, with new Roman Gallery at centre – incorporating collections from former Museum of Antiquities, Newcastle University
Corbridge Roman Town Museum	2018	Complete refurbishment
Chesters Roman Fort	2016	Refurbishment (retaining Edwardian feel of displays)
Housesteads Roman Fort	2012	Complete refurbishment including new film
Vindolanda Roman Fort* (collections received designated status 2016)	2011 2017 2018	Full refurbishment of museum including development of Hedley Centre and improved access to site Redevelopment of the open-air museum to include the Domus children's area and the Locus temporary exhibition space, Wooden underworld gallery opens
Roman Army Museum	2011 2012 2016	Complete refurbishment including the Edge of Empire 3D film. Roman classroom installed 'Who we were' display opens.
Birdoswald Roman Fort	2018	Complete refurbishment – designed for family audience
Tullie House	2011	'The Roman Frontier Gallery: stories beyond Hadrian's Wall' permanent gallery
Senhouse Roman Museum, Maryport*	2013	Full redisplay of Kirby Gallery

Figure 2.1: The new gallery at Vindolanda focusing on wooden objects and materials is one of the many museum refurbishments or expansions that have occurred along the Wall in the past decade. Source: Vindolanda Trust.

Wall-wide Interpretation

Saturday 13 March 2010 saw the line of the Wall lit with 500 beacons set at 250m intervals for the 'Illuminating Hadrian's Wall' project. Over 1000 volunteers took part, with the first beacon being lit at Wallsend. It was an event which truly captured the public imagination, giving people a sense of the Wall line in its entirety. The theme was returned to in a more high-tech way in 2012 as part of the Cultural Olympiad with 'Connecting Light' – a digital art installation.

2011 saw the publication of an interpretation framework for the Wall (Adkins and Mills 2011), covering two themes:

- The North West Frontier of the Roman Empire;
- The natural and cultural landscape of Hadrian's Wall.

The framework is available to all the bodies who have a responsibility for interpreting Hadrian's Wall, although it should be noted that no-one is required to follow it. The framework calls for 'interpretation that is dynamic and people orientated, relevant (though potentially challenging) to their views, understanding and interested in the world around them – providing interpretation that is exciting, challenging, engaging, fascinating, participative, enjoyable and fun' (Adkins and Mills 2011, 9).

The decade has also seen a new level of partnership working between the museums. In 2014, they came together to deliver *Wall Face*, a 'dispersed' exhibition. The exhibition featured portraits of antiquarians associated with Hadrian's Wall from the collections of the National Portrait Gallery. Each of the 11 participating museums showed one portrait, with the whole set being presented as one exhibition. This project was devised very much as a test case to demonstrate that the museums of the Wall could work together

to deliver significant partnership projects. The success of *Wall Face* in this regard led to the development of a far larger project in scale: *Hadrian's Cavalry* (Anderson *et al*. 2017). This project had three purposes in mind:

1. To demonstrate that the partner organisations could work in partnership;
2. To explore the often under represented role of the cavalry, in the Roman army in general, and on Hadrian's Wall in particular;
3. To deliver a stand-out exhibition that would attract new visitors to the Wall.

The average visitor tends to imagine the Wall with lonely infantrymen standing on top of it gazing north for signs of trouble. The reality was much more complex, with approximately one third of the Wall garrison being cavalry who would carry out wide-ranging patrol work. Roman cavalrymen tended to have the best equipment, with their 'parade' armour including highly decorated helmets, armour, and horse fittings. The project team drew up a 'wish list' of the finest examples to borrow from museums, including the British Museum, across Europe. It was thought that most potential donors would say 'no' as this was a very different proposition to a regular inter-museum loan. However, without exception, the organisations and individuals approached were more than happy in principle to lend items, indeed one private donor offered more objects than were originally requested – meaning the museums were able to exhibit an exceptional group of artefacts.

Alongside the exhibition a comprehensive schools engagement programme was developed, and a series of re-enactment events were delivered. However, the project needed a stand-out event to truly capture the public's imagination.

It was decided to recreate a full Roman cavalry turma, not seen in the UK since the Roman period, and try to recreate elements of the *Hippika Gymnasia* (the Roman cavalry drill display), not simply as a show, but also as an archaeological experiment, something made very clear in descriptions of the event, and which served to enhance its appeal to the public. This meant bringing together 30 riders (some re-enactors, some professional stuntmen) and training them in drill described almost 2,000 years ago by the Roman author Arrian, and indeed by the Emperor Hadrian himself. The event was also the catalyst for a one hour documentary about Roman Cavalry on British television.

The project drew national attention to Hadrian's Wall. It was regularly listed in tourism articles and websites over the year, starting with one of the UK's major Sunday papers, the *Sunday Telegraph*, listing it as one of the top 30 things to do in the world in 2017, the only UK based item on the list! Hadrian's Wall in 2017 saw an overall 12% increase in visitors compared to 2016. The Wall and its museums have also seen an increased engagement of

stakeholders, vital at a time of declining public funding in the UK, and the partners are still talking to each other and planning other projects, including a joint publication of key objects in the museums along the Wall.

Community Interpretation

Hadrian's Wall is seeing programmes developed that involve communities in research and interpretation of the Wall. There is an active audience that wishes to participate (Fig. 2.2). This has traditionally been through learned archaeological societies and the Vindolanda Trust, but recent years have seen the rise of community participation projects. Examples include *Wallquest*, which saw members of the public join a programme to reveal more of the Wall on urban Tyneside (Hodgson 2017b) and the *Hadrian's Wall Community Champions* project. *Wallquest* included research into, and subsequent excavation and interpretation of, the bathhouse at Segedunum, while *Community Champions* saw the piloting of a *WallWatch* community monitoring scheme and installation of interpretation panels at Heddon-on-the-Wall.

Two special exhibitions were mounted in 2019 as a result of the Pilgrimage. These are: *Borderline Funny: Hadrian's Wall in Cartoons*, at Segedunum

Figure 2.2: Volunteer Sarah Baker discovered a sword during excavations of cavalry barracks at Vindolanda. Source: Vindolanda Trust.

25 May-22 Sept 2019, curated by the Friends of Segedunum with funding from the National Lottery Heritage Fund and the Fourteenth Pilgrimage; and *Hadrian's Pilgrimage Community Textiles Project*, at Tullie House Museum 1-31 July 2019, curated by Wizzcraft local knitting group with Tullie House Trust. Senhouse Museum has also mounted an exhibition of some of the discoveries made by the *Discovering Derventio* excavations at Papcastle, with support from Grampus Heritage and the National Lottery Heritage Fund.

Projects, Groups, and Events

A considerable amount of work is now completed by discrete projects that are supported by various funding bodies, such as the Arts Council or the Heritage Lottery Fund, and are often hosted or work in partnership with the major stakeholder organisations named above. *Wallquest* (Hodgson 2017b) and the *Hadrian's Wall Community Champions* projects are examples of this, both being hosted by Tyne & Wear Archives & Museums. A number of projects have been based at universities, primarily Durham and Newcastle. Richard Hingley led on the *Tales of the Frontier* project at Durham, which explored issues around public perceptions and participation in heritage, highlighting how the Wall is represented in a range of communities and situations (Hingley 2010a; 2010b; 2011; 2012; Hingley and Hartis 2011; Hingley *et al*. 2012; Nesbitt 2014; Witcher *et al*. 2010). Newcastle University has also been active, with Ian Haynes and Tony Wilmott collaborating on the Maryport Roman Temples project (see p.205) and Birdoswald Cemetery Mitigation (see p.186). Ian Haynes and Rob Collins were also part of the *Frontiers of the Roman Empire Digital Humanities Project* (FREDHI), which was part of the production of the Hadrian's Wall MOOC (see below) and NU Digital Heritage, exploring methods of 3D-scanning and digital acquisition of material culture from the Wall. Ian Haynes has also undertaken extensive survey projects at Beckfoot and Corbridge (see p.201 and 146). Lindsay Allason-Jones is currently leading a British Academy-funded project, *Britain's Most Elusive Roman Sculpture*, which is capturing stone carvings from the Hinterland of Hadrian's Wall for the final volume of *Corpus Signorum Imperii Romani: Britannia*. At the time of printing it has catalogued over 500 decorated altars, tombstones, building inscriptions, and architectural details, as well as freestanding sculpture, from south Northumberland, Tyne and Wear, County Durham, Cumbria, Lancashire, and Derbyshire. Most recently, Rob Collins is leading the NLHF-supported *Hadrian's Wall Community Archaeology Project* (WallCAP) to undertake research and conservation related to sites and locations along the Wall that are designated 'At Risk' as well as further researching where the stone fabric that built the Wall was sourced, and how and where it was reused following

the Roman period. As alluded to by Bill Griffiths above, many of these projects have or continue to take community volunteers.

In addition to these projects, there are a number of organisations and societies that undertake research, fieldwork, or other activities directly related to Hadrian's Wall or related aspects. The sister-societies that host the Pilgrimage, the Cumberland and Westmorland Antiquarian and Archaeological Society and the Society of Antiquaries of Newcastle upon Tyne, remain healthy and active, with their journals regularly publishing Wall research. The Arbeia Society also continues to hold events. Community groups include Altogether Archaeology and the North of the Wall Tynedale Archaeology Group (NOWTAG).

There are now three regular annual events for those interested in the archaeology and heritage of the Wall. The Arbeia Society holds its annual conference in November at South Shields, and David Mason of Durham County Council organises the Hadrian's Wall Archaeology Day in Hexham, usually in July or August. February brings the Hadrian's Wall Networking Day, which is less focused on archaeology with more information about current activities that support the heritage and tourism of the Wall.

A special one-off event dedicated to Roman women on the frontiers was held at Maryport in 2018 to mark the centenary of the Representation of the People Act 1918. An account of the proceedings was published in *Current Archaeology* magazine (Greene *et al.* 2018).

Tourism, Agriculture, and Environment

Hadrian's Wall is part of a working landscape, and the monument is conserved and managed in a range of dynamic situations. The addition of the National Trail has significantly improved access to the monument. Visitors are essential to the Wall and support the attractions and organisations that manage them as well as boosting the local economy. However, the increase in visitors has added pressure to the monument in the form of wear and tear to paths and facilities, though this visitor pressure also contributes to continued investment in facilities and infrastructure.

The landscape also continues to change. In the urban areas of Newcastle and Carlisle, as well as some of the villages along the Wall, development has provided opportunities to investigate the monument in advance of new housing and other buildings. This is now a major source of new information about the Wall. Farmers have agreements in place regarding the management of arable and pasture land pertaining to the Wall. It is clear from comparing contemporary maps and satellite imagery with historic maps and aerial photographs that many earthwork features of the Wall complex have been degraded, with some having visibly deteriorated since the 1950s and 1960s.

Such processes will continue, particularly as the effects of climate change have increased in recent years, with examples of flooding and landslip affecting the archaeological remains and/or facilities along the Wall. It is anticipated that the Hadrian's Wall case studies conducted by Newcastle University for *Hadrian's Wall Community Archaeology Project* (WallCAP) and the international *Cultural Heritage Through Time* (CHT2) project will produce qualitative and quantitative analyses of some of these changes and challenges for the 2029 Pilgrimage.

Digital Resources

The profusion of digital technology, including the use of smartphones, means that an increasing number of digital resources are being produced for Hadrian's Wall. In some cases, this means that hardcopy publications have been digitised and made available via the internet, such as the journals for both the Cumberland and Westmorland and Newcastle societies, the Vindolanda Tablets online, and *Roman Inscriptions of Britain (Online)*. But there are also bespoke resources, such as the *Hadrian's Wall Country* website, which maintains minutes of the delivery groups that support the Management Plan for the Wall and other essential documentation.

Projects that have received funding, regardless of their sector, generally also produce project websites as a means of disseminating information. As such, the projects mentioned above have a presence on the web, and this sometimes provides access to further resources such as photographs or videos, or downloadable digital publications.

A notable offering that appeared in 2014 was the massive open on-line course (MOOC) for Hadrian's Wall, provided by Newcastle University in partnership with FutureLearn. The course is available for free worldwide, allowing people to learn about aspects of Hadrian's Wall at their own pace. The course was designed and implemented by Ian Haynes and Rob Collins, and features many of the leading lights of Hadrian's Wall. Since its initial appearance and through subsequent reruns, more than 30,000 people have registered and participated in the course (Collins *et al.* 2018).

News and research about Hadrian's Wall can also regularly be found on various social network sites, like Facebook, Twitter, and Instagram. Social networks have rapidly become a means of breaking news, with mainstream journalists and specialist archaeology and heritage outlets posting stories online. Discoveries made by the Vindolanda Trust are often shared globally through social media posting, and the internet has become a viable means of keeping pace with the latest discoveries and research.

While by no means definitive, the bibliography includes a special digital section to direct the reader to these various sources (p.245).

3. RESEARCH AND INTERPRETATION OF HADRIAN'S WALL 2009-2019

Rob Collins and Matthew Symonds

Introduction

Numerous interesting discoveries and incisive contributions to Wall studies have emerged over the past decade. Perhaps the most notable trend since 2009 is a consolidation of research undertaken in the past 50 years or so, by bringing together and reviewing the existing evidence. In some cases, this has been used to develop new theories pertaining to the Wall, and in others it has acted as a vehicle to identify gaps in existing knowledge. The Hadrian's Wall Research Framework (Symonds and Mason 2009) is one aspect of this trend, but a number of other activities and publications can be included, such as a series of papers examining various aspects of the Wall by Breeze (2012a; 2014b; 2014c; 2015b; 2017a; 2018a) and the recent treatement of Hadrian's Wall by Hodgson (2017a). Publications of past excavations have also made a key contribution, delivering an encouraging reduction in the backlog of unpublished fieldwork along the Wall. Naturally, more remains to be done, but many of these newly available data are summarised in Chapter 4. Alongside this consolidation-trend there have also been notable examples of entirely fresh approaches, such as viewshed analysis (Foglia 2014) and foregrounding the life of the monument in post-Roman centuries (Hingley 2012; Leach and Whitworth 2011; Whitworth 2012).

The majority of excavation work continues to be carried out via developer-funded archaeology, with notable contributions and discoveries made in the urban conurbations of Tyneside and Carlisle (see Chapter 4). The nature of these works varies, sometimes involving no more than a watching brief, though a number of evaluations (a limited form of excavation) have been undertaken, while a handful of more wide-ranging excavations have confirmed the course of the Wall complex and permitted investigation of one or more of its elements, such as the ditch, curtain, or Vallum. New buildings have also been discovered, while the environs of Benwell fort have been a notable focus of work.

Research excavations have been undertaken at South Shields, Wallsend, Vindolanda, Birdoswald, and Maryport, entirely outside the walls of each fort with the exception of Vindolanda. These have contributed to our understanding of extramural settlements, more popularly known as *vici*, and to religious practice and burial.

Extensive geophysical survey along the Wall, a technique pioneered by the late Alan Biggins and David Taylor, continues to reveal more of the Roman

landscape. Ian Haynes of Newcastle University has led projects at Beckfoot and Corbridge that rely on such survey work.

New techniques are also making their mark! GPR (ground-penetrating radar) is being used at an increasing number of sites, such as Corbridge, while LiDAR (light detection and ranging) data gathered by the government, notably the Environmental Agency and Natural England, are now freely available to interrogate (https://environment.data.gov.uk/). A brief assessment of these data identified features like roads and earthworks not visible in aerial photographs and satellite images, as well as a number of new sites (Collins 2015b). Continued analysis of LiDAR, as well as the bespoke commissioning of new LiDAR surveys for archaeological investigation, is certain to identify new sites. The proliferation of cheap unmanned aerial vehicles (UAVs), popularly known as drones, has also made aerial photography and filming achievable for most excavations. Whether acquired through laser-scanning or traditional photography, these new tools are allowing archaeologists to produce 3D-digital models of landscapes that were previously beyond the technical capacities or budgets of most archaeological projects. 3D-scanning is also increasingly common with artefacts and stone monuments, for example with Newcastle University's *Frontiers of the Roman Empire Digital Humanities Initiative* (FREDHI).

These changes form the background for understanding many of the advancements in Wall studies over the past decade. The rest of this chapter provides an overview of the state of thinking and research on Hadrian's Wall, broadly separated into chronological 'chunks'.

General publications

Many publications have appeared over the past decade, and where these pertain to specific sites, themes, or chronologies, such works are referenced. In addition to these specialist offerings, a range of publications relating to the Wall or Roman armies and frontiers more generally have further informed research. Due to current political circumstances, walls and mural barriers are perceived to be an increasingly relevant topic, and Hadrian's Wall is often appropriated to support arguments acclaiming or disparaging the benefits of a border barrier (Chaichian 2014; Frye 2018; Marshall 2018). Some works of this nature, to be honest, exploit the Wall to reinforce a populist agenda, or cherrypick the evidence to bolster an overarching grand theory. A small number of new works, though, concentrate on the nature of Hadrian's Wall itself, and adopt a scholarly approach that is likely to satisfy Pilgrims (for instance: Hoffmann 2013; Goldsworthy 2018; Hodgson 2017a; Southern 2016). As noted above, the Hadrian's Wall Research Framework (Symonds and Mason 2009) has provided a useful survey of known and unknown

aspects of the monument, offering a convenient starting point for those interested in understanding the evidence underpinning current knowledge. The research framework has also highlighted, arguably for the first time, the number of distinct but overlapping agendas for research, helping to counter the familiar focus on the Hadrianic planning and erection of the monument.

The most comprehensive recent interpretation of Hadrian's Wall is that written by Nick Hodgson (2017a). He adopts a broadly chronological approach, with historical overviews followed by discussion of the archaeological evidence, supported by full-colour illustrations. The impact of new excavations and data can be seen in both the placement and content of his chapter on the function of Hadrian's Wall. It is the penultimate chapter in the book, and while the building order and initial intent for the Wall are assessed, this is followed by a refreshingly extensive consideration of the changing role of the Wall across the 2nd, 3rd, 4th, and 5th centuries, creating the most chronologically balanced account to date. The importance of this work may be judged by the number of references to it in the rest of this chapter! A new monograph dedicated to Hadrian's Wall by David J. Breeze will be published this year, before the Pilgrimage commences (Breeze 2019a). As he has kindly made his text available to the editors, some of the insights contained within have fed into the review of research presented here.

The role of historic artwork – pen and ink, watercolours and other paintings, and historic photography – in the understanding and interpretation of the Wall has also been more widely acknowledged in the past decade. There has always been a tradition of using historic photographs, though technological advances in publishing and related reductions of costs mean that archives of historic artwork can now be reproduced more easily. Notably, such artwork has been used as a substitute 'condition statement' of the monument at particular times and places, allowing for comparison with contemporary conditions and often enhancing interpretation (Breeze 2015a; 2016a; Whitworth 2009; 2012). More modern data, including LiDAR, fed into the production of the English Heritage *Archaeological Map of Hadrian's Wall* (2nd ed, 2014), which has accurately plotted the features of the entire Wall complex, distinguishing the visible from non-visible, and the confirmed from the unconfirmed.

Views on the Roman army and its soldiers have been shifting over the past 20-30 years, with the influential social archaeology approach to military remains adding complexity and nuance to the traditional structural and institutional organisation of the Roman army (Breeze 2016b). The role of the army in shaping the Roman Empire and its provincial societies has been emphasised in a reader-friendly volume by Simon James (2011), filled with a number of perceptive observations concerning the interplay between Roman

military and civilian society. Haynes (2013) has also offered a comprehensive reconsideration of the history and archaeology of the Roman auxiliaries. While the evidence from the Wall has been vital to both works, it is the pan-imperial evidence and perspectives that most greatly benefit the Wall, providing a better understanding of recruitment, pay, and cult practice, to name just three examples.

As the Frontiers of the Roman Empire transnational World Heritage Site has grown, so too has a desire to increase our understanding of the phenomena that are Roman frontiers more generally. A significant popular overview of Roman imperial frontiers (Breeze 2011a) distinguished the various frontiers not by chronology or provincial geography, but by environment and topography, drawing comparisons between Roman military solutions in similar and contrasting environments. This is reflective of an increased interest in the landscape setting of the frontiers (see p.38; Breeze 2013a). Symonds (2017a) also included a strong landscape component when discussing fortlet use in the north-west provinces, which illustrates how the adaption of such installations to create the Hadrian's Wall milecastles marked a radical departure from established practice. The arrival in 2016 of a second edition of Luttwak's influential, if contentious, *The grand strategy of the Roman Empire* is also significant for those interested in comparison studies of Roman frontiers.

A number of papers can be found that focus on the topic of Roman frontier policies and practices in general in the three proceedings of the Limes Congress that have appeared since 2009 (Morillo *et al.* 2009; Hodgson *et al.* 2017; Sommer and Matešić 2018). Many further edited volumes addressing Roman frontiers have also appeared over the last decade (including Hanson 2009; Collins and Symonds 2013; Collins and McIntosh 2014; Breeze *et al.* 2015). Among the edited volumes, three are of particular interest for concentrating on aspects that have at times been neglected: Sánchez and Guglielmi (2017) focus on theoretical perspectives on Roman frontiers, while Collins and Allason-Jones (2010) assess 4th- and 5th-century material culture, and Iveleva *et al.* (2018) include a section on gender matters.

The historiography of the Wall and its ongoing contribution to national dialogues and creative endeavours is proving to be a rewarding field of study. Various books and articles that have examined how our knowledge of the Wall developed and its extraordinarily rich cultural afterlife (including Hingley 2012; Breeze 2014a; Collins 2016; Breeze 2019a).

The Iron Age in the Wall Corridor

Nicky Garland

Much of our current understanding of the Iron Age occupation of the pre-Wall landscape comes from groundbreaking aerial survey of the Wall corridor by Tim Gates, undertaken now more than ten years ago. This survey (Gates 2004a, 2004b), and the later Hadrian's Wall National Mapping Programme survey by Historic England (Oakey 2009), remain key sources for the identification of probable Iron Age and Roman sites across this rural area. Despite the identification of many probable 'indigenous' sites during these surveys, there has been little follow-up archaeological investigation to test such interpretations over the last decade. This lack of further fieldwork leaves pressing questions about overall structure and chronology, which require urgent attention in order to advance our understanding of this period across the World Heritage Site. A review of data from Historic Environment Records (Northumberland, Cumbria, Tyne and Wear) across the Hadrian's Wall WHS, reveals limited investigation of Iron Age sites during developer-funded projects along the Wall corridor over the last decade. Unsurprisingly, the general distribution of such work has followed the pattern of regional development, principally the growth of the urban area surrounding Newcastle and Carlisle.

A revolution in understanding the Iron Age occupation of the Wall corridor comes from the publication of a series of developer-led excavations on the Northumberland coastal plain, to the north of Hadrian Wall and the city of Newcastle upon Tyne. These sites, mentioned in the previous Pilgrimage handbook, include three farmsteads excavated by Tyne & Wear Archives & Museums Service at Blagdon Park 2, East Brunton, and West Brunton (Hodgson *et al*. 2012), as well as the settlement at Pegswood Moor, Morpeth, excavated by Pre-Construct Archaeology. The excavations at Pegswood Moor were undertaken in 2000 and published in 2009 (Proctor 2009). Investigation of this site, located approximately 15km to the north of Newcastle, revealed a 4th- to 2nd-century BC unenclosed settlement, represented by roundhouse structures, which was dramatically altered in the later Iron Age. The resulting settlement, constructed and occupied from the 2nd century BC to the 1st century AD, consisted of a series of enclosures, defining areas of habitation, livestock control, manufacturing/processing zones, and feasting. Additional enclosures were added in the latest pre-Roman Iron Age, as well as a series of new roundhouse structures, suggesting changing patterns of habitation at the site over time (Proctor 2009, 29-35).

Three substantial Iron Age enclosure complexes were uncovered between 2002 – 2010 at Blagdon Park and East and West Brunton (Fig. 3.1). The

three sites, located in relatively close proximity to one another, were excavated ahead of development for residential and commercial properties and surface mining. Investigation revealed that, in general, the Middle Iron Age phases of occupation at each site were characterised by open settlements defined by a series of roundhouse structures or modest enclosures created by a palisade or perhaps a small ditch. These settlements were transformed at some point around 200 BC by the construction of a large-scale enclosure bank and ditch (single or multiple). These sites have been interpreted as Iron Age farmsteads, potentially representing a continuation of agricultural exploitation of this landscape dating back to the late Bronze Age or early Iron Age, characterised here through pit alignments and the survival of biological remains from the excavations themselves. The acidic clay geology limited the survival of faunal remains, but the recovery of plant macrofossils suggests that barley and spelt wheat were the predominant cereal crops grown in the surrounding landscape, which were subsequently stored at these three occupation sites. Taken together, the results of these excavations suggest that Iron Age farmsteads may have been relatively common on the Northumberland Coastal Plain.

As the artefactual assemblages from these recent excavations are sparse, a detailed assessment of 62 radiocarbon dates and subsequent Bayesian modelling was applied to six sites across the coastal plain. This scientific analysis represents a stand-out achievement, providing for the first time a detailed chronological sequence of Iron Age occupation activity in the vicinity of Hadrian's Wall. Based on this chronological model, and the results of the excavations at Pegswood Moor (Proctor 2009), Hodgson (2012a, 213-214) proposed that the long-term agricultural use of this landscape by indigenous groups in the Iron Age and early Roman period, came to an end around the mid-2nd century AD, coinciding with the construction of Hadrian's Wall in the AD 120s. A similar chronological sequence was noted at Pegswood Moor and based on the limited number of sites excavated in this area provides the most current interpretation for the pre-Wall landscape in the eastern sector.

There have been several recent attempts to understand the relationship between the indigenous population and the Roman military in the north-west, particularly in the area surrounding Carlisle and the Solway Plain (Ross 2011; 2012). This research has argued that the Solway Plain was relatively densely populated in the Iron Age, however, this analysis is based predominantly on cropmarks visible through aerial photography of the region. Over the last decade, a number of developer-funded projects have been undertaken in Cumbria, particularly in and around Carlisle, contributing to our understanding of occupation in this period. Recent excavation at Durranhill, to the east of the city, revealed two possible

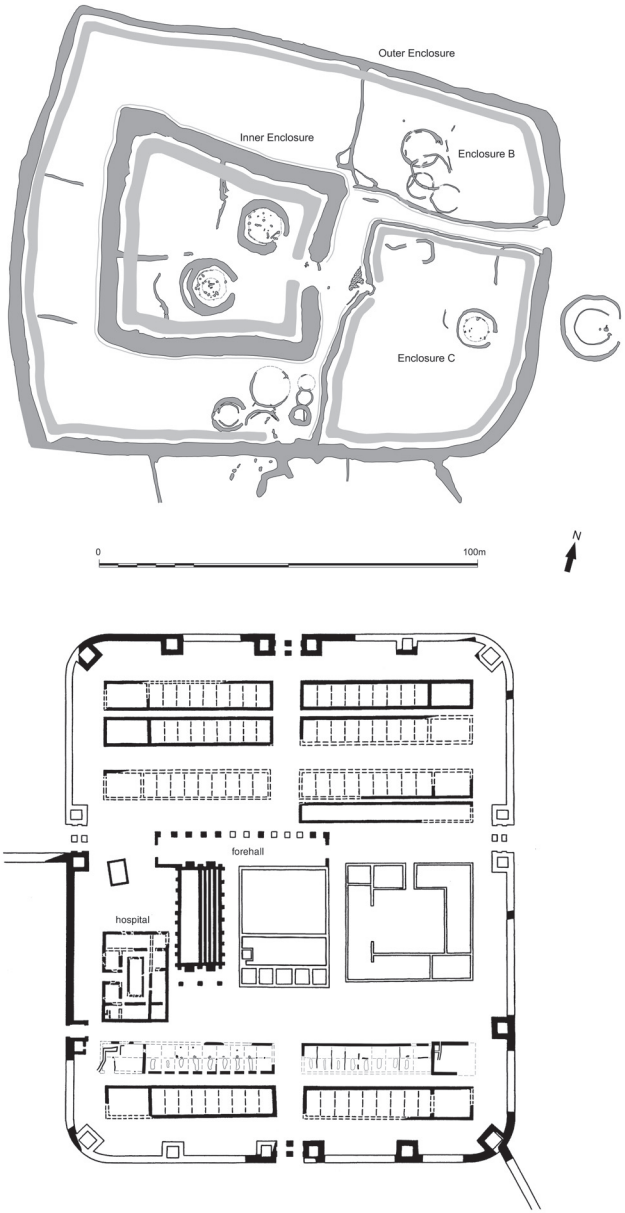


Figure 3.1: A plan comparing a typical Iron Age British farmstead in the frontier (excavated north of Newcastle) to the Roman fort at Wallsend, drawn to the same scale. Source: TWAM.

palisade enclosures that were interpreted as dating to the late Bronze Age or Iron Age (Jackson 2016). Numerous undated pits, postholes, and gullies were identified within the enclosure and may be associated features. While no material of Iron Age date was recovered from the site, material remains of this date are rare in this region. The excavators argued, based on morphology and stratigraphic evidence, that these enclosures could be of Iron Age date and may have continued to be occupied until the establishment of Romano-British enclosures in the 2nd century AD (Jackson 2016, 152-154). This sequence of occupation places the site at Durranhill alongside a number of other previously investigated sites in the wider area, such as Cumberland Infirmary, Botcherby Nurseries, Crosby-on-Eden, and Burgh-by-Sands, which probably represent Iron Age activity (Jackson 2016, 154). Three further sites in the vicinity of Maryport appear to have antecedents stretching back into the prehistoric, with occupation continuing into the Roman period (Breeze 2018b, 86-91).

As discussed in previous Pilgrimage handbooks, evidence for pre-Roman agricultural activity, most notably as ploughmarks, has been found in moderate numbers below a number of Roman-period forts in the WHS and along the Wall itself (e.g. South Shields – Hodgson *et al.* 2001). Excavations over the last ten years have continued to confirm this phenomenon, most notably at Cumbria Institute of the Arts, Stanwix (Zant and Town 2013, 57-60), which was excavated in 2004 and recently published. The earliest archaeological features uncovered during the excavation comprised a series of ploughmarks, a buried turf line, and a probably contemporary ditch, all of which have been interpreted as forming part of a system of arable fields that pre-dated the construction of Hadrian's Wall. This evidence builds on previous investigations of this area in the 1970s, which also uncovered evidence for agricultural systems that pre-dated the Wall (Smith 1978). The agricultural activity uncovered during these recent excavations has unfortunately not been dated with any degree of accuracy, but it does stratigraphically underly the Wall system and therefore is likely to be of pre-Roman, or at least pre-Hadrianic date (Zant and Town 2013, 62-63).

The recently completed Atlas of Hillforts project, which has produced a map of more than 4000 hillforts and possible hillforts across the UK and Republic of Ireland, has also highlighted an understudied resource of possible Iron Age sites within the WHS (Lock and Ralston 2017). Although the focus on Iron Age hillforts in this region usually lies further to the north in the Cheviots (e.g. Oswald *et al.* 2006), there are a number of hillforts or hill top enclosures located within the WHS that overlook the line of Hadrian's Wall. In Northumberland, these sites include Horsley Wood and West Wylam, to the south of Rudchester Roman fort; Shildon Hill to the south of milecastle

18, Warden Hill, Walls Crag, and Fallowfield, overlooking Chesters fort, and Barcombe Hill and Greenlee, to the south and north of Housesteads fort respectively. Hillfort sites in Cumbria are fewer in number but include Grinsdale Camp, located on the bank of the River Eden outside Carlisle, and Swarthy Hill along the coastline to the north of Maryport fort. The latter was excavated in 1988 and produced a radiocarbon date of 450 +/- 50 BC (Breeze 2018b, 88), but both sites would benefit from further scientific dating and modern investigation. They remain an important factor in understanding occupation in the WHS prior to the construction of Hadrian's Wall.

Similar national datasets provide insights into as yet under-represented areas of possible Iron Age occupation. A review of metal-detector finds, catalogued as part of the Portable Antiquities Scheme (PAS) database (British Museum 2019), generally provides information for very few Iron Age artefacts uncovered within the Wall corridor. However, some concentrations may reveal evidence of occupation in areas that have previously seen little investigation. Against a general dearth of Iron Age metalwork in Northern Britain more generally, a small group of artefacts has recently been recovered via metal-detecting at Great Whittington, Northumberland, and recorded by the PAS. This assemblage is diverse and includes a copper-alloy Nauheim-derivative brooch as well as a terret, strap junction, and a miniature socketed axe (Fig. 3.2; Collins and Biggins 2013, 239-240). Similar concentrations may point to further areas of interest that, once investigated, would contribute to our narrative of Iron Age occupation within the WHS.

In a recent article, Breeze (2018d) outlines current interpretations for the interactions, whether passive or aggressive, between late Iron Age indigenous groups and the Roman military within the frontier zone. Breeze (2018d, 7-9) points to a lack of archaeological evidence for warfare in the area to the north of the Wall including the presence of weaponry, warrior burials or pathological evidence for wounding. Moreover, while the area between the Tyne and the Forth has an extensive collection of hillforts, current research suggests that these defensive settlements had fallen out of use by the Roman period or had been appropriated by elite members of society to demonstrate their status (Armit 2016, 49-72). While it is difficult to demonstrate archaeologically the evidence for warfare, this lack of evidence suggests that we should look critically at the Classical texts, on which most of the argument for warfare in this zone relies. Moreover, Breeze (2018d, 10) highlights the 'significant change in agricultural practices' in the 2nd century AD, from arable to pastoral regimes, highlighted in part by the excavations of sites on the Northumberland coastal plain (see above). Although these changes are not limited to the Wall corridor, current interpretations suggest that such developments occurred either to serve the requirements of the

Figure 3.2: Objects found by metal detecting around Great Whittington that are of probable pre-Roman date. Source: Rob Collins.

Roman Army (Proctor 2009, 83, 101) or as part of the deliberate clearance of the Wall zone (Hodgson *et al.* 2012, 217-219). However, as stated by Breeze (2018d, 10), while the evidence has grown in number, 'the specifics still elude us' and further investigation is required to understand fully the interactions between the Roman military and indigenous groups across this transition period.

As demonstrated above, a clear chronology for the Iron Age across the Tyne – Solway isthmus remains elusive. This lack of information is significant, as our chronology currently rests on a number of sites excavated from the 1960s-1980s, by George Jobey among others, whose conclusions are challenged by the modern scientific dates secured from the Northumberland coastal plain. This lack of dating precision makes it difficult to differentiate between sites that are pre-Roman in date and those likely to be contemporary with Roman military activity associated with the Stanegate or the construction of Hadrian's Wall, for example Milking Gap (Fig. 3.3). As discussed above, this differentiation has dramatic consequences for our interpretation of how indigenous groups and the Roman military interacted during an era of dramatic social and physical upheaval. In part,

this understanding must stem from a detailed assessment of these sites in comparison to those north of Hadrian's Wall (e.g. Hunter 2016), however, a more detailed understanding of the chronology of these sites continues to be a research priority (Symonds and Mason 2009, 2). The use of radiocarbon dating for Iron Age sites across Britain has become more prolific in recent years due to improved technologies and new national databases providing a clear opportunity to refine the chronology of the northern Iron Age (Hamilton *et al.* 2015). This has been demonstrated by the extensive and thorough radiocarbon analysis and Bayesian modelling undertaken on the recent excavations on the Northumberland Coastal Plain (Hodgson *et al.* 2012, 115-132), as well as more generally later prehistoric sites between the Tees and the Forth (Hamilton 2016). While dating future sites remains a priority, it is also

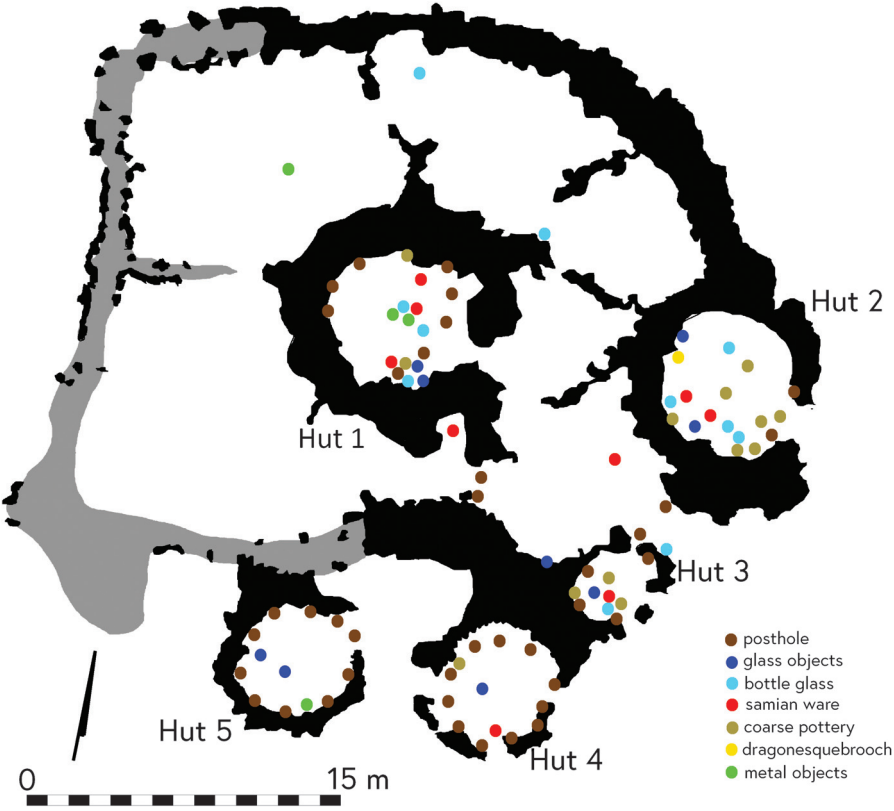


Figure 3.3: The settlement excavated at Milking Gap in 1937, which contained ceramics and other objects dating to the late 1st-2nd century (Kilbridge-Jones 1938). Source: Rob Collins.

necessary, given the wealth of data that have recently emerged for the Iron Age occupation of Northern Britain (e.g. Stanwick – Haselgrove 2016 and Scotch Corner), that we re-evaluate these past excavations based on current knowledge. This reassessment, in conjunction with a robust scientific dating programme addressing both past and future excavations may mean that by the 2029 Pilgrimage we will be able to rewrite our understanding of the pre-Hadrianic landscape of the WHS.

The Roman North before Hadrian

Publication of the Carlisle Millennium Project (Zant 2009; Howard-Davis 2009) shed considerable light on the earliest phase of military activity in the west. As is well known, the earliest timber fort was constructed *c*. AD 72/3 – on the strength of dendrochronological dates – and occupied the commanding position subsequently exploited by the medieval castle. The founding of the fort therefore occurred during the governorship of Petillius Cerialis, in the aftermath of Cartimandua's loss of control over the Brigantes, costing Rome a compliant ally in the north. Discovery of the west line of the first fort rampart during the Millennium excavations allowed its overall footprint to be calculated as *c*. 3.2ha. Although the primary unit or units remain unknown, the size of the fort and the presence of possible stable barracks points to a wholly or part-mounted unit, perhaps a quingenary *ala* or milliary *cohors equitata*. Such a unit would be an appropriate reflection of the site's strategic importance, at a key river crossing on a major north – south routeway. The form and fabric of pottery manufactured at the site is suggestive of a link with the lower Rhineland. As Cerialis brought *Legio II Adiutrix* to Britain from Nijmegen, it is possible that the Carlisle fort was occupied by one (or more) of its associated auxiliary units, or even elements of the legion itself (Zant 2009, 435).

In the east, geophysical survey at Red House and Corbridge is furnishing important new information about Roman activity from all periods. The results are outlined in more detail elsewhere in this volume (p.146), but it is worth noting that survey adjacent to structures dating to the mid 70s at Red House, which have been interpreted as part of a fort or supply base (Hanson *et al*. 1979), did not clearly detect the defences. While it is possible that ditches were obscured by their fills, considered alongside the character of the structures, this must strengthen the case for the presumed fort lying on a different site nearby. By the mid 80s the military focus had shifted a short distance east to Corbridge.

The first fort at Vindolanda was established in the mid AD 80s, and a summary of the latest discoveries relating to early military activity there can be found on p.177.

The 'Stanegate system'

Debate continues about whether the configuration of military posts on the Tyne – Solway isthmus following the evacuation of Scotland by AD 105 should be judged a frontier system in its own right or simply a response to the need for highway security (Fig. 3.4). A valuable summary of past discourse is provided by Hodgson (2009b). One factor that may be relevant is a seemingly unique quirk in the design of the fortlets at Throp and Haltwhistle Burn, which placed gateways along adjacent lengths of rampart. This is suggestive of a measure to ease traffic circulation. If so, a logistical role seems to be implied, with these depots perhaps easing the supply of units mobilised for combat in the region, or even building the Wall. Parallels can be drawn between the Stanegate system and security measures on east – west Pennine highways further to the south. It has also been argued that the absence of convincing fortlets and towers to the west of Carlisle and east of Corbridge 'remains a serious obstacle to the notion that a formal attempt was made to establish a Trajanic frontier across the breadth of the Tyne – Solway isthmus' (Symonds 2015a, 94-97; Symonds 2017a, 98-104).

Forts are also scarce in or near the Tyne valley east of Corbridge. The proposed installation at Gateshead remains unproven (see Bidwell and Snape 2002, 256-259), leaving the undated site at Washing Wells as the only positiviely identified candidate for an eastern 'Stanegate' fort currently known. Geophysical survey and fieldwalking of the apparent fort site are remarkable for the paucity of detected features and finds, though (Casey and Howard 2010). No artefacts were recovered from a 20,000m² area after examinations following deep ploughing, harrowing, and rain. The geophysical survey also revealed little within the ditches, bar probable gate structures, and a handful of other suggestive anomalies. Although traces of post-built internal buildings might have been obliterated by the plough,

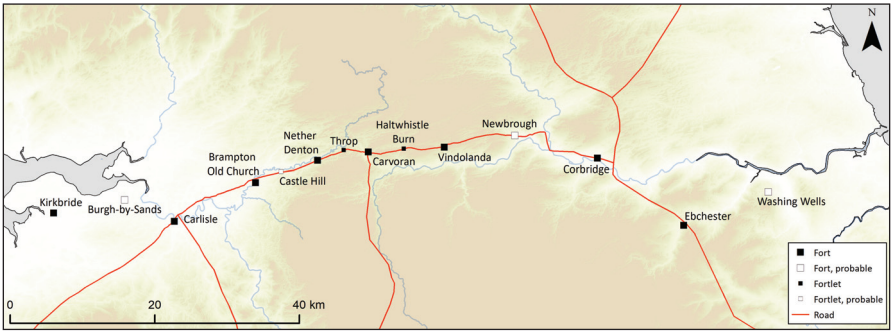


Figure 3.4: A map of the Stanegate system, showing forts and fortlets connected by the road. Source: WallCAP.

the absence of material culture is notable. Casey and Howard (2010, 137) suggest that one possible explanation for the oddities presented by the site is if 'Washing Wells represents a practice camp'.

Hodgson believes that seeking Stanegate system posts east of Corbridge on the Tyne – Solway isthmus itself may be to look in the wrong place. He notes a proposal that has been floated intermittently since the 1930s, which holds that the military line of control turned north-east at Corbridge, making for Tweedmouth via Low Learchild along the Devil's Causeway. This would allow the system to envelop settled and 'friendly' farming communities on the Northumberland coastal plain, protecting them from malignant groups populating the upland region. One complication is that the fort at Low Learchild is the only certain military installation on the Devil's Causeway, but Hodgson is content that 'others must await discovery' (Collingwood and Myers 1936, 127; Hodgson 2012a, 212-213; 2017a, 33-37). One intriguing installation near the Devil's Causeway is the fortlet at Longshaws, which has recently been discussed by Welfare (2011). He identified Low Learchild as a potential source of the fortlet garrison, and convincingly, though tentatively, assigned it to the Flavian period on morphological grounds. Although this means the fortlet predated the Stanegate system, it seems probable that it secured a crossing on the adjacent River Font, providing an indication of the route used prior to the construction of the metalled highway.

Although the nature of any 'Western Stanegate' system beyond Carlisle remains highly controversial, Hodgson is satisfied that undated traces of a possible roadway associated with discontinuous stretches of *clausurae* would fit with expected Roman activity. Given these potential means of completing the cordon in the east and west, Hodgson feels that the system is best viewed as 'a preclusive cordon that would detect any attempt at infiltration, raiding or invasion, and which would be able to trigger a response in strength: effectively a line of military defence' (Hodgson 2017a, 34-36).

One area where consensus does appear to be emerging concerns the contribution – or lack thereof – made by the engineered Roman highway known as the Stanegate, which lends its name to the wider system. Examination of LiDAR data suggests there are local variations in the course of the Stanegate that attest to multiple repavings, although dating these episodes remains challenging. Concerning the highway in general, Hodgson noted in 2000 that when considering the military deployment, 'the Stanegate road may be a red herring', as a comparable cordon in Germany was enacted without an associated highway (Hodgson 2000, 18). This followed Poulter's observation that the course of the road suggested it was added after the fortlets at Throp and Haltwhistle Burn were already in place (Poulter 1998, 53-54). More recently, Birley has suggested that a milestone found near

Vindolanda was erected during Hadrian's reign. While this could have been a sycophantic gesture to please the emperor during his inspection, it is judged more likely to reflect genuine road building or roadworks of some form (A.R. Birley 2017, 11-13). Although an acceptable unsurfaced track must have existed since at least the mid 80s to service Vindolanda, it looks increasingly likely that the 'chain of sites along the isthmus…were probably in place before the road itself was built' (Hodgson 2017a, 35). Given the modern name of the system, the situation is somewhat ironic.

An area of uncertainty with a longer pedigree is the question of where the Stanegate crossed the North Tyne or Tyne. A solution to this was recently proposed by Hodgson (2017b, 71), after two temporary camps were included on the 2010 English Heritage *Archaeological Map of Hadrian's Wall*. These camps lie on the east bank of the Tyne at Howford, directly south of both the confluence of the North and South Tynes, and a 19th-century ford. It seems a strong candidate for the lost crossing place.

Design and construction of the Wall

Matthew Symonds

Valuable accounts of the twists and turns in evidence and interpretation that have led to our current state of knowledge are presented by Breeze's (2014) *Hadrian's Wall: A History of Archaeological Thought* and his paper (2018) on *The Building of Hadrian's Wall: a review of 50 years*. The former also offers a salutary lesson in how few archaeological theories stand the test of time, while demonstrating the degree of attention that has been lavished on understanding the initial construction phase of Hadrian's Wall since the late 19th century. Given the frustratingly durable belief among some observers that Hadrian's Wall has been "done", it is gratifying to note that study of the building programme is still capable of springing surprises. As this is by far the best understood period in the Wall's history, the existence of key gaps in knowledge can be considered illustrative of just how much remains unknown about the wider story of this remarkable monument. Because this phase has attracted sustained interest over the last decade, the topic will be reviewed in some depth.

Perhaps the most significant development for perceptions of the construction programme concerns a suggestion once floated by C.E. Stevens. He proposed that building commenced before Hadrian's visit in AD 122, with initial work beginning mid-season in AD 120 (Stevens 1966, 39). This conjecture did not prove influential, and in recent decades the case for a pre-122 date has generally – though not universally – been either politely ignored or branded doubtful. An argument recently advanced by Graafstal

(2012, 149-151, 159; 2018), means that the possibility of an early date must now be taken seriously. Graafstal's interpretation relies on several strands of evidence, which are not conclusive, but cumulatively make for an intriguing case. Two suggestive elements concern dendrochronological dates from Upper Germany demonstrating that trees for its frontier palisade were felled in anticipation of the emperor's visit, and an inscription found near milecastle 47 (*RIB* 1852; Fig. 3.5). It has been proposed that this was one of the very first milecastles to be completed (Hooley and Breeze 1968, 109; Symonds 2005, 73-76), and Graafstal suggests that the unusual absence of a governor's name on the inscription can be attributed to it being installed before Platorius Nepos arrived in Britain – with Hadrian – in 122. As well as giving the emperor something to inspect, the putative early start is significant for allowing a new chronology to be devised for the earliest phase of building. This could help unravel the knotty matter of what the fort decision signifies and even whether we should be thinking of a Hadrianic war or wars in Britain.

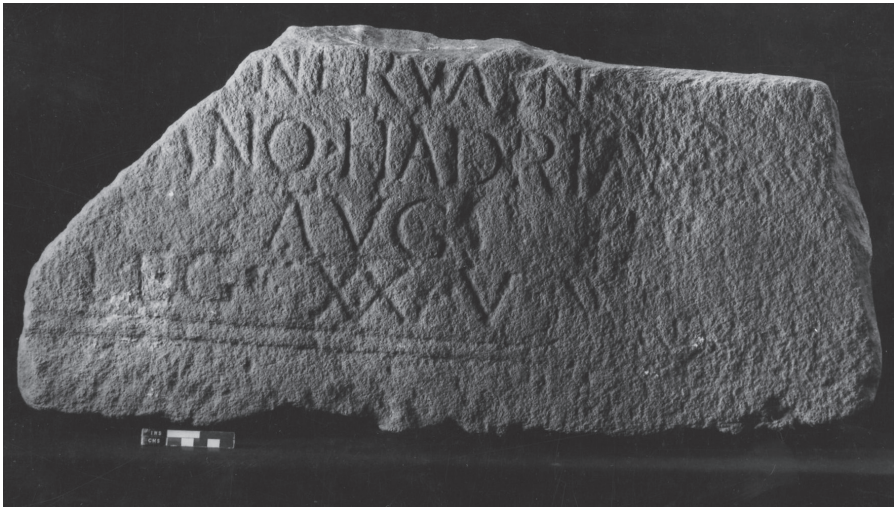


Figure 3.5: *RIB* 1852 found near milecastle 47, which names Hadrian as emperor but does not name a governor. Source: SANT.

How many Hadrianic wars?

The previous handbook summarised ongoing debate about whether there was a second war in Britain during Hadrian's reign, providing a sequel to the conflict recorded in the *Historia Augusta*. This states that among the challenges facing Hadrian upon his accession was that 'the Britons could not be kept under Roman sway' (*Hadrian* 5, 2). Coin issues referencing Britain

or Victory have traditionally been seen as dating the successful suppression of this insurrection to AD 119. Other signs of unrest on the northern frontier, such as the tombstone from Vindolanda commemorating a centurion killed 'in the war', can plausibly be linked to hostilities at this time (A.R. Birley 2017, 8). The case for a second war primarily rests on inscriptions documenting the careers of Maenius Agrippa and Pontius Sabinus, who were involved in an *expeditio Britannica* (Dobson 1978; Maxfield 1981; Breeze 2003). It is hard to reconcile the details of Sabinus' career with his presence in Britain during an AD 117–119 conflict, implying that the *expeditio* was mounted in response to a later irruption of warfare. Since 1948, when Eric Birley advanced the concept of a second war, most of the years between AD 122 and 135 have been nominated by someone as the possible date of the *expeditio*. One recent proposal, for instance, dates the conflict to the aftermath of Hadrian's visit in 122, with London being sacked during its closing stages in 125/6 (Perring 2017, 61). This draws some support from an earlier attempt by Casey (1987) to narrow the options by inferring that *Nike* coin issues from Alexandria in AD 121/2 and 124/5 to 125/6 might reference events in Britain.

A heavyweight contribution to this debate arrived in 2014, when Anthony Birley took British frontier scholars to task for failing to engage with an observation made in 1988 that the term *expeditio* was only used when the emperor was personally present (A.R. Birley 2014, 249; Syme 1988, 166). This immediately restricts the years when the *expeditio Britannica* may have been conducted to one: AD 122, when Hadrian was in Britain. On the strength of this, Birley rejected as 'unfounded' the traditional reading of the coin issues suggesting that an AD 117 war concluded in 119 (A.R. Birley 2014, 251). Instead, he prefers to envision one British war, which Hadrian took the credit for suppressing, regardless of 'whether or not there was really any serious fighting still going on…in summer AD 122' (A.R. Birley 2014, 252). Birley's contribution could easily be taken as fatal to any notion of a second war. Problems remain, however, especially given Graafstal's demonstration that work on the frontier could have commenced prior to AD 122. Is it really plausible that combat troops would be redeployed to the lengthy process of planning, surveying, and constructing the Wall while conflict still raged? The alternative, that hostilities had ceased long enough prior to the emperor's arrival for a show stretch of frontier to be completed – with all of the wider preparatory work this implies – must make it questionable that Hadrian could credibly claim to be part of an *expeditio* that vanquished the enemy.

One simple solution would be to accept the traditional construction date: the one and only Hadrianic war in Britain culminated with an *expeditio* in 122, with the emperor's subsequent order to construct the Wall serving as a denouement. An alternative way to square this particular circle is suggested

by another proposal that has been periodically mooted: work on Hadrian's Wall was interrupted by – or even the catalyst for – a second round of fighting (Stevens 1966, 50-53; Casey 1987, 70-71; Hodgson 2009a, 16; Symonds 2017a, 116). More than one outbreak of violence would certainly seem a better fit with the *Historia Augusta* statement that the Britons 'could not be kept' under control. Indeed, Hodgson suggests 'a backdrop of continuing warfare' extending into the 130s (Hodgson 2017a, 69). Allowing for (at least) two phases of hostilities would permit the first bout of fighting to conclude in AD 119, with planning, surveying, and construction work on the Wall following afterwards. Further conflict once elements of the frontier works were in place, perhaps in AD 121, could explain some evidence for a cessation of work noted at various sites along the Wall, and allow Hadrian's *expeditio* in 122 to take credit for restoring order (Hodgson 2017a, 40-41, 65-66; Symonds 2019). Naturally, this is only one of many potential readings of the evidence, and Graafstal has already muddied the water of Birley's case by arguing that the *expeditio* need not coincide with Hadrian's visit, as exceptions to the rule that the emperor should be present are known (Graafstal 2018, 98-99). For now, the one certainty seems to be that the case for a second war has not been routed.

Turf measures

Inevitably, questions of warfare colour interpretation of the design and construction programme for Hadrian's Wall. If – as seems likely from the Vindolanda centurion's tombstone (A.R. Birley 1998) – there was at least one outbreak of combat in the north during the early part of Hadrian's reign, this would surely have influenced relations between the occupying force and the local population (that is the groups already living in the region when the Roman army arrived). Indeed, Hodgson emphasises that the fragmentary inscriptions from Jarrow imply that the Wall's origins lay in the immediately post-conflict stage 'after the barbarians had been dispersed' (*RIB* 1051a-b; Hodgson 2017a, 160). If so, the Roman army would presumably have been mindful of the reaction that unilaterally dividing previously open land might trigger. This possibility has been seized upon to explain the longstanding mystery of why the western third of the frontier – bar the turrets – was originally constructed of turf, earth, and timber, rather than stone.

Two important contributions have come from Graafstal and Hodgson. The former emphasised the advantage in terms of speed that choosing turf and timber permitted. He argued that 'the Turf Wall can hardly have taken more than a few months to build' and that it was 'designed to bridge the exposed gap in the west within the first full season' of building work (Graafstal 2012, 137-138). Indeed, the possibility that there was greater resistance to the Roman

presence in the west, or that it was a cause of concern for some reason, seems to be gaining traction (Graafstal 2012, 124; Hodgson 2017a, 66-69; Symonds 2017a, 146; see also Reid 2016). Hodgson also favours the Turf Wall being a response to 'the urgency of having a functional Wall in the west', but suggests a marginally lengthier construction period of 'a single year'. He favours a construction schedule for the overall frontier that distilled maximum effort into erecting the Turf Wall when work commenced, possibly alongside work on the Stone Wall in the Tipalt – Irthing gap, east of the North Tyne, and west of the planned or actual bridge at Newcastle (Hodgson 2017a, 64-67; for the bridge see Bidwell and Snape 2002, 256-259). These stretches of the Stone Wall are a close fit with the locations where it has been proposed that milecastles were prioritised for construction to control key positions within the landscape (Symonds 2005, 77). Hodgson notes a problem thrown up by the Turf Wall for the notion that work commenced prior to Hadrian's visit: a fragment of a timber inscription from the Turf Wall version of milecastle 50 (*RIB* 1935; Hodgson 2017a, 65). This can be plausibly reconstructed to name the governor Platorius Nepos, who arrived in Britain with Hadrian. If the Turf Wall was so constructed because it was urgently needed, and if it could be raised in a year or less, why would it still be incomplete when Hadrian and Nepos arrived in 122, if work had started in 120 or 121?

One solution is Breeze's observation that turf and timber was the Roman army's building material of choice in Britain during this period, removing any need to view this stretch as an emergency measure (Breeze 2006a, 59). The alternatives are to accept a 122 start date, or confront the question of when the decision to erect a Turf Wall was taken. It is generally assumed that the plan to build the eastern two thirds in stone and western third in turf and timber was in place before construction began. That must seem the most likely explanation (Graafstal 2012, 137), but it is not certain and the decision to build the Antonine Wall of turf rather than stone certainly seems to have been taken after construction began. If Graafstal is right about the inscription from milecastle 47 pre-dating the arrival of Nepos, then it is the earliest complete – or very nearly complete – Wall structure currently known. The striking similarities between milecastles 47 and 48 make it reasonable to infer the latter installation was built at the same time. To push the inference from this reading of the inscription further, if it is also correct that *RIB* 1935 from milecastle 50 TW names Nepos, then the stone milecastles 47 and 48 have to be built before the turf-and-timber milecastle 50. There would be a logic to the army starting work with milecastles 47 and 48, and in the Tipalt – Irthing gap more generally, as this natural junction was essential to controlling the wider region and a focus for military activity during both the Stanegate and Wall phase (see p.40; Hill 2002, 94; Symonds

2017a, 123-125; Symonds 2019). If early work in the gap revealed the scale of resistance in the west to the imposition of a barrier – or that progress was too slow for comfort when using masonry in a turbulent region – it could have prompted the decision to install a 'quick fix' Turf Wall. Naturally, though, this is heaping speculation upon speculation.

All of this raises the question of what completion of the Turf Wall would achieve. Graafstal emphasises that he is not suggesting a need 'to complete a defensive barrier under continuous Pictish assault', and that the pre-fort-decision frontier offered 'a basic, essentially interceptive, anti-raiding shield' (Graafstal 2012, 160-161). Would, though, the army fast-track a Turf Wall simply to curtail raiding? Hodgson prefers to view the Turf Wall making a more robust contribution, asking 'if there was an immediate threat from the north-west, would the Roman army not have marched north to defeat it?' His answer is that it is 'possible that the Roman army did not have the leeway to launch an aggressive campaign instead of protecting the province by building the Turf Wall' (Hodgson 2017a, 67). This seems to envision a conventional threat that needed to be met in battle, but the pre-fort-decision Turf Wall may be poorly configured to neutralise such a force. The manned posts were simply milecastles – small fortlets – and turrets – towers – with earlier examples of comparable cordons explicable as a means to frustrate low-intensity threats. When it comes to genuine enemy activity, fortlets and towers seem best calibrated to counter what is often popularly referred to as guerrilla warfare (Symonds 2017a, 225-227). If constructing the Wall stimulated a surge in such resistance in the west, it is easy to see how fast-tracking a Turf Wall might be deemed a desirable countermeasure.

Fort indecision

Discussing the military capabilities available directly on the Wall line inevitably brings us to the question of the fort decision. Acceptance that the series of forts anchored into the curtain derives from a change in plan rather than a clumsy implementation of the original concept remains widespread, though not universal (Fig. 3.6). Hodgson seemingly sails close to querying the existence of a 'fort decision' when he states that 'urgency also explains the absence of forts at the outset, whether through oversight or deferment'. Ultimately, though, he comes down firmly in favour of an 'original design for a fortless Wall' (Hodgson 2017a, 68). This notion that excluding forts from the initial concept was an 'oversight' – in so much as their subsequent addition was simply remedying an obvious and somehow overlooked defect rather than anything more meaningful – is often found in Wall literature and worth considering. Earlier examples of dispersed garrisons in fortlets and towers being used as probable lines of control rarely coincide perfectly with

the forts containing concentrated forces better suited to projecting power outwards. On this basis, the addition of forts to Hadrian's Wall was the departure from the norm, and it is therefore important to assess what could have prompted it (Symonds 2017a, 106-107).

Graafstal offers a relatively benign explanation that has its roots in the emperor Hadrian's complex personality. He sees an echo of the fort decision in Cassius Dio's (69,9,1-2) claim that 'some [forts, Hadrian] removed to more desirable places, some he abolished, and he also established new ones'. To put it another way: 'if Hadrian left a fingerprint on the Wall, here it is' (Graafstal 2012, 149). Attributing the fort decision to an imperial whim certainly fits with a growing acceptance following a paper by Breeze (2009) that Hadrian may have been personally responsible for some of the Wall's more outlandish conceits (for instance Hodgson 2017a, 68; Symonds 2017a, 113-114). Graafstal argues that Hadrian's intervention with the forts occurred while the emperor was inspecting progress in 122. This thesis anticipates the putative second war occurring afterwards, from 123 to 124/5 (Graafstal 2012, 161; 2018, 22). An alternative perspective is that adding the forts and thereby enhancing a capability for what Luttwak (2016, 77-78, 156) has termed 'forward defence' would be a natural corollary of an outbreak of fighting with

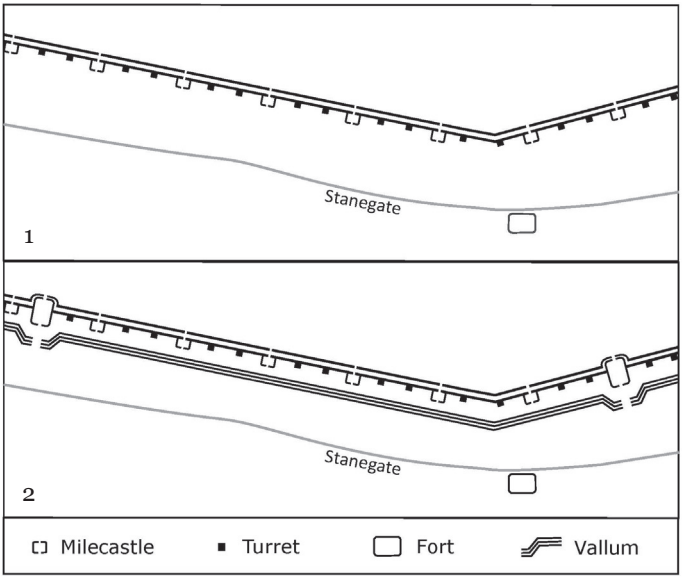


Figure 3.6: An idealised plan of Hadrian's Wall, showing how it was initially conceptualised (1) compared to its revised state following the addition of forts and the Vallum (2). Source: WallCAP.

its epicentre to the north of the Wall (Symonds 2017a, 116). Birley's assigning of the *expeditio* to 122 would now allow this – hypothetical – scenario to be merged with Graafstal's contention that Hadrian was responsible for making the fort decision on the ground.

Although Hodgson floated the idea in the previous handbook that the impetus for the fort decision could lie in a second Hadrianic war (Hodgson 2009a, 16), in his 2017 book he prefers to see the forts as integral to the security of the Wall line. He advances a strategy in which the small milecastle and turret garrisons could fight from the Wall top in order to delay sizable enemy groups until reinforcements arrived from the forts. Although it is noted that the Wall could hardly have functioned in this fashion prior to the fort decision, Hodgson observes that 'the introduction of the forts to the Wall was almost instantaneous…and surely the simplest explanation is that this did not denote a major change in the principle of how the Wall should work…' (Hodgson 2017a, 165-166). Even so, if – as seems probable – the addition of forts was a change of plan, it must be questionable whether the original concept was one that depended upon their presence. Of course, the fort decision may have been intended to modify the capabilities of the Wall along the lines Hodgson outlines. When considering the utility of the milecastles, he employs an *ostracon* (*O.Krok.* 87) from a fortlet in Egypt to illustrate the vulnerability of small garrison posts to marauding bands of barbarians. The *ostracon* tells a subtly different story, though, as it implies the besieged soldiers were secure while sheltering within the fortlet defences overnight, and that the garrison sallied forth at dawn to fight off their attackers.

Breeze views the addition of the forts as a considered 'Plan B'. Assuming the outpost forts were part of this rethink, implementing it would have seen 21 auxiliary units – a third of those in Britain – on the move, increasing the number of soldiers in the frontier zone from 3,500-4,000 to 15,000. Breeze notes this is close to what Mark Corby has calculated the modern army would consider an appropriate defence force (Breeze 2019a, 70, 74-77). Alongside this addition of concentrated forces in forts, there may have been a sharp reduction in the number of soldiers earmarked for dispersal along the Wall line in milecastles and turrets (Symonds 2015b, 305). If the double barracks suitable for approximately 32 soldiers in milecastles 47 and 48 represent the initial intention, and the single blocks capable of holding about 8 men in milecastles 9, 35, 37, and 50TW are a product of the post-fort-decision arrangement (see also p.50), then the total manpower dedicated to operating the milecastles may have been cut from something in the region of *c.* 2,592 to *c.* 648 soldiers (Breeze and Dobson 1972, 188-189; Symonds 2017a, 118).

A survey of Wall fort locations has emphasised that they represent compromises between distances that could be marched in about half a

day and the reality of the local terrain (Breeze 2017a). Although – as is the way with Hadrian's Wall – it is the regular spacing that has been viewed as the essential factor, numerous forts occupy significant positions within the landscape. Chesters – in the North Tyne valley – would have to be the example *par excellence*. While the cavalry units based within it would have been a potent deterrent to raiders or warbands planning to strike via the valley, Breeze notes that the potential of the forts to support aggressive actions to the north has received surprisingly little attention. In the case of Chesters, the resident unit commanded a natural thoroughfare leading into the heart of the uplands beyond (Breeze 2017a, 34-35). Such a position could suggest that at least some Wall fort garrisons were primarily intended to ease interventions to the north. Naturally, though, once attached to the Wall, the fort garrisons would permit a flexible response to problems brewing both locally and well to the north (or south). Indeed, there are indications that important pre-Roman routeways, including the natural passage presented by the North Tyne valley, exerted significant influence on the construction programme for and eventual distribution of force along the Wall (Symonds 2019).

Placing forts on the Wall is usually seen as only one of a set of changes that occurred at around this point in the building scheme. The enigmatic earthwork known as the Vallum is traditionally viewed as another eye-catching addition, but recent survey work at Shield-on-the-Wall has called this into question (see p.158. Welfare has argued that a temporary camp positioned adjacent to a quarry opened to win stone for the Wall indicates that 'the Vallum was a part of the initial *concept* of the frontier' (Welfare 2013, 95). If so, the implications are far reaching for existing models of how the Wall evolved during construction. Welfare's analysis is based on the location of the temporary camp respecting the corridor through which the Vallum would run, thereby displaying knowledge of its future existence. As the camp was presumably constructed to house workers quarrying stone for construction of the Wall, the Vallum must have been planned and surveyed before this juncture. None of this can be refuted, but it is worth noting that the adjacent milecastle, number 33, is one of only a handful on the Stone Wall likely to be almost entirely Narrow Wall in execution (Symonds 2005, table 1). Some stone structures along this stretch were evidently completed unusually late, making it probable that even if the Vallum was a secondary decision, work on masonry elements was still ongoing near Shield-on-the-Wall after the Vallum's course was fixed.

So how long did Hadrian's extraordinary and changeable construction project take? One striking facet of ongoing debate is the wide variation in proposed timescales. Hodgson argues that 'the basic elements of the work

could have been executed over four years', with 'the effective completion of the Wall by about 126' (Hodgson 2017a, 63, 69). Graafstal selects a similar end date, arguing there is 'little formal objection to having the emperor's favourite, Aulus Platorius Nepos, deliver the Wall from head to tail', perhaps in 127 (Graafstal 2012, 155). Graafstal does, though, favour an earlier start date. Rapid construction has previously been championed by Hill, a professional stonemason, who calculated that the existing Broad Wall elements could have been created in 'three or four months' (Hill 2006, 125). Breeze (2014a, 59-62), however, notes evidence for 'slow progress' following the fort decision, and has entertained the possibility that the Wall was not complete by the time of Hadrian's death in 138. One pointer to a post-127 completion date comes from a dedication found at Great Chesters, which refers to Hadrian as *Pater Patriae*, a title he did not accept until 128 (*RIB* 1736). Graafstal (2012, 154-155) has stressed that some inscriptions jumped the gun and included this accolade ahead of time, but Tomlin (2018, 114) describes it as a 'crumb of chronological comfort'. In the absence of strong evidence to the contrary, it seems reasonable to take the Great Chesters inscription at face value. Another hint of a prolonged construction phase may come from the pragmatic character of the Walltown stretch, which could suggest it was delivered towards the very end of the Stone Wall building programme (Symonds and Breeze 2016, 10-12). Construction of the nearby stone fort at Carvoran can be dated to *c.* 136-138 (*RIB* 1778, 1818, 1820). Could this work have followed completion of the neighbouring and potentially final stretch of Stone Wall? Several inscriptions associated with the fort display an unusual interest in recording the length of curtain built by individual work parties, perhaps marking a step towards the subsequent Antonine Wall distance slabs.

Dividing a landscape

One new suggestion over the last decade is that a further refinement to the monument's format following the fort decision concerned the relationship between the Wall and the local physical – and presumably human – geography. The awkward consequences of the collision between the regular spacing system and the irregular terrain at sites like milecastle 42 are justly famous (Woolliscroft 1989, 7). During the Narrow Wall phase of construction, though, there are signs of enhanced flexibility to offset milecastles and turrets from their measured locations, when a compelling reason existed for doing so. Perhaps the finest example is turret 44b, tucked onto a level shelf of ground on Mucklebank (Fig. 3.7). It lay far from its theoretical position, but commanded a striking view over both an adjacent defile and a swathe of territory to the north, west, and south. Even the curtain displays heightened

sensitivity to the topography along the neighbouring Walltown crags, by pursuing an unusually sinuous course. As the generic milecastle and turret plans also appear more variable during the Narrow Wall phase, it seems reasonable to infer that there was a heightened – if belated – interest in maximising the local impact of these garrisons. By this reading, the original

Figure 3.7: Turret 44b (Mucklebank) is positioned at the edge of a crag with striking views to the north, west, and south. Source: Matthew Symonds.

spacing system was judged too rigid and superseded by a more flexible approach that was closer to Roman military norms (Symonds 2013a, 57-60; Symonds and Breeze 2016; Symonds 2017a, 118-121).

This is symptomatic of a wider interest in the landscape that has developed over the last few decades. Woolliscroft (1989) blazed a trail when he argued that subtle variations in milecastle and turret spacing were calculated to establish a visual link with southerly Stanegate posts. Achieving this would have depended on a detailed understanding of the landscape that appeared at odds with the casual disinterest in the terrain implied by implementing a fixed spacing system. It was subsequently suggested that early Broad Wall milecastles were fast-tracked at locations where natural or artificial communications routes crossed the line of the Wall, implying that the construction programme was influenced by a desire to tighten control of these points (Symonds 2005, 77). If so, it could be inferred that 'those responsible for building the frontier were never blind to the importance of the landscape', and they acted on the basis that 'it would be desirable to be in a position to minimise unsupervised north-south transit across the Wall zone as soon as possible' (Symonds 2010, 15; 2005, 77). These concepts have since been developed by Graafstal (2012).

A growing acceptance that different stretches of the Wall faced different challenges (Gillam 1961, 63-64; Graafstal 2012, 124-126; Symonds and Breeze 2016, 12; Hodgson 2017a, 63-67), has focused attention on how pre-existing conditions on the isthmus influenced frontier development. Apparently early construction of posts plugging the topographical bottleneck created by the Tipalt – Irthing gap (Fig. 3.8; Symonds 2005, 72-74) has been interpreted by Graafstal as a consequence of this stretch being selected for inspection by Hadrian. The reasoning is that the proximity of the Stanegate to the Wall facilitated a tour, and it was also possible to see the intersection between the Stone and Turf Walls, while the Irthing valley presented a point of weakness (Graafstal 2012, 151; 2018, 97-98). Securing the gap has been nominated as 'the priority for efforts to supervise the Wall curtain', because it is critical to achieving control over regional movement (Symonds 2017a, 123-125). As unusual military activity in and adjacent to the gap occurs over a longer timescale than could be justified by preparations for an imperial inspection, the anomalies and innovations along this stretch may reflect a need to respond to episodes of low-intensity pressure during the Stanegate phase and periodically throughout the operational life of the Wall (Hill 2002, 94; Symonds 2017a, 123-125; Symonds 2019).

An innovative study by Foglia (2014) assessed the viewshed of five test groups of milecastles and turrets. Rather than simply presenting the totality of the terrain visible from these Wall installations, Foglia subdivided the

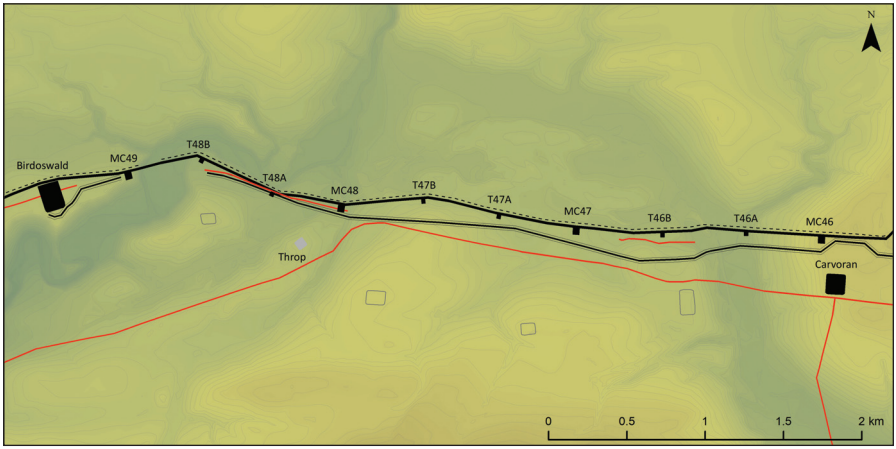


Figure 3.8: A map of the Tipalt – Irthing gap, from Carvoran to Birdoswald, highlighting the natural bottleneck created by the topography. Source: WallCAP.

viewshed into bands, which focus attention on how much detail an observer would be able to discern. Some turrets enjoy views of over 2,000m, for example, but this range can be deceptive, as battlefield recognition distances cited in the article suggest that individuals cannot be distinguished with the naked eye at distances of over 900m. That said, your reviewer has been able to make out silhouetted individuals wearing bright clothing and moving *c.* 1,400m distant. Even so, Foglia convincingly contends that 'the spacing was probably to mainly provide "high resolution" short-range cover, rather than the long-range early warning system' (Foglia 2014, 37-38). Foglia also challenged the increasingly prevalent view that the turrets and milecastles enjoyed a superior view to the south, rather than the north. Three of the five test groups had a greater area of view to the north from all potential observer heights, while a fourth achieved this once the observer was raised to the presumed Wall curtain height. Only one of the five groups benefitted from a superior view south at all observer heights (Foglia 2014, 41).

Hadrian's vision

So, what can the implementation of Hadrian's Wall reveal about its intended purpose? When it comes to assessing the role of the frontier, Breeze (2015b, 1) notes that 'in spite of the rhetoric, little divides those who discuss the function of Hadrian's Wall; some put more emphasis on defence, but in the main the focus is on the prevention of raiding and the control of movement'. One group that deserves further prominence in Wall discourse is practitioners of guerrilla warfare or insurgents, as resistance to the frontier could easily have

included low-level, sporadic violence (Symonds 2019). There also seems to be some movement at present towards seeing the addition of the forts, and the other changes in plan that probably or potentially occurred during the building programme – such as adding the Vallum, loosening the spacing system, and paying more attention to local needs – as symptomatic of a rethink concerning the scope of what the border was intended to achieve. The notion that the version of Hadrian's Wall that emerged from the construction programme had a dual function has a long pedigree. In 1863, Bruce referred to the frontier as 'a great fortification intended to act not only as a fence against a northern foe, but as the basis for military operations against a foe on either side of it' (Bruce 1863, 16; Breeze 2014a, 110-111). This view, essentially that the milecastles and turrets contained dispersed forces creating a line of control, while the forts held concentrated units capable of projecting power outwards, has been recently restated by Graafstal (2012, 161). Considering the former component, Luttwak is damning about spreading forces along a static line: 'the voluntary adoption of a cordon, with its resultant dispersal of strength, can only signify a failure of generalship – or so the argument goes'. He notes, though, that the approximate number of soldiers in the milecastles and turrets 'is comparable to the proportion of manpower that a mobile field army would alocate for security duties in the rear' (Luttwak 2016, 78-82).

Seeing the milecastles and turrets as a line of control certainly helps explain the short and comparatively rigid distances between posts: 'small, garrisoned installations every 495m may simply have been seen as a reasonable balance between the available manpower and the sort of proximity needed to minimise the chances of small groups slipping across the frontier undetected' (Symonds 2010, 12). This is supported by Foglia's view that the spacing between turrets and milecastles was determined by the acuity of human eyesight (Foglia 2014, 37-38). If so, the fort decision strongly implies that this comparatively lightly held security cordon was rapidly found wanting. In a stimulating contribution, McCluskey (2018) has applied modern military analytical tools to debate about the functions of Hadrian's Wall. He suggests that distinguishing between 'military defence' and 'access control' is 'a false dichotomy', with both soldiers and infrastructure being calibrated towards a complementary end goal: delivering provincial security. He notes that the Wall, once the forts were in place, would be well suited to delivering the four core components – find, fix, strike, and exploit – of the Tactical Framework employed by the modern British army. Such co-ordinated action leads us to an important question posed by Edwards (2009): 'who ran Hadrian's Wall?' He concluded that the answer was 'nobody', in the sense of no one person, although this could blunt a capability to mount effective integrated activity (Symonds 2017a, 115). Naturally, understanding whether the Wall posts were

co-ordinated by a single individual, or subject to the whims of multiple unit commanding officers based in the forts, is critical to perceptions of how the Wall was used once operational, and therefore understanding what happened next (a formal commander for the Wall is only known from the 4th century, when its garrisons came under the command of the *dux Britanniarum*).

The Wall and its constituent parts

Matthew Symonds

The components that collectively make up Hadrian's Wall have received varying degrees of attention over the last decade. Excavation, survey, remote sensing, viewshed analysis, publication of archive material, and reassessment of existing data have all contributed to our understanding of the anatomy of the Wall.

Temporary camps

The camps are not generally viewed as a formal Wall component, in part because most cannot be securely assigned to this phase rather than earlier or later periods of activity. Even so, many camps are surely artefacts of the convoluted construction programme, later rebuilding work, or, conceivably, outbreaks of violence. As such, they are highly relevant to our conception of the Wall. Over the least decade, the tally of temporary camps has been boosted thanks to LiDAR survey with certain or possible 'new' examples at Shield-on-the-Wall (Fig. 4.30), Wall Fell farm, south of milecastle 47, Lanerton, and south-east of Bewcastle. More traditional forms of aerial survey also bore fruit, with a cropmark betraying the presence of a camp near Guards Mill, in the vicinity of Birrens. All of these feature in the 'Survey, Excavation, and Publication' chapter, with the particularly pertinent implications of Shield-on-the-Wall discussed on p.37 and 158.

Another important development is Jones' (2014, 178-179) publication of internal details, once again visible as cropmarks, from temporary camps at Moss Side in Cumbria. Pits within Moss Side 2 and what is either an attached annex or smaller camp, form a series of neat rows. These appear to line passageways within the camp, providing a sense of how the internal space was organised.

The curtain

A major contribution to knowledge of the curtain, and in particular its maintenance, is presented by the publication of a volume focusing on excavations directly west of Wallsend fort in Buddle Street (Bidwell 2018). Issuing the report in this format demonstrates just how far study of the Wall

curtain has come. Such meticulous recording and analyses are a far cry from the clearance and consolidation of stretches from the 1930s to 1970s, with surviving information from that era being largely thanks to the personal interest of Charles Anderson. The results of the Wallsend excavations are discussed in more detail on p.122, and easily demonstrate that the curtain repays this level of scrutiny. One significant discovery is that analysis of mortar used to repair the Wall curtain, and to build the Hadrianic fort bathhouse, reveals the lime did not come from the nearest source – at South Shields – but was probably brought from the central sector. If the army had not realised a more convenient local supply was available, it could help explain why the Hadrianic curtain was designed to use mortar sparingly, if at all (Laycock 2018, 216-218 and accompanying CD; Bidwell 2018, 38-39).

Two further aspects of the Buddle Street work command attention from connoisseurs of the curtain. Its original height is usually estimated to be *c.* 4.3m, as this is where the estimated outer wall height at milecastle 48 – calculated using the internal flight of stairs – and the platform capping the north gateway at milecastle 37 – calculated using the arch – intersect. Bidwell challenges this, noting that the milecastle 48 steps are consistent with the internal face of the rampart standing only 3.7m high. This, he believes, 'should correspond to that of the milecastle walls and presumably that of the Wall itself'. Where the arches of the milecastle gateways stood higher, they were 'secondary concerns, easily solved by inserting steps at the appropriate points' (Bidwell 2018, 157-158). The modern equivalent of the 12ft measurement reported by Bede as the Wall height in the 8th century is often given as 3.7m (including Symonds 2017a, 128), but allowing for the vagaries of the Anglo-Saxon foot produces a height of 3.4m (Bidwell 2018, 159). This leads us from the Broad Wall construction at milecastle 48 and the milecastle 37 north gateway, to the Narrow Wall that Bede was presumably observing near Wallsend. When reconstructing a stretch of Wall at Buddle Street (Fig. 3.9), a height of 3.55m to the wall-walk was ultimately chosen, which would give a height to width ratio of 12 to 8 *pedes monetales* (Bidwell 2018, 159). Although the reconstructed curtain was not devised as a piece of experimental archaeology, one element of the construction process is of interest. There has been discussion about when and how the scaffolding required to complete the curtain and manned posts would be employed (see p.52). At Wallsend, though, the reconstruction was achieved without the use of scaffolding, as platforms set on trestles were sufficient for the task (Bidwell 2018, 162-164). Could Roman curtain builders have come to a similar conclusion?

The last decade seems to have brought us closer to consensus concerning the previously polarising question of whether the curtain carried a wall-walk.

Figure 3.9: A reconstruction of the Wall curtain at Buddle Street, just west of Wallsend Roman fort. Source: TWAM.

Bidwell published a compelling case in favour of one in 2008, prompting Breeze (2014a, 124; see also 2018a, 13-15) to write 'Hadrian's Wall may have had a wall-walk in its primary phase. However, I [maintain] that such a feature was not necessary on a Roman frontier, a position which many will regard as trying to square a circle'. One reason for this stance is that a wall-walk was demonstrably absent from the Hadrianic frontier palisade in Upper Germany. The apparently sparse local settlement immediately beyond the barrier in Germany, though, is a far cry from the populous communities severed by Hadrian's Wall in Britain. This difference in context could potentially explain why a wall-walk was deemed desirable in Britain and unnecessary in Germany (Symonds 2015b, 305). That said, Stobbs (cited in Breeze 2018a, 15), has recently wondered whether the apparently more-flexible positioning of the turrets during the Narrow Wall phase (see p.53) means that a wall-walk was unnecessary.

Away from Buddle Street, there are numerous further traces of repair and/or reconstruction being carried out along the Wall during the Roman period. *RIB* 1389 has emerged as perhaps the most famous, thanks to an ingenious piece of detective work by Hodgson, who demonstrated that this inscription is likely to have come from the curtain and cannot be assigned to a fort. As it dates to AD 158, it surely attests to refurbishment of Hadrian's Wall in preparation for the abandonment of the Antonine Wall (Hodgson 2009a, 30; 2011a).

A distinctive set of building stones recording work by various British *civitates*, has also been under discussion. Sadly, these stones do not provide information that can be used to date them directly, but C.E. Stevens influentially associated them with repairs following the AD 367 "barbarian conspiracy" (Stevens 1941, 359). Mann subsequently advocated a date when southern and northern Britain were in the same provincial administration, i.e. in the 2nd or 4th century (Mann 1974). In the 1999 handbook (p.25), Bidwell preferred the idea that they belong to 3rd-century Severan work, while Fulford has since suggested that they should be assigned to original construction work or the rebuilding of the Turf Wall in stone (Fulford 2006, 70; see also Hassall 2010). Breeze (2012a) has also assessed the situation, and cast doubt on a Hadrianic date for reasons that include stylistic differences with accepted inscribed building stones of that era and the presence of *civitas* stones in areas that do not seem to have been rebuilt in masonry until after the return from the Antonine Wall. The observation that one inscription (*RIB* 1673) was cut into a reused altar is certainly consistent with them belonging to a later date. Beyond that, though, Breeze emphasises the difficulty of finding a period where they seem a natural fit. The issue has wider ramifications, not least because Bidwell (2018, 225) proposes that an apparently 3rd-century set of altars erected by legionary soldiers reflect their presence because 'they had building skills which were in short supply amongst the auxiliary units'. In addition, inscriptions on the quarry faces at Gelt confirm that Severan-period soldiers were involved in the extraction of masonry, presumably for repairs to the Wall (*RIB* 1009). What, then, are the implications for the presence of civilian work parties?

Regarding the maintenance demands of the Wall in general, Bidwell (2018, 219) observes that 'over its entire length, especially in areas with unstable subsoils, there must have been frequent minor collapses'. He also notes that only 0.5% of the curtain has been excavated to modern standards, which is 'unsatisfactory', but still in excess of the equivalents for the ditch, berm, and Vallum (Bidwell 2018, 229).

The ditch and berm obstacles

The berm obstacles and their relation to the ditch to the north of the Wall curtain remain a focus of research (Fig. 3.10).

Breeze (2014b) has discussed a small bank or mound tracing out the northern lip of the Wall ditch along certain stretches. Possible explanations include it acting as a marker to ensure construction teams dug to the correct dimensions, a revetment for the counterscarp bank, and a measure to increase the defensive potential of the ditch. As well as drawing attention to the complexity of the surviving vestiges of the Wall, it is appropriate to echo

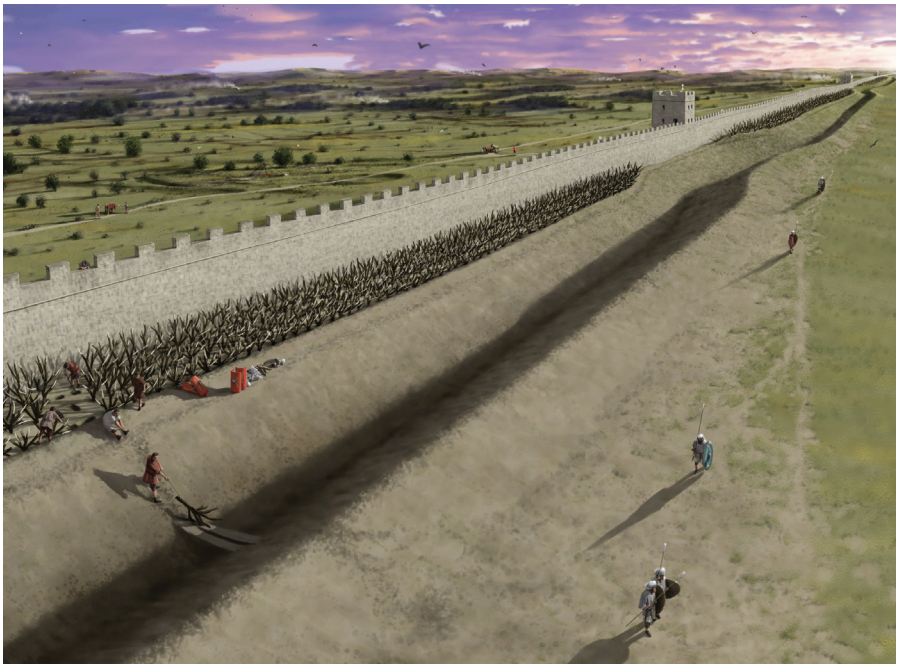


Figure 3.10: A digital reconstruction image of the berm obstacles, relative to the curtain and the ditch. Source: TWAM.

Breeze's observation that such a subtle feature 'emphasises the necessity for a proper, published survey of all elements of Hadrian's Wall'.

Another subtle feature associated with the ditch has been observed at a couple of sites towards the eastern end of the Wall: a narrow ledge, created by a small "step" near the southern edge of the ditch. One example was excavated at Buddle Street, and Bidwell has proposed that it served a similar purpose to small clay banks found in comparable positions, namely to prevent access to the lowest – and presumably least spiky – portion of the berm obstacles. When discussing the ditch profile in the easternmost three Wall miles, Bidwell also proposed that variable dimensions may relate to the potential utility of the substrata. In essence, where sandstone lay close to the surface the ditch was bigger, as the material won from the digging could be used in the Wall. By this reasoning, in areas of clay the ditch may be smaller, as the spoil was less in demand (Bidwell 2018, 45-46).

Publication of the Buddle Street work also permits close scrutiny of two different phases of obstacles arranged on the berm between the curtain and ditch (Fig. 3.11). These are of particular interest for the different styles of holes in evidence. The western set are the earliest, and most irregular, consisting

of individual postholes positioned with only haphazard attempts to create order. To the east lie later, larger, and more regularly set pits. Given that the eastern set commences exactly adjacent to where the western set terminates, it would be tempting to suppose that the pits are contemporary, despite the differences in approach. Nevertheless, the evidence that the western set existed before the berm was terraced, while the eastern set was installed afterwards is convincing. In terms of chronology, there are no grounds to believe that the first obstacles 'were not part of the original building plan for the Wall', while the second belong to the earlier 3rd century and protected the fort *vicus* (Bidwell 2018, 86).

The recent detection of berm obstacles at Heddon-on-the-Wall (see p.140) using magnetometry is of particular importance. It holds the promise of providing a ready means to answer the question of whether such features existed along the entire length of the Wall, or were concentrated in the east. Further surveys to capitalise on this potential in Wall miles 48 and 49 revealed possible and probable pits respectively (see p.186). If the presence of obstacles there can be confirmed, it will mark a highly significant addition to our knowledge of the Wall.

Figure 3.11: Two phases of pits for the placement of berm obstacles have been detected in excavation at Buddle Street, Wallsend. The more irregularly positioned postholes towards the top of the photograph seem to be an earlier phase relative to the more regularly placed pits lower in the photograph. Source: TWAM.

The milecastles

Your reviewer is perhaps a little biased when it comes to milecastles. Over the last decade it has been argued that these adapted fortlets should not be seen as purely fortified gateways, because milecastle 35 seemingly lacked a north gateway from the beginning, while the corresponding portal at milecastle 37 was apparently blocked before construction of the installation was complete (Haigh and Savage 1984, 36; Crow 1999, 127; Symonds 2013a, 54-57; 2018a, 153-155). Despite the absence of facilities permitting north – south transit through the Wall curtain, both milecastles appear to have been garrisoned in the usual fashion. Equally, while the milecastle gateways seem to have decreased in significance over time, with many reduced to posterns in the late 2nd or early 3rd century – at around the time that most Wall ditch causeways opposite milecastles were probably eliminated (Welfare 2000) – the general trend is apparently for the quantity of internal barrack accommodation to increase during this period. This suggests that milecastle garrisons had a utility that extended beyond securing and operating gateways through the Wall curtain. There is also growing acceptance that the milecastle gateways were primarily intended as a military convenience, rather than a means to regulate 'civilian' movement into and out of the province (Dobson 1986, 12; Welfare 2000, 13; Hodgson 2005, 186; Breeze 2011a, 65; Symonds 2013a, 68; Hanson 2014, 8-9). This conclusion is supported by Altogether Archaeology's recent geophysical surveys at six milecastles, which only showed potential – and undated – traces of a track or tracks north at one: milecastle 47 (see p.185). If movement by groups that did not form part of the military community was restricted to where the major highways crossed the Wall, it would have presented an appreciable barrier to north – south movement.

Keppie (2017) has critically appraised the notion that the presence of Hadrian's name in the genitive case on the monumental inscriptions found at some milecastles means that the Wall was consciously presented as the work of the emperor. Only one inscription – *RIB* 1638, from milecastle 38 – certainly features Hadrian's name in this style, and Keppie favours it being an experiment in word order, rather than a statement commemorating the emperor's personal involvement in the project. Bidwell (2013) has turned his attention to another monumental aspect of the milecastles: their gateways. He notes that at least two milecastle gateway types have portals that are taller than those known in the forts, but comparable to an example at the legionary fortress in Regensburg.

An analysis of fortlet use, which includes an assessment of Hadrian's Wall, has explored how the milecastles differ from their counterparts elsewhere (Symonds 2017a, 220-221). One feature of this exceptionalism concerns the

milecastle interiors, which are unusual for seemingly comprising large areas of empty space during the primary phase (Fig. 3.12). It should be stressed that in most cases our evidence relies upon early excavations, and milecastle 50 TW is the only post where the Hadrianic internal arrangement has been securely identified. Even so, it was proposed that if the known buildings really do reflect the initial internal arrangement, then the large paired barrack blocks in milecastles 47 and 48 could represent the original intention, while the single, small barrack blocks elsewhere may reflect the decreased significance of these posts following the fort decision (Symonds 2005, 78). Hodgson (2017a, 88) has challenged this, suggesting the distinction may be 'illusory', with milecastles containing single barracks also holding additional buildings that are hard to detect archaeologically. He states that this is 'certainly the case' at milecastle 9, even though the excavators only securely identified a single posthole (E. Birley 1930, 156), and in all cases the evidence remains ambiguous. While it is unquestionable that internal buildings similar in style to the southern range in milefortlet 21 on the Cumbrian coast would be hard to detect, the mode of construction utilised there is unusual and may be in part a response to building on sand.

Elsewhere in the Empire, the rule of thumb is that sufficiently well-preserved small fortlets contain traces of two or three clearly defined ranges of buildings, primarily comprising barrack accommodation (Symonds 2017a, 216-217). According to that model you would expect buildings constructed in a similar fabric and style either side of the internal milecastle roads, just as in 47 and 48. The prevalence of single, small barrack blocks in other milecastles – even if slighter buildings fulfilling a different role really did exist in some cases – is an anomaly suggestive of a change in plan, which can be readily explained by the addition of forts. Even so, given the increased interest in local context arguably apparent during the Narrow Wall construction phase, it would not be surprising if it transpires that some post-fort-decision milecastles also originally received paired barracks, where the circumstances justified it.

One illustration of the decreased status of some milecastles in the immediate aftermath of the fort decision may be provided by the Narrow Wall milecastle 40. There, a change in direction of the Wall curtain occurs within the installation at the junction with the north gateway. This strange arrangement is best explained as a means to improve lines of sight from the gate tower (also a feature of some Narrow Wall turrets, see below), suggesting that surveillance was considered an important facet of the milecastle's role (Symonds and Breeze 2016, 8). Such a reading dovetails with Hodgson's view that some milecastles 'may simply have been used by a small group of soldiers manning the tower and gate…' (Hodgson 2017a, 88), which fits with

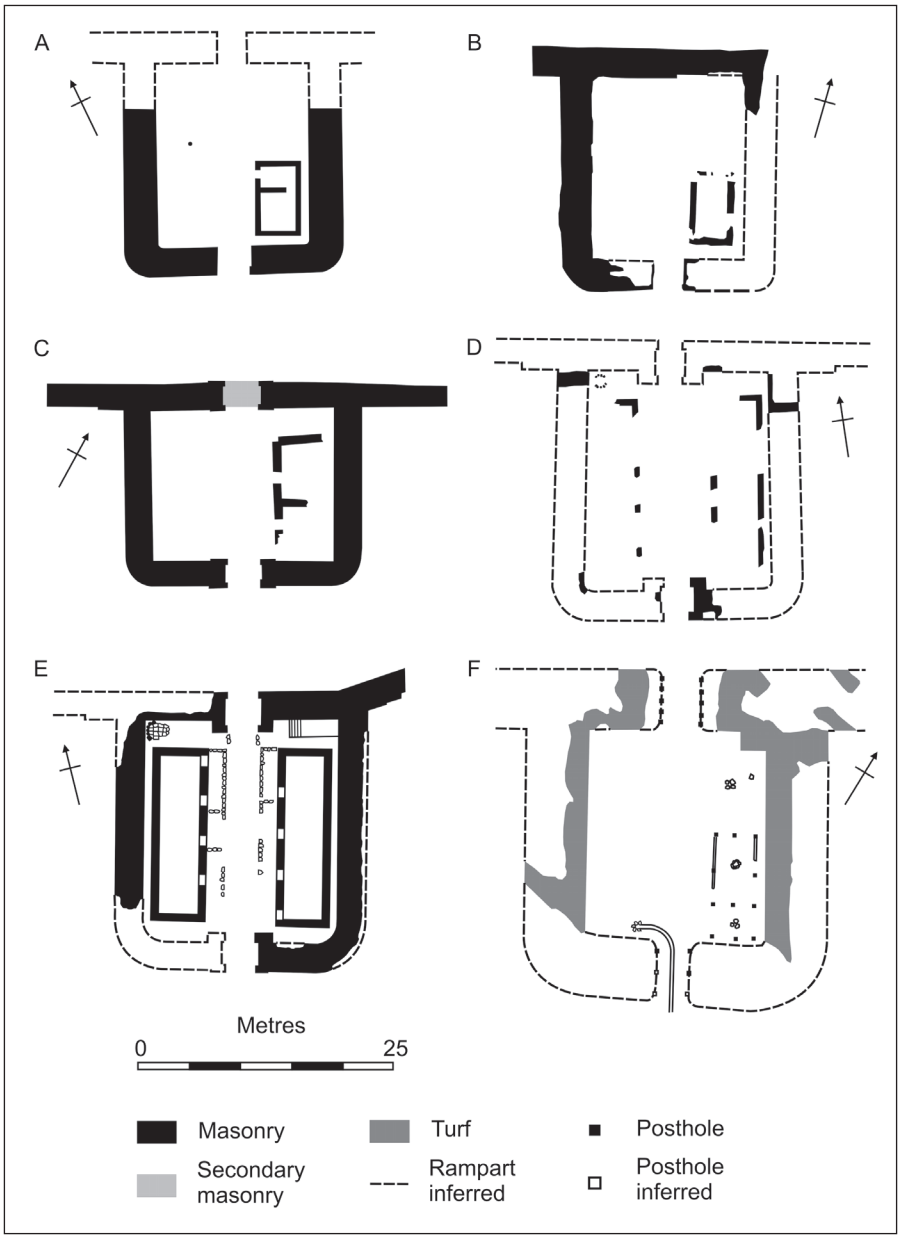


Figure 3.12: A composite image of six milecastles, showing proposed original internal layouts: (A) milecastle 9; (B) milecastle 35; (C) milecastle 37; (D) milecastle 47; (E) milecastle 48; (F) milecastle 50 TW. Source: Matthew Symonds.

a decrease in status. Elsewhere, though, the rebuilding of the turf milecastles directly west of the Irthing in stone to unprecedented internal dimensions suggests that these posts not only retained, but increased their importance following the fort decision. It is a fine illustration of the complexity obscured by the veneer of uniformity presented by the overarching frontier concept.

Following Breeze's (2002) compilation and analysis of inscriptions from milecastles, possible signs of varying forms of ritual activity in these posts have been discussed. An increase in the incidence of altars near the Tipalt – Irthing gap would fit with this being an area of particular concern (Symonds 2018b, 78-81). As many of these altars were dedicated to Cocidius, it could be countered that this was simply a product of the proximity of his probable shrine at Bewcastle. If so, though, one might expect concentrations of altars to, say, Coventina or Antenociticus in milecastles proximal to those cult centres; there is currently no sign of any such distribution. Bidwell (2018, 224-225) has suggested that most of these Cocidius altars were instead a product of rebuilding work on the Wall curtain, although Hodgson (2017a, 89) is content that they were originally associated with milecastles.

The huge holes driven into the south gateways at milecastles 51 and 52 (see Simpson and Richmond 1935, 252-256), may indicate that timbers were installed to keep the gateways serviceable during the late period (Symonds 2019). Replacing previously masonry features in this fashion is well known in forts (see Collins 2012, 85-86), but such hybridisation is less apparent in the milecastles. The choice of milecastles 51 and 52 once again draws attention to the vicinity of the Tipalt – Irthing gap.

The turrets

Foglia (2014, 34-37) assessed the conflicting evidence for the nature of turret roofs, concluding that either 'different legionary gangs may have favoured different types of roof', or new styles could have been retro-fitted to some earlier structures. He also notes that a 'happy medium' between stability and visibility will have varied according to the local terrain, making it possible that individual turret heights varied accordingly. On this basis, Foglia's general recommendation that 'each turret should ideally be regarded as a separate structure when using evidence to reconstruct elevations' is sound advice. For Foglia's important viewshed analysis, see p.40 and 64.

Graafstal (2012, 129-131) has subjected the contention by Hill and Dobson (1992, 40) that the majority of turrets (and milecastles) were started but not completed during the Broad Wall phase to detailed scrutiny. Hill and Dobson's argument is that 'it is frankly impractical to consider building *any* part of the Wall as an isolated structure to a height of more than about five feet without exceptionally good reasons; the unnecessary haulage of scaffolding

from site to site is alone sufficient to rule it out'. Essentially, the turrets would be started in order to mark their position, but would not be carried above the height that could be constructed from ground level. It was only when the requisite scaffolding arrived, that the curtain, turrets, and milecastles forming any given block would be completed together. Graafstal queries this arrangement by appealing to a range of evidence. This includes the length of most turret wing walls implying an intention to build to a greater height than 5ft (1.5m), and the Narrow Wall detouring to embrace the Broad Wall turret 43a suggesting that it was well advanced or complete. Cumulatively, this leaves the strong impression that many turrets were built in advance of the curtain, something Graafstal (2012, 131) notes 'may point to a desire to have the observation screen up and running as soon as possible'.

The distinctive forms and placement of turrets 44b and 45b have been interpreted as a consequence of greater flexibility concerning both installation design and engagement with the landscape being permitted later in the construction phase, following the reduction to the Narrow Wall. One feature of this rethink appears to be a greater interest in placing turrets at changes in direction of the Wall curtain, thereby improving surveillance along it (Symonds and Breeze 2016, 7-11). It is possible that this overhaul was sufficiently wide-ranging to extend to matters as esoteric as door fixtures, with greater use of hinges instead of pivots perhaps being made. If so, additional alterations to the upper elements of these turrets would not be surprising.

The large quantity of nails unearthed in the uppermost surviving layer at turret 44b in 1892 may indicate that the replacement of previously masonry elements with organic materials underway in forts during the late period also occurred at select turrets (Gibson 1903, 15; Symonds 2013b, 307).

The Cumbrian coast

By far the most significant work on this sector has been the excavations at Maryport, the geophysical survey at Beckfoot, and the publication of the Beckfoot cemetery evaluation. These are outlined on p.205 and 201-204, respectively. Although a wealth of valuable new data have come from these projects, it is appropriate to single out the demonstration that the Maryport altars were not interred in ritual pits, as this has disproven what was previously one of the most famous examples of cult activity in the frontier zone. The realisation that the altars had been relegated to mere packing for the substantial timber posts of a massive structure or structures has now concentrated attention on what this edifice was.

The smaller structures set along the Cumbrian coast have received less attention, although it has been proposed that they were less rigidly spaced

than is sometimes stated. The identification of milefortlet 5 has also been queried, raising the possibility that the course of the cordon along the western edge of the Cardurnock peninsula remains unknown (Symonds 2017b).

The Vallum

Breeze (2015b) provides an assessment of excavation and interpretation of the Vallum (Fig. 3.13). He describes it as 'assuredly the most difficult element of Hadrian's Wall to understand', a statement echoed by Humphrey Welfare's summation following a session on the Vallum at a Hadrian's Wall conference in 2016: 'if you are totally confused by the Vallum, then you are on the right track' (cited in Selkirk 2016, 63). Hodgson (2017a, 173) agrees, stating 'ultimately the function of the Vallum remains unknowable'. The explanation for this state of affairs primarily concerns the absence of parallels for this enigmatic earthwork on other Roman frontiers. A potentially important breakthrough, though, followed excavations of a possible Caesarian beachhead at Ebbsfleet, Kent. After seeing a report in *Current Archaeology* magazine (Fitzpatrick 2018), John Poulter (pers. comm.) circulated his observations about similarities between the 5m wide, flat-bottomed ditch unearthed at Ebbsfleet and the Vallum. This possible Caesarian ditch was described as 'similar in size and shape to the Roman siege works at Alésia' and 'it would have been a defence that, as at Alésia, was used to protect a large area' (Fitzpatrick 2018, 30-32).

Figure 3.13: The Vallum at Down Hill, east of Halton Chesters, captured in profile as it crests a rise. Source: Rob Collins.

Demonstrating that comparable – if not identical – earthworks were a feature of some other long Roman fortifications illustrates that the Vallum could have served a useful defensive purpose. This potentially strengthens the argument advanced by Woolliscroft (1999, 61) that it acted as a means to block access by hostile groups on horseback. McCluskey (2018, 162) has also reinvigorated the notion that the Vallum created a secure corridor for military activity with the observation that it allowed the military to 'manoeuvre east and west at greater speed than that possible had troops been required to provide their own flank protection'. One other alternative, proposed by Bennett (1998, 33-34), is that the Vallum was used as a temporary measure to secure the Wall line as the construction process dragged on.

Breeze's analysis of the Vallum emphasises the heightened control over north-south movement it delivered. He also stresses the lack of uniformity in its various elements and singled out the marginal mounds that sometimes lie between the ditch and the more substantial mounds running to its north and south as 'perhaps the greatest problems' (Breeze 2015b, 17). The apparently inconsistent nature of the relationship between the marginal mounds and their substrata complicates interpretation of them, with Wilmott (2009, 135-136) favouring them being contemporary with the south Vallum mound. Breeze demurs, preferring the view that the marginal mounds are a product of the Vallum being reinstated following evacuation of the Antonine Wall. This scepticism is shared by Hodgson (2017a, 102) who emphatically states that 'the marginal mound is structurally later than the Antonine slighting of the Vallum – it is *never* cut by the crossings in the way that the north and south mounds are'. A sobering feature of Breeze's paper is the observation that elements of this remarkable earthwork have been severely degraded over the last century, prompting him to call for a new survey 'before other elements disappear' (Breeze 2015b, 25-26).

Welfare's (2013) important observations concerning the Vallum at Shield-on-the-Wall, and its place in both the conceptual and construction framework are discussed further on p.37 and 158. Graafstal (2012, 154) links the Vallum with the fort decision and favours it being constructed piecemeal, with it usually forming one of the later elements to be inserted, as it 'would cut off all supply and communication from the south'. Poulter (2009, 76) offers the tantalising suggestion that part of its course was surveyed from turret 49a, indicating both that this structure was completed to its full height, and that the laying-out process occurred before the turret was demolished to make way for a fort at Birdoswald.

The past decade has also brought Heywood's 1950 excavation of the Vallum causeway at Great Chesters to publication (Heywood and Breeze 2010). This crossing is still used by the modern farm track, and excavation revealed that

the undisturbed boulder clay creating the causeway is an original feature. No trace of a monumental gateway comparable to that at Benwell was detected, but like its counterpart the Great Chesters causeway featured a masonry revetment wall. The adjacent portion of ditch seems to have gradually silted up over 'a considerable length of time'.

More recently, a near-complete section through the Vallum was secured in Wall mile 67. This is now nearing publication, but a summary of the findings can be found on p.197.

The forts and extramural settlements

Rob Collins

The forts of Hadrian's Wall remain its most frequently investigated and most thoroughly understood element. In the past decade, a number of excavations have been published in full, drastically adding further quantitative and qualitative information about the construction, occupation, and abandonments of the forts and their populations. The publications include, from east to west: Wallsend (Rushworth and Croom 2016); Halton Chesters (Dore 2009); Housesteads (Rushworth 2009); Vindolanda (A. Birley 2013b); Birdoswald (Wilmott *et al.* 2009); Carlisle (Zant 2009; Howard-Davis 2009) and Bowness-on-Solway (Austen 2009). Site-specific summaries for these sites can be found in Chapter 4. To these can be added excavation reports from forts south of Hadrian's Wall, such as Bowes (Frere and Fitts 2009), Bainbridge (Bidwell 2012) and Binchester (Ferris 2010). The outpost forts at Risingham and Bewcastle have been subjected to geophysical survey (Biggins *et al.* 2014; Taylor and Biggins 2012).

While the increased refinement of dating at each site is to be applauded, the most significant contributions of these publications has been to enhance our understanding of building forms and the way of life of their inhabitants. There is a clear template that the Roman army adhered to when building a fort in the later 1st or 2nd centuries, but the internal arrangements varied in detail. The *principia* at Wallsend, for example, had a forehall extending across the *via principalis*, while excavations at Birdoswald have revealed the presence of a roofed drill-hall in the *praetentura* across the *via principalis* from the granaries, and a temple to Jupiter-Dolichenus was constructed inside the north rampart of the 3rd-century stone fort at Vindolanda.

Variation in the form of construction in specific buildings can also be seen, even where these still broadly conform to a recognisable template. Multiple phases of barracks from excavations at Wallsend, Housesteads, and Vindolanda, provide further examples to build on previous work by Hodgson and Bidwell (2004), further testing their observations in regard to dating the

change to chalet-style barracks and the potential reduction in the size of the century. Granaries, for example, have varied subfloor structures – on *pilae*, dwarf walls, or even compacted earth – in addition to different dimensions or plans that may or may not include buttresses or a loading porch (Collins 2015a). In this regard, forts provide the best evidence for understanding the architecture that could be found in the frontier. Significantly, the refurbishment of buildings, and their outright demolition and replacement is also a recurring feature spanning the 2nd to 4th centuries at all the fort sites.

The location of forts has been the focus of a recent review by Breeze (2017a), in which he has assessed the location of each fort, relative to its position in the spacing system of the Wall, to facilitate deployment north of the Wall, and the unit in residence.The *de facto* assumption, as Breeze points out, is that the auxiliary units on the Wall were intended to have a defensive function, and that the forts were located to better secure potential weak points. However, the addition of further forts after the initial Hadrianic addition to the monument underscores that a defensive role alone is not suitable. Cavalry units along the Wall are located at key points to support deployment and patrol to the north, as Breeze has observed.

The last decade has brought significant new work on the fort extramural settlements, or *vici*, at numerous sites, and discussion of new – or newly published – evidence will be found in the next chapter for South Shields (p.109), Wallsend (p.115), Benwell (p.131), Vindolanda (p.164), Bowness-on-Solway (p.200), Beckfoot (p.201), and Maryport (p.205). Of these, ongoing work at Benwell is especially notable for demonstrating activity to the north of the fort, and therefore the Wall, where a pre-existing indigenous settlement was situated. The nature of life in the *vici*, and what happened to the inhabitants following the abandonment of these settlements is discussed below (p.66). For work in the cemeteries at Birdoswald and Beckfoot, see p.186 and 204.

Outposts and hinterlands

Rob Collins

Sites investigated to the north and south of Hadrian's Wall further contribute to our understanding of the monument, underscoring the connections between the Wall and the frontier at large. The geophysical surveys at Risingham and Bewcastle are summarised in Chapter 4 (see p.214 and 213, respectively). Recent publication of excavations at Bainbridge (Bidwell 2012) have revealed important evidence about metalwork production, but there is an important on-going body of work that has been undertaken in the past decade, some of which is still in progress. Geophysical survey and limited

excavations have been undertaken at Lanchester focusing on extramural areas and the aqueduct that fed the fort (ASDU 2009). Excavations undertaken at Binchester in the 1970s and 1980s have been published (Ferris 2010), and new excavations were undertaken by Durham University in partnership with Durham County Council from 2009-2015 (Fig. 3.14). Both campaigns have yielded important results, though post-excavation analysis is still being completed for the more recent work. Similarly, the final season of excavations in the current campaign at Ribchester occurred this year. Excavation of various locations of a substantial villa estate at Ingleby Barwick have provided the most recent evidence for establishment and expansion of non-military elite settlement in the frontier zone, with artefacts revealing the elite status of the owner, such as imported painted Egyptian glass and a type 6 crossbow brooch (Willis and Carne 2013). The ambitious programme of archaeology completed in advance of the expansion of the A1 in Yorkshire and Co Durham is in a post-excavation phase (Fell, in prep; Ross and Ross, in prep.). While results are not finalised at all sites, this large-scale

Figure 3.14: The extramural baths at Binchester were preserved due to the raising of the exterior ground level of Dere Street relative to the interior spaces, which were filled with rubbish in the 4th century, allowing the walls to survive to a height in excess of 2m. Source: ASDU.

developer-funded project has prompted the excavation of rural settlements, villas, and more of the town at Catterick. It is anticipated that these sites will further reveal information relating to Roman military supply.

The Portable Antiquities Scheme (PAS) has continued to contribute further data in the form of objects found by members of the public (Collins 2010b; 2014a). Not only does this dataset provide a comparison for the artefact assemblages recovered archaeologically, but fantastic discoveries are made. The last Pilgrimage saw the reporting of the Staffordshire Moorlands or Ilam pan, which may provide a contemporary Roman name for Hadrian's Wall. In the past decade, perhaps the most exciting discovery from the frontier zone is the Crosby Garrett helmet – a decorated cavalry helmet with mask that was discovered in hundreds of fragments and carefully restored prior to its sale at auction (Fig. 3.15). Pilgrims in 2009 were able to view the helmet at Tullie House. Subsequently, the findspot has been archaeologically investigated, and it can be confirmed that the helmet was placed in a pit (Healey 2018).

Figure 3.15: The masked cavalry helmet found at Crosby Garrett by a metal detectorist in many fragments, as restored by Christies. Source: PAS.

To the north of Hadrian's Wall, PAS data has contributed to the discovery of a new type of site in the Wall corridor. Substantial scatters of artefacts around the village of Great Whittington, just east of Dere Street and to the northeast of Halton Chesters, may reveal a potential caravan or market exchange site immediately north of the Wall (see p.145). With this in mind, it is intriguing to note the proximity of Great Whittington and the site where the later Stagshawbank Fair was held.

The Antonine interlude

Matthew Symonds

The nature of the debt that the design of the Antonine Wall owes to its Hadrianic precursor has been a source of vigorous debate over the last decade. Poulter's analysis of how it was surveyed threw up challenging implications for established readings of the monument, and was initially met with considerable scepticism. Doubts about the accepted interpretation were also expressed elsewhere, ultimately feeding into a collaborative paper calling into doubt the literal foundations supporting the model – known as the 'Gillam hypothesis' – for the development of the frontier (Gillam 1976; Poulter 2009, 121-123; Symonds 2008, 128-156; Graafstal *et al.* 2015; Symonds 2017a, 133-151). Gillam's argument holds that the initial plan for the Antonine Wall borrowed liberally from the post-fort-decision version of Hadrian's Wall. By this reading, the 41-Roman-mile long frontier would consist of milefortlets at intervals of *c.* 1.1 Roman miles, interspersed with six forts and a cordon of towers. A set of smaller secondary forts was then appended following a change of plan. There is not scope to recap the arguments for or against the Gillam hypothesis in the depth or detail that they deserve here. To summarise, evidence for Gillam's interpretation primarily took the form of the stone foundation rafts that supported the turf superstructure for the fortlets and most forts. All of the fortlet foundation rafts proved to either predate or bond with the base of the Wall curtain base. Some forts, though, had rampart foundation rafts that butted against that of the Wall curtain, encouraging the view that a number of these installations were secondary rather than primary in intent.

Poulter's assessment of the surveying raised doubts about whether the secondary forts really were planned at a later date. He also questioned whether the Antonine Wall fortlets were originally positioned at mile (or so) intervals (Poulter 2009, 121-123). Legitimate questions can be asked about whether the presence of a stone installation raft butting up against the foundations for the Wall curtain is a secure means of determining secondary construction. Fundamental to this are two cases – the east rampart at Rough Castle and Bonnyside East – where the stone foundations abut the curtain, but the turf superstructure appears to be bonded into it (Graafstal *et al.* 2015, 56-57). Some fortlet foundations also appear to be reworked at the point of junction with the curtain to allow them to bond, creating the illusion that they were laid simultaneously (Symonds 2008, 138-139). Such lines of thinking are rejected by supporters of the Gillam hypothesis, who argue that some inconsistencies are only to be expected in a complex building project. Fresh evidence is required to resolve the matter one way or the other, but moving

away from the Gillam hypothesis would arguably show the Antonine Wall developing two important changes in approach seemingly initiated during the later phases of constructing Hadrian's Wall:

- Placing fortlets (and any towers) more thoughtfully in the landscape and at less rigid intervals would fit with the heightened flexibility for milecastles and turrets arguably apparent during the Narrow Wall phase on Hadrian's Wall.
- The extensive use of smaller forts on the Antonine Wall was potentially signposted by the provision of a small fort at Drumburgh on Hadrian's Wall. If the size of this post has been accurately established, it may be another example of an innovation that occurred late in the construction phase.

Examining the predominantly Narrow Wall stretch of Hadrian's Wall between Great Chesters and Carvoran does produce a number of themes that reach fruition on the Antonine Wall: smaller, closer forts; more sensibly positioned smaller installations; a sinuous curtain following the grain of the landscape. From that benchmark, it is only a short step to seeing the Antonine Wall as a frontier that was formulated from the accrued experience of building and operating Hadrian's Wall, coupled with innovations tailored to the strengths and weaknesses presented by the local populations and terrain unique to the Forth – Clyde isthmus (Symonds 2017a, 135-136). It certainly seems to be the case that some of the supposedly jarring differences between the Antonine Wall and Hadrian's Wall, which first prompted Gillam's theory, simply take developments that emerged later in the Hadrian's Wall construction programme to their logical conclusion.

Concerning life on Hadrian's Wall during this period, Allason-Jones has noted that the south *vicus* at Housesteads may not have been entirely abandoned, perhaps because 'there was a feeling that the move north was likely to be a temporary measure' (Allason-Jones 2013a, 83). This might fit with the apparent absence of ritual deposits comparable to those arguably undertaken in some forts on the Antonine Wall when they were abandoned. Although the milecastle gateways appear to have been removed, the failure to decommission Hadrian's Wall ritually when the soldiers advanced north might just reinforce this sense that the military suspected they would be back (Symonds 2018b, 75). As for the Wall forts themselves, it has been suggested that some 'may have been manned and maintained on a care-and-maintenance basis' (Bidwell and Hodgson 2009, 17).

If the military policy was to keep its options open, this approach was vindicated. Hodgson's demonstration that reconstruction work was underway on Hadrian's Wall by AD 158 reveals that the army did not even tactfully wait for the death of Antoninus Pius in AD 161 before making

preparations to abandon his Wall (Hodgson 2011a). Indeed, Sommer has linked this development and the broadly contemporary construction of an artificial frontier line in Raetia with the growing influence of Marcus Aurelius (Sommer 2015, 29). If so, it is a fine illustration of how much could depend on the whims of individual emperors and their inner circle. A variation on this theme is the suggestion that the retirement of Pius' long-serving praetorian prefect Marcus Gavius Maximus prompted a review of imperial commitments, leading to the abandonment of the Antonine Wall (A.R. Birley 1993, 112-114). One further consideration that may have been a factor is the turf fabric of the Antonine Wall. The eastern end of the Turf Wall on Hadrian's Wall was rebuilt in stone before Hadrian's death in 138, suggesting that it stood for around 16 years. By 158, some turf elements of the Antonine Wall were probably also about 16 years old, presumably putting the question of rebuilding in turf or stone on the agenda. If so, it would have helped focus military – and imperial – minds on whether it was worth committing to the Antonine Wall for the long-term.

The post-Antonine return

The period following the return from the Antonine Wall has been described as the 'richest in archaeological information' (Hodgson 2017a, 101). Despite the wealth of evidence, this phase of the Wall's existence rarely attracts the intricate arguments associated with attempts to untangle developments during the Hadrianic period. This is perhaps in part because a rudimentary sense of the wider military situation can be gleaned from the surviving ancient histories. The *Historia Augusta* records that 'war was threatening in Britain' early in Marcus Aurelius' reign and that 'against the Britons, Calpurnius Agricola was sent' (*Marcus Antoninus* 8, 7-8). We also meet Calpurnius Agricola on inscriptions from the Wall and its hinterland, emphasising that he was intimately involved in refurbishing the frontier system. Another historical episode that may have left archaeological traces comes from the reign of Commodus, when 'the tribes in the island crossed the Wall that separated them from the Roman legions, did a great deal of damage, and cut down a general and his troops….' (Dio Cassius 72,8,1-6). In the last handbook, Hodgson (2009a, 32) tentatively linked this disaster with apparent destruction deposits at Halton Chesters and Corbridge, an idea that was proposed previously by John Gillam. This suggestion has been favourably, if cautiously, received by others (e.g. Hoffmann 2013, 159; Goldsworthy 2018, 69), and if accurate indicates that the Wall was probably crossed in the vicinity of its intersection with Dere Street.

An incursion along Dere Street would fit with Hodgson's view that the principal enemy to the north shifted during this period. He interprets the near

total abandonment of the milefortlets and towers along the Cumbrian coast following the return from the Antonine Wall as symptomatic of the threat being posed by groups living directly north of the Solway lessening. The doubt recently expressed about whether the structure conventionally referred to as milefortlet 5 really was a milefortlet (Symonds 2017b, 208-209), potentially leaves milefortlet 1 as the only example of a smaller structure along the coast to have produced compelling evidence of post-Antonine occupation (see Turnbull 1998, 105). If the obsolescence of the coastal cordon can indeed be attributed to the risk posed by those inhabiting the further shore being neutralised, it would mark the resolution to a problem that seems to have complicated securing the region for decades. Hodgson attributes this significant reversal of fortune to the possibility that Calpurnius Agricola campaigned in south-west Scotland. In the aftermath, south-east Scotland emerges as the new trouble spot, with the forts extending north along Dere Street as far as Newstead allowing 'a projection of military strength from the eastern side of the Wall' (Hodgson 2017a, 102-104).

Despite the mobility implied by a highway system best explained as a measure to allow concentrated military force to strike far to the north, this period is also seen as a turning point when the distribution of units along Hadrian's Wall began to fossilise: many units moved into the forts that they would continue to occupy for centuries. This process is often believed to start in earnest in the 170s and 80s (Breeze and Dobson 2000, 135, 146-8), though there are signs that certain units commenced what would prove to be a long residence some decades earlier. In the southern hinterland, for instance, the *cohors I Aelia classica* may have been at Ravenglass by AD 158 and still in residence in the 4th century (Holder 2004, 56-59). Hodgson (2017a, 102) accepts that the *cohors I Tungrorum* could have occupied Housesteads from the 150s/60s. When Rushworth (2009, 283) assessed the evidence for its presence at Housesteads, he noted that while this unit's movements in the 2nd century are far from 'clear and unambiguous', a case can be made for it forming the primary fort garrison. Other contenders for the Hadrianic home base of the *cohors I Tungrorum* include Birdoswald and Vindolanda. Even so, Allason-Jones' (2013a, 83) contention that the south *vicus* at Housesteads may have remained occupied in anticipation that the reoccupation of southern Scotland would prove temporary (see p.61), could reflect an expectation that the original unit – whatever it was – would return. Elsewhere, Breeze (2019a, 102-106) argues for late-2nd-century unit changes being a consequence of a review conducted following the 180 invasion. He points out that by the early 3rd century, if not earlier, this reconfiguration resulted in three cavalry units based on the road north in the west, and two more on roads in the east. While this fits with Hodgson's concept of a military

strike force in the east, the measures in the west suggest that this region had not been entirely tamed.

It is not just in the Wall forts that the foundations for the future were being laid. The late 2nd or early 3rd century brought changes to the surveillance capabilities of the milecastle and turret cordon, as well as the ability of the former to act as gateways through the Wall. It has long been appreciated that many milecastle gateways were narrowed or even blocked during this period, while Welfare (2000) has argued that most ditch causeways opposite their north portals were eliminated at this time. If, as is now widely accepted, the milecastle gateways were intended as a military convenience, this would not constitute a material change in the access arrangements for the local population. Indeed, it is possible that this development is ultimately a product of changes that occurred while the army was operating the Antonine Wall. There, too, there are signs that fortlet gateways were narrowed and causeways opposite them removed during the lifespan of the frontier. Equally, while many milecastle gate pivot stones dating to the Hadrianic period appear well worn, those traditionally dated to the post-Antonine Wall refurbishment seem to have received less use. A tentative conclusion, then, is that the Hadrianic model for operating the monument made more use of the milecastle gateways than the refined technique developed on the Antonine Wall. By this reading, the changes to the milecastle gateways in the late 2nd or early 3rd century simply reflect their reduced role following the return from the Antonine Wall (Symonds 2013a, 63-64; Symonds 2018a).

Foglia's viewshed analysis provides a new insight into the consequences of the marked reduction in the overall number of turrets during this period. This cull was clearly targeted rather than random, with some stretches of the Wall more severely effected than others. Famously, the central sector was the hardest hit, with no turrets known to survive between turrets 33b and 44a inclusive (Breeze and Dobson 2000, 136). Such an extreme reduction would seem likely to have held significant implications for the way the Wall operated, but Foglia has stressed that the overall reduction in surveillance coverage was not as marked as might be expected. Even though most stretches of the Wall retained at least some turrets, Foglia tested the view provided by the milecastles alone, and found that in four out of five test groups adding the turrets only increased visibility by 20% or less; in one case it was just 9%. The exception was his test group 3, between milecastles 37 and 40, where the increase was 34.5%. Perplexingly, this is also within the area of the central sector where all turrets appear to have been demolished. In general, though, and somewhat surprisingly, 'having turrets did not improve the observable area to the north by much' (Foglia 2014, 44). It is an observation that makes the elimination of the turrets far more explicable.

The problem of the 3rd century

Traditionally, the 3rd century is regarded as a period of uneventful peace on the northern frontier. Recently, though, this perception has come under increasing doubt. In 2008, Hodgson noted signs that some military *vici* received defences, while the presence of legionary detachments from Germany at Piercebridge in 217, was also hard to square with 'the idea of the 3rd-century frontier being a quiet backwater'. Inscriptions by incoming Germanic soldiers at various locations along the Wall, in conjunction with the occurrence of Housesteads ware at a number of sites further indicates troop movements into the frontier. Subsequently, a valuable survey by Roach (2013) has looked at the matter in more detail, memorably referring to the period as 'the lost century'. He agrees with Hodgson's diagnosis, observing that there is evidence for three rebellions and one conflict involving Britain in the mid to later 3rd century. Roach also provides a useful summary of the varying processes playing out in this period, including the emergence of the so-called "chalet" barracks, the collapse of the epigraphic habit (Fig. 3.16), the general shift to regional rather than long-distance pottery supply, and evidence for the abandonment of fort extramural settlements soon after AD 273. The subsequent publication of an important pottery assemblage from South Shields now dates the abandonment of that extramural settlement to the 260s (Snape *et al.* 2010). For another notable 3rd-century development – the sizable bathhouse at Stanwix – see p.192.

Regarding wider Roman frontier strategy, Breeze (2019a, 105) has argued that the changes from the late 2nd to early 3rd century represent 'a down-grading of the Wall itself'. By this reading, the forces assembled in the wider hinterland, to both the north and the south of the barrier, had assumed a

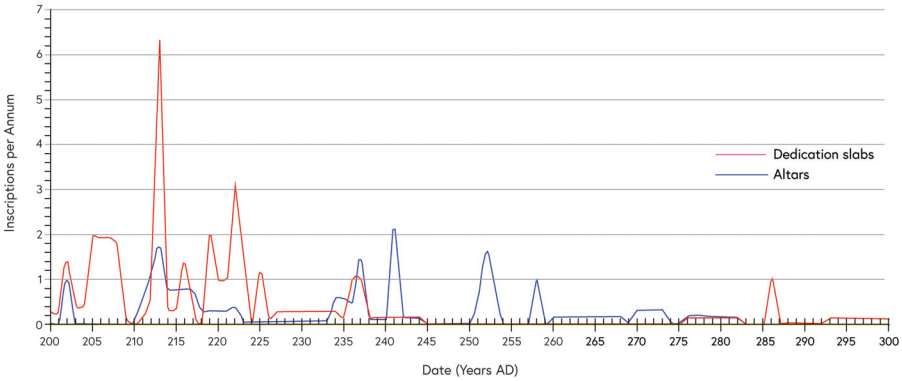


Figure 3.16: Epigraphy from Hadrian's Wall during the 3rd century has peaks of activity, for example in the later Severan period, but declines in the mid-later 3rd century. Source: Lucien Roach.

greater significance. While the military bases to the rear of the Wall provided a mobile strike force, the garrisons holding the advance forts to its north included a screen of scouts to keep a watchful eye on activity. The physical presence of military units was not the only means by which Rome meddled in the affairs of those beyond the border, though. Breeze (2019a, 104) notes the Empire 'deposed kings and appointed new ones at will' in such zones. An important element of this coercion was the use of subsidies or bribes, and Hunter (2015) has discussed the suggestive distribution of denarius hoards in Scotland and the potential disruption they caused in the 3rd century.

Along the Wall itself, valuable contributions to understanding life in the extramural settlements at Housesteads and Vindolanda have come from Allason-Jones (2013a) and A. Birley (2013a), respectively. The situation at Housesteads is of especial interest, as two *vici* exist there. One lies to the south of the Vallum, while the other lies to the north, embracing the fort itself. The southern *vicus* appears to have been abandoned in the late 2nd and early 3rd century, with the northern one serving as the successor settlement. This switch was once thought to be a consequence of the – hypothetical and now discredited – barbarian invasion of 197, which was evocatively described as a 'flood of destruction which swept over northern Britain' (Collingwood and Myres 1936, 156). Allason-Jones (2013a, 72-73), though, observes that the root cause might be flooding of another kind, with increased rainfall following a drop in average temperature of *c.* 1°C, around the mid 2nd century AD. The rising water table could easily have made an elevated location more appealing.

Of the buildings in the northern *vicus* at Housesteads, the so-called "murder house" is arguably the most famous. This is known more prosaically in the archaeological literature as building VIII, which opened onto the road leading to the south fort gate and contained two bodies concealed in a shallow grave. One had received a stab wound to the chest, showing that life in the settlement could be 'sordid and dangerous' (Allason-Jones 2009c, 149). Allason-Jones (2013a, 75) deduces that despite the passage of almost two millennia, the solution to this cold case is entirely elementary: 'only the owner of the building could have deliberately raised the tavern floor by several feet to conceal the crime'. Criminality of another kind is demonstrated by the recovery of two moulds for producing counterfeit coins, while a further possible tavern produced dice that may not have fallen true (Allason-Jones 2013a, 73, 79). All told, the evidence points to a settlement where varying degrees of lawlessness were only to be expected. It would be a mistake to view the inhabitants as homogeneous, though, as Allason-Jones believes that there is evidence for the families of members of the *cunei Frisiorum*, *Germ(ani) cives Tuihanti*, and *numerus Hnaudifridi* living in a

specific area and in effect setting up "ex-pat compounds". She is unconvinced that families lived with the soldiers inside the fort during this period, and has raised the possibility that another part of the hillside was occupied after the investigated *vicus* was abandoned in the 270s (Allason-Jones 2013a, 82-83).

At Vindolanda, A. Birley (2013a) has examined patterns of artefact loss in the extramural settlement and the adjacent fort during both the 3rd and 4th centuries, in order to establish the degree to which the fort rampart acted as a great divide. He focuses on loom weights and spindle whorls, weapons, military kit, beads, bracelets, and hairpins, to build up a fascinating picture of changes in deposition over time (see Fig. 4.36). Of the 248 beads from 3rd-century contexts, for example, only 13 were found within the fort. A similar picture is produced by the hairpins, which can perhaps be most securely associated with the presence of females. In this case, 76 intact hairpins can be associated with 3rd-century activity, but only 9 occurred intramurally. In essence, this supports Allason-Jones' view that families were living in the 3rd-century *vicus* at Housesteads: 'although women were present inside the 3rd-century fort, their numbers were far fewer than in the extramural settlement' (A. Birley 2013a, 101). This 3rd-century pattern is in contrast to 4th-century life at Vindolanda. The distribution differences are so stark that Birley concludes that if they are not a product of fashion or deposition practices shifting, then 'demographic changes took place between the 3rd and 4th century (A. Birley 2013a, 101).

The overall conclusion that females were present in modest numbers within the 3rd-century fort at Vindolanda seemingly chimes with studies pointing to the presence of women and children in 1st- and 2nd-century military installations elsewhere in the Empire (Allison 2013, 327). Hodgson has queried this, though, using finds assemblages from various forts on Hadrian's Wall to argue that there is 'no support for the routine accommodation of women in barrack *contubernia* or in centurion/decurions' houses in the 2nd century'. He contends that women could be resident in centurions' and decurions' quarters from the 3rd century, while women and children might have been living elsewhere in the barracks during the late 4th century, but not earlier (Hodgson 2014a, 24-25). If so, though, it raises the question of where the women and children associated with ordinary soldiers were living for the century or so between the late-3rd-century disappearance of the extramural settlements and the belated late-4th-century tolerance for them setting up home in barracks.

The 2009 Pilgrims were treated to a further example of the fort rampart at Vindolanda proving porous in an unexpected way. A temple to Jupiter Dolichenus was found against the north curtain, presenting a second intramural shrine in addition to the *principia aedes*, which is often considered

the only dedicated ritual space typically encountered within a fort. As the far end of the pair of barracks running south of the temple terminated with a gate structure, creating something of a compound, this arrangement may tell us something interesting about how elements of different units could be brigaded within the same fort during this period (for further details about 3rd-century Vindolanda see p.169).

The late and post-Roman frontier

Rob Collins

The 'long 4th century'

The 3rd century was a period of significant change across the Roman Empire, and Hadrian's Wall was no exception. A number of more general works provide more detailed history of this period (Christie 2011; Esmond Cleary 2013; Heather 2005), but there are a number of fundamental changes that are implemented by the start of the 4th century that mean the late Roman period must be seen as something quite different, if directly descended, from the Empire of the 1st and 2nd centuries. The changes were formalised by Diocletian following his accession in 284 and subsequent emperors, notably Constantine, further refined and continued these reforms. By the 4th century, the Empire had been administratively divided into an eastern and western half; the army had been separated from the civil service, such that they were separate career paths and professional services that were supported by distinct branches of imperial government; the army was also split between the *comitatenses* consisting of field armies and the *limitanei* that consisted of fixed frontier commands. In this regard, it is often useful to consider the period from the accession of Diocletian in 284 to the end of Roman Britain *c.* 410 as the 'long 4th century'.

Despite the scholarly attention lavished on the Hadrianic phases of the Wall's construction, textual sources reveal more persistent conflict in the northern frontier of *Britannia* in the 'long 4th century' than at any other period, though it has been argued that purported military conflict in 4th-century Britain can be understood as pertaining to imperial politics more than a true barbarian threat (Gerrard 2013, 19-26). As part of the breakaway Gallic Empire, Britain was returned to the unified Empire in 274, and an inscription from Ostia (*CIL* XIV.126) indicates imperial campaigning under Carinus *c.* 282-284, presumably north of the Wall though this can only be speculated. Constantius Chlorus restored the breakaway 'British empire' of Carausius to the imperial fold in 296, and returned to Britain in the early 4th century to campaign north of the Wall, before dying at York in July 306. Constans visited Britain, making a winter crossing of the Channel in 343,

which has been attributed to trouble in the frontier, but without any direct indication of the motivation for the trip. A general named Lupicinus was dispatched to Britain to deal with northern barbarians in 360, and there are further attacks in 364, culminating in the Barbarian Conspiracy of 367. The early 380s saw further campaigning in the frontier by Magnus Maximus, prior to his usurpation and continental adventure from 383-388. Finally, Stilicho, generalissimo of the emperor Honorius, is credited with directing campaigns in Britain in 398/9. More detailed discussion of each event and the sources can be found in A.R. Birley (2005) and Gerrard (2013).

These specific episodes and campaigns are difficult, if not impossible, to detect in the archaeological record, and it may be inappropriate to expect these conflicts to have left widespread material traces in the Wall corridor. What can be detected, however, are a series of changes that begin to occur in the forts along the Wall at various dates in the 4th century. Notably, the pace of change to the internal arrangements of forts accelerated in the later 4th century.

A fire in the fort at South Shields in the later 3rd century, for example, is followed by a substantial replanning of the fort and its internal structures in which the numerous granaries are replaced with barracks and a new high-status courtyard house, presumed to be the *praetorium*, is built in the eastern corner of the fort (Bidwell and Speak 1994).

Refurbished barracks still broadly follow the established pattern of a row of accommodation for a single century or *turma*, but consist of fewer *contubernia* (as at South Shields) or are built in smaller detached or semi-detached structures (as at Housesteads) (Hodgson and Bidwell 2004). This suggests that a century in the 4th century was approximately 50-75% of the size of its Hadrianic predecessor. That said, Hodgson (2017a, 143) points out that 'the maintained area' of Wall-forts in the 4th century is larger than the small late forts or fortlets found on the Danube and compare favourably with those larger forts like Dionysias, Drobeta, and Altrip.

Commanding officers' houses, *praetoria*, seem to have been refurbished or built *de novo* around the start of the 4th century at a number of sites, demonstrating the continued investment in traditional habitation for the commanding officer, based on patterns of the high status Mediterranean *domus* that commanding officers traditionally would have occupied as civilians. However, the *praetorium* also seems to have had expanded bathing facilities added to compensate for the loss of the extramural bathhouse, as at Chesters, Vindolanda, and Binchester, in contrast to the more standard-sized baths in the courtyard house at South Shields. By the end of the century, the *praetoria* no longer seem to be high-status residences, diminished in size and status, and perhaps not even occupied by the commander and his

household, as seen at South Shields and Vindolanda (Collins 2017c).

The extramural settlements outside the forts of the Wall corridor were abandoned by the later 3rd century, perhaps as early as the 270s, and there is evidence at Vindolanda to suggest that the residents moved inside the walls of the fort (A. Birley 2013a). The location of residences for the civilian elements of each fort's military community in the 4th century, however, is not resolved. It is notable, for example, that the publication of the chalet-style barracks at Housesteads (Rushworth 2009) did not provide evidence for occupation by women or children.

One development probably related to the abandonment of the extramural settlements is that some forts have produced evidence for what appears to be marketplace activity inside the fort walls in the mid-later 4th century, evidenced by dense concentrations of 4th-century coinage: at Wallsend, inside the minor west gate (Hodgson 2003, 166-167), at Newcastle on the *via praetoria* and *via principalis* in front of the *principia* (Bidwell and Snape 2002, 275), at Vindolanda on the *via principalis* inside the west gate (R. Birley 2009, 150), and at Carlisle in front of the *principa* on the *via principalis* (Zant 2009, 463). The fort at Carlisle, situated at the north end of the town, seems an oddity in this pattern, as it would be expected that such marketplace activity would occur within the urban spaces of the town rather than inside the fort. It is also notable that despite the interesting late Roman sequence inside the west gate at Birdoswald, a similar coin distribution was not detected. Furthermore, while these putative market sites inside forts may relate to the abandonment of extramural settlements, there are still several decades between the abandonment of these settlements and earliest evidence for the markets.

Though many of the buildings inside the forts of the Wall had changed from their 2nd-century antecedants, the soldiers of the Wall were still participating to some degree in the military practices and fashions found across the wider Empire (Fig. 3.17). Crossbow brooches, widely seen as an object carrying a symbolic association of imperial authority, are found at many sites in the Wall corridor (Collins 2010a), and the metalwork typical of military belts was being made in the frontier itself (Coulston 2010; Collins 2018).

It is more difficult to ascertain the degree to which the Wall curtain, its turrets, and milecastles were still essential to the system in the long 4th century. The number of extant references to conflict in the frontier, and the fact that the Wall garrison was maintained both indicate that the entire Wall complex was still perceived to play a valuable function in the defence of northern *Britannia*. A number of excavated milecastles have provided ceramic and / or numismatic evidence for occupation extending into the

Figure 3.17: A brass replica of the complete crossbow brooch found at South Shields. Crossbow brooches were worn by Roman officers across the Empire. Source: Rob Collins.

late 4th century, such as milecastle 48, while milecastle 35 was used for metalworking in the 4th century. Excavation of the curtain at Buddle Street, Wallsend, has indicated repair and maintenance of the curtain that probably extended until at least the end of the 4th century, with collapse occurring at different dates in discrete sections in the post-Roman centuries (Bidwell 2018, 136).

The 5th century

The notion that Roman soldiers were withdrawn from Hadrian's Wall to fight on the continent *c.* 408-410, either for the legitimate emperor Honorius or the British-raised usurper Constantine III, is a contested narrative. Certainly, there are no historic sources that corroborate such a story. Rather, the notion of military withdrawal is a convention of modern scholarship based on the presumption that Constantine III 'must have' withdrawn the soldiers from the Wall and elsewhere in Britain, itself drawing on a tradition of accepting the 'historic narrative' of Gildas written in the 6th century, despite its errors about the date of construction for Hadrian's Wall. It has been argued that while it is possible some units were withdrawn from the Wall, the *Notitia Dignitatum* and other 5th- and 6th-century sources provide more evidence for the withdrawal of units from Wales and the commands of the Count of the Saxon Shore and Count of the Britains (Collins and Breeze 2014). If soldiers were not officially withdrawn, then what happened to them?

As reported during the previous Pilgrimage, there has been increasing evidence published since the 1990s of activities, including occupation, dating to the 5th century at many forts along Hadrian's Wall. This includes

the forts at South Shields, Newcastle, Housesteads, Vindolanda, Birdoswald, and Carlisle. The model proposed by Dark (1992) for a reoccupation of the Wall (with a presumed Roman abandonment) does not seem to match the stratigraphic record at many fort sites, where occupation seems to be continuous from the 4th-5th centuries, though of course it remains possible that short-term abandonments occurred or did not leave a significant archaeological trace. Rather, the warband model proposed by Casey (1993) and further advanced through the excavations at Birdoswald by Wilmott (1997) has achieved ascendancy, if not universal acceptance (Petts 2013, 322).

The warband model posits that late Roman soldiers based at Wall-forts, the *limitanei*, were not withdrawn but remained in place after the diocese of *Britannia* was divorced from continental Roman imperial government. The former commanding officers became chiefs or warlords and continued to lead their former soldiers-cum-warriors, drawing support from the attached fort *territorium* and surrounding countryside by tradition or force. Criticisms of the model have highlighted the lack of the latest Roman coinage (issued by the House of Theodosius, 388-402) at some sites, as well as the fact that changes to barracks, granaries, and other buildings could no longer be conceived of as 'military' in nature. It has also been argued that it is 'inconceivable' that all Wall forts continued to be occupied through the 5th century (Hodgson 2017a, 187). A further critique is that while such a model may apply to military sites, it cannot be broadly applied to the entirety of the frontier as a region, such as the East and North Ridings of Yorkshire, the lower Tees valley, and north Northumberland (O'Brien 2010; Petts 2013).

Focusing on the military aspect of the model, at the core of the debate are two issues: what constitutes formal presence of the Roman army; and what or how is the archaeological evidence dated? These questions are complicated by a framework in which there is a fixed date for the political end of Roman Britain that needs to be distinguished from broader social-cultural practices. Regardless of the interpretation of the 5th-century evidence, there is broad agreement among Wall-scholars that formal military occupation of the Wall continued until the 'end' of Roman Britain in the early 5th century.

In a detailed study of the 4th- and 5th-century evidence, Collins (2012) has argued that much of the changing archaeological signature of forts through the 4th and 5th centuries can be contextualised within a broader pattern of the evolution of the *limitanei* – the branch of the late Roman army consisting of units of soldiers fixed to frontier commands – in which frontier commands became increasingly regionalised in terms of economic and social practice. While there is a broad agreement in phases demonstrating changes in the archaeological record to *c.* 370 and again at *c.* 400, individual building

sequences across a range of sites do not agree in detail. In other words, changes to barracks occur around 370 at some sites (such as South Shields) but at 400 at other sites (such as Vindolanda); this pattern is also seen with granaries (Collins 2015a) and commanding officers' houses (Collins 2017c). The circumstances in which the *limitanei* were paid, supplied, and probably even led means that a sharp distinction cannot necessarily be drawn between professional soldiers and warriors serving a chieftain – thus, when the formal political divorce of Britain from the rest of the Empire occurs, it need not change the actual socio-economic circumstances of the Wall and northern frontier in the short-term, though this is not to deny quite drastic changes that probably did occur at sites over the course of the 5th century (Collins 2013c; 2017a).

Dating is key to this argument. Further scientific dates are urgently required, but due to the nature of the calibration curve, C14 dates yield less precision for much of the 5th century. Therefore, artefacts and particular patterns of material culture are vital, though there are difficulties (Collins and Allason-Jones 2010). There is evidence that military equipment from the northern frontier is in keeping with that seen in other frontiers (Coulston 2010), though the developed crossbow brooch seems of have been given up in the frontier while zoomorphic penannular brooches continued to be used and stylistically developed throughout the early medieval centuries (Collins 2010a). The latest Roman coins of the House of Theodosius remain rare, and a recent study of late Roman coinage by context demonstrated that in the 5th century, an archaeologist is three times more likely to encounter coins of the House of Valentinian (364-378) than of Theodosius (379-402) (Collins 2013b). That said, there are at least two instances of coins dated after 402 reaching the Wall, though both examples are from a coin group or hoard that dates to some point in the 5th century (Collins 2008). Bidwell and Croom (2010) have identified a key shift in the proportion of fine ware to coarse ware ceramics that corresponds with the latest Roman coins, and presumably is indicative of a change in supply and/or disposal *c.* 400. Significantly, the furnished inhumation burials found throughout much of the Rhine and Danube frontiers from *c.* 400 on, which include distinct types of artefacts, are not common in Britain, let alone in the frontier (Collins 2017d). However, it remains possible that furnished burials of the mid-late 4th century such as those found at Scorton, immediately north of the fort and town of Catterick, might be found along the Wall corridor, though the cist graves found in excavations at both Birdoswald and Maryport were unfurnished, with one exception (Eckhardt *et al.* 2015; Collins 2017d; see also p.189). The primary difficulty with material culture, however, is that there is no new distinct suite of objects that signal change; therefore, interpretation often relies on

stratigraphic sequences that have the latest types of Roman artefacts and layers that postdate the presence of such artefacts.

In short, each excavation brings new evidence, and each structure, surface, and deposit must be assessed in its own right. Undeniably, there are some stratigraphic sequences that run continuously from the 4th century into the 5th century. However, there are also clearly sequences that end in the abandonment and collapse of buildings. The challenge is defining *when* each sequence ends, and how each relates to other sequences on a particular site, as well as accepting that the *limitanei* and their forts in the late 4th and 5th centuries were different from their 2nd and 3rd century precedents. In this regard, the anticipated publication of the late Roman sequences at South Shields and Vindolanda are expected to contribute new evidence to the debate. Late 4th- and 5th-century evidence has been found in practically every intra-mural area of the fort at Vindolanda, which may provide a basis in future years for comparison of data.

The frontier in the early medieval period

Though the Roman Empire no longer ruled central Britain, and the Wall was a politically redundant monument, there were almost certainly still communities living proximal to it, and probably still in some of the forts. Evidence for such occupation is tentative. A number of artefacts associated with Anglo-Saxon material culture have been found at numerous forts: South Shields, Wallsend, Newcastle, Benwell, Corbridge, Chesters, Vindolanda, Birdoswald, and Carlisle (Collins 2017b, 51-52). Other objects that are part of the broader Roman tradition of objects but dating to the 4th-6th centuries have also been found at these sites, such as the zoomorphic- and hand-type pins found at Buddle Street (Croom 2018, 173-175, no.4), Newcastle (Bailey 2010, 264, no.5), Denton, Chesters, and Stanwix (see p.194; Fig. 4.51). In addition to these objects, a few sites have evidence for certain or probable Class I inscribed stones that date to the 5th century and later, namely Vindolanda, Great Chesters, and Maryport as well as Old Carlisle and Brougham. However, these objects and inscribed stones do not all attest the same activity or agree in date. Cruciform brooches encountered at Corbridge and Benwell (Fig. 3.18), as well as a ceramic sherd from an urn at Wallsend, probably relate to burial activity, as does the Brigomaglos tombstone from Vindolanda (on display at Chesters museum). Some objects may represent casual loss, such as the 7th-century brooch from Chesters and the silver-gilt and garnet 7th-century sword mount found to the north-east of Chesters – this area is known to have hosted the army of King Oswald of Northumbria prior to the Battle of Denisesburn (Heavenfield) in 633/4 (Miket 1987; Proctor 2014). At the fort at Newcastle, there is a structural sequence that is

Figure 3.18: One of two cruciform brooches of the Anglian tradition found outside the fort at Benwell, dating to the later 5th-6th century. Source: SANT.

followed by burials of the 7th century and later, when the site may have had a monastic use (Nolan *et al.* 2010). Yet metalwork and objects from South Shields, including a gilded copper-alloy mount, suggest possible occupation. Significantly, there are no structural remains that can be associated with Anglo-Saxon occupation of any fort. The exception is the structural remains of timber-post built structures and a drain at Newcastle fort, which could be attributed to the 5th, 6th, or 7th century occupants.

The towns of Corbridge and Carlisle were probably never abandoned, though it seems likely their populations may have shrunk and the settlement focus probably shifted (Newman 2010). At the Blackfriars site in Carlisle, outside the fort, a sequence suggests occupation into the 7th century. Corbridge has not yet provided direct occupational evidence, but the early construction of a stone church (utilising a Roman arch) from the 8th century, and a 9th- or 10th-century watermill, in addition to the 6th-century Anglo-Saxon objects and the foundation of Hexham Abbey in the 7th century are all supportive of continued occupation of the town.

More tentative evidence comes from Vindolanda and Birdoswald. Both sites have produced stratified structural sequences that span the traditional end of the Roman period in the early 5th century, though it is uncertain how long such buildings were in use. In addition to the small-long Anglo-Saxon brooch that *may* be from Birdoswald, a 6th-century coin of Justinian was found in a mole hill by site staff, suggesting potential far-flung contacts (F. McIntosh, pers. comm.). At Vindolanda, two strap ends of a late Saxon style (9th-10th century) have been found in different parts of the fort (B. Birley 2014, 74-75).

The evidence for early medieval activity is, therefore, fragmentary, and can be characterised as a series of points that are not necessarily connected. However, there is notable consistency in the limited evidence in which these points of data congregate at Roman forts, not only along the Wall but also at many forts in its southern hinterland. Furthermore, the artefacts – low in numbers thought they are – still represent a concentration relative to the distribution of this material culture elsewhere in the frontier zone, such that an argument can be made that the Wall forts may still have been the focus of elite activities, if not outright occupation.

On the basis of this evidence and its relationship to that of the 4th and 5th centuries, Collins (2017b) has proposed a 'frontier foundation' to the emergence of the 'English' kingdom of Northumbria from the later 6th century. In brief, he has suggested that the martial practices of the *limitanei* of the Wall, embedded as they were for centuries during Roman rule and retained with the soldiers and military communities that occupied the forts in the 5th century, provided a population and infrastructure that were essential to the martial capacity and success of Northumbria. This model contrasts with those proposed by Rollason (2003), which did not attribute any continuity of Roman, let alone Roman military, communities as substantial. Petts (2013), has proposed models in which the authority wielded by those communities still occupying Roman forts was either geographically constrained or surpassed by other elite groups emerging in the eastern lowlands of the frontier.

Regardless of the 'frontier foundation' model, it seems that while the Wall as a monument was politically redundant, the communities that continued to live along it may have been politically participating in the new kingdoms that were emerging in the aftermath of the Roman Empire.

The afterlife of Hadrian's Wall

Hadrian's Wall was probably ruinous by the 6th or 7th century, though clear dates for the collapse of the curtain are lacking. Pre-Norman churches, notably those in the Tyne Valley seem to make use of Roman stone fabric, such as the arch in Corbridge church, but these may have been taken from forts or the town at Corbridge rather than the curtain itself. Medieval structures certainly made use of the Wall as a quarry, as seen quite clearly at Thirlwall Castle (Fig. 3.19). Subsequently, the Wall's stones were incorporated into more domestic and agricultural architecture. In this regard, Hadrian's Wall often provides the literal as well as metaphorical foundations of the communities that exist today along its length.

But the Wall was never really forgotten, as testified by Gildas in the 6th century and Bede in the 8th century, repeated by chroniclers such as

Figure 3.19: Thirlwall Castle, west of the fort at Carvoran and immediately north of the Wall, is built almost entirely of facing stones qurried from the Wall, and possibly rubble from the core of the curtain as well. Source: Rob Collins.

Geoffrey of Monmouth, Henry of Huntingdon, and William of Malmesbury, and it has continued to exert its influence on medieval and early modern populations (Shannon 2007; *contra* E. Birley 1961). Shannon has noted the presence of the Wall on medieval maps from at least the 13th century, and Hingley (2012) has provided a biography of the monument, including how antiquarian investigation shaped contemporary perspectives of the British Empire and vice versa. Significantly, Shannon (2007, 10-16) notes that the Wall was correctly attributed to Hadrian centuries before Hodgson by both the Scot Hector Boece in 1527 and the Italian Polydore Vergil in 1534; unfortunately, contemporary and later English antiquarians ignored the scholarship of these early pioneers. The materialities of Hadrian's Wall have also been under consideration by Witcher *et al.* (2010). They examine how the physical remnants of the Wall have attracted numerous readings over time, which in turn shaped how the remains have come down to us: 'for example, 19th-century conservation sought to display the Roman structures by clearing away later constructions such as medieval buildings, creating the monument we see today'. This premium on perceiving the Wall as a specifically Roman

monument remains pervasive, with visitors' expectations shaped by the encounters that are expected on a trip to ruins popularly referred to as Hadrian's Wall or even the Roman Wall (Witcher *et al.* 2010, 105-108).

Yet the afterlife of the Wall is not limited to the 'real world'. It has been the inspiration for a number of fantastic realms in fiction, television, and film. Prominent cameos in Hollywood movies such as *The Eagle* [*of the Ninth*] (2011) and *King Arthur* (2004) have visualised the Wall, and books such as *Game of Thrones* (1996) and its subsequent serialisation by HBO have brought new global audiences to a reimagined Hadrian's Wall (Collins 2016). In fact, George R.R. Martin, author of *Game of Thrones*, has revealed that it was a 1981 visit to the Wall (specifically the Housesteads sector) that was the first element of his fantasy epic to take shape. Though it is easy to dismiss such reimaginings of the Wall as crude pop-culture renderings, they are testament to the enduring appeal of the Wall!

Landscape and Environmental Evidence

Jacqui Huntley and Sue Stallibrass

Sources of new data

The last ten years have seen considerable advances in our understanding of the landscape and economy around Hadrian's Wall in some respects, but have also highlighted aspects that deserve, or still deserve, future targeted research. Several projects are just coming to fruition and will provide important new data sets within the next decade. Along the line of the Wall itself, major excavations undertaken in the late 1970s/early 1980s in part of the civilian settlement in Carlisle are about to be published (Zant and Howard-Davis) and some of the significant environmental evidence is mentioned in this chapter. At Vindolanda, there are some preliminary results from the recent five-year (2012-2016) project. At South Shields, the large backlog of environmental material is occasionally being studied in a piecemeal fashion, mainly by students.

New excavations within the World Heritage Site are very few, but part of a cremation cemetery that was eroding over the river cliff at Birdoswald was excavated by Wilmott in 2009 (see p.186). Post-excavation analyses have informed the new exhibition in the site museum and should be published soon (Wilmott forthcoming). However, there is still a large amount of environmental backlog work that should be undertaken from earlier excavations at some sites (especially from Vindolanda and South Shields).

The last ten years have been particularly significant for the new information that is being recovered from the wider region occupied by the army and which was intricately linked to the garrisons of the Wall corridor. They have also

seen far more investigations of the extramural settlements associated with the forts. The military populations moved around the region (and beyond) and they and the extramural inhabitants were supplied at least in part by food and other resources produced in the areas to the north and south of the Tyne-Solway isthmus. Large-scale, developer-funded excavations in the Northumberland lowlands north of Hadrian's Wall have provided sequences of material for radiocarbon dating, the value of which is outlined below. However, the new questions arising from these excavations make it even more frustrating that further work on small-scale pollen sequences looking at cereal cultivation has not been undertaken. This area is particularly significant because it was sometimes within and sometimes beyond the area defined by Roman administration. It is important to remember that Hadrian's Wall itself was not built until the early AD 120s, half a century after the area was initially garrisoned, and 80 years after the successful invasion of southern Britain. A more holistic approach to the region as a whole (sometimes termed Central Britain) has developed in the past decade, in part associated with the renewed discussions regarding the Wall's function: as a barrier, a trade control, or as an administrative boundary.

Environmental settings and exploitation

Tipping (2018) has reviewed the radiocarbon dating of pollen studies and confirmed the need for much greater attention to chronology for the Roman and adjacent periods. Of the 83 relevant pollen records available, only 62 had adequate dating. His conclusions support those of Huntley (2000) that there was considerable variation in vegetation and landuse around the region; that woodland clearance increased in scale during the pre-Roman Iron Age (continuing rather than starting in the post-conquest period) and that there was more woodland clearance in the east of the region than in the west.

The only major new pollen core spanning the Roman period to be studied in the past ten years comes from the Beckburn windfarm on Solway Moss close to Carlisle (Rutherford in prep a). This important deposit provides evidence from the early Holocene (early Mesolithic) through to the post-medieval period. The Roman evidence fits the pattern identified by Huntley and Tipping. There was significant woodland clearance dating to the late Iron Age and/or early Roman period(s), arable farming was sporadic, but pastoral agriculture was consistently present during the later Roman period, with possible slight woodland regeneration in the post-Roman period. It remains a possibility that the existence of pasture in the west was one of the reasons why this stretch of the Wall was initially built of turf, earth, and timber.

Grazing by animals (whether wild or domestic) has also been detected at other sites, using pollen and plant macrobotanical evidence together

with fungal spores and, sometimes, insect remains and/or high phosphate concentrations. Investigations in a building plot in the extramural settlement at Maryport (Rutherford in press, Druce in press) showed that the site was set in an area with a mixture of woodland, scrub, carr, and open grassy areas including some meadowland, with persistent use by grazing animals, and with additional access to some heathland. Similar habitats were evidenced at the extramural settlement outside Brougham fort (Rutherford in prep b, Druce in prep) although here the lowland landscape was more thoroughly cleared and dominated by grassland and open, waste, or cultivated land. Macphail's (Macphail in prep a) sediment analyses indicate that the Roman inhabitants at Brougham had to contend with rising groundwater levels.

The Vallum ditch at the crossing of Hadrian's Wall at Knockupworth produced some of the original turves used to build the Turf Wall in a face-to-face arrangement (see p.197). These, too, indicated open, damp, or wet grassy landscapes with some animal grazing and some acid heathland (Rutherford in prep c). In the post-Roman period, when the Vallum ditch had partially infilled, it continued to be damp ground but with the addition of dung from animals, which may have used the depression as a sunken trackway (Macphail in prep b) or simply for shelter.

In the Newcastle area, the enclosure ditches at West Shiremoor produced a good selection of waterlogged seeds indicative of stagnant water surrounded by ruderal and grassland communities. The beetle evidence corroborated this, refining the grassland to a landscape 'of intensive livestock production, most likely cattle production'. The pollen data suggested a relatively open landscape of grassland, pasture, and wet meadows too with rather less indication for arable cultivation. (Charlotte O'Brien, pers comm.). The evidence from these sites, taken with that of the lowland Northumbrian sites discussed elsewhere, are strongly indicating a change towards more animal husbandry than earlier in the pre-Roman Iron-Age.

Huntley's (2013a) pioneering analysis of sedges from routine bulk samples taken during excavations at Vindolanda shows the level of detail that can be attained regarding land management around a site through the careful recovery, analysis, and interpretation of well-preserved evidence. Sedges were identified and the habitats of their present-day comparators, as well as the accompanying seeds, indicate that different landscape areas were likely to have been exploited for hay production, for grazing, and for supply of bedding. Interestingly, some of the grazing areas were almost certainly to the north of the Wall itself, as the acid grassland communities are rare to the south other than considerably further away in the northern Pennines. Using figures derived from writing tablets and other sources for numbers of horses at the fort at various times, as well as dietary requirements of the

animals, it was estimated that an area of land in the order of 600-700ha was required to provision half an *ala* (approximately 500 horses) (Huntley 2013a). Multiplied by the garrisons known at forts along the Wall, the areas of land required for horse management would have been considerable (Fig. 3.20).

It is clear that the inhabitants of several Roman forts and extramural settlements made good use of their surrounding landscapes, not only as a source of grazing for their domestic livestock and horses (whether military mounts or packhorses) but also as a source of raw materials for timber constructions, fuel, roofing, and bedding or fodder.

Charred remains from many of the sites investigated in the past decade throughout the region indicate the use of whatever woodland species were

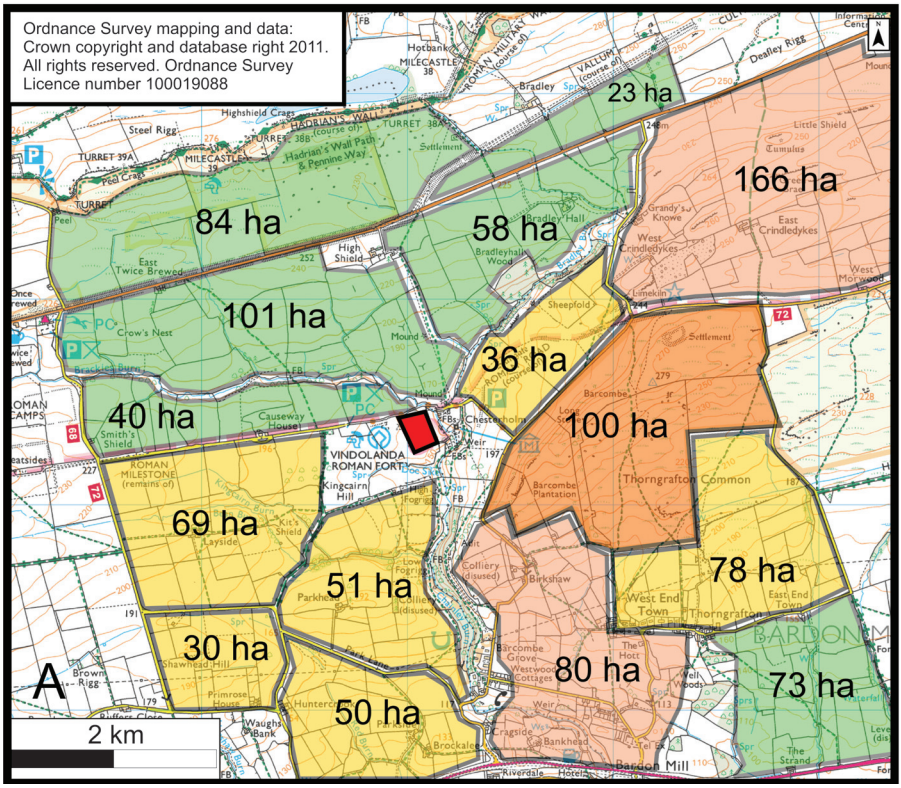


Figure 3.20: A model to indicate how much land was required to sustain 500 cavalry mounts. The fort of Vindolanda is indicated with the red rectangle, while green areas are indicative of grazing requirements, yellow areas for grain crops, orange for hay, and brown for bracken. Source: Jacqui Huntley.

available for fuel. In addition, the presence of well-stratified coal or burnt coal remains on several sites, including East and West Brunton in the Newcastle area, shows that coal was also one of the fuels employed. The geographical distribution suggests that several different sources were exploited, although the petrology of these new finds has not yet been investigated. The coal used in the large 1st/2nd century bathhouse at Wigan almost certainly was from the high-quality local strata (Miller *et al.* 2011). Fuel, from whatever sources were available, seems to have been a high priority for everyone living in the region and, at Maryport, a large concentration of thoroughly burnt animal bone dumped at the rear of a 3rd-century building may indicate the deliberate use of food waste as a source of fuel (Smith in press).

At Binchester, Joyce's (2012) MSc thesis investigated the charred plant remains recovered from deposits infilling a large watering hole. The presence of many lower parts of plants such as culm bases and tubers, especially those of non-arable weeds such as sedges, led him to suggest that turves were being burnt for fuel. This is a site where pollen studies suggest that mature woodland was relatively scarce among the fields and hedgerows. Based on these data, together with the dominance of immature heather of only five or six years growth, Joyce suggests that local heather moorland was being managed by burning (as previously indicated by pollen studies) and repeatedly cut for turves for fuel.

In the extramural settlement at Maryport, culms from cereals and rhizomes from other tall, rushy, or grassy plants were interpreted as an indication that plants were pulled up whole, and may have been used as bedding, fodder, flooring, or thatch (Druce in press). The heather found at Maryport, Brougham, and the Northern Lanes, Carlisle (Huntley in press) may have been used for thatching. Huntley notes that the heather and bracken may also have been used for bedding.

Arable farming

The cereals themselves, from several sites, emphasise the importance throughout the region of spelt wheat and barley (often six-row barley) rather than bread wheat. Bread wheat tends to be found as clean grain rather than as processing waste, and may have been imported from further south or grown in the lowland area of the Vale of Mowbray and Tees valley, where villas, quern stones, and corn drying ovens are more frequent. Distributions of these sites, artefacts and structures are provided in the Roman Rural Settlement project publications and database (Allen *et al.* 2015/2016; 2017).

South of the Wall, Ingleby Barwick in County Durham is particularly important as it represents a rare type of site for the north, namely a villa (Willis and Carne 2013). The main crops being grown were spelt wheat and

hulled barley as expected for the region as a whole. There is a remarkable consistency across the Roman phases, with the majority of the samples reflecting mostly fine sieving products or storage of clean grain. Weed seeds are, however, rare. Although this could at least in part reflect the generally rather poor state of preservation, even the most robust seeds are not common. It would therefore seem that the crops represented in the samples were grown under rather clean conditions – small weed seeds should be removed at the same stage as the small chaff that is nonetheless dominant in many of these samples – rather than taphonomic considerations. For whatever reason, the crops produced at this site were more weed-free than many of the indigenous sites elsewhere in the region. For example, at Thorpe Thewles, Stanwick, and Rock Castle more than 50% of the overall assemblages was weed taxa (including *Sieglingia decumbens* as a weed) (van der Veen 1992). The equivalent value for the Ingleby Barwick site overall assemblage is only 24%. In addition, these weed seeds also reflect use of a wider range of soil types during the main villa phases and suggest cultivation on the heavier clay soils. Elsewhere in the region these were generally only brought into cultivation later on and into the Saxon period. However, these particular weedy taxa are more common on Roman villas and larger farmsteads in southern England and, given the nature of Ingleby Barwick, this may reflect social status. Are the villas required to produce so much grain as to necessitate cultivation of what would normally be considered marginal land and is there also labour available for 'weeding' crops?

The paucity and small size of arable weed seeds in Joyce's Binchester samples led him to suggest that the cereal remains (heavily dominated by barley) came from crops that had already undergone preliminary processing, although it is not yet known whether this is typical for the site as a whole, or deposit / period specific. If correct, this suggests that the barley crop was intended for human consumption as it is unlikely that time and effort would have been spent removing weed seed from a barley crop intended for animal fodder. However, Huntley has noted that Joyce did not include seeds from sedges in his ratios of cereal grains to weed seeds, nor did he include chaff other than culm bases, so his comparisons of cereal: weed seed ratios with those in crop processing models may not be comparing like with like. If sedges and chaff are included then weed seeds comprised 64% of the Binchester assemblage, which suggests that they had not undergone such intensive processing. This demonstrates the importance of discussing taphonomy of all contexts.

Livestock production

The excavations in the Northern Lanes, Carlisle, (Connell *et al.* in press)

recovered good assemblages of animal bones from the early, middle, and later Roman periods. Comparisons with material from other excavated parts of Carlisle suggest that the occupants of the civilian areas probably obtained their livestock or meat supplies from the same sources as the inhabitants of the fort. Similar to the military sites, cattle bones predominate and mainly derive from mature animals that would have had long and productive lives as breeding, dairying or traction animals. There are also similarities in the cattle butchery methods, including deposits of intensely chopped up meat-bearing limb bones, and the presence of holes broken through *scapulae* that are thought to indicate the use of hooks to hang shoulders of beef during smoking or some other form of meat curing process.

There is no evidence for the appearance of larger types of livestock (which are found further east and south in small numbers during the Roman period) and the sheep, in particular, were slender and more long-limbed than most modern types, including the relatively unimproved Shetland sheep.

At Vindolanda, Smith (2018) has assessed 23,000 fragments from the 2017 excavations and is currently working on more detailed analyses. The assessment indicates the high potential of the material to address a series of research questions. Preservation conditions varied across the site in time and space, but the generally good preservation combined with the presence of many sealing deposits of clay means that much of the material is well separated stratigraphically, allowing good chronological control as well as comparisons between military and civilian areas of occupation.

Besides the standard domestic livestock species, this assemblage has a higher proportion of bones from red deer skeletons than is usual in Roman Britain, and may indicate the presence of suitable habitat and the success of elite officers' hunting (an activity mentioned in some of the Vindolanda tablets). Stallibrass (2018a) has discussed the mentions of domestic and wild animal resources in the Vindolanda tablets. She notes that the texts and animal bones tend to provide complementary evidence, with many of the texts referring to resources such as textiles or tallow, which are less likely to survive as physical remains than the bones of the animals.

At South Shields, a small sample of late-3rd-century material from period 6B (the final stage of the fort's use as a major supply base) was studied by Waterworth (2014) for her MSc dissertation. Despite the small sample size, the metrical data show that a wide range of cattle types was exploited at the fort, including some relatively large animals. The size range is greater than seen on many sites and is unlikely to be due simply to the presence of females, castrates, and occasional entire males from a single population.

Clegg's (2017) doctoral examination of animal bones recovered in 2011 and 2012 from research and training excavations at Binchester, County

Durham, demonstrates remarkable consistency in the species and carcase parts in samples taken from the fort and from the extramural settlement. Metrical analyses show a slight bias towards the larger, more robust animals (probably males) being represented within the fort than in the extramural settlement, possibly indicating subtle differences in the purchasing power, choices, or sourcing mechanisms of the military. Stallibrass (2000, 67) noted a similar subtle discrepancy in Carlisle between the fort at Annetwell Street and the civilian area of the southern Lanes. At Carlisle, the military seemed to have had some preferential access to prime young beef cattle alongside the predominantly mature or elderly animals. The common occurrence of changes to cattle foot bones caused by strong muscle exertion indicates that many of the cattle at both sites were utilised as traction animals, either to pull carts or ploughs.

Binchester, like Carlisle and many other military sites, shows that whole animals of all three domestic livestock species were slaughtered and butchered close to their sites of consumption. A substantial dump of butchery refuse was found in the civilian bathhouse at Binchester, and radiocarbon dating indicates that animal carcase processing continued into the 5th/6th century (Petts pers. comm.).

Major roadworks in the area of the A1/A66 junction close to Catterick and Scotch Corner have produced large quantities of animal bone, other environmental materials, and high-status artefacts from the fort and town of *Cataractonium*. These will be reported upon in the second of two volumes publishing the investigations (NAA in prep). At the Scotch Corner junction of the A1 and A66, a large late Iron Age settlement with links to Stanwick was subsumed during the Roman conquest of Central Britain (Fell in prep). The results of these investigations will refine and contribute to discussions of the role of Catterick and its environs. The site was well located as a hub in the transport and supply network for Hadrian's Wall and was mentioned in Vindolanda tablet 343 (Bowman and Thomas 1994).

All of the military and associated sites investigated so far demonstrate the importance of beef, supplemented by mutton and pork as the basic meat in people's diets in these sites. But whereas the beef tends to come from mature cattle thoroughly utilised for other products during their lifetimes, the mutton and pork often comes from immature or prime-aged animals. This would not have been sustainable, indicating that there must have been sites elsewhere maintaining the breeding stock from which these surplus younger individuals were culled.

Movements of resources including local, regional, and exotic

Although some sites (such as South Shields and Catterick) were situated in

particularly good locations for receiving and distributing resources, it is clear that the military infrastructure was able to move goods and resources around the whole of the frontier region. The easiest to identify are plants or animals whose habitat or climatic requirements are not present in Central Britain i.e. exotics such as olives and figs. Some other species could be imports or could have been grown in Britain following earlier introductions (such as coriander or dill found at the late Iron Age oppidum at Silchester (Lodwick 2014)).

In Newcastle, just behind the central railway station, a site thought to be within an extramural settlement associated with the fort of *Pons Aelius* was investigated in Clavering Place (Archaeological Services Durham University 2016). Waterlogging of part of the site had preserved a well that was lined with timber planks made of silver fir. These appear to have been repurposed from barrels made in the Alpine region and used to move food and drink products around the Empire. The barrel itself is likely to have been imported to the Hadrian's Wall frontier region (presumably with some contents) either through *Pons Aelius* itself or through the port at South Shields.

At Ribchester, where the main western route to Hadrian's Wall crosses the River Ribble, imported herbs or fruits have been recovered from both an extramural settlement: coriander from Parsonage Avenue (Wardell Armstrong Archaeology 2015) and from the fort itself: fig pips from the ongoing University of Central Lancaster research and training excavations, O'Meara pers comm.). Both of these finds were possible due to the good preservation conditions afforded by waterlogging of some of the Ribchester deposits.

Further north, Brougham is at another transport node, where the A66 from Scotch Corner meets the main Roman route west of the Pennines. A charred whole clove of garlic was found- an extremely rare find although this could be as much to do with preservation conditions (why would a whole garlic clove be in a fire?) as much as original rarity in the region (Druce in prep). Garlic can be grown in north-west England, but certainly indicates 'exotic' Roman culinary tastes even if it was not imported. Samples here also contained apple pips and remains of cultivated peas, indicating some variety in the diet.

In the civilian area of the Northern Lanes, Carlisle, fig pips were found in small numbers dispersed across several different contexts, suggesting, perhaps, that figs were relatively easy to obtain (although none of the deposits had large numbers of pips, despite the plethora in any single fruit). Pips and seeds of grapes, olives, dill, and coriander were similarly widely dispersed. A deep pit (KLA B 1204) that appears from the insect and plant materials to have contained faecal matter had a concentration of food debris. These included fruit stones and pips from figs, olives, grapes, apple or pear,

damson, rowan, blackberry, dill, radish, and hazelnuts. Several of these were cracked and had a digested appearance (Huntley in press). Further north, at Bearsden fort on the Antonine Wall, it is also worth noting that faecal matter – in this case sourced from the outer annexe ditch, which the latrine drained into – preserved a wealth of environmental evidence relating to soldiers' diets. Among the commodities present were emmer and spelt wheat, lentil, horse bean, linseed, fig, dill, coriander, opium poppy, wild turnip, wild strawberry, blackberry, raspberry, hazel nuts, and purging flax. In general, the plant-based component of the soldiers' diet appears to have been more important than the meat at Bearsden (Breeze 2016b, 369-371).

In the past ten years there have been some exciting new developments in the use of isotopes to investigate diets and geographical origins of people and animals. The paucity of excavated, well-preserved human remains in the region has hampered isotopic studies of diet, but the initial analyses of animal bones suggest that there is considerable potential for new information about where livestock were raised in comparison to where they were slaughtered.

At South Shields, Waterworth (2014) sampled six cattle teeth from late-3rd-century deposits for strontium and oxygen isotope ratios, to investigate the animals' potential areas of origin. These two elements are incorporated into tooth tissues during their development when the animal is young, and the isotope ratios remain stable during later life and after death, even if the live (or dead) animal moves elsewhere. The elements' isotope ratios relate to nutrient intake and reflect the geological substrates that support the young animal's plant food and the water that it drinks. By comparing the isotopes found in dead animals' teeth with the isotope ratios of soils and plants that are local to the burial site, it is possible to estimate (a) whether or not the animals' isotopes are consistent with local conditions and (b) if not consistent with local conditions, where there are areas that have isotope values that could have supported the food and drink of the animals when they were young.

Waterworth chose the two largest cattle third molars, the two smallest, and two of intermediate size. She found that the two largest teeth came from animals that could have been local to the South Shields area. These may have been useful traction animals whose extra size was suited to pulling ploughs in the heavy clay soils in the area or to pulling carts and wagons laden with goods or heavy equipment. The other four teeth all came from non-locally-raised animals, and the isotopes are consistent with the cattle spending at least the first two to three years of life either in the Lake District area of north-west England, or Galloway in south-west Scotland. The latter area is located north of the line of Hadrian's Wall and was definitely not part of the Roman Empire at the time. These two areas are located 150 – 200km

away from South Shields, indicating long-distance movement of livestock (although Waterworth notes that they need not have moved the full distance in one journey, as all six animals were about eight to ten years old when they died). These results fit the procurement system suggested by Stallibrass (2009) who highlighted the potential for western Britain to produce surplus livestock that could have been supplied to the Roman military garrisons (and associated settlements) throughout the frontier region by long-distance droving.

The needs of the Roman military, the movement of resources around the region, and the relative potentials for arable and pastoral agriculture are considered by Stallibrass (2018b) and Mercer (2018, 204-218). Both studies highlight the mix of local, regional, and Empire-wide circulation of environmental and natural resources.

Settlement patterns and landuse, and their relationships with the military presence

Major investigations of indigenous sites north of the Wall on the Northumberland coastal plain (Hodgson *et al.* 2012; Proctor 2009) have confirmed the tentative suggestions made in the 2009 Pilgrimage volume that spelt was, indeed, the most common form of wheat grown north of the Tyne in the lowlands. Previously, it had been suggested that emmer retained popularity north of the Tyne. Of especial interest with the sites investigated by Hodgson *et al.*, is that they were all abandoned, or changed function drastically, during the period *c.* AD 120-140, i.e. in the period immediately following the construction of Hadrian's Wall. The dating of these changes is based upon good sequences of material suitable for radiocarbon dating combined with Bayesian modelling. The limited pollen evidence suggests that woodland did not recover substantially from this period onwards so extensive farming activity must have continued. Was this a change to large-scale meat/dairy production, as one reason suggested by Hodgson (*op. cit.*), or did arable agriculture become large-scale as well – akin to the major changes seen in the English Midlands during the mid 20th century with many family farms being amalgamated, leaving large numbers of farm houses and buildings open to, in this case, private development rather than abandonment? Detailed pollen work to investigate the arable versus animal husbandry intensification, from appropriately dated deposits, remains to be done, though cores from Crag Lough and Grindon Lough demonstrate little visible impact of establishment of Stanegate or Wall (Dark 2015). Sadly, but predictably on the shallow or acidic soils found in the Wall corridor, bone preservation at all of these sites was poor.

In the wider region, the recent publications of Iron Age and Roman period

sites at Stanwick, North Yorkshire (Haselgrove 2016) and Broxmouth, East Lothian (Cussans 2013) have shown some evidence that people subtly altered their production strategies after the Roman military occupied Central Britain. Both sites appear to have developed more specialised sheep-rearing practices, in order to provide products desired by the military such as young mutton and / or wool and textiles. The new data from the high-status site at Scotch Corner may also contribute to this topic (Fell in prep).

Landuse within the settlements

In the Northern Lanes, Carlisle, Kenward *et al.* (in press) identified the presence of insects and parasites associated with dung, although there were few internal parasites that could have indicated the host species. They identified the presence of manure in several areas and suggested that, whilst the fort itself was intensively occupied and the Southern Lanes was a quasi-rural area on the edge of the settlement, the Northern Lanes was an area of dirty services such as stables and yards. They suggested that some of the dung was deposited directly in open areas, whilst other areas contained redeposited stable waste. The insect remains included grain pests, probably ingested in animal fodder.

External parasites included human fleas in several samples, and occasional human lice. These are very fragile and seldom survive in archaeological deposits. Head lice and one pubic louse were identified.

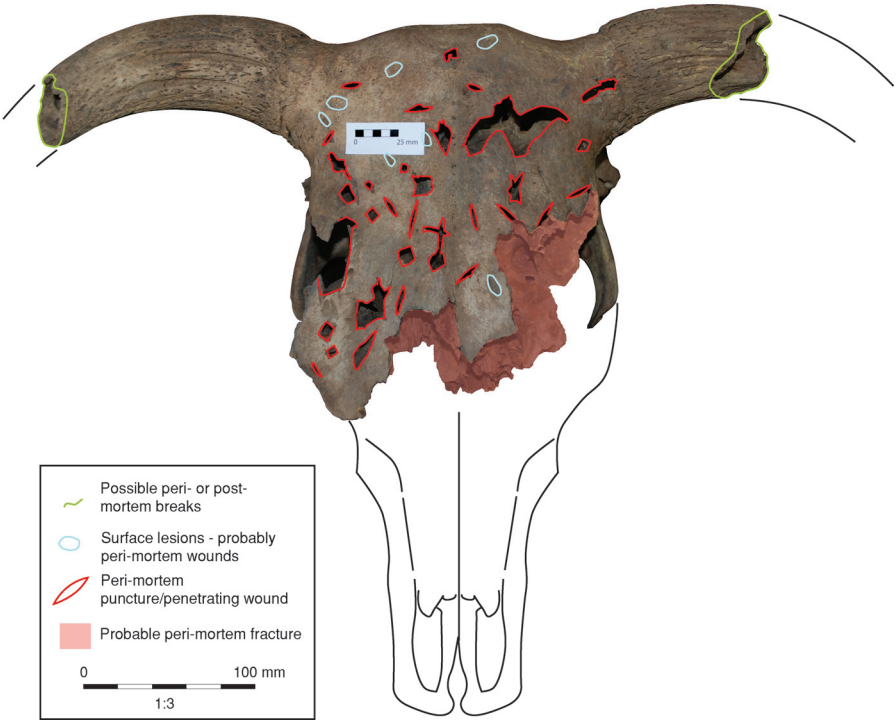
Faecal material is often concentrated in specific cut features like pit KLA B 1204 mentioned above for the range of fruits eaten. At Binchester, a latrine trench containing cess-like material with good potential for organic preservation has been sampled by Durham University for parasite eggs (Petts pers comm). At Brougham, the fill of a sunken floored structure contained dung and latrine waste, and the road surface was enriched with phosphates, suggesting its use by livestock (Macphail in prep a).

Whilst there is plenty of evidence for the presence of livestock in the Northern Lanes, Huntley notes that the ditches were mostly kept free of rubbish, presumably in order to maintain their important function as distributors and redistributors of surface water. This is something that also appeared to be a priority in the Millennium excavations within the fort.

At Vindolanda, initial botanical evidence from the granaries was reported upon in the 2009 Pilgrimage volume (Huntley 2009) and finalised in 2013 (Huntley 2013b) but the faunal remains were then still being assessed. These have been completed (Bennett and Timm 2013) with some 3000 bones of small mammals, birds, reptiles, and a few of domesticated mammals being identified. The birds included bones from garganey, stock dove, raven, quail, yellowhammer, crane, swallow, blackbird, black grouse, as well as

domesticated chicken. Some of these may have been commensals, but some, such as the crane, quail, and grouse must have been brought to the site, presumably as slightly exotic food. Although the crane used to be resident and the grouse still is, the quail almost certainly represents an exotic import. The small mammal bones were mostly from mice and voles, which were probably attracted to the grain stores: an enticing food source. But other species identified include stoat, badger, and a few bones of domestic livestock. Such fine-scale work adds to our general picture of life in and around the fort, seeing the site as more than a habitat for the Roman military.

An unusual aspect of the Carlisle Northern Lanes material is the presence (in a late Roman well) of some cattle skulls that have clearly been used for target practice using weapons including blades and projectile bolts (Fig. 3.21). Similar finds have been made at Vindolanda and at Corbridge, and one has also been found at an industrial site in Cheshire (Loe and Webb in press).



Figre 3.21: A decapitated and probably mounted cattle skull from a mid-late 3rd/early 4th century well in the Northern Lanes, Carlisle. One of three, it bears 38 penetrating lesions from at least two types of sharp, projectile weapons. Source: OAN.

Hunting and target practice were clearly important activities at Vindolanda, as evidenced by shot cattle skulls, numerous red deer remains, and several writing tablets requesting hunting equipment such as specialist snares, nets, and hunting dogs. In addition, Bennett and Timm's (2016) study of dog bones from Vindolanda has identified the two morphological types of hunting dogs mentioned in the tablets, i.e. seekers and chasers, and one of the skulls comes from a robust dog that had sustained substantial injuries, possibly in a fight.

In the altar and temple sites on top of the ridge at Maryport (see p.205; Haynes and Wilmott forthcoming), a combination of ploughing and acidic soil conditions hampered the survival of environmental evidence. Although unburnt bone did not survive, the cremated remains of a chicken and a lamb almost certainly reflect religious activity in the temple area (O'Meara pers comm).

The people

The people themselves remain elusive. Inhumations seldom survive in the predominantly shallow and acidic soils, and no inhumation cemeteries have been investigated in the past decade. Isolated remains have been discovered in rather informal burial deposits: one skeleton in the ruins of a bathhouse at Cockermouth, Cumbria (O'Meara pers comm), and a female skeleton in a ditch at Burgh-by-Sands, Cumbria (North Pennines Archaeology 2013). In the Northern Lanes, Carlisle, the skeleton of an adult male who had sustained a number of injuries around the time of death was found in the lower fill of the late Roman well that also contained the shot cattle skulls.

The most important recent investigations of Roman cremations were undertaken in 2009 at a cemetery site eroding over the river bluff at Birdoswald by Tony Wilmott (see p.186; Wilmott forthcoming), and there is a new exhibition relating to this at the Birdoswald site museum. The cemetery contained a range of different burial rites including unurned cremations and/or pyre deposits, stone-lined graves, and five 'urned' cremations contained in ceramic jars or beakers, each containing the remains of a single individual. Three of these individuals were young adults, approximately 20 – 40 years of age when they died (one probable female, one possible male, and one of unknown sex). The other two individuals were an adult of unknown sex and a child of approximately five years of age. The probable female burial was inserted very close to the previously buried child and was also of interest because the bones indicate a young adult female, but the various grave goods buried with her included a small section of ring mail, normally associated with males. Unlike the other four individuals, whose cremations had been conducted very thoroughly, hers was rather inefficient, with the bones burnt to varying degrees.

Elsewhere, three deposits of human cremations and/or pyre deposits were excavated at Brougham, close to a previously investigated cremation cemetery, but little can be said about the individuals (McKinley in prep).

At Beckfoot, Cumbria, there was an evaluation in 2006 of the cremation cemetery that was eroding at the edge of the cliff (see p.204). The expected further excavation did not take place, and the evaluation is now published (Howard-Davis *et al.* 2017). As at Birdoswald, the cremation rites were quite varied. The cremated bone was very fragmented and did not always retain sufficient carbon for radiocarbon assay, but four cremation deposits were successfully dated using either bone or charcoal samples. The results indicate that the main phase of burials occurred in the 2nd and early 3rd centuries, but the full use-life may have spanned the late 1st/early 2nd to late 4th centuries.

Biases and gaps in the data and suggestions for future work

Animal bones continue to be scarce at sites on the shallow, acidic soils that predominate in the region. The national survey undertaken by the Roman Rural Settlement Project demonstrated the spatial correlation between excavated sites with poor bone recovery and the geographical distribution of acidic soils (Allen *et al.* 2015/2016, 2017).

Although four important extramural settlements in Cumbria have been investigated in the past ten years (Ravenglass, Maryport, Papcastle, and Brougham) all four failed to produce assemblages of unburnt bone, due to the poor preservation conditions. They did, however, produce some charred plant remains and, sometimes, occasional waterlogged material.

Poor preservation conditions affect the rural sites very badly for most parts of the frontier region, with notable exceptions on the alkaline soils of parts of Yorkshire, where long-term research projects have produced important new data from the Shiptonthorpe (Mainland 2006) and Hayton (Jaques 2015) environs, supported by commercial investigations at Wattle Syke (Richardson 2013). These are a long way south of the frontier and are not considered further here, but they are located in areas that are very likely to have supplied the wider network through bases such as Catterick. These sites, in areas with short dry turf, often highlight the roles of sheep as much as cattle.

Although the more northerly parts of the region are predominantly situated on shallow, acidic soils, there are some areas that could repay special attention. These include the limestones surrounding the Lake District central massif, and locations where alluvium or hill-slope deposits provide deeper soils.

The lack of material caused by preservation problems is exacerbated at

rural sites throughout the region, because these seldom receive intrusive investigation. Research projects have focussed on individual large sites, usually associated with the military, whilst developer-funded projects tend to focus on towns for housing or industrial developments. The most useful in terms of rural locations are often the infrastructure projects such as the Carlisle Northern Development Route and the A1/A66 Catterick and Scotch Corner roadscheme, as well as massive opencast coal sites north of the Tyne, although some of the developments on the outskirts of modern towns do include previously-rural sites such as Faverdale, outside Darlington (Proctor 2012).

There are some locations or deposits that do provide good preservation conditions for organic materials, and these deserve particular attention. Vindolanda is well known for having some very well-preserved organic materials, often associated with anaerobic conditions caused by waterlogging or overlying clay deposits. Chemical and microbiological studies are being undertaken on leather and other organic materials from Vindolanda. These are investigating how such excellent preservation occurs and the consequent implications for conservation practices for excavated materials, and for site management methods to maintain good preservation in the ground (Gillian Taylor, pers. comm.).

Even in non-waterlogged deposits, preservation conditions can be benign for unburnt animal bones, and can provide important assemblages if suitable recovery methods are used. Excavations at the Chester legionary amphitheatre had an exemplary and comprehensive sieving programme. This produced the largest assemblage of fish bones found in Roman Britain and provides information for all of the periods of activity from the initial Roman settlement to the final 3rd-century use of the amphitheatre (Harland 2018). It is difficult at the moment to assess the wider significance of the Chester fish bones as there are so few comparative sieved assemblages. The fish were mostly small and could have been caught locally in the river, its estuary, or close inshore, although occasional fully marine species are also represented. Similar fish were found at Carlisle, but the excavations there were at a time when sieving was still a novel method, and the sample sizes were much smaller. Given the excellent preservation conditions in the lower, waterlogged deposits at Carlisle (including the later wells), and good preservation at Vindolanda and in wells at many other sites, priority should be afforded to the recovery of well-preserved material to test the distribution of fish in Roman deposits. Chester could be unusual because of its coastal location combined with its special function: the deposits were associated with visitors to the legionary amphitheatre. Was it the coastal location or the cultural proclivities of the inhabitants that encouraged the exploitation

of fish? Currently, the only site with a comparable comprehensive sieving programme is Thornbrough Farm, Catterick, where sieving of more than 2000 litres of sediment produced almost no fish bones. This site is 50km (30 miles) from the sea, although adjacent to the River Swale.

During the past ten years, we have acquired major new data sets from remote-sensing surveys that utilise LiDAR data alongside old aerial photographs. An area on the eastern side of the Lune valley where it flanks the Roman road (A683) northwards from its junction with the transpennine Roman road (A65) has been mapped by Oakey *et al.* (2015). They trebled the records of known sites for this area.

The discovery that there may have been far more people than we realised living in the region whilst it was garrisoned by the Roman army highlights the urgent need to obtain dating evidence for the active use of these rural sites: both settlement sites and field systems. They are often recorded as 'later prehistoric / Romano-British' in period, based on their morphology. However, this spans the Bronze Age through to the post-Roman period, with no guarantee that they were occupied during the later 1st to early 5th centuries.

Even when investigated intrusively, dating evidence such as diagnostic ceramics or other inorganic artefacts can be very scarce, but environmental materials can provide more suitable samples for dating analyses. These include charred plant remains and organic matter in old ground surfaces or buried soil horizons sealed beneath earthen banks. If they contain quartz, then deposits such as ditch fills can also be suitable for dating using Optically Stimulated Luminescence (OSL) which measures the length of time since the quartz crystals were last exposed to sunlight (i.e. when they were buried).

Where rural sites have been investigated and have received integrated dating programmes such as Bayesian modelling, they sometimes reveal long sequences of occupation. Perhaps this should not be surprising in upland areas where the farmers had to input considerable effort to clear and maintain a small area of land for cultivation. At Glencoyne Park, Ullswater, people stayed or reused the site for several centuries (Hoaen and Loney 2013).

The mapping surveys provide excellent opportunities to choose and target individual rural sites for intrusive investigations to see how they were affected by the military presence. Did people move location as suggested on the Northumberland plain? Did they develop specialist agricultural practices such as textile production or horse breeding, or introduce new crops or expand into previously unploughed areas (as possibly indicated at Stanwick and Ingleby Barwick)? Or did life continue very much as it had in the previous two centuries (as it seems to have done at Glencoyne)?

One of the best ways to assess the impact of people on their environment

is to investigate long sequences of sediments that contain pollen and other environmental indicators. Cereals produce relatively few, but large, pollen grains that do not travel far from the plants. So, to test whether (and where) people were growing cereal crops, the most suitable locations to target for palaeoenvironmental sampling are small basins or deep depressions that are located close to a settlement or field system. Radiocarbon dating of the deposits is essential to assess the timings and scale of changes such as woodland clearance, as well as to estimate the periods of agricultural landuse for pasture or arable etc. The Wall corridor contains many potentially suitable locations for pollen preservation.

At the moment, we still have very little understanding of what the vast majority of people living in the frontier region were doing outside of the forts and extramural settlements. We should expect a variety of activities based on farming and on the exploitation of minerals and many other rural resources such as woodland, moorland, heaths and marshes, and coastal and inland waters.

The development of stable isotope analyses has provided some exciting new lines of investigation. The use of strontium and oxygen isotopes to investigate potential source areas for livestock has been mentioned above and could be applied to far more samples to investigate the scale and patterns of livestock movements and procurement. Waterworth's (2014) pilot analysis of the tiny sample from South Shields fort was pioneering and the only example so far from the Wall corridor, but similar evidence for major geographical relocations in Roman Britain has been obtained subsequently from Caerleon fort (Madgwick *et al.* 2017) and Worcester Roman town (Gan *et al.* 2018). Future investigations for the Hadrian's Wall area can target samples from archived assemblages and museum collections as well as from new excavations.

The technique is also useful for unburnt human remains and has sometimes been applied to inhumation cemeteries from further south, often in association with analyses of carbon and nitrogen isotopes which can be used as dietary indicators. The paucity of inhumed remains from the Wall corridor constrains the use of isotopic analyses on the frontier itself, but they have been applied successfully to the individual from the Cockermouth bathhouse hypocaust (Evans *et al.* 2014). The strontium and oxygen isotope composition from the tooth enamel of this individual are consistent with a childhood spent in the Lake District. Other areas with similar values exist, but a parsimonious interpretation is that this person, who was buried in Cockermouth, grew up somewhere in the local region. The carbon and nitrogen isotope analyses reflect an adult diet that was typical of British individuals. The values plot within the dietary field of other Roman

individuals from Britain (Chenery *et al.* 2010), similarly suggesting that this was a local person who had spent their whole life here, rather than a military or civilian incomer.

Elsewhere in the hinterland, isotope analyses have been usefully applied to cemetery populations from Scorton near Catterick (Eckardt *et al.* 2015) and from York (Müldner 2013). Both studies identified some immigrant people buried in Yorkshire, including some from Africa and some from the European mainland. Again, there is potential for new studies utilising archived material, even if little new material is excavated in the next decade.

Ancient DNA studies for frontier populations also have some potential, but the samples need to have good protein survival and the research questions need to be very well focused. Future aDNA studies of human remains from the frontier region can utilise archived material as well as newly excavated remains, provided that they have not undergone compromising cleaning or preservation treatments (and that they retain well-preserved proteins).

The people themselves may have included local inhabitants, recent settlers, or military veterans and they would have had various ways of engaging with the Roman administration and military presence, particularly as those aspects shifted in the later and final Roman periods. Landscape and environmental studies have considerable potential to provide new, exciting information about how they related to their surroundings and how (and if) they changed their economic and social ways of life.

Finally, we should note that Beckfoot cemetery continues to give cause for concern due to coastal erosion gradually destroying the site. A PhD student funded by the Iapetus consortium of northern universities is undertaking interdisciplinary research to investigate risks to selected sites in the Hadrian's Wall WHS. Other locations include Birdoswald (hillslope and river erosion) and Corbridge (plough damage).

We are extremely grateful to Rachel Newman, John Zant, Denise Druce, Mairead Rutherford, Ian Smith, Sandra Bonsall, Elizabeth Huckerby, Andrew Bates and colleagues at Oxford Archaeology North (OAN) for providing information prior to publication, and to Don O'Meara of Historic England for providing a round-up of relevant commercial interventions in the Newcastle area. Likewise, to Charlotte O'Brien of Archaeological Services Durham for useful discussions about her, as yet, unpublished sites in the north east. Thanks to Helen Webb, Louise Loe and Adam Parson of OAN for creating and adapting the annotated illustration of the shot cattle skull from Carlisle. Finally, we would like to thank the editors for inviting us to contribute to this publication.

Material culture

Artefacts and material culture continue to advance our knowledge of life in the Wall corridor, and the majority of these objects have been recovered through excavation, though objects recorded by the Portable Antiquities Scheme continue to provide important new discoveries. It is impossible to do justice to the range of material recovered and the interpretations ensuing from them here, but the key finds are outlined in the site-by-site discussion of recent work in the following chapter. A public-facing book thematically presenting artefacts offers an introduction to the material culture of the Wall (Collins *et al*. in press), while a major contribution to artefact studies in Roman Britain also highlights the significant quantify of data from the frontier (Allason-Jones 2011). Doctoral research on the Clayton collection was recently completed by Frances McIntosh, highlighting not only the collection but the work undertaken at Clayton's instigation (McIntosh 2019). See Collins and Allason-Jones (2010) for an important discussion of 4th- and 5th-century material culture. The following examples provide a taste of some of the finds work over the last decade.

A small but significant fragment of a copper-alloy object found at Vindolanda has been identified as part of a *klepsydra*, or a water-operated clock mechanism (Meyer 2014). It is unknown how common such devices were, given the rarity of their survival, but the significance of time-keeping in the Roman army to maintain records and fulfil orders, as well as observe religious rituals and holidays underscores the importance of keeping track of time.

Analysis of the antler and bone waste and cutoffs found in the latest strata of the courtyard house sequence at South Shields has indicated the presence of a furniture-maker's workshop at that location in the 5th century (Greep 2015).

Phallic carvings in the frontier have received treatment recently, identifying the apotropaic function of such carvings and their association with the Roman army (Parker 2017). Collins (in press) has catalogued the 59 known examples from Hadrian's Wall, developing a new typology (2019) and further highlighting the high percentage of phalli with known archaeological contexts.

Lindsay Allason-Jones, Ian Haynes, and Jon Allison are running a project called *Britain's Most Elusive Roman Sculpture*, which is funded by the British Academy and aims to scan stone carvings from the hinterland of Hadrian's Wall for the final volume of *Corpus Signorum Imperii Romani: Britannia*. The work for the *Corpus* has catalogued over 500 decorated altars, tombstones, building inscriptions and architectural details, as well as free standing sculpture, from south Northumberland, Tyne and Wear,

County Durham, Cumbria, Lancashire and Derbyshire. 65 of the pieces are hard to photograph because of their position in churches, house walls, and on rock faces, so structured light scanning is proving to be the best option. In particular, work on graffiti on the Cumbrian quarry faces has produced excellent and often unexpected results.

New Inscriptions

Roger Tomlin

'New inscriptions' means not only inscribed stones as in *RIB* I and III, but inscribed personal belongings as in *RIB* II, and even writing-tablets. Except for tablets, they have been published each year in the 'Roman Britain in 20xx: III, Inscriptions' section of *Britannia*, where the full text and other details can be found. In this survey they will be cited by the year in which they appear and their number in the sequence, so that (for example) Vindolanda's new altar is '10.04' (*Britannia* 41 (2010), 444, No. 4).

Vindolanda has been the richest source of new inscriptions in the last ten years, but we should begin at the eastern end of the Wall system, at South Shields which Paul Bidwell (2014) has deduced, by taking a close look at *RIB* 1054, was originally *Lugudunum*. The famous tombstone of Regina (*RIB* 1065) has been analysed in great detail by Maureen Carroll (2012) to show how the Palmyrene sculptor depicted her as an ideal British wife. Here also another six lead sealings have been found, including 11.29 from the prolific decurion of the Fifth Cohort of Gauls who abbreviated his name to AEM; this is the fifth example. At nearby Jarrow, Erik Graafstal (2012) has insisted that the enigmatic fragments which record the building of the Wall (*RIB* 1051) echo the political and military crisis at Hadrian's accession. At Newburn (Wall mile 9), Nick Hodgson (2011a) has examined contemporary evidence for the discovery of *RIB* 1389 in 1751/2 and shows it was found there, in the Wall curtain. This long-lost 'centurial' stone of the Sixth Legion is unusual in its formulation and especially for being dated, AD 158, the year in which he deduces that Hadrian's Wall was being recommissioned. Twenty miles to the west (mile 29), past Chesters, another centurial stone (*RIB* 1508) was found in 1702 and then 'lost'; it has been rediscovered, badly weathered, built into an outbuilding at Walwick Hall (*Britannia* 46, 417; Fig. 3.22).

Just south of the Wall, at Corbridge, boxes of samian from many years of excavation have been reorganised, revealing that a few sherds carry graffiti with their owners' names: Audax (18.39), Crescens (17.17), Quietus (17.19), Victor (...?) (17.21). These are just names, but significant inscriptions have been found further to the south-east, at two of the hinterland forts. At Binchester there is part of a dedication by a cavalry *ala* (12.06) which

Figure 3.22: *RIB* 1508 was rediscovered built into an outbuilding at Walwick Hall, though the stone is now badly weathered. Source: R.S.O. Tomlin.

may bear the same consular date as the Newburn stone (*RIB* 1389). The excavators also found a complete altar (14.04) standing in the bathhouse, dedicated to Fortune the Home-Bringer by the engineer of the *ala Vettonum* on his retirement. Eltaominus, whose name is unique, was ensuring his safe return home. *Architecti* are attested in the legions and Praetorian Guard, but he seems to be the first instance in an *ala*. And in a field near Lanchester, a metal detectorist has found the two fragmented leaves of a military diploma dated 19 November 150 (17.07, Tomlin 2018) which was issued to a veteran of the German Fleet called Velvotigernus son of Magiotigernus. He is identified as 'British', which suggests that he too – like Eltaominus – was returning home, but for him it was northern Britain after 26 years' service on the Rhine.

Vindolanda has just produced its second diploma, not yet published; only the corner, but enough for Paul Holder to date it by the witnesses' names to AD 156/8. Vindolanda's biggest new inscription was dedicated to Jupiter Dolichenus by Sulpicius Pudens, prefect of the Fourth Cohort of Gauls, whose name can now be read also on *RIB* 1688. His imposing altar (10.04, A. Birley and A.R. Birley 2010) is carved with the god standing on a bull, holding an axe and thunderbolt (Fig. 3.23). It lay inside a small building behind the north rampart which must have been a Dolichenum, especially since it

Figure 3.23: A decorated altar to Jupiter Dolichenus found in situ in a temple built against the north wall of the fort rampart at Vindolanda in the 3rd century. Source: R.S.O. Tomlin.

contained part of another altar (10.05) dedicated by a prefect of the Second Cohort of Nervians, which supports the deduction from *RIB* 1683 that the cohort was there. Its likely successor, the Fourth Cohort of Gauls, is further attested by a fragmentary dedication to Septimius Severus and his sons (15.11) which may belong to the same slab as the piece (*RIB* III, 3348) naming their governor Alfenus Senecio. This is earlier than the cohort's declaration of loyalty to Caracalla as sole Emperor (*RIB* 1705), of which another two pieces have almost certainly been found (*Britannia* 41, 467).

Humble altars have also been found at Vindolanda, dedicated to Apollo (14.05) and the mysterious 'Veteres' (10.07), the aspirated spelling of whose name (*dis Hueteribus*) hints at a Germanic origin. Other small altars are too damaged for the dedication to be certain (09.05, 10.06, 12.07), but an incomplete slab (13.05) names a goddess who was previously unknown. Within a wreath is cut a dedication to *Ahardua dea* by the First Cohort of Tungrians; Ahardua was probably a water-goddess (A.R. Birley *et al.* 2013). Humble building-stones name Felix of the century of Flavius, who chiselled all this onto a quarry-face block (10.08); and Riacus, who used a mason's point to peck his unique name onto a stone (09.07) which can still be seen where it was found, in the roadside just inside the west gate.

Vindolanda is most famous, at least to epigraphists, for its ink writing-tablets. This rich harvest has been enlarged twice in recent years. In 2001–2003, some 37 fragments were found and published as two papers in *Britannia* (Bowman *et al.* 2010; 2011). They are fragmented and diverse, but include literary fragments (one from Virgil's *Georgics*), a second strength-report of the First Tungrians commanded by Julius Verecundus (compare

Tab. Vindol. II, 154), a note of work done by the century of Firmus on 20 April, and many scraps of correspondence including parts of a letter to Verecundus and one to a pharmacist called Vitalis. Then in 2017, another 24 fragments were found which are still being studied, but the editors hope to publish a sample in *Britannia* 50 (2019). This will present four more letters from the 'archive' of Verecundus, including a report from the cavalry decurion Masclus whom it is tempting to identify with the minor celebrity of that name and rank who wrote to another prefect, Julius Cerealis, asking him to send some more beer (*Tab. Vindol.* III, 628).

Other names have been recovered from graffiti on samian and coarseware, for example Canus (10.73), Catus or [Pa]catus (09.84), Laeta (17.35), Marcion (17.29), Matugenus (09.89), ?Micico (11.22), Netacius (11.23), Quietus (18.42). Again, these are only names without a context, unlike Freio of the century of Tullio (18.44) who asserted his ownership of a mixing-bowl. His name is Tungrian, and his century is already mentioned in a writing-tablet (*Tab. Vindol.* II, 184.31). He was an infantryman, but why was his bowl – now broken into four pieces but almost complete – scattered across two rooms of a cavalry barracks? More unusual personal belongings are two silver rings, inscribed 'To mother, to father' (09.68) and with 'Greetings' (09.67); also two lead mirror-frames with their makers' names in moulded letters, Licinius Tutinus of Arles (11.17) and Venator (11.18); and an inscribed boxwood comb (11.16). There are two half-pound lead weights marked *s(emis)* in copper wire (14.29) or punched-dot letters (15.50), but they are less interesting as units of measurement than a small strip of copper-alloy inscribed 'September' (10.65) which can now be recognized from other discoveries (18.32) as part of a water-clock (Meyer 2014).

West of Vindolanda, at Greenhead near Turret 49a, a centurial stone of Cocceius Regulus (*RIB* III, 3402) was built into a fireplace for many years. It has now been donated to the Vindolanda Trust and is worthily displayed in the Roman Army Museum at Carvoran (*Britannia* 47, 415).

Towards the western end of the Wall is Stanwix, which housed Britain's only 'thousand-strong' cavalry regiment. But the fort's importance is not reflected by its epigraphy, so it is good to have two new fragments. One is part of a tombstone (18.06), the first inscription from Stanwix actually to name the *ala Petriana milliaria*. The other is part of a dedication slab (18.05) which can be attributed to a Severan empress, most likely Julia Mamaea in tandem with her son Alexander Severus (Fig. 3.24).

At Maryport a fourth altar of the prefect Attius Tutor has been found (13.03), the text of which duplicates his altar to Jupiter (*RIB* 830). The missing corner of *RIB* 823 was found in the same excavation (*Britannia* 44, 395) which incidentally showed that the Maryport altars were not ritually buried, but

Figure 3.24: A dedication-inscription found in association with the baths at Stanwix that can be attributed to a Severan empress of the early 3rd century, probably Julia Mamaea. Source: R.S.O. Tomlin.

simply used as packing for the timbers of a large late-Roman building. David J. Breeze (2018b) has discussed what we know of the Hadrianic prefects, and whether they dedicated an altar more than once a year. On the coast further south, at Ravenglass, part of a dedication-slab has just been found which supports the evidence of a lead sealing (*RIB* II.1, 2411.94) that the garrison was the *cohors I Aelia Classica*.

Sociolinguistics

Alex Mullen

In the last 15 years or so there has been increasing interest in the application of Sociolinguistics (a field that has been growing rapidly since the 1980s) to Classical studies, following, in particular, a series of influential and wide-ranging books by J.N. Adams (2003; 2007; 2013). Sociolinguists study the complex relationships between language and society, culture and identities. Given that epigraphic and other linguistic remains are often an element in our patchy and problematic evidence for attempting to understand aspects of the Roman past, having a new perspective on how we might interpret and use them to understand the identities, cultural interaction, and lived experience has inspired new, sometimes interdisciplinary, work. Part of this has focused on bi- and multilingualism, and has shown that overtly bi- or trilingual texts are not the only way to explore language contact but that clues may be more subtle, as we see below.

Regina from the tribe of the Catuvellauni, buried at South Shields in the 2nd century AD, has attracted interest from the local community, school children reading *Minimus*, and academics (Fig. 3.25). There has been plenty to say

Figure 3.25: A 3D model of the tombstone of Regina found at South Shields (*RIB* 1065), which bears an inscription in Latin and Palmyrene. Source: NU Digital Heritage, Newcastle University.

about her iconographic presentation, her relationship with Barates, how she and he made it to the frontier, what her identities and language(s) may have been. A large part of the attraction is the bilingual nature of the inscription: we find Latin and also Palmyrene (the dialect of Aramaic spoken in central Syria). But close linguistic analysis indicates that the epitaph may in fact be, in a sense, quadrilingual. The string of (defective) accusatives in the Latin section are likely to have been produced through interference from Greek and it is possible to argue that the spelling of the tribal name CATVALLAVNA reflects a British Celtic pronunciation (Mullen 2012, 3-4). Based on our understanding of the sociolinguistic make-up of the Roman Empire, a plausible assumption might be that the husband and dedicator, Barates from Palmyra, may have had Palmyrene as his first language, Greek (the lingua franca of the East) his second and (British?) Latin his third. It is also possible that he learnt some British Celtic from Regina or that he picked up some Celtic features from her version of British Latin (both routes could have resulted in the form of the tribal name we see). The monument vividly reminds us of the multiple languages and migrants that inhabited the Wall zone.

The sociolinguistic lens can also be used to explore other aspects of language and identities and their interactions, including gender, geographical associations, occupation, and age (Clackson 2015). Though the Roman army has not to date been subject to extensive sociolinguistic publications, work is underway to explore the multiple identities that may leave traces and to reconstruct the complexity of the speech communities created by the incorporation of groups from across the Empire within a large, mobile, and interconnected institution (Haynes 2013). Whilst there is little doubt that the language of command across Hadrian's Wall would have been Latin, the soundscapes of the military groupings would have been heterogeneous, with linguistic differences based on age and length of service, education, occupation, geographical origin, locations of service, intensity of interaction with local communities, and so on.

One of our most extensive sets of textual evidence from Roman Britain comes from Vindolanda. Generally, the writing tablets contain formulaic and standard language. We do not know how many were written by scribes, though they are clearly involved. Despite the reliance on the standard norms of writing there are features of sociolinguistic interest. It is important to study these in their broader geographical and chronological context. Intricate sociolinguistic work, supported by digital technologies, is allowing us to understand the complexity of varieties of Latin and local languages and their interactions over time and space in more detail than ever before. At Vindolanda, we can trace evidence of the Germanic-Celtic background of the Batavian-Tungrian auxiliaries in loanwords and onomastic practices. For

example, the strikingly large number of spelling variations in the religious dedications to (in the most Latinized form) *Veteres* at Vindolanda and elsewhere along the Wall are probably the result of uncertainty of how to render a spoken Germanic deity name into Latin (Cotugno forthcoming). In the case of Celtic linguistic features in the tablets, it can be difficult to determine whether these were already part of military Latin created through past contact with any one of a number of Celtic-speaking groups, borrowed from the speech of the continental auxiliaries stationed at Vindolanda or borrowed through contact with speakers of British Celtic (a language which is only known through Latin sources, with just a couple of possible exceptions, see Mullen 2007). The loanword *souxtum* (*Tab. Vindol.* II, 301), for example, originally interpreted as a 'Celticized' form of Latin *sumptum*, is in fact a Celtic word for a type of vessel, since it is attested in a 2nd-century potter's account from Vayres (Gironde) and occurs later in Insular Celtic (Early Irish *suacht*, Scottish *suacan*, Old Cornish *seit*) (see, most recently, Jørgensen 2008). The problem arises in trying to work out how and when the loanword entered the Latin used at Vindolanda, whether from continental or local British Celtic (if, indeed, it is a loanword and not a code-switch or interference).

The military contingent in and around the frontier over a substantial period will have had a linguistic impact. Jackson's view (1953, 106) that the Highland zone of *Britannia* was almost 'exclusively British' in language is too reductive: the linguistic realities will never follow closely such invented boundaries, as Jackson himself admits, and the military sites constituted various conduits of exposure to, and reasons to learn, Latin, both for those in them and those in contact with them. Exactly how successfully Latin spread within and without the garrisons in spoken and written form, and the complex nature of that Latin, forms part of a story of the socially variegated and differential process of Latinization across the western provinces (www.latinnow.eu).

Towards a new understanding of Hadrian's Wall?

A number of themes have emerged or been brought closer to fruition over the past decade. This section is not intended to recapitulate the review presented above, or to anticipate the more detailed assessments of individual sites in the following chapter, but to highlight points of interest that have emerged from new evidence or research.

First, there have been a number of examples of bathhouses being discovered or re-examined. In most cases, analysis and evaluation are still being undertaken, but the results will surely deliver impressive advances in our understanding of these structures. Along the Wall, the extramural bathhouse at Chesters has been reassessed by Snape and Stobbs (2016), while

excavations have examined the extramural bathhouses at Wallsend and in Stanwix (see p.118 and 192). South of the Wall, Ferris (2010) has published the results of the 4th-century baths added to the *praetorium* at Binchester, while the subsequent excavation of the well-preserved extramural baths at Binchester will offer a fascinating basis for comparison (Mason 2016).

Second, the publication of results from developer-funded excavations on the Northumbrian coastal plain has revolutionised our knowledge of prehistoric and Roman rural settlement in this area to the north of the Wall, by yielding a robust chronology for multiple sites. This offers an exciting new base of data, and places the possibility that creating Hadrian's Wall had a major impact on longstanding local lifestyles firmly on the agenda. The significance of the results is apparent in the way that they are changing how we write about the Wall, with recent treatments dedicating more coverage to local communities (especially Hodgson 2017a; see also Symonds 2015b, 305). However, more rural settlements require excavation, particularly in the western and the central sectors of the Wall to balance out our partial picture. Indeed, far more needs to be done to identify local rural populations and test the nature of their interaction with the Roman military, both during the initial conquest phase and throughout the occupation. Scientific dating of multiple sites to the north and south of the Wall in the western, central, and eastern sectors would be an excellent starting point.

Third, numerous excavations have advanced our understanding of religious practice in the frontier. The 2009 excavation of the Dolichenum at Vindolanda provided a complete plan for a temple inside the fort walls, challenging our assumptions about the cult spaces of a military garrison. In addition, the investigation of the altar pits at Maryport has turned our understanding of what the buried altars were supposed to mean upside down. These altars were presumably sourced from the vicinity of a nearby cult building (or buildings), and used to pack posts for one or more substantial and enigmatic timber-built structures in the late Roman or early post-Roman period. In addition, excavation within a cemetery at Birdoswald, publication of work at Beckfoot, and investigation of a handful of graves at Maryport has provided fresh evidence for mortuary traditions in the frontier.

Fourth, there is increasing evidence for structures and activities immediately north of the Wall. PAS-recorded objects at Great Whittington, north-east of Halton Chesters, may indicate a market site at the intersection of Dere Street and the Devil's Causeway (see p.145), while a cobbled area with a well, a ditch, and a partial timber structure associated with coins and ceramics of 2nd- to 4th-century date was found approximately 100m north of the fort at Stanwix (Martin 2010). Bidwell (2018, 145-147) has also drawn attention to the evidence for structures immediately beyond the Wall

at forts, proven at Wallsend and Benwell through excavation, and attested by geophysics at Birdoswald and from old records at Chesters. Notably, a number of Roman objects found to the north-east of the fort at Chesters have also been recorded by the PAS. As knowledge of these areas accumulates, it will surely fuel ongoing debate about the nature of the division that the Roman military sought to achieve with Hadrian's Wall.

Fifth, evidence emerging from forts indicates that there was a not simple and clear abandonment of Hadrian's Wall in the early 5th century in line with the political divorce of Britain from the Roman Empire (Wilmott 1997; Collins 2012; 2017a). Though evidence varies from site to site, occupation appears to continue uninterrupted at some Roman forts well into the 5th century, and perhaps later. Focus on the distinct challenges of identifying and dating the late 4th and 5th century, particularly in regards to material culture, has revealed more activity and potential than has been recognised in previous decades (Collins and Allason-Jones 2010).

Perhaps the greatest surge in thinking in the past decade, however, relates to reviews of the dating, sequence, and interpretation of the earliest phases of the Wall's planning and construction. Discussed in detail above (p.29-43), it is worth reiterating the key points as they will surely frame further scholarship for the foreseeable future:

- Planning and construction of the Wall may have begun before the more commonly accepted date of AD 122 when Hadrian visited *Britannia*, with Graafstal (2012; 2018) suggesting a start date of *c*. 120. Poulter's work remains key for studying how the Wall was surveyed (Poulter 2009).
- There has been a broad – though not universal – acceptance that a priority building programme was implemented to address areas that were of especial interest to the Roman military, as proposed by Symonds (2005), with Wilmott (2009, 198), Graafstal (2012), Hunneysett (2017), and Symonds (2019) suggesting further refinements (Fig. 3.26).
- The proposed priority scheme has further focused attention on more localised readings of the interaction between individual elements of the Wall and the landscape (for example, Symonds and Breeze 2016; Breeze 2017a), de-emphasising the primacy of the standardisation of the Wall monument. This process was effectively started by Woolliscroft (1989).
- There has been a palpable shift towards the Wall being perceived as a response to a threat of some kind. A defensive interpretation has been most recently and forcefully advocated by Hodgson (2017a), who envisions it repulsing sizable forces. Although an intentional military remit on this scale remains contentious, there is now a broad consensus

that at the very least activities covered by the umbrella term 'raiding' were a problem. An increased interest in violence and its consequences in the frontier zone is arguably also beginning to seep into the literature. This is also apparent from the arguments for a Roman assault on a local site emerging from the innovative work at Burnswark, just across the Solway (Reid 2016).

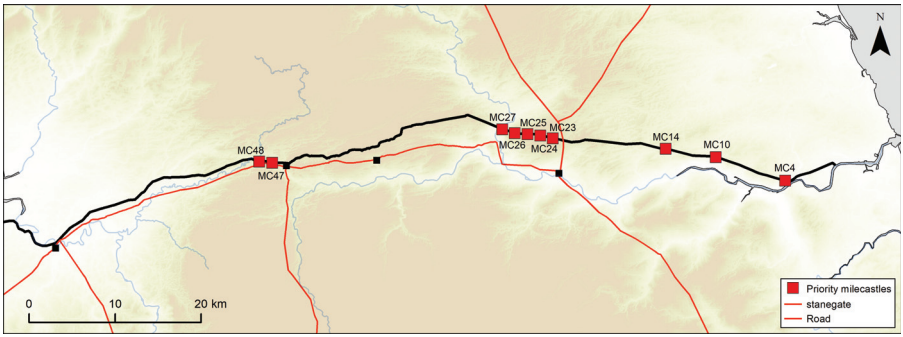


Figure 3.26: Milecastles that have been identified as priority structures in the building sequence of the Wall. Source: WallCAP.

4. SURVEY, EXCAVATION, AND PUBLICATION ALONG HADRIAN'S WALL 2009-2019

Introduction

This section outlines the results of surveys and excavations undertaken along the line of the Wall. In some cases, the entries represent interim statements of ongoing work, in others they offer summaries of published reports that have appeared over the last decade. Some fresh research proposing re-evaluations of long-known structures or material is also noted. The gazeteer does not claim to document all work that has been conducted, particularly those instances where no evidence for the Wall was observed, but it does capture the range of activities undertaken. In those cases where publication occurred in 2009, which is the year of overlap with the previous Pilgrimage handbook, this iteration devotes more coverage to work that was not extensively covered by its predecessor. As is traditional, the following account will run from east to west. Where appropriate, the entries are grouped by Wall mile, in order to help orientate readers. Where the location of the milecastle marking the commencement of a Wall mile has not been securely fixed, such a designation is naturally only indicative.

Readers seeking a full bibliography for the individual Wall sites, complete up until 2006, are referred to Breeze 2006a. The missing years between 2006 and the decade covered by this volume can be bridged using Hodgson 2009a.

SOUTH SHIELDS FORT (*Lugudunum*/*Arbeia*) (Fig. 4.1)

Nick Hodgson

Excavation

Following the completion of a programme of excavation in the fort interior, excavation took place in 2009 – 2016 in an extramural area of some 15m by 10m, 20m south-west of the south angle of the extended supply-base fort (Fig. 4.2).

Overlying pre-Roman Iron Age plough marks, themselves sealed by a layer of windblown sand, the earliest Roman activity encountered consisted of a series of dumps containing abundant pottery and finds, apparently tipped onto the ground from the north-west. The pottery was of Hadrianic and early-Antonine date (*c.* 120-160) and presumably emanated from the as yet undiscovered early fort at South Shields (the known stone fort only dating from *c.* 160) or its extramural settlement. The upper horizon of the series of tip lines contained much burnt daub.

All these deposits were sealed by an extensive dump of clean clay over 1m deep. Above this was laid a west-south-west to east-north-east running road with a curving stone-lined channel on its north side. The road had a steep

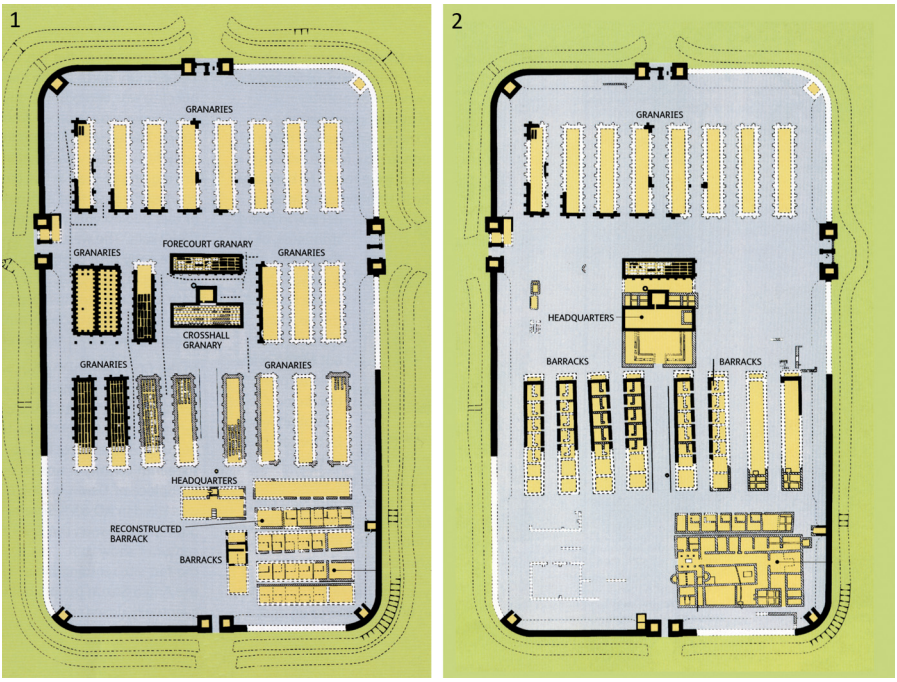


Figure 4.1: A plan of South Shields fort in the 3rd century (1) and in the 4th century (2). Source: TWAM.

downward gradient to the west-south-west, suggesting that the clay dump may have been the eastern edge of material filling up a hollow or valley to the west that the road had to cross (Fig. 4.3). The pottery from the clay dump and the underlying rubbish dumping suggests that dump, road, and channel were constructed at the same time as the first stone fort of *c*. AD 160.

At some point before the early 3rd century the channel was robbed, backfilled with material containing many finds, including part of a statuette, identified by her mural crown as a protective deity, or *tutela* (Fig. 4.4), and sealed by a further clay dump and a re-surfacing of the road, which might have represented a further attempt to level up the depression to the west.

The upper clay dump was cut by the outermost of the ditches of the extended supply-base fort constructed *c*. 205-208. The road was reconstituted with paving at a higher level, its surface continuous with a paved walkway which led north into a hollow used for gold- and silver-smithing, dated by coins and pottery to the 3rd century. This extramural activity immediately beyond the defences of the enlarged fort went out of use by the later 3rd century.

After this, the road was re-surfaced and the backfill of the hollows themselves overlain by a new stone building of which one corner was recovered within

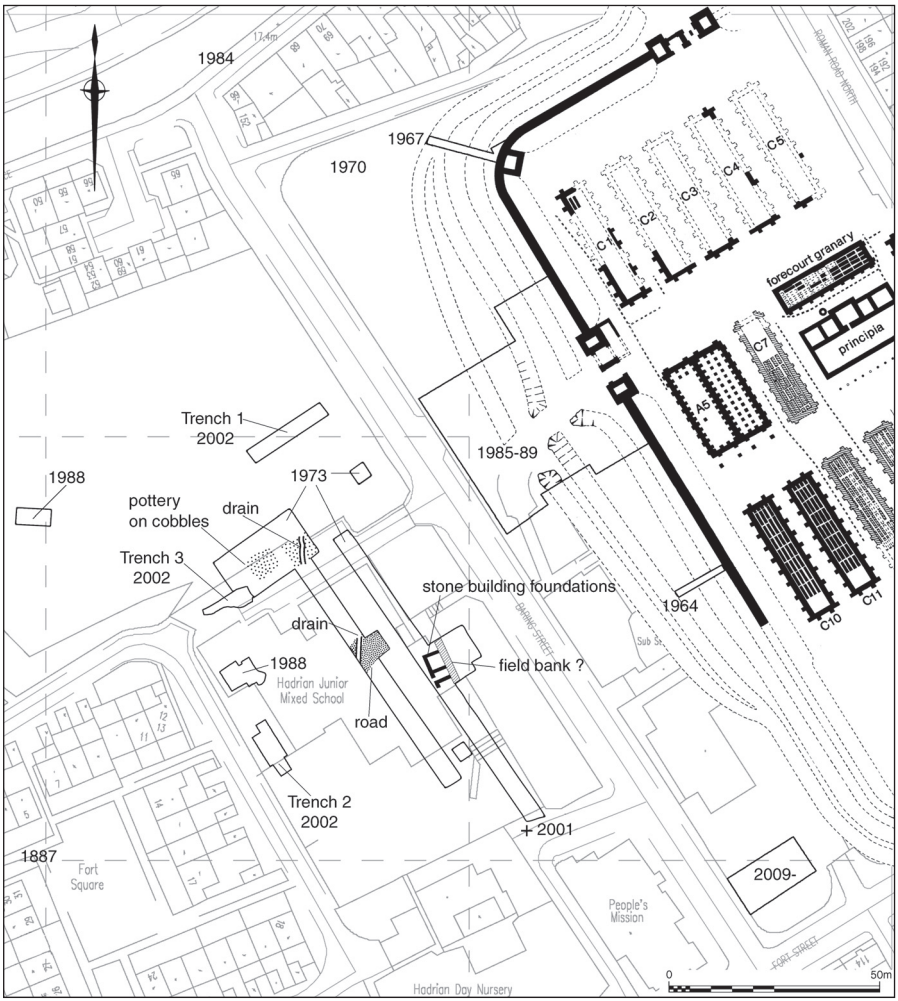


Figure 4.2: The location of investigation trenches in the extramural areas to the south-west of the fort. Source: TWAM.

the trench, perhaps the rear corner of a strip-building fronting onto a road roughly coincident with modern Baring Street. This suggests that, in contrast to the outlying part of the South Shields *vicus* excavated in 2002, abandoned by *c.* 270, there was a final phase in this part of the *vicus*, closer to the fort, dating to the later 3rd or perhaps even the earlier 4th century. The stone building was eventually destroyed by fire and contained a thick layer of burnt daub.

Figure 4.3: Sections through pre-vicus deposits of clay in an extramural area at South Shields, dating to the period c. 160-205, with overlying road at the far edge of the excavation area. Source: TWAM.

Figure 4.4: Head of tutela, with a mural crown, from the 2nd-century make-up in the pre-vicus levels at South Shields. Source: TWAM.

A ditch of small size was dug at some stage, 2.5m beyond the former outermost ditch, now filled up. This new outermost ditch cut the backfill of the 3rd-century metal-working features. The ditch terminated immediately north of the road, which was presumably still in use. The road surface was finally cut by a rounded intrusion projecting from the south-east edge of excavation, which must mark the final disuse of the road. The intrusion was possibly the terminal of a ditch; if so, and if contemporary with the ditch described above, a gap of 2m was left between terminals, but not coinciding with the course of the former road. The Roman sequence was followed by a deep accumulation of ploughsoils.

In a second area to the north-east, measuring 10m by 10m and immediately abutting the southern angle of the visible fort, tumble from the collapsed fort wall and angle tower, masking some elements of articulated collapse, lay over the fill of a ditch 9m wide and 2.3m deep, beyond a berm 2m wide. This ditch was identical to ditch H excavated at the south-west gate in 1985. At the south-west gate this ditch was found to cut an earlier ditch fill containing the latest types of Roman pottery and Theodosian coins, and so it is presumably a recut of 5th-century date.

Excavations at South Shields were directed for Tyne & Wear Archives & Museums, South Tyneside Council and the WallQuest Community Archaeology Project by Nick Hodgson and Paul Bidwell and in individual areas by Graeme Stobbs and Terry Frain. The work was supported by the Earthwatch Institute, the Heritage Lottery Fund, the Esmée Fairbairn Foundation, the Sir James Knott Trust and the Arbeia Society.

Extramural Publication

This fieldwork complements the results of a series of excavations in the area to the west of the fort, carried out in 1973, 1988, and 2002 in advance of the building of, and various extensions to, Hadrian Junior Mixed Infants School. This work is now fully published (Snape *et al.* 2010). The report contains one of the most comprehensive publications of finds from a Hadrian's Wall *vicus*, and the only detailed reporting available of a sizeable pottery assemblage dating the abandonment of the *vicus* buildings (of both stone and timber construction) to the 260s. The report also documents the agricultural landscape of the late-Roman period – fields separated by banks and interspersed with occasional wells – which overlay the 3rd-century *vicus*.

The Roman name of South Shields

Bidwell (2014) has published a study of the heavily-weathered inscription on the altar (*RIB* 1054), found at South Shields before 1672, which commemorates the safe return of Caracalla and Geta to Rome in 211. It

has long been realised that an adjectival form of the place-name might be concealed in the penultimate line. Through a combination of autopsy and study of antiquarian records, it is concluded that the place name is probably *Lugudunum*, which in fact occurs as an 'unassigned' name in north-east England in the Ravenna Cosmography. This could well have been the name of South Shields for most of the imperial period, with the *Arbeia* of the *Notitia Dignitatum* (if correctly identified with South Shields) being a late-Roman coinage, perhaps making reference to the homeland of the Tigris Boatmen located there in the *Notitia*.

Late-Roman South Shields

For a discussion of South Shields as a late-Roman naval base: Bidwell and Hodgson 2014. For a furniture maker's workshop in the fort dating to the late 4th or early 5th century: Greep 2015.

Other research publications since 2009 include: A.R. Birley 2015; Croom 2010; Croom 2014; Croom and Caffell 2010.

The Branch Wall – The eastern end of the Wall at Wallsend

Paul Bidwell

Excavations on the Branch Wall in 1997 and 2000 have been published together with a reassessment of the antiquarian sources (Bidwell 2015). This length of curtain ran down the steep slope from the south-east corner of the fort, ending below the high-water mark of the Tyne according to Hutton and others. The wall had foundations between 1.90m and 2.15m in width; on its north-east side clay-bonded footings of two courses survived below a mortared course of the curtain. Part of the original wall had been demolished and replaced by a much more substantial foundation that was up to 5.5m in width and supported mortared footings 3.2m in width. This rebuilt length projected beyond the original north-east face. A level area, terraced into the slope, ran up to the back of the wall; it contained fragments of a clay and cobble foundation. Finally, the projecting north-east face of the wider wall was rebuilt to follow the line of the original wall still standing to the north-west.

As at the fort baths and at Hadrian's Wall on the Buddle Street site, there had been extensive subsidence, which would have partly accounted for the rebuildings of the Branch Wall. The first rebuilding, however, with its great width and the foundation behind it, also served a special purpose that can perhaps be explained by looking at the end of the Wall in the river, which is tidal at this point. In order to withstand the force of the water, its final length probably took the form of a mole with arches rather than a solid wall; old

accounts mention that stone blocks were found in the river, and they could have been from the piers. Arched moles supporting temples, monumental arches, and free-standing columns capped by statues were built at ports on the Campanian coast and are depicted on glass vessels, a wall painting, and a mosaic. The eastern termination of the Wall (for most official travellers arriving by sea actually its beginning) might have taken this elaborate form. It could have been the source of the inscription or inscriptions recording Hadrian's great project and the stone blocks reused in the late-7th-century monastery at Jarrow. Wallsend lay 3.8km up-river from the monastery, which had possibly received the township and site of the fort as part of its original endowment, not least because it would have been a source of building materials (Turner *et al.* 2013, 140-157).

The rebuilding of part of the Branch Wall to a greater width might have been to improve access to the mole, with the foundation behind it representing a flight of steps leading up to the wall top. In the final phase this structure was partly demolished and the wall restored to its original width. A length of the wall recorded by Corder in 1903, *c.* 25m south-east of the later excavations, was 1.98m in width above its footings and displayed only one period of construction. It was set in a trench up to 4.57m in width that could have held the wider foundation seen to the north-west, entirely robbed at this point. The narrower wall would then correspond to the second rebuilding, which restored its original width.

WALLSEND FORT (*Segedunum*)

Alan Rushworth

The excavations during 1975 – 1984, led by Charles Daniels, have now been published (Rushworth and Croom 2016). These are among the most extensive investigations ever conducted in a Roman fort with multiple phases of occupation, and have provided an exceptional opportunity to analyse in detail the changing layout and pattern of occupation across an entire fort, particularly in the 2nd and 3rd centuries. These results amplify and, in some respects, modify the conclusions of the 1997 – 1998 excavations published previously (Hodgson 2003). The main results are summarised below.

The six primary barracks in the northern part of the fort were built of timber like their four counterparts in the *retentura* to the south. However, no evidence for urine sumps was revealed in this part of the fort, confirming that the *praetentura* barracks were designed for infantry, rather than cavalry as was the case with the southern barracks reinvestigated in 1997 – 1998. The fort was therefore designed for a quingenary equitate cohort in its primary phase.

Remains of a timber building were exposed beneath the *principia*. This did not replicate the plan of the headquarters and may have been a temporary structure, associated with the construction phase, rather than a permanent fort building. Two successive phases of the *principia*'s rear range of offices were laid out, both apparently unfinished, before the full and definitive headquarters was constructed. It is uncertain whether the latter was erected by the end of the Hadrianic period.

The barracks were all rebuilt in stone in Period 2 (mid to late 2nd century, *c.* 160-180) though the internal partitions remained in timber. All the central range buildings were now in stone, including a courtyard building, a probable hospital offset to the south of the others, and a substantial forehall straddling the *via principalis* and incorporating the frontages of the *principia* and granary.

The barracks were all rebuilt in Period 4, *c.* 220 to the mid 3rd century (Fig. 4.5). The layout of the infantry barracks in the *praetentura* differed markedly from the cavalry chalet-barrack ranges to the south. The infantry barracks were rebuilt as conventional rectangular blocks, with stone internal partition walls, rather than as ranges of free-standing *contubernia*, their construction perhaps preceding that of the cavalry barracks.

At the same time, the number of infantry barracks was reduced to four. Barrack 1 in the north-east corner was replaced with a narrower building, featuring longitudinal and lateral drains, but no partition walls, all suggesting the building functioned as a dedicated stable rather than a stable-barrack. The number of functioning *contubernia* in each block was probably reduced to seven. Taken together with the reduced number of *contubernia* in each of the *retentura* chalet-barrack ranges (five or six) this implies that the strength of the cohort in garrison was reduced to something like 300 men, including 60-70 cavalrymen. The cavalry barracks later underwent further radical remodelling, which survived very poorly. Three timber *contubernia* built immediately south of the granary, perhaps for a small band of irregular troops, also belong to this period, but the row of small stone buildings erected to the south of the *praetorium* and *principia* do not represent barrack structures, and probably had ancillary functions.

The fort's late Roman levels had largely been removed by intensive post-Roman activity and no overall plan could be established. However, fragmentary traces survived, notably in the *praetentura*, where substantial footings composed of large stone blocks, perhaps intended to support a timber-framed superstructure, were recorded over the remains of Building 1. Elsewhere surviving remains took the form of post-holes associated with timber buildings. Such structures replaced the hospital, which had been reduced in size *c.* AD 200 but continued in use until the late 3rd century.

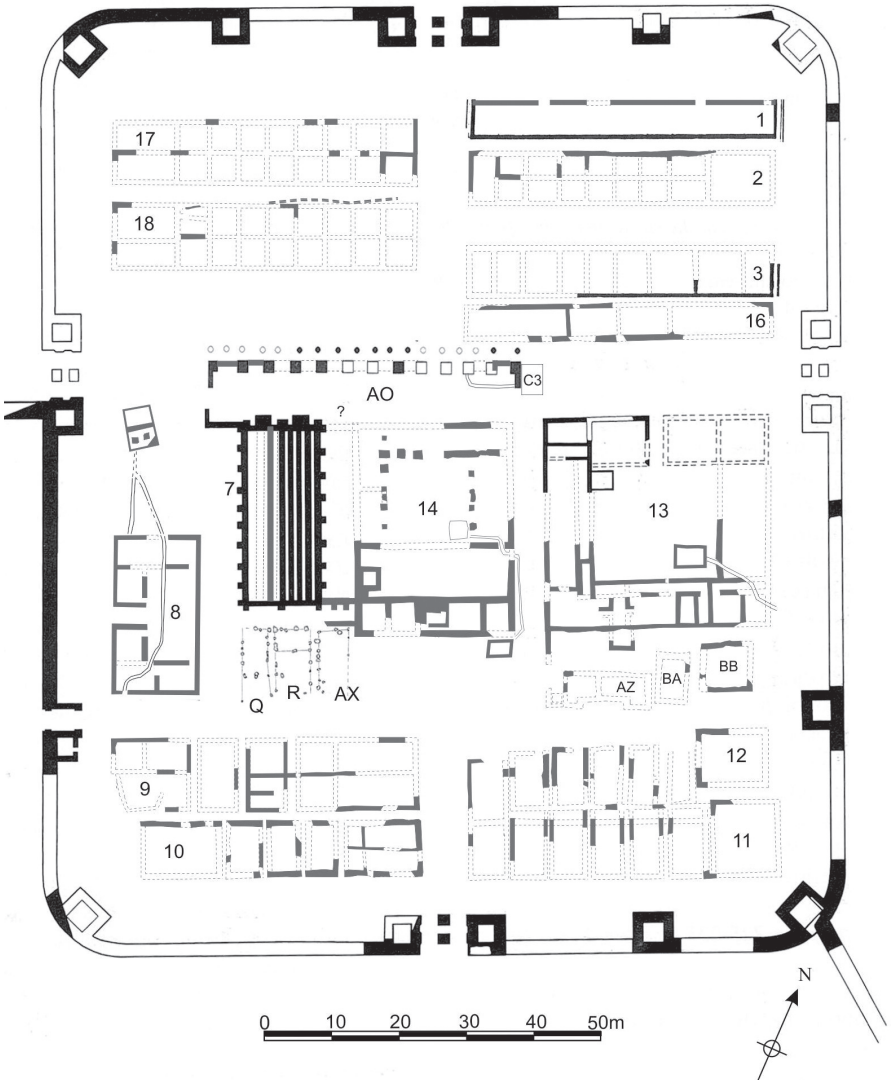


Figure 4.5: The fort at Wallsend between *c*.225-235 and the mid-3rd century (Period 4). Source: Alan Rushworth.

Other post-built structures were recorded in the NW *praetentura*, plus alongside the *via quintana* and inside the *principia*, where one rectangular building occupied the west side of the courtyard, apparently respecting the alignment and perimeter of the headquarters (Fig. 4.6).

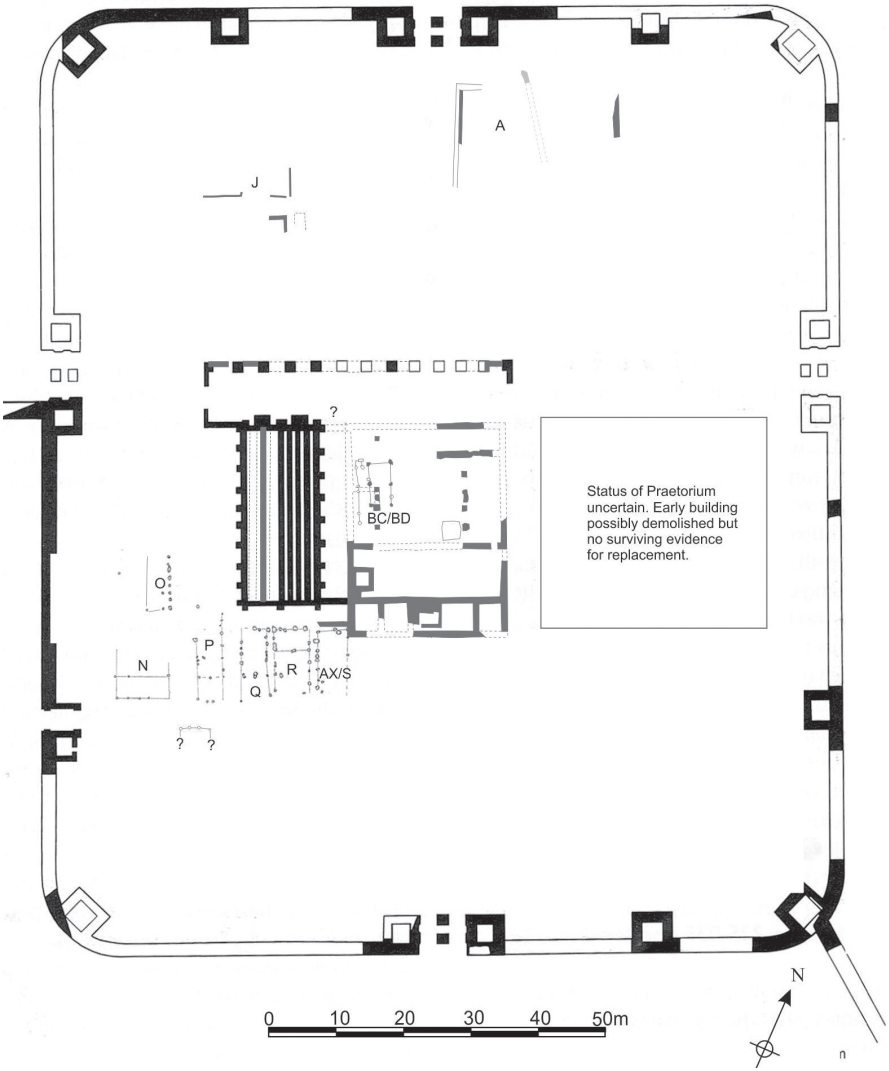


Figure 4.6: Surviving evidence for structures in the 4th-century fort at Wallsend. Source: Alan Rushworth.

Wallsend bathhouse

Nick Hodgson

Of the discoveries made by the WallQuest community archaeology project, the most important has been that of the Wallsend fort baths. The

reconstructed baths at Wallsend – a conspicuous feature of the displayed site and visitor attraction – are not on the site of the Roman original, whose exact location was unknown when they were opened in 2000. The Roman baths, 130m distant from the fort (Fig. 4.7) and much closer to the edge of the River Tyne than the reconstruction, were located in 2014 on the site of the former

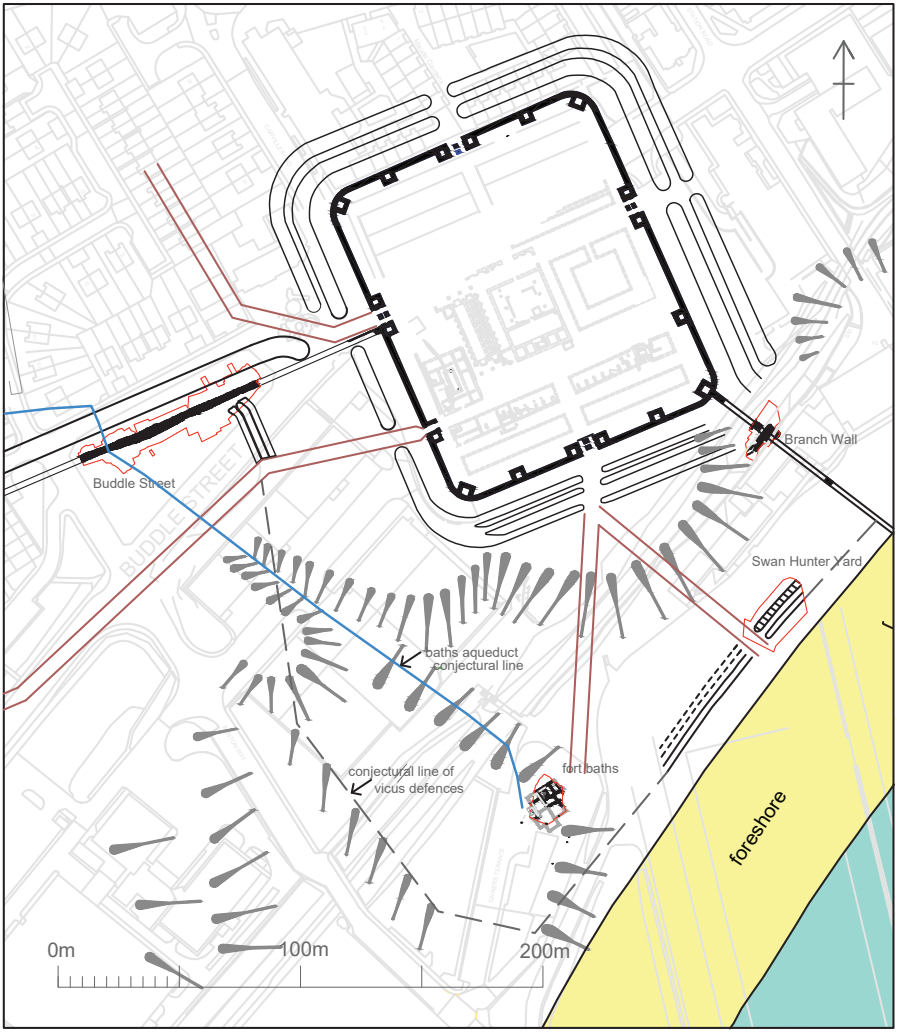


Figure 4.7: Location plan of the major excavations outside the fort at Wallsend, showing the 3rd-century aqueduct and the likely course of the vicus defences and the newly discovered fort baths. Source: TWAM.

Ship Inn (at a considerable depth – 3.75m below modern ground level) and extensively excavated in 2014 – 2015.

The building dates back to the Hadrianic period, as is shown by a distinctive plan known also at Benwell, Chesters, Carrawburgh, Netherby, and Bewcastle (Fig. 4.8-1). The baths were situated at such a considerable distance from the fort in order to be conveniently supplied by the aqueduct brought through Hadrian's Wall 240m to the north-west (see p.122).

The masonry of the original Hadrianic construction at Wallsend is of a very high quality, using small finely dressed and liberally mortared squared facing stones, and it has been possible to reconstruct the metrological scheme behind the plan, which is based on modules of three and ten Roman feet, measuring in from a basal square of 50ft, using a foot 285mm in length.

At some point the Hadrianic bath building at Wallsend underwent a drastic change that affected none of its analogues on the Wall. The southern part of the baths, containing the heated ranges, was abandoned and what remained was adapted to form a smaller bathhouse with a quite different plan, featuring two semi-circular apses projecting to the south, built over the concrete basements of the demolished former heated ranges.

The explanation seems to be that the baths suffered from landslip and that the south and east parts began to split away and slide down the slope towards the Tyne. The baths seem to have been built to hang on the south-east facing side of a stream valley. Much evidence suggestive of landslip, in the Roman period or later, was found: the buttressed exterior east wall was on a distorted alignment, having shifted wholesale out of its original alignment; significantly, one of the buttresses was an addition, perhaps a response to the initial problem. The cold bath lining was sheered in half by a prominent crack or fissure, as if the south-east section had split away and begun to move east.

An inscription found unstratified over the west rampart of the fort in 1998 (*RIB* 3281) records the building or rebuilding of a bath building 'from the ground level up' – *a solo* – at some date in the late 2nd or 3rd century. Probably this came from the present site and refers to the drastic re-planning of the main fort baths following landslip.

This second phase of the baths (Fig. 4.8-2) consists of a cold room (*frigidarium*), with a well-preserved cold plunge bath lined with waterproof cement, 1m shorter than the Hadrianic cold bath that underlies it; a very small warm room (*tepidarium*), which had simply been a heated lobby in the Hadrianic baths; and a larger hot room, (*caldarium*), whose rows of hypocaust pillars, badly heat damaged monoliths, survive. Apses project south from the warm room and the hot room; these probably contained warm and hot immersion baths, the western apse apparently containing the

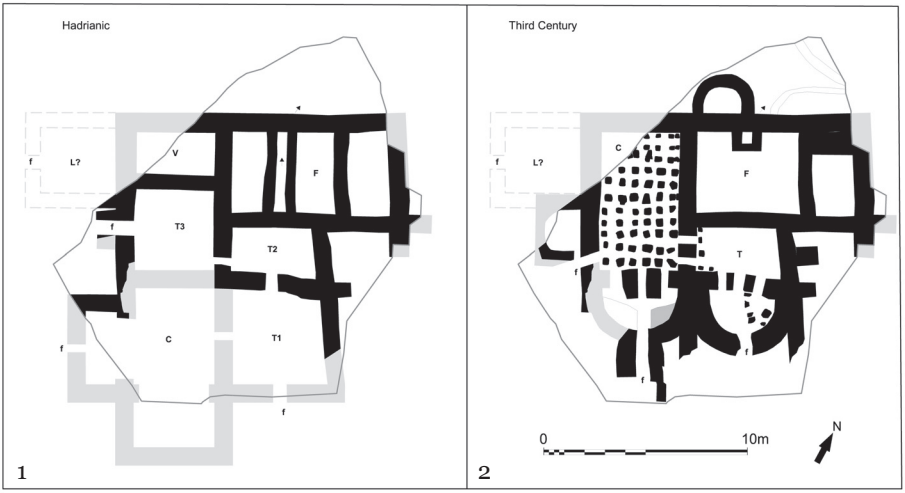


Figure 4.8: The plan of the Wallsend baths in the Hadrianic period (1) and the baths as rebuilt in the early 3rd century (2). Source: TWAM.

main hot bath. This apse was served by a very large stokehole with cheeks of stone and tile, re-faced on many occasions and showing much damage from heat.

Although the location was subsequently lost, the baths were apparently seen in 1814 during the construction of the Fawdon waggonway coal staith, which ran through the site. Workmen levelling the ground prior to the insertion of the great timber legs of the raised waggonway, which was for unloading coal into ships waiting in the river, had uncovered the remains of a substantial Roman building. The county historian and pioneer Wall-archaeologist John Hodgson heard of the discovery and arrived at the site in time to write a description of what sounds like a small hot immersion bath, whose remains were found in 2015 projecting west from the caldarium. Hodgson lamented that: 'it was, however, only the last part of a considerable building that was remaining when I visited the spot, all the rest having been removed before I heard of the discovery'. One of the most gratifying aspects of the rediscovery of the baths is the fact that although they were clearly levelled in 1814 there is a wealth of archaeological information left and the remains of the building have certainly not been entirely 'removed'.

The datable finds from the excavations – coins and pottery – are in agreement in showing that the baths went out of use before the end of the 3rd century, which seems to be the case with other external baths on Hadrian's Wall. In some cases, these were replaced by internal fort baths, as at Chesters and Housesteads. Because of its considerable distance from the fort, the

building was not used for any other purpose but probably stripped of re-usable materials and left gradually to fall into ruin.

The excavation was completed in 2015, but it must be borne in mind that what has been revealed constitutes only a fraction of the original building footprint; the remainder lies buried until such time as an ambitious project can be developed to uncover the entire building. The exposed portion of the baths has now been consolidated and placed on permanent public display. Excavations were directed for Tyne & Wear Museums and the WallQuest project by N. Hodgson, with the support of the Heritage Lottery Fund, Arts Council England, Esmée Fairbairn Foundation, the Sir James Knott Trust and the R.W. Mann Trust.

Wall mile 0 (Buddle Street)

Paul Bidwell

In 2015 – 2016, the excavation of a section of Hadrian's Wall 81.6m in length, commencing 54m west of Wallsend fort, was completed and its remains consolidated for permanent display (Fig. 4.7). Post-excavation analysis of earlier excavations on the site in 1991 – 1994, 1998 – 2001, and 2004 and of rescue work nearby, combined with a re-examination of the fabric, has added much detail to previous interim reports. Completion of the project was supported with public money by Arts Council England.

Part of the area crossed by the Wall had been cultivated until building began in Period 1. The line of the Wall ran diagonally across a small valley at the west end of the site. As a precaution against subsidence, unusually deep foundations and footings were provided on the sides facing the slopes. To the east, where the ground was level, the foundations, consisting of two layers of cobbles, rubble, and slabs, took the same form as elsewhere between Buddle Street and central Newcastle. The Wall was built to Narrow gauge with a foundation trench 2.40–2.60m wide, where not distorted by later subsidence, and with a curtain 2.26m in width above its footings. No mortar was used, but the fabric was carefully built with a layered core that followed the coursing of the faces. A distinctive feature was the use of long rectangular stones in the faces of the curtain and the footings and also in their core; throughout, these stones were laid with their long sides running across the width of the Wall, so that in its faces their narrow ends served as headers (Fig. 4.9).

The Wall incorporated the distribution system for an aqueduct, feeding the main supply into three separate pipes, which served the baths and probably other buildings outside the fort. A comparison of levels suggests that the fort had a separate supply at this stage. Though poorly preserved, the distribution

Figure 4.9: Hadrian's Wall under excavation, and showing evidence of collapse, looking east toward Wallsend fort. Long-stone construction is clearly visible in the core in the vicinity of the nearer scales. Source: TWAM.

system is an exceptionally rare survival: almost all the systems known in the western provinces are associated with much larger aqueducts serving cities. At the western end of the site, the berm was occupied by a settling pool with a tank beyond, which was connected with three channels that passed under the Wall; water flowed into the pool along a gully to the west, which would have been connected with a wooden launder crossing the Wall ditch.

Apart from its intrinsic interest, this arrangement demonstrates that the site of the baths had been decided before work started on building the Wall. It follows that the courses of at least some of the roads outside the fort had also been fixed at this early stage. Probably at the same time a series of short trenches were dug behind the Wall, which probably marked out land holdings in the military *vicus*; they were laid out on either side of a corridor reserved for the aqueduct.

On the berm to the east of the aqueduct were a series of obstacles (*cippi*) similar to others found since 2000 to the east and west of Newcastle. The Wall ditch had a step along its southern edge. Its south side would have formed a vertical face below a small bank on the lip of the ditch, not surviving at Buddle Street but seen elsewhere in association with obstacles on the berm.

There was little activity during the course of Period 1, which ended with the collapse of the Wall in two areas. At the western end of the site, the northern face of the Wall fell when the ditch collapsed, destroying the northern part of the aqueduct. To the east there was dramatic subsidence when the side of the valley to the south gave way, bringing down a 44m length of the Wall. The cause of this disaster was probably flooding caused by neglect of the aqueduct and the consequent pooling of water north of the Wall. The Wall was rebuilt reusing the original foundations and footings in the early 3rd century, marking the beginning of Period 2. The aqueduct was rebuilt on a different line, passing through the Wall by means of a culvert. At the eastern end of the site, three ditches and a bank enclosed the west side of the military *vicus***.** They ran up close to the south side of the Wall, which was strengthened by a new set of obstacles on the berm where it enclosed the northern side of the *vicus***.** These defences were also excavated south of the fort, along the riverside in the Swan Hunter Yard.

Continuing instability led to another collapse and the rebuilding of the Wall at the beginning of Period 3, though a shorter length was affected than before. The new fabric included stone from a demolished shrine and was mortar-bonded. Analysis by E.A. Laycock (2018) suggested that the lime used in the mortar had not been produced from the outcrop of limestone nearest to Wallsend, which is on the coast at South Shields, and was likely to have been from the vicinity of Housesteads and Vindolanda in the central sector of the Wall. The lime in the mortar used in the Hadrianic fort baths,

the analysis of which is also published in this volume, was from a similar source. Designing the curtain so as to minimise the use of mortar, or omit it entirely, would have avoided much long-distance haulage if only sources of lime in the central sector were exploited.

The innermost ditch of the *vicus* defences was filled and sealed beneath a new bank. The two remaining ditches were extended up to the back of the Wall. The obstacles on the berm were removed and their site levelled with rubbish that contained pottery and other finds datable to early in the second quarter of the 3rd century.

During the 3rd century, the area immediately north of the Wall at Rawdon Court was divided up into small fields or paddocks by a series of small gullies that must have flanked the road leading to the main west gate (Fig. 4.10). A stone building excavated in 2006 by the Archaeological Practice was probably associated with this agricultural activity.

A series of gullies were dug across the berm at the eastern end of the site. They emptied into the Wall ditch and were presumably designed to drain water away from the base of the Wall. There were clearly concerns about the

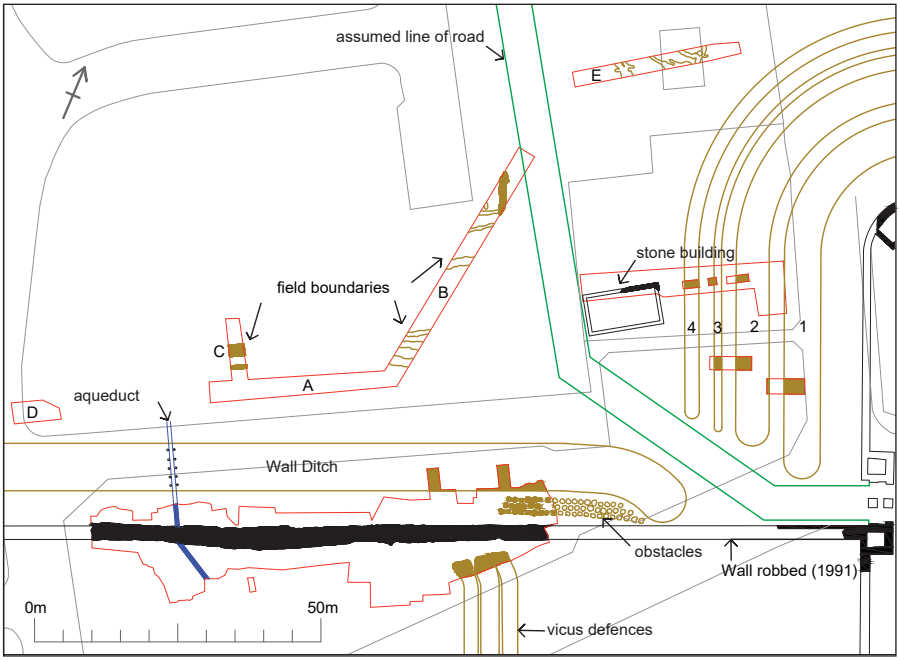


Figure 4.10: Overall plan of the Wall, western ditches of Wallsend fort, and agricultural features and building north of the Wall, with conjectural lines of a road approaching the west gate. Source: TWAM.

stability of the fabric. When the Wall fell yet again, however, it was at the western end of the site. The rebuilding at the beginning of Period 4, around the beginning of the last quarter of the 3rd century, employed a large number of blocks and architectural fragments from one of the fort gates, almost certainly the main west gate. The aqueduct was reinstated on a line slightly to the east of that which it had occupied during Periods 2 and 3. Probably at the same time, the ditches of the *vicus* defences were levelled.

The gully running south from the Period 4 aqueduct culvert was rebuilt twice and was associated with a series of occupation deposits. After the first rebuilding, ten iron arrowheads, folded over and rendered useless, were buried in a rough arc just to the north-east of the gully (Fig. 4.11). This was clearly a ritual deposit, and other items of weaponry from contexts in this area might also have been offerings. A sharpening stone set on a little platform near the deposit was presumably used for preparing weapons for use under the auspices of the deity to whom the dedications had been made.

The third gully was filled and not replaced. The aqueduct was now out of use, and the date of the finds from the preceding occupation suggests that this had happened by about the beginning of the 4th century, by which time the fort baths must have been abandoned.

The rebuilt Wall then collapsed. On the south side, sealing the aqueduct

Figure 4.11: Iron arrowheads from the later 3rd-century ritual deposit immediately south of the Wall. Source: TWAM.

gullies, parts of five courses of blocks remained in the order they had fallen; their analysis yielded important information about the architecture of the gate from which they originally came. On the north side there were layers of worn stone chippings that can be taken to indicate a further repair marking the beginning of Period 5, but none of its fabric was preserved in the Wall. In two areas at the east and west ends of the site, silt had accumulated against the two faces of the Wall; both deposits contained pottery no earlier than *c.* 360. There were no facing stones or rubble of large size in the silt, which indicates that the Wall was largely intact at the end of the Roman period.

The decay and collapse of the Wall appears to have been a long process, but its stages cannot be dated with any precision. It is likely that the dimensions recorded by Bede in the early 8th century, giving its width as 8ft and height as 12ft (note that the Anglo-Saxon foot was variable), were of a standing length at Wallsend.

These excavations have now been published (Bidwell 2018). The report includes chapters setting out the evidence on which the full-size reconstruction of the Wall was based and discussing what is known about rebuildings and repairs to the Wall as a whole. There are also some observations on the challenges and opportunities of excavating the Wall in modern urban areas. An appendix by A. Croom considers the contexts and significance of inscriptions, sculpture, and other finds from the first two Wall miles west of Wallsend, among much else identifying the site and dedications of a temple *c.* 275m west of the fort.

Wall mile 2

The Wall core was encountered during evaluation work just west of the junction of the Fossway and Whinneyfield Road (*Britannia* 41, 356).

Excavation of a length of the Wall at 24-46 Shields Road in 2002 – 2006 is now published: McKelvey 2010.

Wall mile 3

The line of the Wall curtain and ditch has been established between the Ouseburn and Crawhall road, gradually diverging south from the road running up Stepney Bank (NAA 2015).

Excavations undertaken by Archaeological Services at Melbourne Street in 2003 – 2004 have been published (Platell 2012). This work exposed a 13m long stretch of the Wall surviving to a height of two courses with a width of 2.44m. Three rows of pits to take the berm obstacles were found north of the curtain. The berm was 6m in width, while the Wall ditch was

found to measure 3.1m wide and 1.8m in depth. Digging of the ditch seems to have predated construction of the Wall curtain, which would fit with the suggestion discussed above that material won from the ditch could be used in the curtain (p.47).

Newcastle upon Tyne – Roman bridge

Nick Hodgson

In 2015, Tyne & Wear Archives & Museums on behalf of the WallQuest community archaeology project obtained radiocarbon dates from samples of three items reputed to be made of wood from the piles of the Roman Bridge at Newcastle. One was from the binding of John Collingwood Bruce's own copy of his *The Roman Wall* (1867), labelled: 'The boards of these volumes consist of oak used in the foundation of the Roman bridge over the Tyne at Newcastle, built by Hadrian, AD CXX. The timber was brought away from its ancient bed by J. Collingwood Bruce in March 1872'. This returned a date of 896-1021 cal AD (95% confidence), which supports the argument by Bidwell and Holbrook (1989, 100) that at the fourth pier from the Gateshead side, Bruce had misidentified the timber framework of a medieval bridge pier as Roman work. A second date from a piece of furniture allegedly made from wood from the Roman bridge returned a prehistoric date. However, a third item was sampled, a fragment of wood with an old paper label reading: 'A pile of the R[oman bridge] at Newcastle AD 120' (current location: Discovery Museum, accession number: TWCMS : 1995.2473; originally from Joicey Museum, Newcastle). This returned a Roman period radiocarbon date (SUERC-60278 (GU36819) of 132-326 cal AD (95% probability) and is the most definite evidence to date that the Roman bridge at Newcastle lay on the same site as its medieval successor. It might possibly relate to supposed Roman piles, associated with a concrete foundation, that were seen by Bruce when a different pier (third from Newcastle side) of the 18th-century bridge was removed in 1872.

NEWCASTLE FORT (*Pons Aelius*)

Excavations in advance of development to the west of the fort identified a north-south street and traces of buildings fronting onto it. This presumably formed part of the fort extramural settlement. Activity was dated from the late 2nd / 3rd century to the late 3rd/4th century (*Britannia* 42, 338).

Wall mile 3 (Mining Institute and Lit & Phil, Westgate Road)

Alan Rushworth

A watching brief undertaken during the excavation of an external lift pit in front of the Literary & Philosophical Society Building revealed structures and deposits associated with the south face of Hadrian's Wall (Archaeological Practice 2016). Facing stones belonging to the offset course and the first main course were observed, though the Wall core was not exposed. Packed against the Wall face was a substantial deposit of firm clay containing Nene Valley colour-coated pottery sherds, broadly dating to the later 2nd-4th century. A series of seven postholes were set into this clay in two parallel rows, one of the posts being set at an oblique raking angle as though being used to brace the Wall curtain (Fig 4.12). The clay layer had been truncated by post-Roman activity and its original depth and profile are unknown.

Immediately to the west, excavation within the area enclosed by railings in front of the Mining Institute (NEIMME) re-exposed the stretches of Wall curtain first uncovered by F.G. Simpson in 1952 and shed further light on features revealed in front of the Lit & Phil (Archaeological Practice 2018). The south face of Hadrian's Wall was uncovered in three separate trenches,

Figure 4.12: A row of postholes set in clay packing immediately behind the south face of Hadrian's Wall, exposed in the trench in front of the Lit & Phil, Newcastle. Source: Archaeological Practice.

extending over a distance of 15m (Fig. 4.13). Two courses of the face survived, the lowest course being offset, plus part of the clay and stone core, but only 1m of the Wall curtain's width was actually revealed, the remainder lying beneath the pavement. The natural ground level lay 1.2m below the present surface. Part of the Wall had been cut through by a broad and deep late medieval/early modern culvert trench.

Figure 4.13: An overhead view of Trenches 1 and 3 in front of the Mining Institute with the remains of Hadrian's Wall visible at the left and right ends of the trenches. Source: Archaeological Practice.

At the east end of the site, two phases of ditch or pit were cut into the natural, with the earliest phase slightly underlying the lip of the Wall's offset bottom course. The fill of the phase 1 ditch in particular was so similar to the natural subsoil as to suggest that it represented an incorrectly positioned clay quarry pit for the Wall core, rapidly backfilled and later re-dug. Overlying the ditch fills was a layer of redeposited clay, which was cut by a probable post-setting, similar to the pattern observed in the Lit & Phil trench. Prior to the excavation of Simpson's trench, in 1952, this clay probably extended right up to the rear of the Wall, being packed against the south face of the Wall curtain. A further post socket cut the lowest course of this wall face and perhaps supported a further timber erected vertically right against the main wall face.

The purpose of the clay and timberwork structure noted in the two adjoining sites is uncertain, but it may represent part of a later reinforcement to repair the Wall, or perhaps some kind of clay and timber earthwork defence extending southward from the Wall (to protect the *vicus*?).

A tightly packed spread of cobbles, capped by clay, extended northwards up to and over the Wall remains, some 18m from the east end of the site. Its function is uncertain. Though clearly earlier than the demonstrably medieval and post-medieval deposits it could still represent a post-Roman feature. All walls and other remains so far identified within the Mining Institute have been shown to be medieval or later, however.

Wall mile 5?

An undated feature seen during excavations at The Beacon, Westgate Road, may *possibly* be the Wall ditch, running to the south of its assumed location (*Britannia* 45, 320).

There has been an important sighting of the foundations of Hadrian's Wall as it approaches Benwell fort from the east, beneath the surface of the West Road where its precise location was previously unknown (NAA 2014).

BENWELL FORT (*Condercum*)

Several excavations touching on what appear to be elements of the Benwell fort extramural settlement have either been mounted or published over the last decade, and the results of this important work are summarised below in four sections (Fig. 4.14). The potential relevance of a sandstone sculpture is also noted.

Trinity School (Oakfield College Site)

Excavations undertaken on the eastern margin of the extramural area in 2008 – 2009 by Pre-Construct Archaeology Limited have been published (Proctor 2011). This work revealed a hollow way leading towards the Tyne and the corner of an enclosure that may have had an agricultural role. Both features lay to the south of the Vallum. Dating evidence indicates activity from the 2nd to the late 3rd century AD, with later phases belonging to the medieval and post-medieval period.

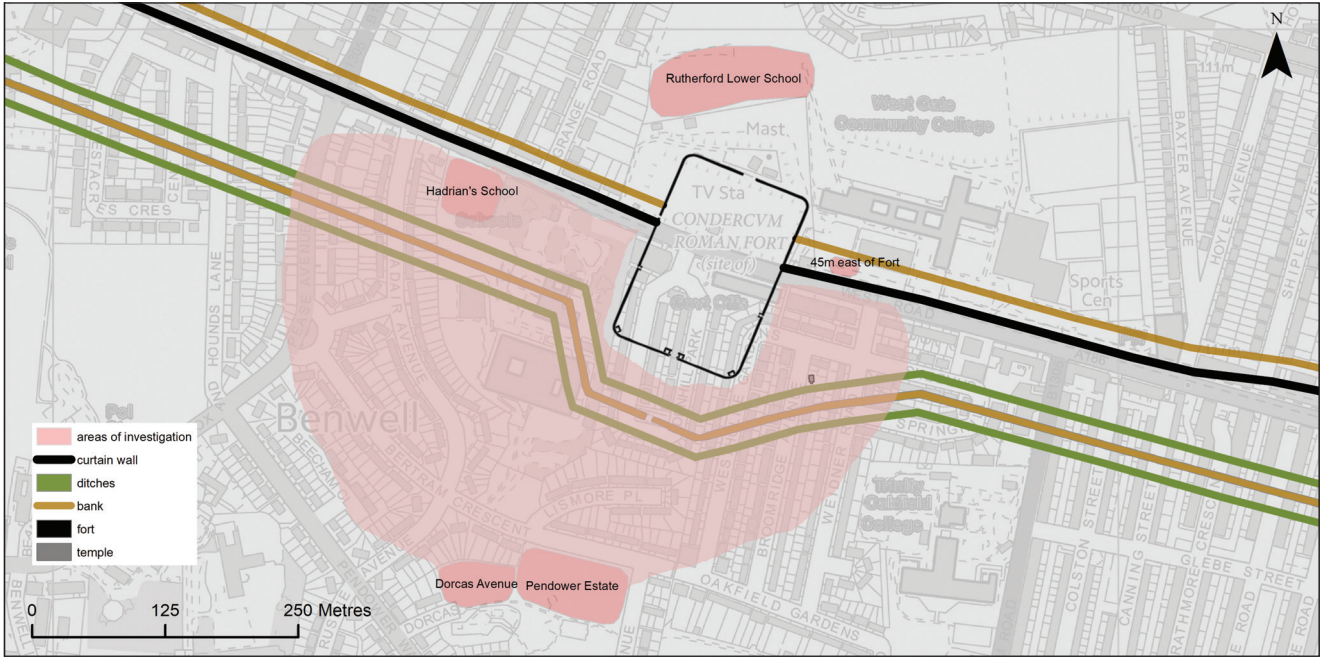


Figure 4.14: Benwell fort and identified extramural structures relative to the modern streetplan. Dark shading indicates areas of archaeological investigation over the past decade, while light shading indicates the current suspected extent of the extramural settlement. Source: WallCAP.

Pendower Estate and Hadrian School

Nick Hodgson

In 2013, the *WallQuest* community archaeology project opened four trenches in open ground in the Pendower Estate, 270m south of the fort, and found natural-cut ditches, gullies and slots, and abundant Roman pottery, confirming extramural activity on the south-facing slope at a considerable distance from the fort. This was before the discovery of better-preserved stone buildings even further to the south (see below p.136).

In 2013 – 2014, trenches in the grounds of Hadrian School, 170m west of the fort, in the area immediately behind Hadrian's Wall, found a curvilinear ditch containing pottery of the 2nd and 3rd centuries. 40m south of the modern West Road (which overlies the Wall) the 'Military Way', approaching the fort from the west, was uncovered. It consisted of a single layer of cobbles, 7.5m wide (Fig. 4.15). Most importantly, 65m south of the centre-line of the West Road (which overlies Hadrian's Wall here) and 21m south of the south edge of the Roman Military Way, was the centre-line of the north Vallum mound, which survived as a shallow upstand of mixed yellow clay, 6m wide.

Figure 4.15: The Military Way, exposed 170m west of Benwell fort. Source: TWAM.

The rock-cut north lip of the Vallum ditch was located 9m from the south edge of the mound. This places the centre of the Vallum ditch at a distance of 80m from the centre-line of the West Road, meaning that at this point, to the west of the divergence around Benwell fort, the Vallum runs 20m closer to the Wall than currently shown on OS Maps, but approximately in the position reported by Simpson and Richmond (1941, 36).

A trench immediately north of the West Road, 45m from the east fort wall, was dug to test the observation recently made during water-main renewal 10-60m further east that the Wall ditch apparently swung north as if to respect the site of the fort (NAA 2014). The present trench located the Wall ditch, 10m wide, at a depth of 1m. This confirms that the ditch continued on the conventional alignment, presumably underlying and predating the fort. The ditch had been filled with clay in the Roman period, so perhaps close to the fort the Wall-ditch was replaced with an out-turning ditch at a later date. The original Wall ditch was on the same alignment as recorded 200m further east and lay immediately north of the pavement: it did not veer north as claimed by Simpson and Richmond (1941, 5). This has implications for the size of Benwell fort, placing the east and west gates further south than thought by Simpson and Richmond, who had perhaps been misled by the outward-turning replacement.

The WallQuest work at Benwell was supported by the Heritage Lottery Fund, Esmée Fairbairn Foundation, Make Your Mark, and Sir James Knott Trust.

For a group of 3rd-century pottery found during the building of a house extension in the fort: McBride 2010.

Rutherford Lower School

Matt Town

Excavations in advance of a residential development north of Benwell reservoir, on the site of the former Rutherford Lower School, have uncovered extensive settlement evidence and field systems (Fig. 4.16). The site lies north of Benwell Roman fort, into which the reservoir was inserted in the Victorian period. The site was hitherto not believed to have seen much activity during the Roman period (cf Hodgson 2017b, 127 showing a reconstruction of the fort, with all 3rd-century settlement focused south of the Wall itself) but excavations have now changed this view.

The presence of archaeology was hinted at in 2017, when evaluation works by NAA on the reservoir as part of water-main works found evidence for a Roman road leading northward out of the north gate (NAA 2018).

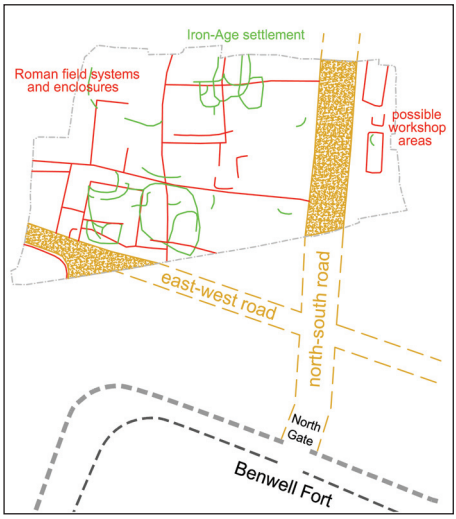


Figure 4.16: The north-south and east-west roads found north of the fort and Wall at Benwell, with associated structures and field-systems. Source: NAA.

During the excavations for this site, which started at the end of 2017, the Roman road was found to extend northwards for a full 60m, as a well-preserved though plough-truncated metalled surface; investigations have shown that this road was realigned at some time during its lifespan, with an earlier road following a slightly more northerly route. East of the road, the archaeological evidence is limited, though spreads of metal-working debris suggest industrial activity (and possible buildings) in this area. At the western corner of the excavation area, a further east-west aligned road was identified, presumed to run along the north side of the fort defences and forming a junction with the main road just north of the fort gate, similar to an arrangement recently observed at Binchester fort in Durham (NAA forthcoming).

The topography of the site undulates, with a ridge of slightly higher ground extending northwards from the fort. Along the eastern flank of this higher ground have been uncovered ring gullies and roundhouses related to a local settlement of Iron Age style, which probably predates the establishment of the fort (the fort extends northwards from the line of the Wall, and it is possible that this may have been as a deliberate show of strength to the local population, whose settlement it impacted on). Despite this, the settlement appears to have endured, as the fills of the gullies and pits contain Romano-British pottery, and other finds, hinting at integration of the local population with the fort. In addition to the settlement evidence, a single adult burial has also been found, in poor condition. To the rear of the settlement are extensive field systems and enclosures. This archaeology extends northwards to the site boundary and potentially beyond the current stripped area; further evidence is likely to be uncovered as excavations progress northwards. At some point the settlement was abandoned, as later (possibly 3rd-century) Roman field systems are cut across the settlement, forming broadly square fields extending west from the Road.

Following abandonment of the fort, the site appears to have been covered with homogenous organic soils, hinting at a period of stagnation in the use of the site. Despite this, evidence of ephemeral stone and timber structures along the western edge of the road hint at further occupation in the early medieval period, and it appears that the road north may have continued in use at this time; the western road also forms the focus for a substantial stone wall, revetting the southern edge of the road and possibly part of a stone enclosure of a similar date. A find of a late 5th-/6th-century Anglian brooch associated with this occupation evidence seems to confirm activity on the site at this time. In the later medieval period, the site was subsumed by ridge-and-furrow cultivation, with the north-south road marking a boundary between different alignments, suggesting it was still a significant component of the landscape. This cultivation was later consolidated into fields, which were a focus for coal mining along the northern edge of the excavation area.

There have been many nice finds from the site, including Roman shoes, rings (including one made from jet), and intaglios. Excavations are still ongoing – and as such the full story of the site is yet to emerge – but are due to complete in 2019.

Dorcas Avenue

Alan Rushworth

Between 2013 and 2018, work on a housing development site in Benwell, 250-300m south-west of the fort, has revealed extensive and substantial remains of the Roman *vicus*. The south-facing site, formerly occupied by early 20th-century housing, lies to the east of the current stub of Dorcas Avenue, and is bounded by Bertram Crescent, Sunnybank Avenue, and Jennison Avenue to the north, east, and south respectively.

Evaluation trenching took place across the northern half of the site in 2013 (by the TWAM WallQuest Project) and in 2015 (see Archaeological Practice 2016). This revealed various cut features suggestive of earth-and-timber-built structures, notably in a trench about 400m from the west side of the fort. It was suggested they could be associated with former gardens or workshops on the periphery of the *vicus*. Their non-uniform alignment and inter-cut nature suggested multi-phase, but not necessarily prolonged or highly intensive, use.

Mitigation monitoring across the full extent of the site, commencing in May 2017, revealed more substantial remains, resulting in full-scale excavation (Fig. 4.17). In the southern half of the site, spread over a distance of 30m, two open-fronted and narrowly proportioned strip buildings, plus a large,

Figure 4.17: A composite aerial view of the entire southern area in 2017. North is at the bottom of the image. Source: Archaeological Practice.

buttressed building, immediately to the east, were uncovered, along with associated ditches and gullies interpreted as water-management features (Fig. 4.18).

Figure 4.18: An aerial view of the Roman buildings in the southern part of the site. North is at the bottom of the image. Source: Archaeological Practice.

The remains of the large, rectangular eastern building comprised the 1m wide foundations of the external walls and central spine wall, with buttressing at the angles and wall terminal. It was enclosed by a boundary ditch and later further subdivided by a cross wall. The building was *c.* 10m wide and aligned north-south, but only the southernmost 11m could be exposed due to the terraced nature of the housing development and its full length is unknown. It was interpreted as a warehouse and may have been more than one storey high.

The two strip buildings were constructed subsequently, on a slightly different alignment, though still during the life of the warehouse, and may have had an industrial or commercial function. The westernmost, which extended beyond the limit of excavation, was the best-preserved, with surviving floor levels. It was left in situ, undisturbed.

To the east of the warehouse were a series of similarly orientated stone walls, belonging to a rectangular building, which occupied the remainder of the site and contained coal deposits. It was interpreted as being associated with 18th- or early 19th-century local colliery workings, but the similar alignment and lack of post-Roman finds means a possible Roman date cannot be wholly excluded, with coal extraction known to have occurred in this period.

In the northern part of the development, site excavations revealed a series of ditches, gullies, drains, and pits associated with fragmentary working surfaces, including a burnt area interpreted as the floor of a hearth or smithy. These remains were similar in character to those revealed by the evaluations, suggesting industrial and garden activity on the edge of the main *vicus* area. The preponderance of cut features here meant that finds recovery was greater than in the southern zone of buildings, and included substantial quantities of 2nd-century pottery plus a few coins.

These discoveries improve our understanding Benwell *vicus*, in particular its extent. Especially striking is the presence of well-constructed stone buildings, including a large buttressed warehouse, all implying substantial investment, beyond the edge of settlement-type occupation further north. It is surely significant that the site lies just west of the projected course of the road leading down from the south gate of the fort to the banks of the River Tyne.

Sandstone bust

A sandstone bust of a woman, probably funerary, was discovered in a garden that lies on the course of the Vallum and may indicate the western outer extent of the extramural area of the fort at Benwell (Collins 2013a).

Wall mile 7 (Dene Lodge, Denton)

The Vallum ditch and north mound were identified during evaluation work in 2010, further to the south than previously believed. The northern bank was found 7m north of the Vallum ditch edge, surviving to a height of 0.35m and 6m wide at the base, with a revetment made of stone slabs to either side. The berm between the north mound and ditch was found to contain disturbed remains of Bronze Age funerary material (Annis 2010a).

Wall mile 8 (Alan Shearer Centre, West Denton)

The Vallum ditch and south mound were observed during an evaluation in 2008. The ditch was 4.8m wide and at least 0.6m deep, though it was not excavated to its base. The south mound survived in variable condition *c.* 10m south of the ditch with traces of turf revetment and a maximum width at the base of *c.* 6m. Despite the depth of the remains at *c.* 1m, there was considerable truncation of the Roman features and deposits (Annis 2010b).

Wall mile 10

A reassessment of the contents of the Wallbottle hoard and metallurgical analysis of 82 of the surviving coins has been published (McIntosh *et al.* 2017). Radiates from the Central and Gallic empires were minted using metal from different sources, while an attempt to approximate the hoard's overall worth concluded that it contained 'a quantity of silver equivalent to something like 45% to 50% of an auxiliary's yearly pay in the early empire'. The hoard was probably deposited in the mid-270s, and it is noted that hoards of this date are surprisingly rare in the military north, when compared to central, southern, and eastern England.

A section of Wall was seen during evaluation work at Tyne View House (*Britannia* 45, 320).

The Military Way was observed during excavations at St Cuthbert's School, and appeared similar to that found at Throckley (below), but without kerbstones (*Britannia* 40, 232).

A short stretch of the Military Way was encountered at Throckley Filling Station and Prospect House, consisting of a compacted stony rubble topped in placed by fillings of small pebbles, decayed mudstone, and fragments of coal and cinders, bounded by rows of rough sandstone kerbstones (*Britannia* 40, 232).

Wall mile 11 (Heddon-on-the-Wall)

Paul Bidwell

In July 2018, an intensive magnetometer survey was carried out by AD Archaeology in the guardianship area of Hadrian's Wall. Its purpose was primarily to determine whether the pits on the berm, seen in excavation at a number of sites on Tyneside (see p.47), are detectable by geophysics. Clear anomalies appeared over a length of *c.* 115m, displaying diagonal patterns typical of the quincunx arrangement of these pits, which accommodated obstacles in front of the Wall (Fig. 4.19). The anomalies were not confined to the strip usually occupied by three rows of pits. Those to the south might have resulted from disturbance when the Wall was consolidated, though at one point it seemed possible that a fourth row of pits had been inserted next to the Wall. Some of the anomalies on the north side might have been associated with the remains of a small bank known elsewhere on the southern lip of the Wall ditch.

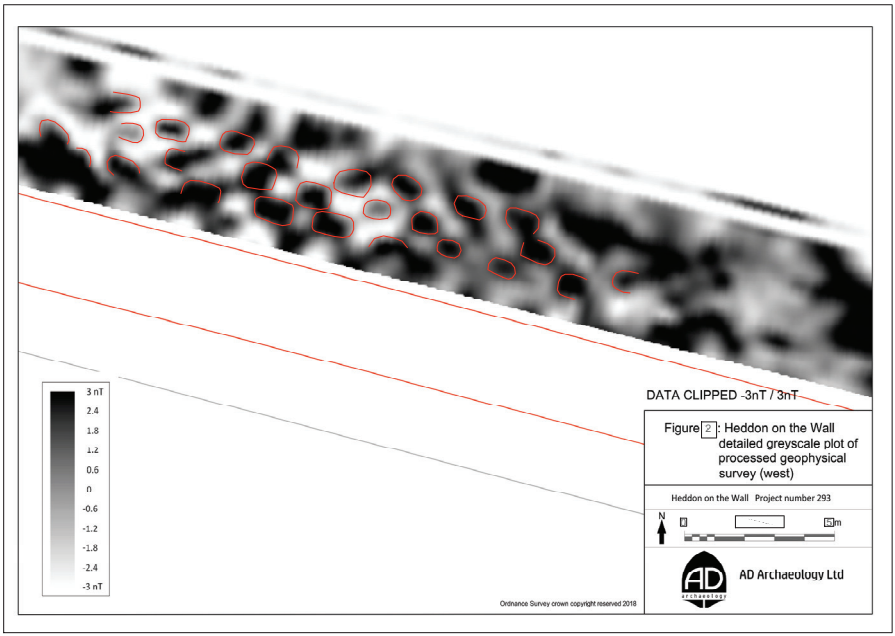


Figure 4.19: The geophysical plot and identified features on the berm in front of the consolidated length of curtain at Heddon-on-the-Wall, showing evidence for pits that held berm obstacles. Source: P. Bidwell.

Milecastle 12

Graeme Stobbs

The finding of two short length of Broad Wall foundations and a footing under Keeper's Cottage during redevelopment has confirmed the alignment of the curtain. The cottage was built on the farmyard of the former Town Farm, and this farm has traditionally been identified as the site of milecastle 12 (Brewis 1927, fn.19). The presence of the curtain at this location has prompted a reconsideration of the source of the evidence for the location of the milecastle (Stobbs forthcoming). A misinterpretation of the identity of the findspot of a probable in situ part of the gateway had occurred. The site of milecastle 12 is now believed to be situated to the west of the traditional site, on higher ground, within an enclosure known as Tank House Field.

Wall mile 15 (Albemarle Barracks)

Nick Hodgson

Two trenches by the WallQuest Community Project and Operation Nightingale examined the Wall ditch immediately north of the Military Road (B6318), in the grass verges to either side of the entrance drive to the barracks. The ditch was found to be 9m wide, but flooding prevented a record of its lower profile and depth. The south lip of the ditch lay 2.25m north of the edge of the modern road. If the berm at Albemarle had a standard width of 6.1m this would place the north face of the Wall just north of the centre line of the B6318, with its foundation, if placed directly on the natural, at a depth of approximately 1.5m below the present road surface. The southern face of the Wall ditch was found to consist of a very steep 0.50m drop from the natural surface to a shallowly sloping shelf some 1.20m wide, after which there was a break of slope to a steeper 'V'-shaped profile. The purpose of this 'step' seems to have been to accentuate the appearance of a mound of material on the edge of the berm, consisting of blue-grey clay up to 300mm thick, containing sandstone fragments. Elsewhere a mound in this position has been associated with obstacles on the berm, but their presence at Albemarle could not be confirmed because the southern edge of the mound and the berm lay beneath the road.

Wall miles 20 and 21 (the Vallum at Down Hill and Halton Chesters)

Humphrey Welfare

Except at forts, abrupt turns in the Vallum are rare. At Down Hill, whichever the direction in which it was surveyed and first set out (Poulter 2009, 44), the effect of the marked double turn beside the probable site of milecastle 21 (see below) was twofold: it enclosed and protected a sparse resource – a raft of limestone (Johnson 1997, 28), essential for the mortar of the Wall – and its course westwards (visible on LiDAR) was designed to 'fall in' with (i.e. it is aligned on) the south ditch of the fort at Haltonchesters. The Vallum's line was altered again on the crest at Halton, even though there was no topographical need to have done so, as from Down Hill there was unobstructed visibility westwards to Errington Hill. Thus, the decision to place a fort at Halton must already have been taken when the Vallum was pegged out (cf. Graafstal 2018, 83-4); the surveying point would have been outside the fort's south gate. Excavations in 1957 (Jarrett 1959, 184) showed that this south ditch of the fort at Halton was 6.5m across, on a par with the ditch of the Vallum, although the excavator made no connection with

the latter. The same correlation of alignments seems to have been true at Chesters where Haverfield (1903, 238-243) believed that the fort's south ditch, 6.7m wide, was originally part of the Vallum itself.

On present evidence it seems that although the Vallum and these forts were designed and laid out together, ultimately their respective ditches were not joined. Geophysical survey (Taylor *et al.* 2000) has shown that the Vallum at Halton Chesters was diverted to the south, providing better mobility round

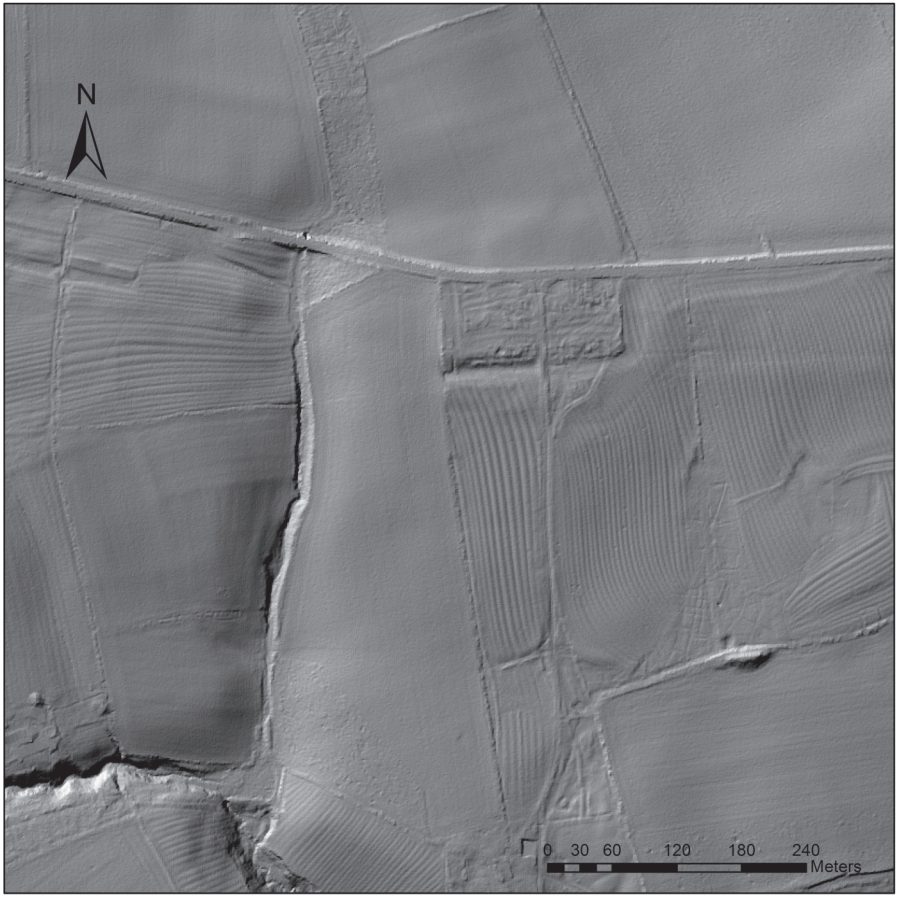


Figure 4.20: A LiDAR image of the fort of Halton Chesters and its local environs. The outline of the walls and ditches of the southern half of the fort and its extension south of the road are clearly visible, while the area north of the road is also somewhat visible. Medieval field systems with surviving rig-and-furrow obscure traces of the extramural settlement, although some areas can be observed near the modern field boundaries to the south and south-east of the fort. Source: WallCAP.

the south side of the fort than would have been possible if the Vallum had actually been part of the defences. At Chesters, a diversion of the Vallum is also likely before the growth of the civil settlement engulfed it.

The forts at Halton and Chesters project north of the Wall, so is there any correlation between this type of plan and the tight alignment of the Vallum with the south ditch of each fort (as surveyed, but not apparently as constructed)? At Benwell it seems not. At Rudchester, the alignment down the hill to the east suggests that it is possible initially but, as at Halton and Chesters, the Vallum was diverted round the south side. The topographical strictures at Birdoswald would make this a special case. At Burgh-by-Sands, a fort we know little about, it is possible but the evidence for the course of the Vallum and for the south side of the fort is insufficient.

On the crest of Down Hill, LiDAR images and fieldwork have suggested that the Vallum was cut through some spoil-heaps. (Post-medieval ploughing of this relatively unconsolidated material cut down deeply through it, producing the odd impression - when seen from the west - of an extra bank to the south of the south mound.) If so, the implication is that some of the quarries are associated with an early phase in the construction of the Wall, and that the diversion of the Vallum was necessary because the quarries were still open when these southern defences were driven through (cf. Shield-on-the Wall, p.158 and Welfare 2013).

Milecastle 21

Humphrey Welfare

LiDAR imagery and fieldwork confirmed the implausibility of the 'measured position' of milecastle 21: at the foot of the steep western slope of Down Hill (NZ00396849) where the archaeological remains were thought (Simpson *et al.* 1936, 259) to have been destroyed by quarrying. However, the earthworks there suggest that this land has not been disturbed for some time. A much more favourable position, on the summit (NZ00606853) only 180m to the east, provides a wide outlook whilst the foot (15m below) has no view to the east at all. In 1807, Lingard had referred to a milecastle '... on the east of the Down Hills' (Bosanquet 1929, 145), presumably meaning to the east of the principal western slope. By the 1840s Bruce (1851, 158) saw nothing, but masonry here would have been easily robbed, and the hilltop within the woodland is also pock-marked by limestone quarries. The Wall was re-aligned on this summit, and such re-alignments at a milecastle are not uncommon, occurring at 14, 16, 40, 42, 48, and 51. A shift in the position of milecastle 21 potentially affects that of Turrets 20a and b, and 21a and b, the

evidence for which (Simpson and Richmond 1935, 134; Simpson 1931, 137) is quite inadequate.

Great Whittington

Rob Collins

Metal-detecting in the fields around the village of Great Whittington, located approximately 2.2km north of the Wall and the approximate location of milecastle 21, has produced more than 72 artefacts of Iron Age, Roman, and early medieval date, including the 5th-century small coin group and small *paterae* hoard previously reported (Allason-Jones 2010a; Collins 2008). Close work between the PAS and the metal detectorists allowed relatively accurate recording of findspots of these objects, demonstrating a comparatively wide distribution in the fields surrounding the village (Fig. 4.21).

The significance of the site lies not only in the numbers of objects found and recorded, which is a very high concentration for Northumberland, but also in the location of the site(s) relative to the Roman-period infrastructure – situated in the fields flanking the Devil's Causeway near its junction with Dere Street, just north of the Wall-crossing at Port Gate, and thence to the Roman town of Corbridge.

There are six objects of probable late Iron Age date, perhaps indicative of pre-Roman settlement. Of the Roman objects, there are a number of silver denarii of the later 1st to 3rd centuries, as well as a gold solidus of Valens dating to 364-367, buckles and military equipment, brooches, and even an incomplete torc. There are a few objects of the early medieval period as well, suggesting continued settlement or activity beyond the Roman period. The finds were the basis for a limited geophysical survey, which detected possible small enclosures. However, it was not possible for the geophysical survey to match the extent of metal detecting.

Though unconfirmed, the preferred interpretation of the site at present it that served as an assembly point for markets or caravans immediately north of the Wall (Collins and Biggins 2013, 262). This is suggested by the broad distribution of finds across 10s of hectares and the high proportion of precious metal coins combined with relatively rare objects. Detection of this site was only accomplished through close work with hobby metal detectorists collaborating with the PAS. However, it raised the potential of a new type of site that can provide further insight into the role of the Wall and its garrisons in a frontier landscape.

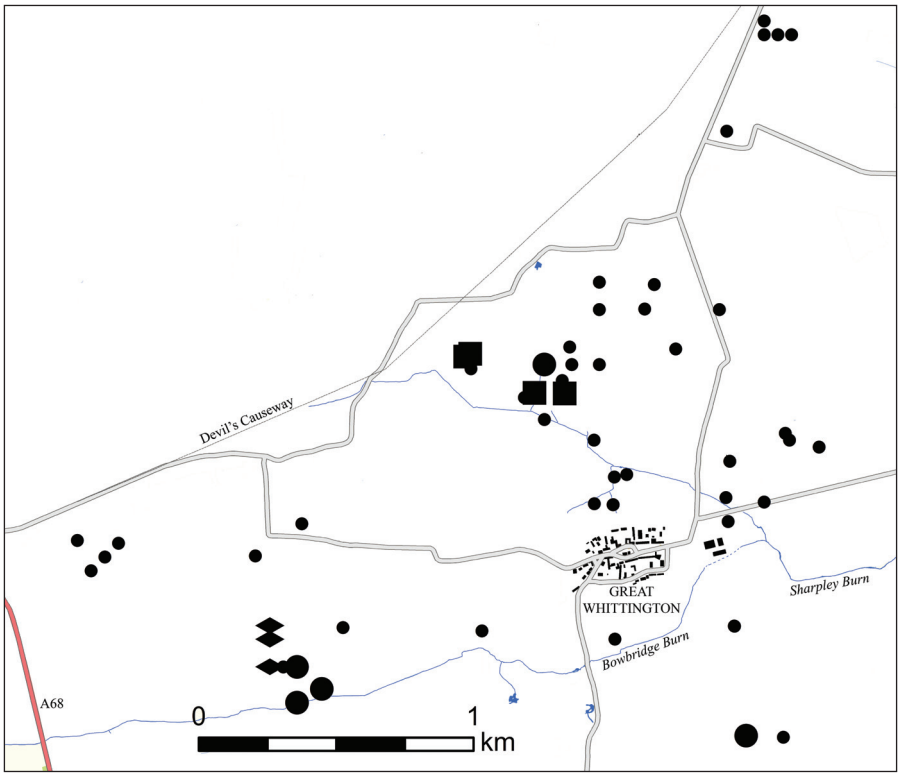


Figure 4.21: The distribution of Roman-period objects found via metal detecting around Great Whittington, as of 2013. Each circle represents the findspot of a Roman object, with the squares specific to military objects, the large circles for harness equipment, and the lozenges for religious objects. Source: Rob Collins.

CORBRIDGE (?*Coria*)

Ian Haynes

Recent work has been undertaken by the Corbridge Roman Station and Environs Project.

Ongoing extensive gradiometry, resistivity, and georadar survey of the Roman settlements at Corbridge led by Ian Haynes and Alex Turner began in 2016. This is the first geophysical survey to take place on the Beaufront Estate, a property that encompasses the vast majority of the Scheduled Area, and team members are grateful to Mr Aidan Cuthbert, the landowner, for granting access to such a large part of his property. Other notable geophysical survey has taken place at the Corchester Lane Sports Ground, now owned

by English Heritage, and the Corbridge Roman Station and Environs Project (CRSEP) seeks to link up with the results of this work, adding data as appropriate. Corchester Lane Sports Ground was in fact first subjected to resistance and magnetic survey in 1976, then re-surveyed by Wardell Armstrong, but also forms part of the CRSEP target area.

Complementing the ground-based efforts of CRSEP are two further, linked research projects, the AHRC/ERC funded Cultural Heritage Through Time 2 (CHT2) and a new Iapetus-funded PhD undertaken by Lesley Davidson. Haynes and Turner both operate as part of the CHT2 and Iapetus programmes alongside Jon Mills, also of Newcastle University. CHT2 has advanced research by building 3D digital landscape models of the site by applying Structure From Motion approaches to historical air photographs. The value of this approach lies in its ability to model more accurately the site's condition over the last few decades, observing among other things, the impact of ongoing agriculture and soil creep on the site. The Iapetus programme is similarly concerned with the changing condition of the archaeological record but incorporates a high-resolution LiDAR survey.

The extent of work undertaken by CRSEP is shown in Fig. 4.22. CRSEP survey results are already contributing to a series of long-standing questions about the nature and evolution of Roman Corbridge. As has long been known, discernible Roman activity starts at Corbridge with building at Beaufront Red House, a site occupied *c.* AD 75-85 (Hanson *et al.* 1979, 1-98). The precise character of Roman settlement there is uncertain, though the type of bathhouse excavated at Red House by Daniels (1959, 115-126) would be consistent with a major military centre. Important excavation work in advance of the construction of this bypass revealed Roman buildings (Hanson *et al.* 1979), and the implications of this discovery have been debated ever since – were these buildings part of the interior of a larger fort or supply base, or part of something that lay beyond it? CRSEP survey led by Jon Allison adjacent to the site of the excavations, immediately north and south of the A69, may reflect some Roman activity. It has yielded nothing, however, that could be definitively identified as a major Roman fort enclosure or defensive system. These results are not conclusive in their own. It is possible, for example, that gradiometery survey at this point might not have picked up ditch fills. Another possible explanation, however, is that the bulk of the early Roman settlement lay slightly to the east of the bypass excavations under the modern Red House Farm (where neither aerial nor geophysical analysis could detect it) or immediately to the north-west in an area yet to be surveyed by the team.

As is well known, sometime around AD 85 the focus of settlement shifted east to the area of the current displayed site. The construction of an earth and timber fort at this location is best explained by its proximity to the Tyne

Figure 4.22: A greyscale plot of gradiometry around Corbridge Roman Station. The results shown north of Corchester Lane and at the Corchester Lane Sports Ground were produced by Wardell Armstrong for English Heritage in a separate survey and are reproduced with their permission. Source: Ian Haynes.

crossing and the intersection of Dere Street and the Stanegate. The new site was to remain the core of Corbridge to the 5th century.

CSREP data from the post-AD 85 area reinforces the general picture that has emerged from syntheses of earlier excavations and aerial photography (Bishop 1994; Bishop and Dore 1989). The buildings that constituted Roman Corbridge lay directly on the main routes of the Stanegate and Dere Street and relatively close to the junction between the two. Crucially, though, the CSREP survey has also allowed for a refinement of the plans and layouts of buildings beyond the English Heritage managed area. As part of the project, colleagues from L&M Surveys deployed a MALA Geoscience MIRA Ground Penetrating Radar (GPR) with 400 MHz antennae to the south and east. The 3D-modelling of this GPR data allows detailed calculation of the depth of archaeological deposits across the area and shows the extent to which building elevations survive (Fig. 4.23).

Of no less interest is the discovery of a substantial post-built hall south-west of the English Heritage managed site. This structure, first discovered by gradiometry and since examined through both focused resistivity and GPR survey, is approximately 50m in length, and meets Dere Street 45m south of where it joins the Stanegate.

Gradiometry and GPR data further illuminate the boundaries of the settlement to the west. A comparison of time slices derived from the GPR may reveal the truncation of Roman buildings by the creation of a later boundary.

Figure 4.23: A time-slice of GPR data showing the outline of buildings in the area to the south and east of the guardianship site at Corbridge. Source: Ian Haynes.

There are 18th- and 19th-century references to what appears to be an ancient wall circuit (Gordon 1726-1727, 176; MacLauchlan 1852; Forster 1881, 3, 13). These brief descriptions and MacLauchlan's simple plan would be consistent with the types of walls known at 'small towns' at Romano-British settlements in the 3rd and 4th centuries AD. It must be acknowledged, however, that no evidence for these walls has been recorded since the late 19th century, so the geophysical data here is of particular interest.

CSREP geophysical survey has also revealed patterns of enclosures beyond the residential areas, at Shorden Brae (Fig. 4.24) and to the north of the Guardianship site (Fig. 4.25: north-east of image). Though many of these may be best interpreted as field boundaries and property plots, it is likely that a number are ditches used to define and, in some cases, sub-divide cemetery areas. Gradiometer data at both locations have identified a series of dipolar anomalies or 'hot spots' that would be consistent with cremation burials. Such an interpretation is entirely compatible with the known evidence for funerary activity in these areas, such as that uncovered in excavation of the Shorden Brae mausoleum and its surroundings by Gillam and Daniels (1961, 37-41) and the eastern rescue excavations conducted in 1974 in advance of the building of the A69 (Casey and Hoffman 1995, 17-45). In the latter case, CRSEP gradiometry indicates what appear to be cremations south-east of the 1974 excavation site.

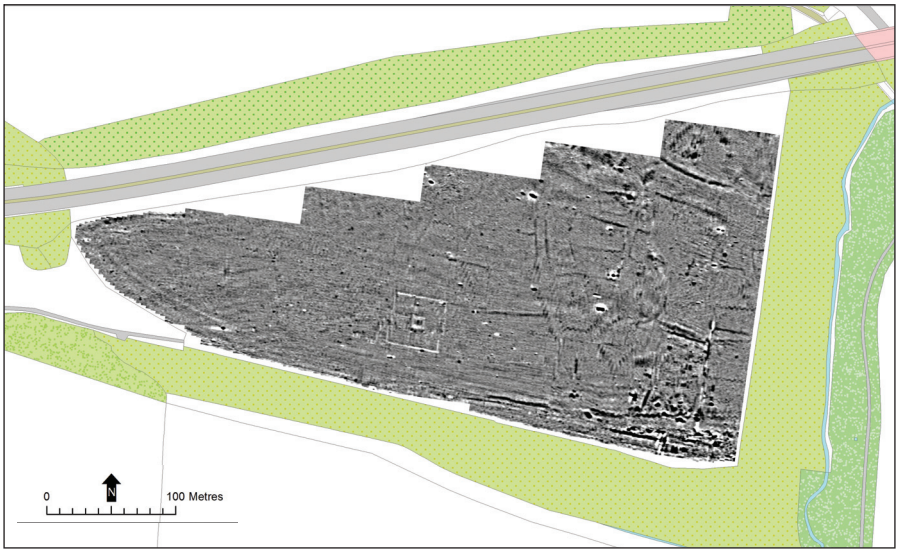


Figure 4.24: The mausoleum at Shorden Brae (in white) with field boundaries identified to the east (in black) identified through gradiometry. Source: Ian Haynes.

CRSEP acknowledges with gratitude the generous permission of Mr Aidan Cuthbert to access the Beaufront Castle Estate and insightful exchanges with colleagues at both Historic England and English Heritage, notably Paul Bryan, Mike Collins, Frances McIntosh, and Graeme Stobbs. A special thank you goes to Jon Allison, and to all those who have worked with us on the

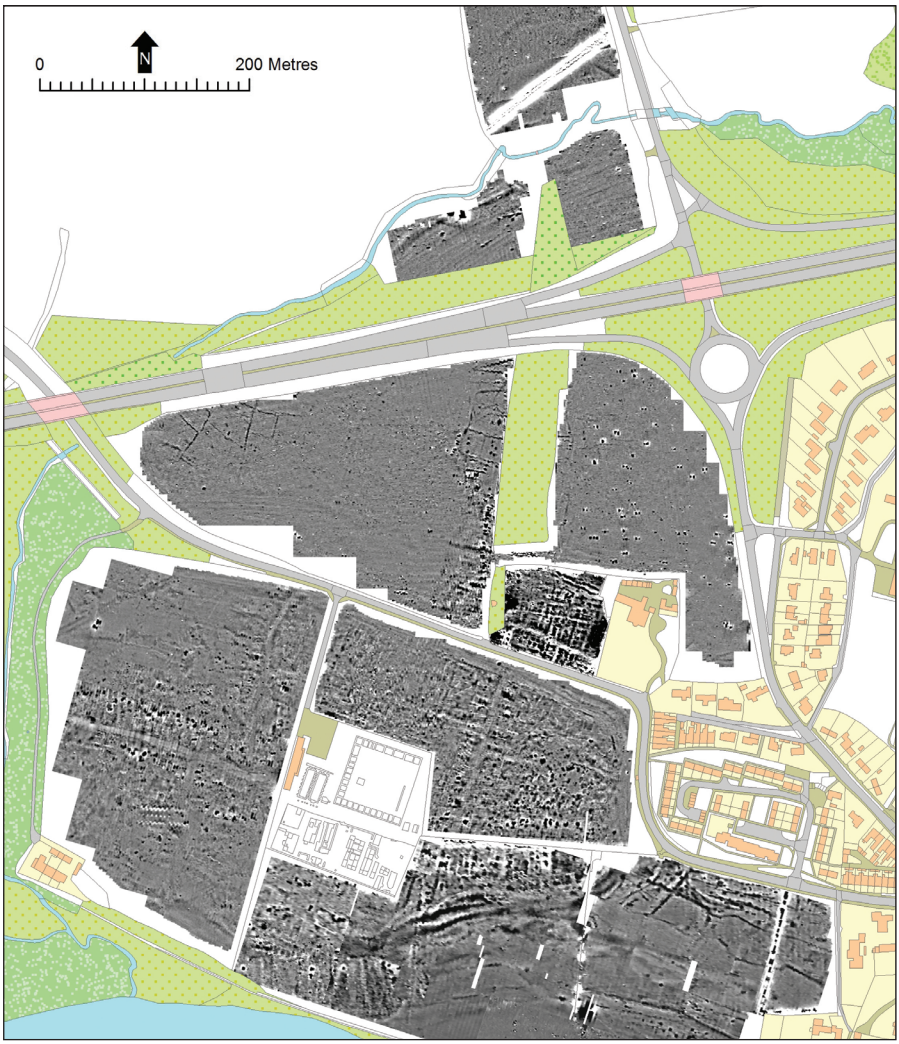


Figure 4.25: Gradiometry around the guardianship area of Corbridge Roman Station indicates field systems in the northeast of the image, as well as the streetgrid and building plots of the town. Soure: Ian Haynes.

project over the last three years: Douglas Carr, Bryan Wallace, Richard Young, Robert McFarlane, Penny Coombe, Katie Mountain, Raphael Socarras, Liz Shaw, Yue Yue, Lynn Edwards, Anna van der Weij, Wyatt Rowe, Young-chei Kim, Dave Bell, Paul McKenna, Mark Potter, Bill Pickering and Paul Hilton of L&M Surveys. We would also like to thank Wardell Armstrong and English Heritage for allowing us to reproduce their gradiometer results for the Corchester Lane Sports Ground.

A survey and study of the large collection of architectural fragments from this site was summarised in the last handbook and is now published as Hodgson 2010. On the setting of the Roman bridge: Snape 2015.

Hexham Abbey

Paul Bidwell

A survey and analysis of the Roman stonework reused in the late-7th-century crypt at Hexham has now been published (Bidwell 2010). As noted in the previous Pilgrimage handbook, its principal sources were the bridges at Corbridge and Chesters and the enormous funerary monument at Shorden Brae. The publication also includes a commentary on the inscriptions and statuary from Hexham. They include the altar (*RIB* 1142) dedicated by a prefect of cavalry that mentions the destruction of 'a band of *Corionototae*', which seems to have come from a *Dolichenum* at Chesters, and not from Corbridge as previously thought.

CHESTERS FORT (*Cilurnum*)

Fort and museum

No new excavations have been undertaken in the fort or extramural areas (Fig. 4.26), although research on the Clayton collection has been completed by Frances McIntosh (2019) and the museum has been refurbished (see p. 7).

Chesters bathhouse

Margaret Snape and Graeme Stobbs

New research on the military bathhouse at Chesters in 2013 – 2015 has provided a more detailed account of the building's complex structural history (Snape and Stobbs 2016). There is a wealth of data in the well-preserved remains, the photographic record of the Victorian excavations, survey by Sir George Macdonald (Macdonald 1931), an unpublished archive of work by

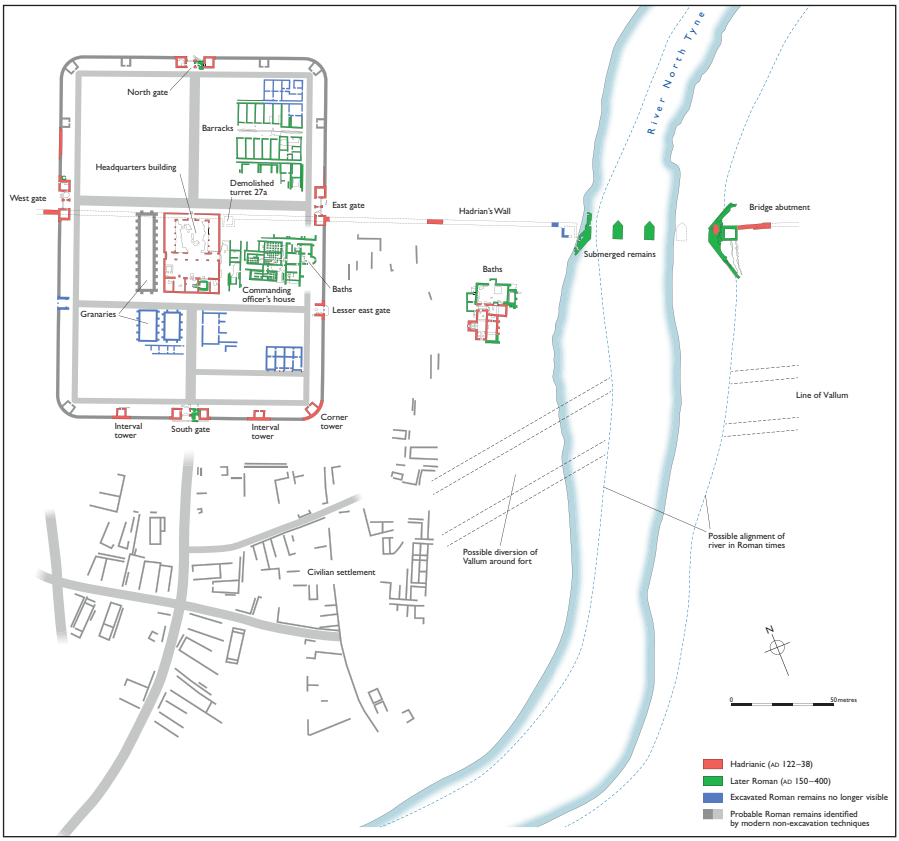


Figure 4.26: A plan of Chesters Roman fort and its internal structures, showing broad phasing of building and refurbishment activities. Source: English Heritage.

John Gillam and Charles Daniels in 1956 – 1958, and survey by Tyne & Wear Archives & Museums in 1997 (Bidwell 1999, 117-119).

The baths are Hadrianic in construction and began as a row-type. Bathers circulated through a series of rooms without retracing their steps - represented on Fig. 4.27 as lobby (N), cold room (*frigidarium* K), two warm rooms (*tepidaria* I, H), hot steam room (*caldarium* E2), final warm room (*tepidarium* E1), and lobby (Heavy dashed lines indicate primary walls later demolished). The barrel vault over the *caldarium*, formed of tufa voussoirs and tiles arranged as ribs separated by hollow spaces, created a light and insulating ceiling; study of the voussoirs enabled a new reconstruction drawing to be proposed (Fig. 4.28).

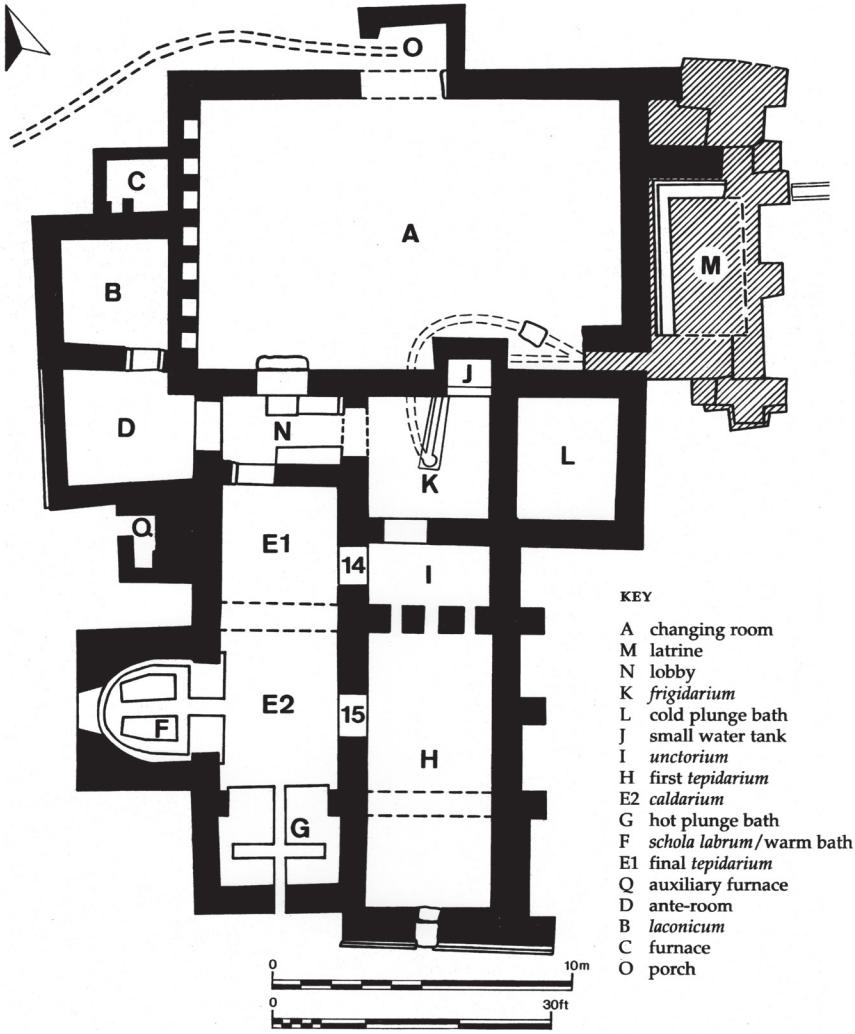


Figure 4.27: The plan of Chesters baths, with the function of each room indicated. Source: Graeme Stobbs.

Early modifications included a stone-built changing room with latrine, and a *laconicum* producing dry heat. A later period (possibly early 3rd century) saw major remodelling. *Tepidarium* H was enlarged, rooms E2 and E1 were combined into a single large *caldarium*, and additional features were added. Some ceilings in new barrel vaults may have been constructed using ceramic

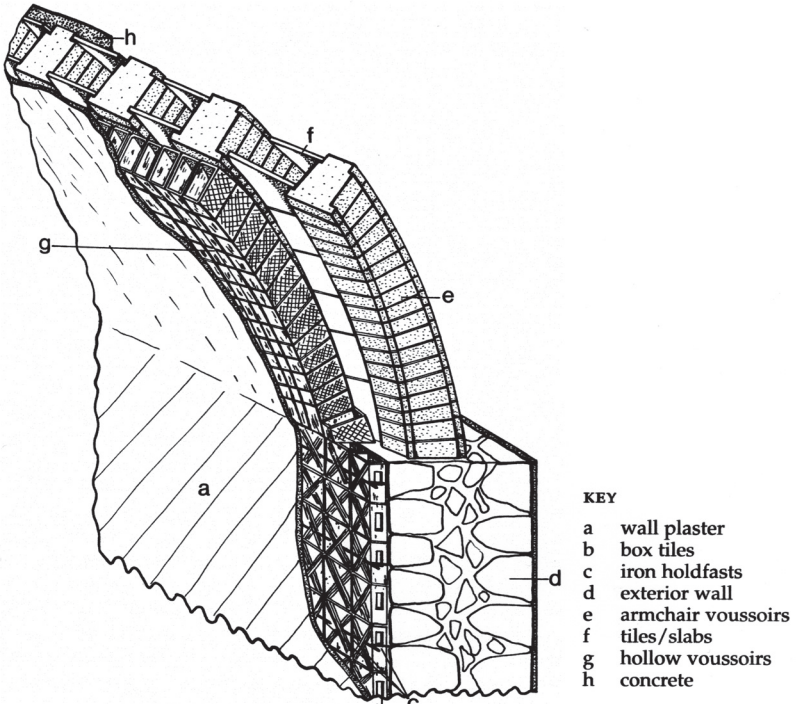


Figure 4.28: The vaulting over the caldarium at Chesters baths, presented in section. Source: Graeme Stobbs.

vaulting tubes (*tubi fittili*). However, the sophisticated ring-type plan was changed to a simple row-type, with bathers moving through *frigidarium*, *tepidaria*, and *caldarium*, before retracing their steps.

Abandoned for bathing in late Roman times, the building was used for other purposes. Rubbish, including animal bone was deposited, before the building succumbed to stone-robbing and decay. A newly-discovered photograph of 1885 shows evidence of human burials outside the east wall, as noted by the Victorians (Bruce 1885, 101).

Wall mile 28 (Walwick Hall)

Well-preserved remains of the Military Way were found in a trench east of Walwick Hall, formed of smooth but irregularly shaped and size stone slabs, blocks, and cobbles. The northern edge of the road survived and was formed of substantial kerbstones, with a possible roadside gully or ditch observed outside the excavation area (*Britannia* 40, 232).

Milecastle 29

Paul Frodsham

Geomagnetic and earth resistance surveys were completed as training exercises at six milecastles by volunteers with the North Pennines AONB Partnership's 'Altogether Archaeology' project, directed by Archaeological Services Durham University. The principal aim was to assess whether any evidence of roads or tracks, in the form of roadside ditches or metalling, could be found approaching the milecastles from north or south. It was thought the results might provide useful information relating to the original purpose and subsequent use of the milecastles, given that it is not at all clear how the milecastles were intended to function once the Vallum was in place. The location of some, on high crags with a sheer drop to the north, suggests that they could never have been on routeways through the Wall, and while others may have opened onto flat ground, the extent to which they were used by soldiers and other traffic passing to or from the north is not known. The evidence for causeways across the Wall ditch immediately north of the milecastles is in most cases inconclusive and no work has been done previously to assess the ground north of the Wall ditch, so it remains uncertain whether or not roads led northwards from the milecastle gates.

Fieldwork took place in two phases: Phase 1, milecastles 29, 34 and 40, in 2014; and Phase 2, milecastles 32, 41 and 47, in 2015. Sites were chosen for a range of pragmatic reasons, and actual areas surveyed were restricted by various factors. Details of methodology and results are presented in the project reports (ASDU 2014; 2015), while the findings from the individual milecastles are presented at the appropriate points in this chapter. In general terms, the results are not particularly useful. This is due to a number of factors including the small-scale nature of the project, the underlying geology, and restrictions on areas available for survey. Geomagnetic and resistance anomalies relating to the local geological background, particularly the Great Whin Sill, were identified in many places and must not be confused with archaeological features. One common theme was the absence of geophysical evidence for roads or tracks in most of these surveys (but not all, see milecastle 47 p.185). This could be because such tracks were never present, or because they comprised insubstantial earthen tracks with no associated drainage ditches (perhaps an unlikely scenario given the context).

Survey at milecastle 29 identified a possible metalled surface to the south of the installation, but the anomalies here may simply reflect near-surface limestone. No sign of a road was noted to the north. The east wall of the milecastle was detected; its remains appear to be slightly curved. No

structural features were identified within the interior, though much rubble is almost certainly present (ASDU 2014).

West Uppertown Farm

Lindsay Allason-Jones

In 2015, during an assessment for a planning application at West Uppertown Farm, just north-east of Carrawburgh, it was noticed that the external staircase of a barn had been built using a series of stones with square faces (Fig. 4.29); each stone is about 2.5 times the measurement of one of the sides of the face: length: 65cm, widths: taper from 28cm to 22cm. These resemble Roman voussoir stones and at least 13 were identified; more may be within the stair's structure.

A calculation by a civil engineer confirmed that, on the presumption that

Figure 4.29: A shaped stone that is likely to be a voussoir and was found built into an external staircase of a barn at West Uppertown Farm. This stone is one of at least 13. Source: Lindsay Allason-Jones.

the arch had a constant radius and fills a full 180°, the span covered would be *c.* 4.5m. There would be some variation, given that the voussoirs are not precisely the same measurements and it is unknown if the joints would be mortared or not. The 4.5m calculation presumes 20mm mortaring.

4.5m is an unusual span for Hadrian's Wall. The six voussoirs known from the Roman bridge at Chesters, the closest likely bridge over a watercourse to West Uppertown, have an average width of 43cm tapering to 35cm.The spans for the Chesters bridge have been calculated as 10.5m. Milecastle gates have an average span of 3m, the north gate of Milecastle 37, for example, has a span of 3.1m. However, the distance between the piers of the crosshall in the basilica of the Chesters *principia* measure c. 4m and a stone built within one of the piers has similar dimensions to those from West Uppertown. It is also possible that the voussoirs under discussion could have come from a similar *principia* crosshall at Carrawburgh fort, but it should be noted that the overall dimensions of the internal buildings at Carrawburgh fort are smaller than those at Chesters. The hypothesis is that the West Uppertown voussoirs came from the *principia* at Chesters but, in the absence of further proof, this must remain a presumption.

Milecastle 32

Paul Frodsham

Geophysical survey by Altogether Archaeology revealed archaeological features of unknown date, but nothing to suggest a probable road or track approaching the milecastle (ASDU 2015).

Wall mile 32 (Shield-on-the-Wall)

Humphrey Welfare

A camp was identified on LiDAR alongside the south edge of the Vallum on the summit 600m to the east of Shield-on-the-Wall (Fig. 4.30). Although the function of camps is difficult to assign (Welfare 2017), analytical survey suggested that the camp, 1.4 ha in area, was occupied by a cohort that quarried this knoll for the building of the Wall itself (Welfare 2013). Over 9000 cu m of sandstone was extracted. While the quarries were still in operation, the construction of the Vallum began, its inception eastwards marked by an abrupt terminal to the ditch. (Another such terminal has been noted at Carrawburgh, and these instances contradict the oft-repeated assertion that the Vallum ditch was invariably completed, whereas the Wall

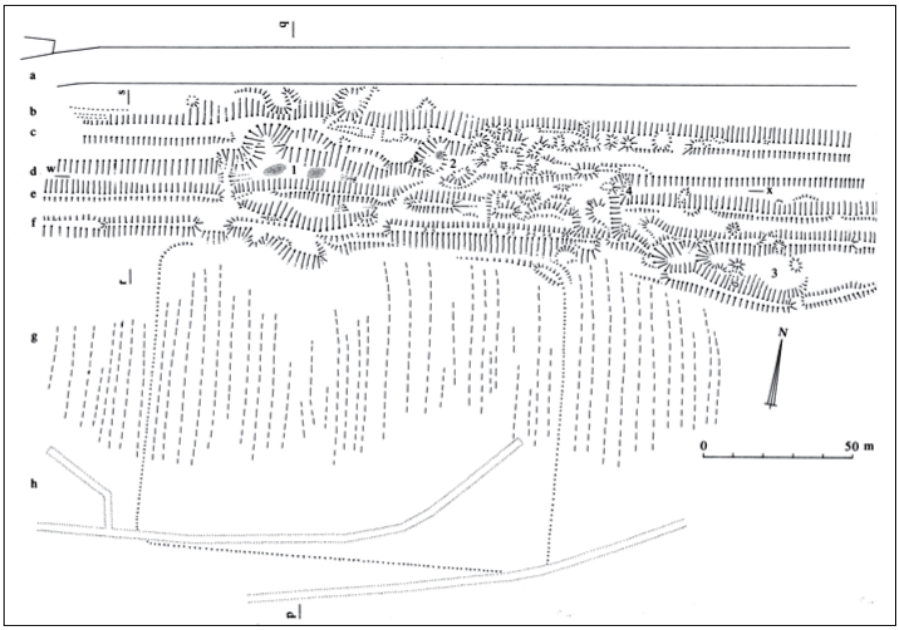


Figure 4.30: A plan of the camp at Shield-on-the-Wall based on topographic survey. Source: Humphrey Welfare.

ditch was not.) When extraction work ceased, the Vallum was ingeniously constructed across the floor of the quarry. On either side of the knoll, outside the quarries, the form of the Vallum differs markedly, indicating that this was a junction between the work of two quite separate gangs.

The alignment of the camp with the Vallum, and the fact that the northern rampart of the camp was not set on the crest of the knoll (as normal practice dictated) indicates that a corridor for the Vallum had already been surveyed and established before the camp was built and quarrying began. This suggests that the Vallum was planned – in this sector at least – at an early stage in the construction of the frontier works, although it was clearly not completed in its entirety until after the 'fort decision'. The long alignment westwards from Limestone Corner to Turret 33b was not (*pace* Poulter 2009, 46-9, 76) fixed on Turret 35b (with the chronological implications that this would entail), but simply on the summit of Sewingshields. Similarly, in Wall mile 72, the Vallum is aligned precisely on the summit of Criffel.

The marginal mound, on the south lip of the ditch, steepened the scarp on this side. By analogy with the effect that the construction of the glacis had on the Wall ditch, it would follow that the perceived threat that the Vallum was designed to counter came from the south. However, it is still not impossible

that it was also designed as a second line of defence against raiders from the north. The two ideas are not mutually exclusive. The later slighting of the south mound here seems to have been merely symbolic: the earth was spread externally and no access across the ditch was provided. The north mound is occupied by a fine stretch of the Military Way.

Milecastle 34

Paul Frodsham

No evidence for probable roads or tracks was identified here during geophysical survey by Altogether Archaeology, although a large area of rubble or tumble, which may obscure older archaeological features in this area, was observed to the north (ASDU 2014).

Wall Fell Farm

Humphrey Welfare

A probable camp, 70m square, is visible on LiDAR on Wall Fell Farm, 140m south-south-west of milecastle 34.

HOUSESTEADS FORT (*Vercovicium*) (Fig. 4.31)

Alan Rushworth

The 1974 – 1981 Newcastle University training excavations at Housesteads fort, directed by Charles Daniels, John Gillam, and James Crow, were published by English Heritage (Rushworth 2009), shortly after the previous Pilgrimage handbook went to press. The excavations focused on the north-east part of the fort, principally Building XIII and the stretches of rampart between the north and east gates, with some reinvestigation of Buildings XIV and XV, previously examined by John Wilkes in 1959 – 1961. They thus revealed the complete plan and full structural history of this part of the fort (Fig. 4.32), which has in turn illuminated the overall development of the site. The main results are summarised below.

Traces of possible pre-Roman cord-rig cultivation were uncovered beneath *contubernia* 1 and 8 in Building XIII, taking the form of a series of parallel gullies cut into the natural subsoil.

The 2nd- and 3rd-century barrack levels of Building XIII presented an uninterrupted sequence of relatively minor alterations to the internal arrangements, these being especially well-represented in the centurion's quarters.

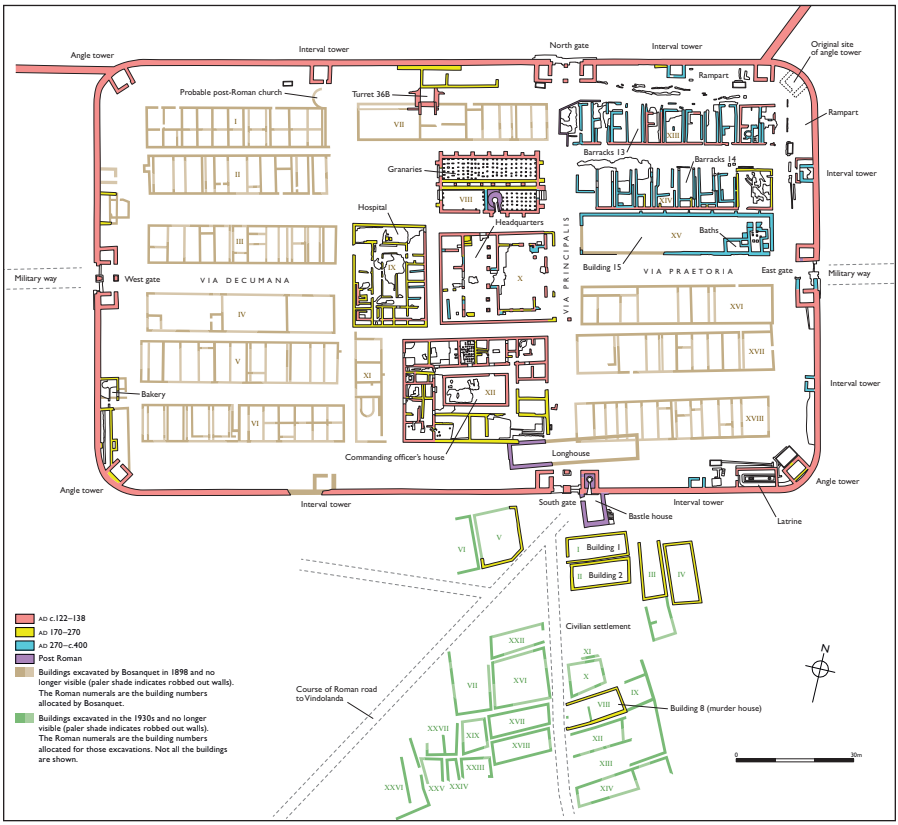


Figure 4.31: A plan of Housesteads Roman fort and its internal structures, showing broad phasing of building and refurbishment activities. Source: English Heritage.

Around the beginning of the 3rd century, the rampart banks were removed and replaced by a series of open-fronted workshops. Analysis of associated metalworking debris – exceptional in its range and quantity – suggested that manufacture rather than simply repair of equipment, was taking place there.

During the later 3rd or early 4th century the fort's defences were substantially renewed with the reinstatement of the ramparts, rebuilding of sections of curtain wall, and erection of additional interval towers (Fig. 4.33). In the interior, the barrack blocks were remodelled as ranges of freestanding 'chalets'. The construction of a massive storehouse, Building XV, previously dated to the Severan period, also belongs to this episode and was probably intended to hold *annona*, or taxation in kind. Comparison of the coinage from the fort and *vicus* strongly indicates that the civil settlement had already been abandoned prior to this rebuilding, probably during the 270s.

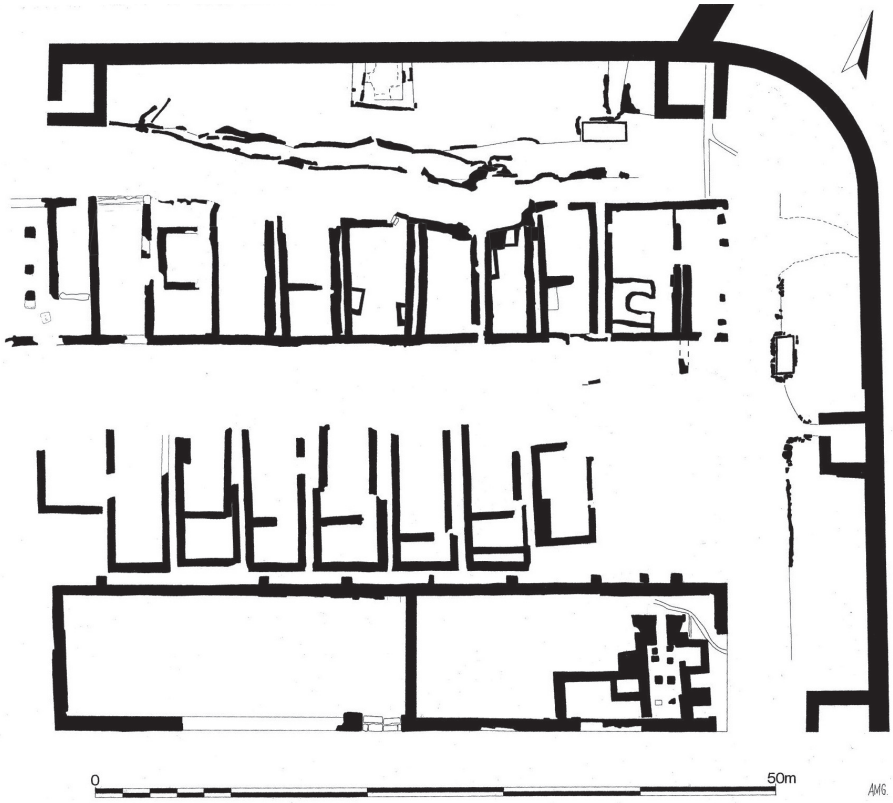


Figure 4.32: An outline plan of the north-east part of Housesteads fort in the mid-late 4th century. Source: Alan Rushworth.

These phases of Building XIII and XIV represent archetypal examples of the class of later Roman military accommodation now termed 'chalets': ranges of free-standing dwellings separated by narrow alleys. Daniels (1980) suggested that each individual chalet housed an individual hereditary soldier with his family, but analysis of the distribution of small finds in chalets of XIII found no evidence for the presence of female dependants there, implying the chalets more likely represented *contubernia* of different form but conventional barrack function.

Military occupation continued right up to the end of the Roman period. Over time the north rampart steadily increased in width as deposits slumped downslope following the partial collapse of the north curtain, while the frontage of XIII was correspondingly recessed, and the interval tower rebuilt in timber. Traces of oval, sub-circular, or D-shaped structures of possible

Figure 4.33: North rampart revetment walls at Housesteads dating to the mid-late 4th century. Source: Alan Rushworth.

post-Roman date were revealed at either end of Building XIII and on the adjacent road surfaces. This later activity may be associated with the apsidal building, previously identified as a possible church, to the west of the north gate (Crow 2004, 114-17).

Publication also included other work in and around the fort, notably the survey of the complex multi-period landscape around the fort undertaken by the RCHME in the 1980s. This documented activity from late prehistory to the modern era, including roads, quarries and other extraction, plus multiple phases of cultivation and related field systems. The cultivation terraces south of the fort are shown to have originated in the Roman period (see also the excavations by James Crow on the terrace between the museum and the farm in 1987), but were extensively modified by later episodes associated with the succession of farmsteads located inside and adjacent to the fort. Other fieldwork published in the report includes excavation along the *principia* frontage in 1954 (David Smith); survey of the fort masonry in 1995 (Peter Hill); a watching brief for a waterpipe trench from the Roman well below Chapel Hill in 1976 (Crow); and reinvestigation of the Knag Burn Gate in 1988 (Crow).

Milecastle 37

Cracks in the east and west passage walls of the north milecastle gateway were exposed during excavations by James Crow from 1989 – 1990. Analysis by Peter Hill suggests that 'if the northern gate-tower was virtually complete when the north piers subsided, then it is quite likely that it fell. If, on the other hand, the subsidence began during the building, then it may well have survived' (Hill 2013, 69). The blocking of the north gateway before any road metalling had been laid implies that the milecastle was still under construction when this subsidence occurred.

VINDOLANDA

Andrew Birley

Introduction to the recent Research Projects

In the ten years since the last Pilgrimage there have been significant advances in knowledge about the known extent and history of Vindolanda. It is now recognised that the occupation at Vindolanda stretched from being a Stanegate fort, to a Hadrian's Wall fort (in the *Notitia Dignitatum* the tribune of the Fourth Cohort of Gauls at Vindolanda is one of the officers in the list headed 'also, along the line of the Wall', *item per lineam valli*, under the

command of the Duke of the Britains, *dux Britanniarum*), before continuing as a settlement that flourished well beyond the end of direct Roman rule in Britain (Fig. 4.34).

Figure 4.34: Aerial view of Vindolanda fort and extramural settlement, looking south-east. Taken by Adam Stanford of Aerial Cam. Source: Vindolanda Trust.

Recent research at the site has added a great deal of detail to that historical narrative, as well as providing many valuable opportunities for volunteers and aspiring archaeologists to engage in the archaeology of the frontier. Indeed, during the past decade over 5000 placements have been filled by people either joining the excavations, conducting post-excavation work or taking part in the museum and archiving aspects of research projects. The years between the Pilgrimages have borne witness to startling individual finds of national and international importance, including the discovery of more of the precious Vindolanda ink tablets.

Three major research projects have been conducted, the last of which is ongoing, between 2009 and 2019. The first of those, between 2008 – 2012, was entitled 'The fort wall: a great divide?' This work explored the north-western quadrant of the last stone fort and a large area of the western extremity of the 3rd-century extramural settlement. It also tested the pioneering geophysical work undertaken by Alan Biggins in the field to the north of the Stanegate Road and immediately north of the main site, through a series of test trenches. When the Pilgrims visited Vindolanda in 2009 they took the opportunity to view the newly discovered temple to Jupiter Dolichenus situated within the last stone fort's northern rampart mound (A.

Birley and A.R. Birley 2010; A. Birley 2010; A. Birley and A.R. Birley 2012), extramural excavations, and the first of several trenches exploring the field to the north of the Stanegate road.

The principal aims of 'The fort wall: a great divide?' was to compare the newly excavated material culture from intramural and extramural areas (including a reassessment of artefacts recovered from previous work) to better understand the complex relationships between these two areas and how they were used by their respective communities throughout this period (A. Birley 2010; A. Birley 2013a; A. Birley 2013b; A. Birley 2016).

Continuing from the successful conclusion of 'The fort wall: a great divide?', a new five-year research project entitled 'Vindolanda: a fort community and frontier in transition' commenced in 2013. This project examined the south-eastern quadrant of the last stone fort, directly opposite the work of the previous SMC. Its initial focus was on the remains left behind by a community in a transitional phase shifting from a well-established military fort to what would become a 'British settlement' from the 5th to 9th centuries (A. Birley 2014). The exploration of this transition at Vindolanda was balanced by an examination of an earlier one, exemplified by the evidence of the remains of timber forts that pre-dated and were then contemporary with the construction of Hadrian's Wall.

The field to the north of Vindolanda was also in this project. This assessed the impact of the first contact between the Romans, the landscape, and evidence for pre-Roman Vindolanda. (A. Birley *et al.* 2016; Greene and Meyer 2017).

The current research excavations at Vindolanda started in 2018 and will continue until 2022. This project is entitled 'Understanding Communities and Identities: The Severan fortlet and roundhouse complex at Vindolanda'. It is a seven-year research project with a five-year excavation as its foundation. As with the work that preceded it, the current project builds on the solid successes of the previous research. The principal focus of the work is to explore the enigmatic and currently unique Severan period at Vindolanda, when the site was dominated by a small but heavily fortified base, with a substantial settlement of roundhouses outside its walls.

Post-Roman Vindolanda: A significant Christian community?

Post-Roman Vindolanda, stretching from the beginning of the 5th century to the 9th century, appears to have been a vibrant, well-organised settlement, and there is a clear continuation of occupation from the late Roman into the sub-Roman period. The central range of structures inside the last stone fort were retained in one way or another, and modified for their continued

habitation, with extensive modifications also occurring and new buildings being erected in both the north-western and south-eastern quadrants of the last fort. At least one of the granaries, the western building, was retained as a granary or food store through this period, although much reduced in size from Roman times. Its sister building to the east appears to have been converted first into a commercial space, then a domestic dwelling. The headquarters building, now reassessed after initial excavations in the 1930s in light of recent discoveries elsewhere inside the fort, has multiple post-Roman features surviving in its matrix, including a long-lived fire pit set inside the chapel of the standards. The commanding officer's house, eventually abandoned in the 5th century, was furnished with a new compact and free-standing bathhouse and a small church was placed within the remains of its courtyard during the transition to the post-Roman period.

Excavations from 2008 – 2011 in the north-western quadrant located the house or workshop of RIACUS, to the immediate north of the granary site (A. Birley 2013b) and the battered remains of several house platforms and a possible workshop also survived in this quadrant. Some of these were built across the *intervallum* road, effectively closing access to traffic and pedestrians alike. During the excavations of this area a large stone-built structure with a curving, west-facing apse was partially uncovered as it crossed the remains of the *via praetoria*. The current interpretation of the building is that it could represent the remains of a large post-Roman church foundation. Another possible church was built into the western end of a disused 4th-century barrack immediately to the south of the *principia* (south facing apse) and to its immediate west a large water tank, inserted for the use of late Roman cavalry in the 4th century, is a candidate for an associated baptismal font in the post-Roman period. Unlike the three substantial 'church' foundations already discussed, a fourth potential church, a smaller apsidal building with a large stone-lined pit (a potential font), was also located through the remains of its rubble-filled beam slots (north facing apse), clearly situated on the *intervallum* road (which the building effectively blocked). Surrounding these structures, which were often built either into or directly on top of the last stratified Roman layers, was an assortment of associated material culture. Most notable were several type E zoomorphic penannular brooches and a nail-cleaning strap end with a Christian figure decoration (B. Birley 2014).

In both quadrants, north-west and south-east, there was evidence for several smaller roads, cobbled yards and large timber structures (identified by the surviving post-pits and beam-slots), and stone foundations. Several timber structures had been furnished with heavy flagged floors, the stones of which had clearly been repurposed from abandoned extramural structures

based on their style. Excavations of the eastern fort ditch also supported the evidence from elsewhere (notably the fort walls) that Vindolanda remained, at least for a while, a notable fortified enclosure with its eastern ditch being re-cut in this period.

4th-century Vindolanda: A gated community

With new excavations over the last decade encompassing almost half the last stone fort at Vindolanda, a large volume of information has been compiled on how the fort and community functioned through this period. After a brief phase of abandonment, perhaps no more than 20 years from *c.* AD 280-303/4, the fort at Vindolanda was rebuilt, presumably by the Fourth Cohort of Gauls. Although the fort was renovated, the site of the earlier extramural settlement was abandoned and from this point there is limited evidence for deposits of material culture from extramural contexts that could be associated with direct habitation. The exception to this is found on the main road leading into the west gate of the fort. It is possible that sporadic market activity may have occurred or a greater quantity of fly tipping or discard took place in this area on the routes into the fort.

In 2008, excavation of the twin granaries revealed a clear abandonment level for the end of the 3rd century, before the reoccupation at the start of the 4th century took place. This gap in the continuity of the sequence has allowed the archaeologists to explore the potential abandonment of not only the traditional site of the extramural settlement at the end of the 3rd century, but also the main fort itself in this period (A. Birley 2013b). Without usable granaries it is difficult to comprehend how normal garrison life, a vibrant population, and military operations could have been sustained. When excavating the north-western fort quadrant in 2008 – 2011, the excavators encountered radical modifications associated with the re-occupation of the fort at the start of the 4th century. The more traditional style 3rd-century integrated barracks had been replaced by smaller free-standing structures (also in stone), which included a small officers' mess, workshops, shops, rampart buildings, domestic housing, and open yards. The alleyways between and behind these structures were filled with domestic rubbish, pottery, and bone. It appears that most of the buildings had long lives and were modified during the 4th century towards the end of Roman Britain and in a few cases clearly beyond.

Artefacts from the structures included hundreds of small denomination coins (including a hoard of over 100 *nummi* buried in the rampart mound), pottery including thousands of Crambeck Ware and Huntcliff-type sherds, and a large quantity of beads, spindle whorls, and other material that may

have been associated with non-combatants. A temple to Jupiter Dolichenus, which was discovered in 2009 built into the northern rampart mound of the fort, was rebuilt in this period and remained in use until the middle of the 4th century. Its last refurbishment included a heated dining room, perhaps used by the priests to entertain the temple patrons before eventual demolition and abandonment by the middle of the 4th century.

It is possible to interpret the buildings in this quadrant in the 4th century as a relocation inside the fort of amenities previously located in the extramural settlement. The excavation of the granaries, the *via principalis*, and the *intervallum* road revealed a great number of coins, and this pattern has been interpreted as an indication of market activity, similar to hypotheses advanced for other sites in this period such as Newcastle and Carlisle (A. Birley 2016). The evidence at Vindolanda that amenities typically found outside the fort walls were re-located inside the fort in the 4th century suggests that the population did not abandon the site altogether, but rather moved into the fort itself. The facilities one might expect outside the walls of earlier forts reduced in size to match a smaller population living inside the walls of the fort throughout this period. Such a hypothesis does not necessarily equate to a demilitarisation taking place, as the quantities of arms and armour located in the 4th-century buildings indicate a continuous and strong military narrative.

It is clear that the buildings explored between 2008 – 2011 were different in character to those examined by Bidwell in the north-eastern quadrant in 1981 (Bidwell 1985) and they, in turn, were not the same as the 4th-century structures encountered in the south-eastern quadrant of the fort between 2013 – 2017. Here, the excavations uncovered a series of east-west stone-built integrated cavalry barracks rather than the chalet-like buildings in the north-west quadrant of the fort. The plan of Vindolanda in the 4th century (Fig. 4.35) shows the diversity of buildings located in each quadrant. This variation highlights the potential interpretation that certain activities, or perhaps even different groups of people, were zoned inside the 4th-century fort. It is possible that more than one unit or detachment was present at any given time. This was certainly the case for pre-Hadrianic Vindolanda, and it is attractive to see the pattern continuing throughout the Roman military occupation at the site.

3rd-century Vindolanda: A unique and fortified complex, replaced by an outward facing community: I. The settlement of the Fourth Cohort of Gauls c. AD212/3-280

Excavations in the western and northern ends of the extramural settlement in 2009 – 2017 provided evidence for the types of activities that took place in

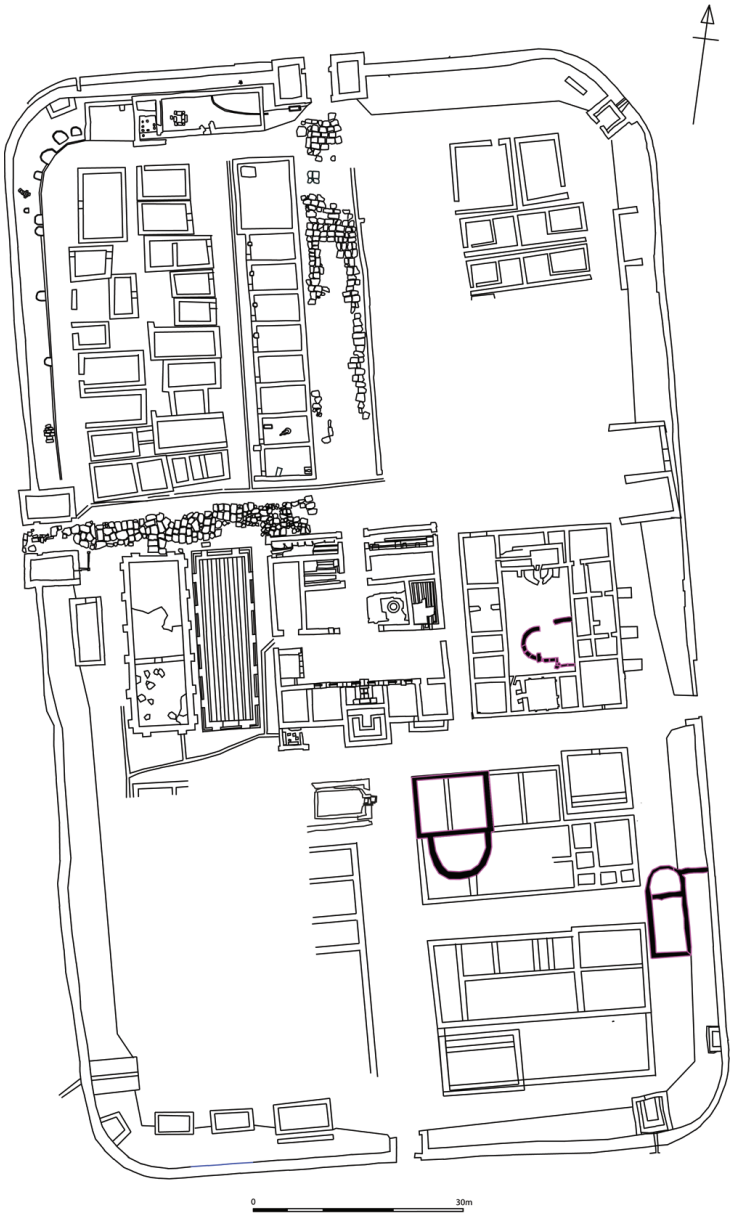


Figure 4.35: The fort of Vindolanda in the 4th century, showing a diversity of building arrangments. Apsidal-ended structures that could possibly be churches have solid black outlines. Source: Vindolanda Trust.

the periphery of the settlement between *c*. AD 213-280. These ranged from burial and religious or communal practices to storage and defence.

The sequence of construction of the fort versus the extramural settlement was explored. In 2016 it became clear that the extramural settlement developed after a brief gap following completion of the fort. While the fort was occupied, and before the extramural settlement had been built, a small area occupied by the silted-up remains of the previous fort's southern ditches was used as a burial ground. During the excavation of the area, half-a-dozen infant cremations were recovered from the top of the ditch silt. The silt had formed organically after the demolition of the Severan fortlet but before the site was covered by reducing the old rampart and placing new house foundations over the filled-in ditch.

Once the decision was taken to build the extramural settlement, it seems to have been rapidly expanded to cover an area three times the size of the fort itself, including to the north of the Stanegate road. Here, in 2009, two large buildings were excavated that were adjacent to the modern field wall lining the current boundary of the Stanegate. The first stone structure was large and had a colonnade on both long sides of the interior space. The lowest foundation course remained, and it stood to three courses of stone (including foundations) at the north-west and south-west corners (Greene and Meyer 2017).

To the north-east of the barn-like structure, a small section of a late-3rd-century defensive ditch was encountered in 2012. Although only a small area of this feature was explored, roughly 3m in length, it retained a mixed deposit of rubbish in its fill, which included two-dozen coins dating to the mid 270s. The section explored ran east–west through the trench before turning south towards the stone structures. It could not be followed further south, but it appears that it may have been a part of a defensive system associated with the 3rd-century extramural occupation, which can be seen on a geophysical survey of the field. This date coincides well with the abandonment of the extramural settlement at Vindolanda in the late AD 270s, at which point perhaps the ditch was no longer maintained and was quickly filled by silt (Greene and Meyer 2017).

Further recent exploration of the western edge of the extramural settlement has uncovered large areas of stone cobbling at the periphery of the settlement in this period. It is probable that this area was for either storage of goods and wagons, or perhaps even a parade ground (Blake 2014).

Traditional and well-preserved integrated barrack blocks (infantry) were encountered within the fort in the north-western quadrant, along with less well preserved (cavalry) barracks in the south-eastern quadrant. The road leading to the infantry barracks and the temple of Jupiter Dolichenus was

embellished with an arch or gateway at its junction with the *via principalis*. This gate or arch would have provided a potential processional way towards the temple and may have been used to separate the occupants of the barracks from other members of the fort community. The location of the temple of Jupiter Dolichenus inside a fort is unusual yet we can see through its placement the gradual progression of religious spaces and activities moving from the periphery of the settlement into the core of the fort. This progression moved to its final stage with the later construction of church foundations inside the *praetorium* courtyard, close to the administrative heart of the fort, in the 4th century. The fourth barrack room on this temple street had within it the buried remains of a child, aged between 9-11years. It is likely that this unorthodox interment was the result of foul play.

The work undertaken in 3rd-century contexts allowed for a comprehensive analysis of selected categories of material culture from across the site. The results of this work revealed a significant presence of material associated

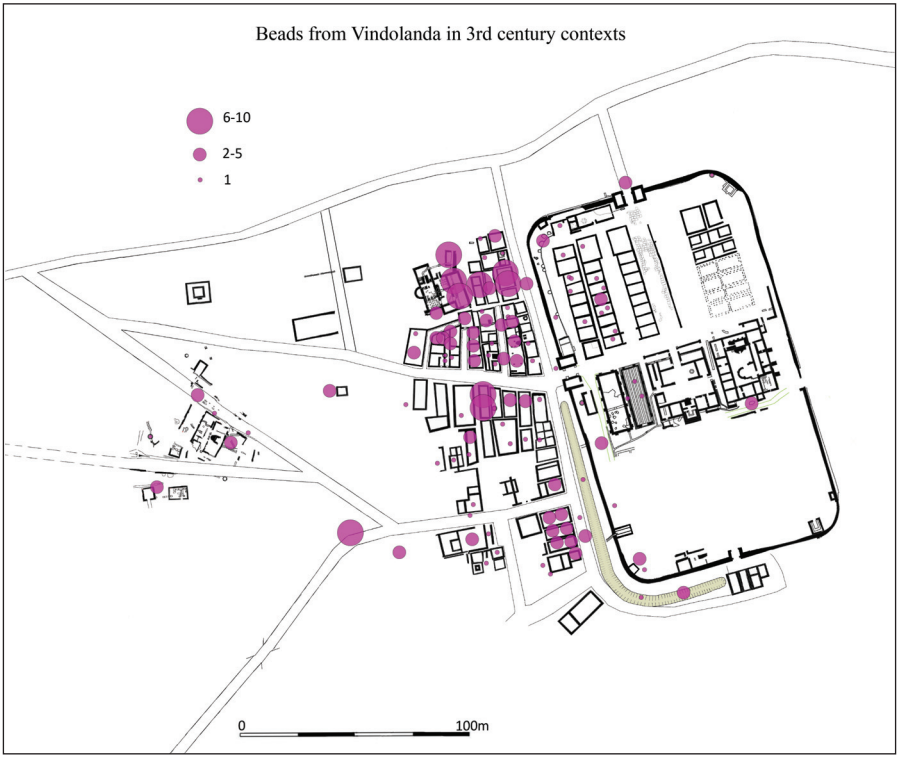


Figure 4.36: A plan of 3rd-century Vindolanda showing the distribution of beads from 3rd-century contexts. Source: Vindolanda Trust.

with non-combatants inside the fort, as well as combatants in so called 'civilian' extramural spaces. The spatial deposition of material culture did not support evidence for a divided or segregated community in the 3rd century at Vindolanda (Fig. 4.36).

II. Severan Vindolanda c. AD 208-212

Between 208-212 Vindolanda had an unorthodox establishment. This consisted of a heavily fortified fortlet adjacent to a planned but irregular roundhouse settlement (Fig. 4.37).

From 2009 – 2017, over 30 of these Severan period roundhouse platforms were explored at Vindolanda, below the remains of the last stone fort in both the north-western and south-eastern quadrants. Set in rows of five, back to back, the buildings and traces of their inhabitants remain enigmatic. However, analysis of the grains found in the houses show that the roundhouse dweller mainly ate barley rather than wheat, a marked difference from what was consumed inside the associated fortlet. A significant difference in the volume of material culture emerging from the roundhouse settlement in comparison

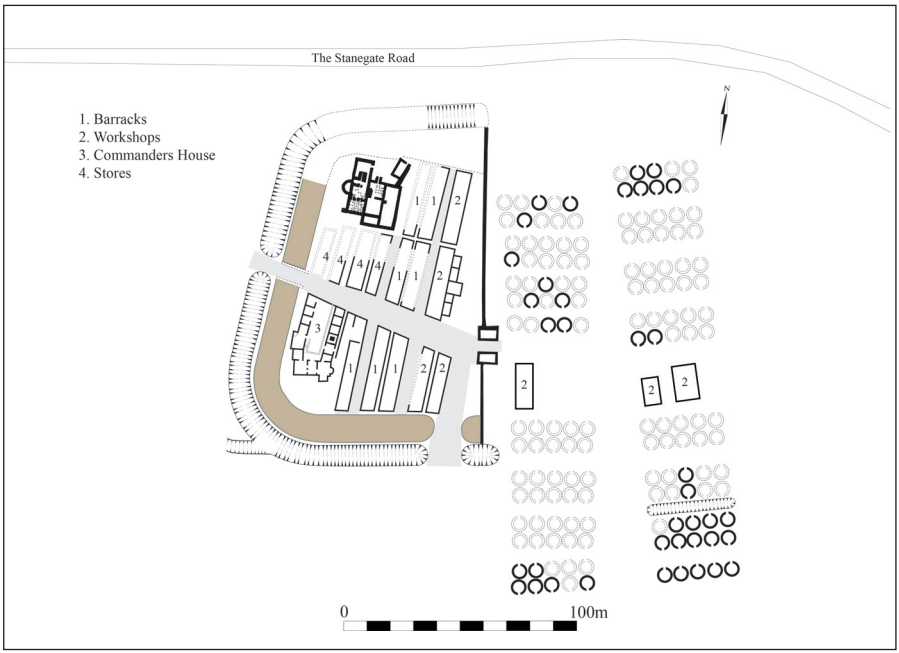


Figure 4.37: The Severan military complex at Vindolanda, showing the planned settlement of irregular roundhouses immediately to the east. Source: Vindolanda Trust.

to the fort and associated contexts is quite telling. Very little material came from the round house settlement except the environmental samples used to determine grain consumption. The population of the two constituent parts of Severan Vindolanda were very different from one another. In 2016, the excavation of a section of the southern Severan fort ditch produced a great deal of rubbish including over 470 boots and shoes. A high percentage (over 40%) of the shoes were from non-adult males, highlighting the possibility of mixed occupation inside the walls of the fortlet (A. Birley and Greene, in prep).

2nd-century Vindolanda, first stone fort to the last fort of the Tungrians: first stone fort (c. AD 180-208)

The remains of the first stone fort at Vindolanda *c.* AD 180-200 were encountered below the north-western quadrant and south-eastern quadrants. In the north-east quadrant a series of large stone-built barracks had been constructed running in a north-south direction. The Antonine fort, unlike the others at Vindolanda, faced south rather than north (Fig. 4.38). In most cases Antonine foundations were directly overlain by Severan roundhouse foundations and it was clear that at least some of the roundhouse builders had recycled the Antonine foundations for their own purposes. In the south-eastern quadrant a toilet block, industrial buildings, barracks, and the probable remains of a commanding officer's residence were encountered in 2016 – 2017. All of the Antonine buildings were constructed using the distinctive soft yellow sandstone blocks commonly encountered elsewhere from this period, bonded with either a soft sandy lime mortar or thick grey clay.

Outside the fort, two sections of the Antonine fort's annex defences were explored in 2011 – 2012. The annex had a large clay rampart fronted by a soft buff sandstone wall. The masonry used in the annex is different to that used in the fort, a greyer harder stone rather than the soft yellow sandstones and it is obvious that the two, although related, were not completed at the same time or even potentially by the same group. Current thinking is that the stone annex was built before the stone fort and was attached to an earlier timber fort. This hypothesis is supported by the alignment of the annex gate that links with the timber fort's west gate, a feature that becomes redundant when the fort is reconstructed in stone and the gateway is moved further north.

Both sections of annex wall have been consolidated for display and are situated towards the western edge of the main settlement. During the 2012 season, a long aqueduct leading to the baths was explored in this same area

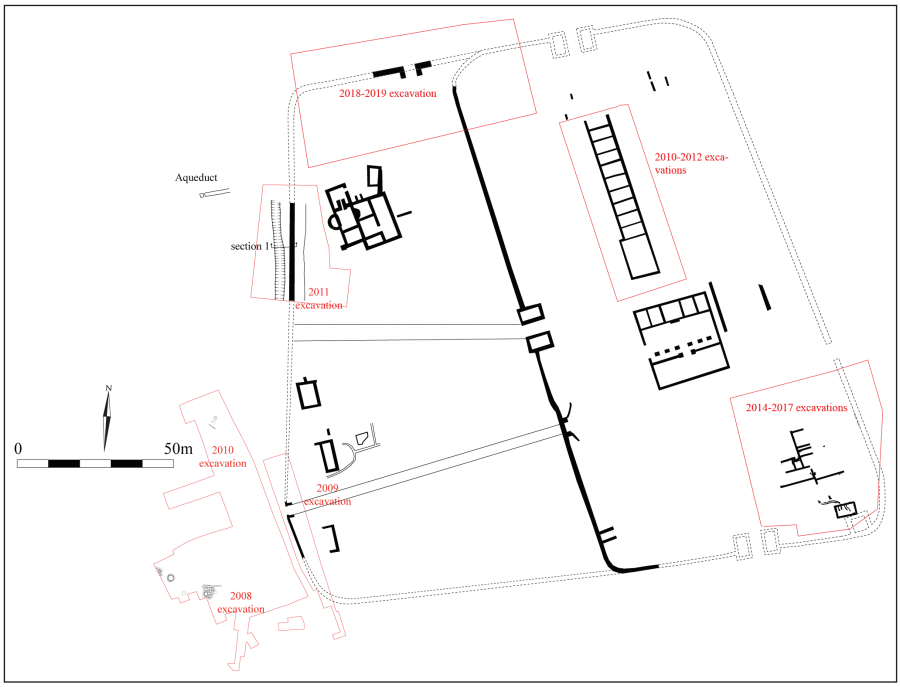


Figure 4.38: The plan of the Antonine-period stone fort at Vindolanda. Source: Vindolanda Trust.

as the annex wall. This added further strength to the argument that the 3rd-century baths in the extramural settlement actually started life as an Antonine fort bathhouse, retained inside the walls of the defended annex. Other buildings encountered during the course of the excavation over the past decade were industrial in nature and the main purpose of the annex appears to have been as a foundry.

In the field to the north of the site, excavations encountered a pottery kiln and a potential tavern as well as more evidence for industrial activity taking place at this time, suggesting that not all the Antonine-period activities were restricted to the annex. The possible tavern provided evidence for a timber phase, which had slumped into an earlier military ditch and clearly predated the stone remains. This suggests a long occupation perhaps over 30 to 40 years in the area.

South of the Stanegate, on the main part of the site, the poorly preserved structures of timber phases of early Antonine buildings pre-dating the first stone fort, situated below the Severan and Antonine stone structures discussed above. These remains sit directly above the timber Hadrianic

period fort (Vindolanda period V, *c.* AD 120-130). In most places the buildings had been effectively cleared or destroyed to make way for the new stone foundations. This did, however, offer a protective layer for the survival of period IV buildings in places (*c.* AD 105-120) and a great deal of evidence for infantry and cavalry barracks, roads, and drains was found preserved from those levels (Fig. 4.39).

In 2017, a large part of a cavalry barrack, likely occupied by the *Vardulli* (from northern Spain), complete with barrack rooms, stables, and 'urine pits', was found below the south-eastern quadrant of the last stone fort. This structure appeared to have been abandoned in a hurry, and as a result a large quantity of material was left behind on the floor of the domestic rooms. This included shoes and boots, dice, combs, tools, two swords, wooden swords, writing tablets, and a pair of hitherto truly unique items: leather boxing gloves.

Elsewhere period IV structures provided more evidence of mixed habitation and a series of remarkable wooden artefacts, which included a

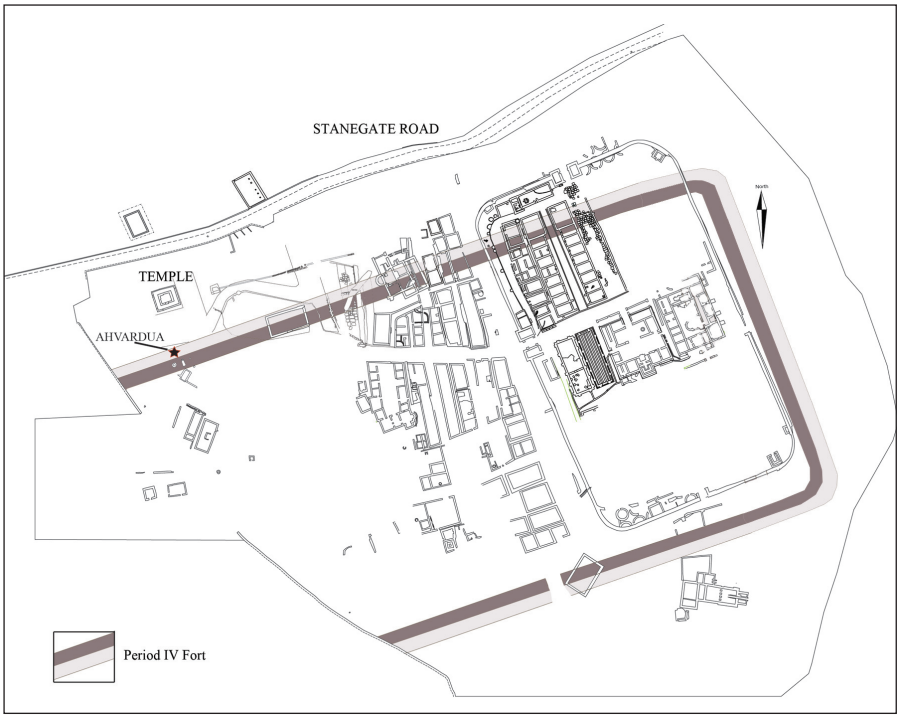


Figure 4.39: The period IV fort at Vindolanda, dating *c.* 105-120. Source: Vindolanda Trust.

well-preserved wagon wheel, a wooden toilet seat (alder), and water pipes (alder). Many of the period IV structures show evidence of fire damage and rapid abandonment.

For the first time, pre-Hadrianic extramural buildings were explored in 2012 – 2013 in the area between the fort's northern ditch and the Stanegate road. This area contained two phases of a timber-built roundhouse, as well as two rectilinear structures preserved in anaerobic conditions. Over 100 shoes, many brooches, and other items of militaria were found in these buildings. In the nearby fort ditch a dedication to a goddess hitherto unknown in Britain, Ahvardua (goddess of water and the Ardennes mountains, Belgium), was found face down. It had been set up by members of the First Cohort of Tungrians (A.R. Birley *et al.* 2013).

Late-1st-century Vindolanda: The first forts of the Tungrians and the Batavians, c. AD 85-92

Three forts – two Tungrian and one Batavian – were constructed at Vindolanda before the end of the 1st century and it is possible that either another fort or a construction camp was situated in the field to the north of the site during this period. At least two phases of defences, either late 1st or early 2nd century in date were encountered in the field (Greene and Meyer 2017). Disarticulated human remains (Buck *et al.* in prep), Roman pottery, a seal box, leather, and other military gear were recovered from this ditch system.

The extramural excavations in 2017 encountered a small road cut into the natural clay bank outside the first Tungrian fort at Vindolanda. This had subsequently been filled to make room for a new fort twice the size of the first, and rubbish had been spread to level the ground for the new foundations. The rubbish comprised an assortment of domestic waste, which included part of the archive of the commanding officer of the First Cohort of Tungrians, Julius Verecundus. In June 2017, 25 ink tablets, some more fragmentary than others provided an incredible insight into this commander and his fort. Decipherment of the texts is ongoing, but the first are due to be published in a paper in 2019, it is hoped in time for the Pilgrimage.

In the areas excavated over the past ten years only fragmentary remains of the Batavian occupation at Vindolanda have survived. It is hoped that during the 2018 – 2022 excavation more will be uncovered to add to that picture of life at the site between *c.* AD 92-105.

Turret 39a

It has been noted that the unusually large masonry forming part of the blocking wall inserted into the turret when it was demolished could have originally been intended for a milecastle gateway. Although the masonry is larger than that present in the adjacent milecastle 39, it is conceivable – though speculative – that the stone was delivered when the milecastle was expected to be built closer to its measured location. By this reading, it was only decided to place it in Castle Nick after the reduction to the Narrow Wall (Symonds and Breeze 2016, 5-7). Bidwell (2018, 226) prefers the original excavator's view that one item of stonework was a hypocaust pillar and interprets the cache as spare odds and ends from a quarry.

Milecastle 40

Paul Frodsham

No certain evidence for probable roads or tracks was identified at milecastle 40 during the geophysical work by Altogether Archaeology, although a break in the northern bank and a possible stone causeway across the ditch, which could be associated with an undetected track, were identified just to the north-east. It is impossible to be sure whether the results immediately north of the milecastle indicate an artificially laid surface or near-surface bedrock (ASDU 2014).

Milecastle 41

Paul Frodsham

No evidence of a road north of the milecastle was encountered during geophysical survey, which is perhaps not surprising, given the difficult and steep terrain, and the presence of an easier option through Caw Gap just 350m to the west. A feature that at first glance appears as a possible road approaching the milecastle from the north-west is actually a tumbled field wall (ASDU 2015).

Haltwhistle Burn camps and fortlet

Paul Frodsham

Earth electrical resistance and geomagnetic surveys of four temporary camps and the fortlet at Haltwhistle Burn were completed in 2016 by the Hadrian's Wall Community Champions project in partnership with Archaeological Services Durham University. The key aims were to provide volunteers with training in geophysics while searching for internal features that might offer

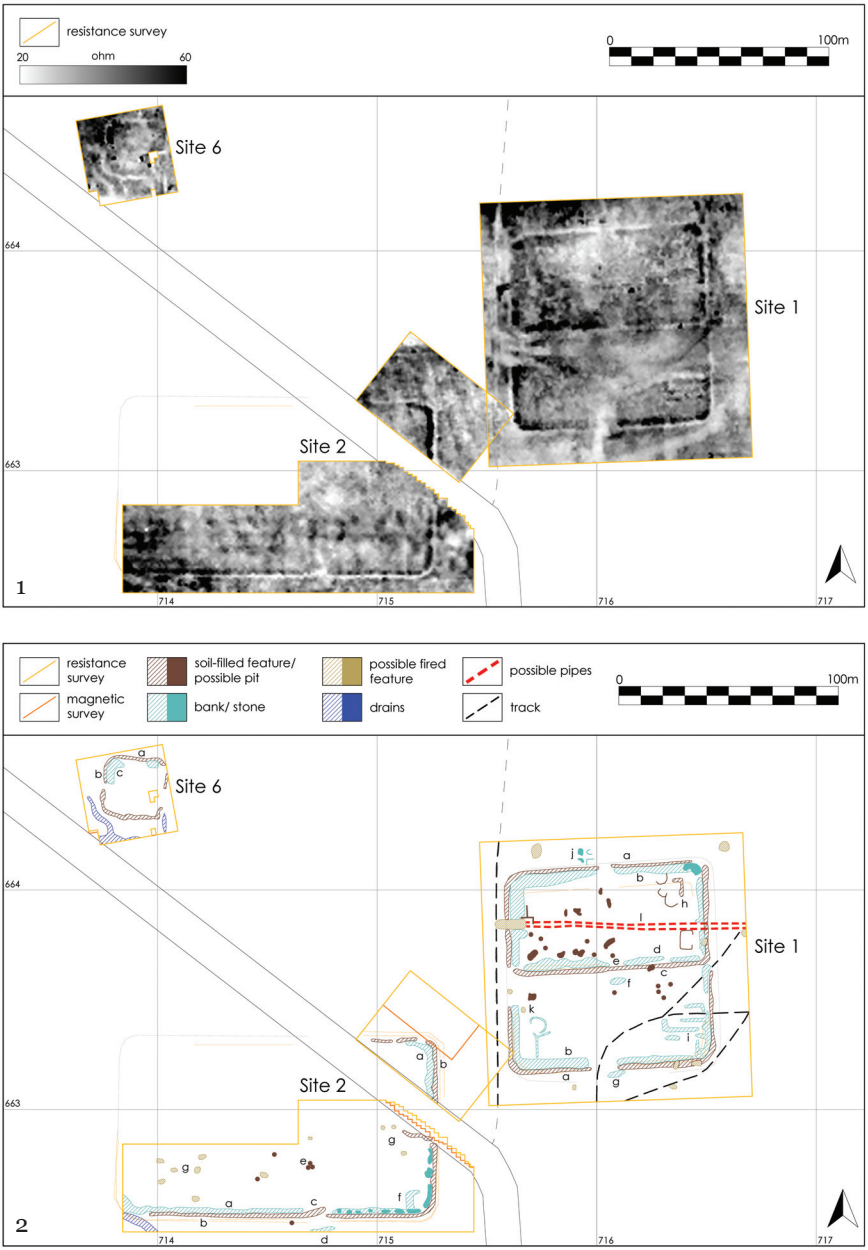


Figure 4.40: A resistivity survey completed over the camps at Haltwhistle Burn (1) and the interpretation plot of the results (2). Source: ASDU.

potential for the recovery of information regarding the use of the camps (as specifically called for in the Hadrian's Wall Research Framework).

Electrical resistance proved to be the more effective technique at all the sites, although geomagnetic survey also proved effective at the Stanegate fortlet. The principal elements of each site (typically banks, ditches, entrances, and traverses) were detected. It appears that the ramparts of the camps at Sites 1, 2, and 6 (Fig. 4.40) were built with whatever material came out of the adjacent ditch, be it earth or stone, or varying proportions of both; the rampart at Site 4 (north of the Wall, not illustrated here), appears to have been constructed using turf and scraped material rather than material excavated from an adjacent ditch. The walls of the fortlet (not illustrated here) were constructed in stone, largely ironstone and whinstone, which has made them readily detectable with both techniques.

There is a relatively high concentration of small, often strong, magnetic anomalies across each site, which could all have natural origins. However, based on the size, strength, and orientation of these anomalies an attempt was made to distinguish between those of low archaeological potential and those that could be consistent with possible pits, small ovens, or hearths. Several possible pits and possible small fired features have been identified at Sites 1, 2, and 4. At Site 1, the former appear to be concentrated within the camp, while the latter tend to occur near the edges of the camp. The shape and size of one paired geomagnetic/resistance anomaly ('k' on fig 2), on the inner face of the rampart at Site 1 (in particular the shape of the resistance anomaly with its possible extension to the south), matches well with an oven excavated in the Stanegate fortlet in 1907. Future excavation of this feature, and potentially others, may help to establish the chronology and purpose of the camps, and their relationship to the Stanegate and the Wall.

GREAT CHESTERS FORT (*Aesica*)

Excavations conducted on the Vallum to the south of the fort in 1950 and 1951 have been published (Heywood and Breeze 2010). The investigations revealed the existence of an original Vallum causeway, but no trace of an associated monumental gateway. A pair of ditches running along the eastern side of the fort were also examined at this time.

LiDAR has revealed that the fort environs are particularly rich in surviving earthwork features (Fig. 4.41).

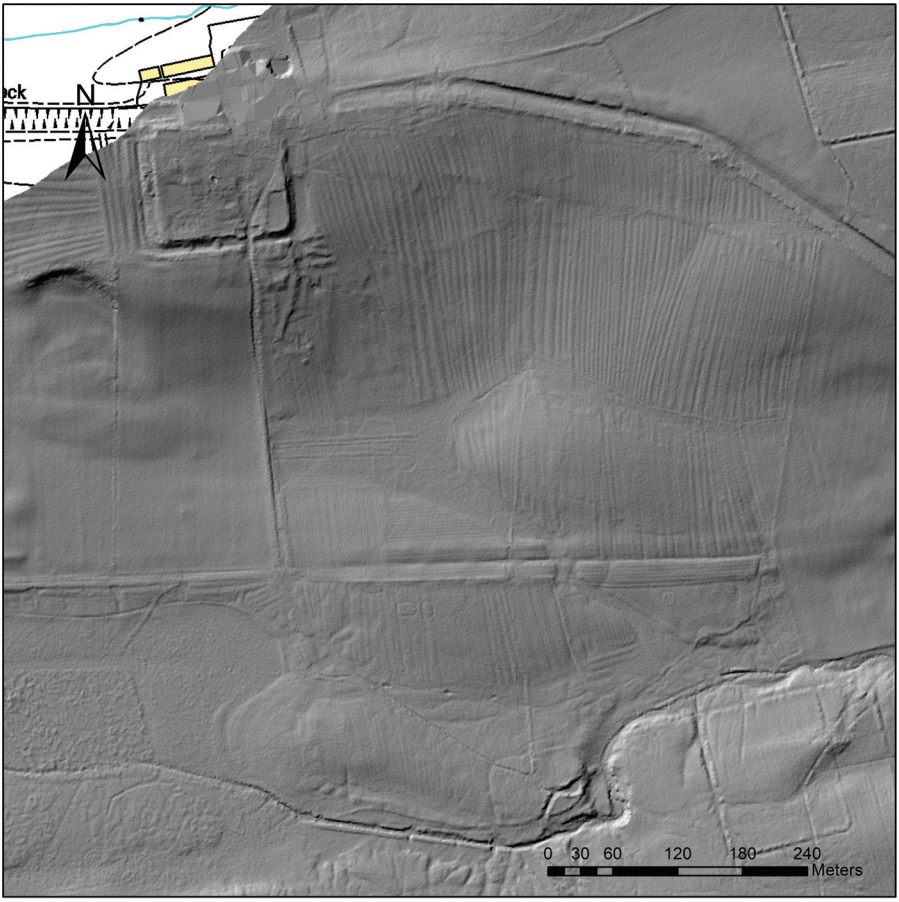


Figure 4.41: Earthwork survival at Great Chesters is very high, with many of the features relating to the fort and extramural settlement, as well as pre-Hadrianic camps. Source: WallCAP.

Wall mile 44 (King Arthur's Well)

A rectangular stone-built structure was revealed immediately adjacent to the south face of the Wall, perpendicular to the curtain. The structure measured approximately 5m in width and more than 5m in length, with a central hearth. Associated pottery has provided preliminary dating, suggesting activity in the mid-late 2nd century (*Britannia* 40, 234).

Turret 45b

David J. Breeze noticed a photograph taken in the 1880s showing the turret from the same angle as the celebrated illustration by C.J. Spence confirms the accuracy of the latter (Fig. 4.42). In terms of both design and situation within the landscape the turret displays some similarities to its near-neighbour turret 44b, possibly indicating a more flexible approach during the Narrow Wall phase of construction (Symonds and Breeze 2016, 13-14; Symonds 2013a, 58-59).

Figure 4.42: A photograph dating to the 1880s of turret 45b (1) compared to the illustration of the same turret by C.J. Spence. Source: TWAM (photograph), Society of Antiquaries of Newcastle upon Tyne (illustration).

CARVORAN FORT (*Magna*)

Andrew Birley and Anthony R. Birley

There have been no direct archaeological interventions at the site of Carvoran since the work undertaken on behalf of Sustrans for a new cycleway to the south of the fort in 2005. However, further knowledge has been forthcoming about the layout of the site and its landscape through the re-publication of a detailed geophysical survey (Biggins and Taylor 2016, 17-36) and LiDAR survey by the Environment agency (Fig. 4.43). Further information about the fort and its garrison has also been forthcoming via the recovery of a diploma issued to a member of the regiment.

The Geophysical survey concentrated on the fort platform and the fields immediately surrounding the fort, including up to the line of the Vallum and Hadrian's Wall to the north. The perimeter of the densely populated fort,

which is square rather than rectilinear, is clearly visible, as is the unusual location of the *praetorium* in the south-western corner. The extramural settlement covers a large area to the east, south, and west of the fort platform, while the junction of the Maiden Way with the Stanegate road appear to lie to the south-east of the fort. It has long been speculated that the unusual position of the *praetorium* and the off-centre junction of the Maiden Way and Stanegate roads signify that the unusual square shape of the fort was due to later refurbishments, replacing a more traditional rectilinear foundation. What remains unclear from the geophysical survey is how the landscape was managed between the north of the fort, milecastle 46, and the Vallum

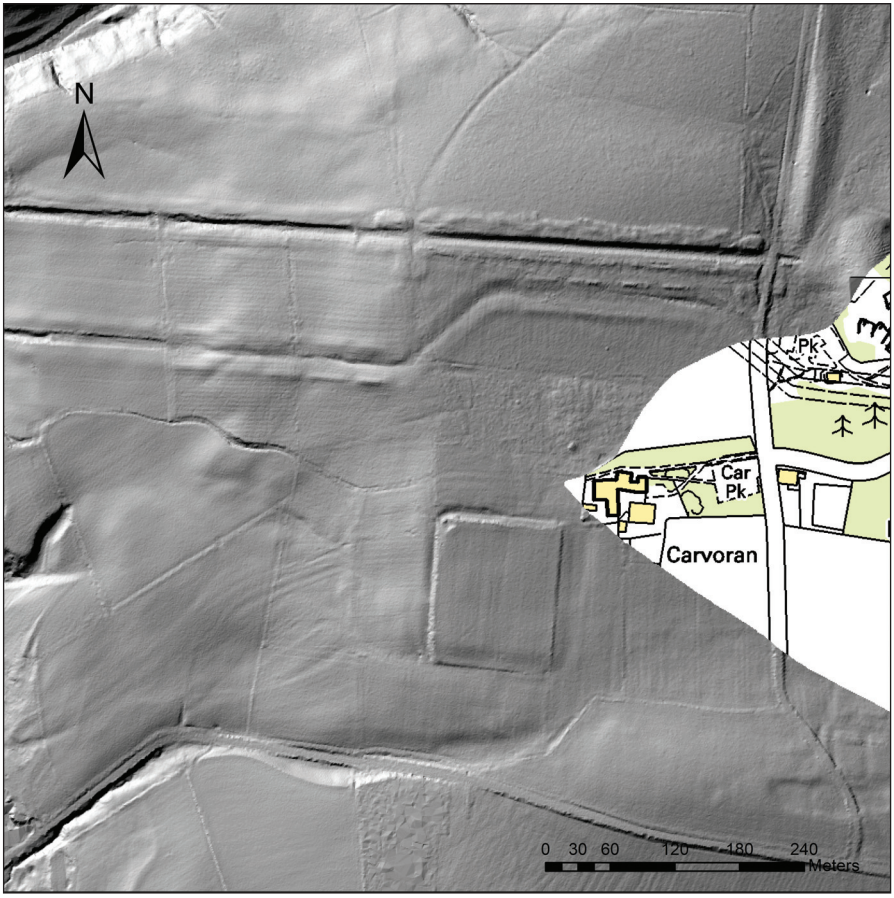


Figure 4.43: A LiDAR plot of Carvoran, with the fort platform clearly visible to the south of the Vallum. The ditch, curtain, and milecastle platform are also visible. Source: WallCAP.

diversion. There is no evidence on the survey of a road leading from the north gate of the fort to the milecastle and no further indication as to why the Vallum was diverted in such an unusual manner around the site. It must be noted, though, that the marshy landscape (peat bog) between the fort and Vallum does not lend itself readily to this sort of survey. Therefore, these questions may not be answerable through Geophysical Survey or LiDAR.

The LiDAR survey of Carvoran, a part of a wider national programme conducted by the Environment Agency, adds further refinement to situating Carvoran fort within its landscape. This shows the line of the Stanegate road to the east as it travels towards the fort, as well as three or four possible tombs lining the northern edge of the road to the east of the site. It also shows further smaller paths or roads linking the Stanegate to the Military Way to the east of the site and the line of the Stanegate running across the field down the bank to the west of the fort, which was not shown on the geophysical survey.

The New Hadrianic Diploma

A military diploma, probably found in the Balkans, was issued on 9 December 132 to a veteran of the *cohors I Hamiorum sagittariorum*, originally raised in Syria and the only regiment of archers stationed in Britain (A.R. Birley 2012). It shows that Sextus Julius Severus was still in office as governor and that Hadrian, as he bears the title *proco(n)s(ul)*, was overseas, presumably in Judaea dealing with the massive uprising led by Bar Kochba––to suppress which Julius Severus was eventually summoned. The regiment was surely already at Carvoran when the veteran, Longinus, son of Sestius, who had two sons and a daughter, received his privileges; he presumably returned home to the Balkans. His prefect, previously unknown, was called Marcus Mussius Concessus. Some four years later, in 136 or 137, the prefect Titus Flavius Secundus dedicated to Imperial Fortune in the baths suite of his *praetorium* for the health of Hadrian's heir, Lucius Aelius Caesar––who died on 1 January 138. The Hamii were transferred to Bar Hill on the Antonine Wall before long, but were back at Carvoran in the 160s; they were replaced in the 3rd century. The famous poem to the Syrian Goddess found at Carvoran, composed by a later commander, Marcus Caecilius Donatianus, is undated; it was not, however, as often still mistakenly claimed, intended to flatter Julia Domna.

Milecastle 47

Paul Frodsham

An existing farm track approaching the milecastle from the north-west follows the route of a former field boundary shown on early OS maps. It is possible that this preserves the course of an earlier route, possibly contemporary with the milecastle, since the existing track fords a stream then traverses upslope to the causeway across the Wall ditch. Geophysical survey by Altogether Archaeology revealed a similar band of high resistance anomalies to the north-east, also oriented towards the causeway, which could reflect another former track. Other anomalies detected here are thought to result from a combination of ploughing and natural variation within the sands and gravels (ASDU 2015).

Wall mile 47

Camps

Humphrey Welfare

LiDAR revealed at least two temporary camps to the south of Milecastle 47. One, the putative south-west corner of which may be adjacent to the long-known camp at Chapel House, covers at least 13ha. At a central point on its north side there is a slight change of alignment, probably at the site of a gate. A gate is visible in the middle of the parallel east and west sides; that on the east has an external traverse. Immediately outside the west rampart is a small camp, about 45m square. There are indications that it contained internal *claviculae*. A fourth possible camp, within the north-west quadrant of the largest one, may measure only about 30m square.

Possible tropaeum

Graafstal suggests that the Victory relief found north of the Wall at Gilsland may have formed part of a monument celebrating completion of this stretch of Wall in anticipation of an inspection by Hadrian in AD 122 (Graafstal 2012, 151). Breeze, meanwhile, proposes that it may have acted as a Victory monument, perhaps to be associated with the fighting recorded at the beginning of Hadrian's reign. He also notes its location 'on the watershed between the two great river systems of the frontier' (Breeze 2014c, 63-64).

Wall curtain

The north face of the Wall was recorded at NY 6430 6618 during improvement work on the National Trail (*Britannia* 42, 338).

Wall miles 48 and 49 (magnetometer surveys)

Paul Bidwell

In December 2018 intensive magnetometer surveys were carried out on the berm of the Wall between milecastle 49 and Birdoswald fort, and to the east of turret 48b. Probable traces of pits which would have accommodated obstacles in front of the Wall were found in the first of these areas, and possible traces in the second area. The work was funded by a research grant from the Cumberland and Westmorland Antiquarian and Archaeological Society.

BIRDOSWALD FORT (*Banna*) (Fig. 4.44)

Excavations undertaken in the fort and extramural areas were published shortly after the last Pilgrimage (Wilmott *et al.* 2009). These excavations revealed the positions of buildings running under the post-medieval farm. Significantly, this volume also includes further analysis of so-called Housesteads ware, which was only found outside the walls of the fort at Birdoswald, suggesting the location of Germanic families accompanying a *numerus* that was resident at the site.

Study of LiDAR data has revealed that the road linking Birdoswald and Bewcastle seemingly deviates to the north-east as it leaves the north gate of the former to skirt Midgeholme Moss, rather than cutting directly across it as previously suspected (*Britannia* 49, 344-345).

Birdoswald cemetery

Tony Wilmott

During the 2009 Pilgrimage, an excavation of part of the cemetery of Birdoswald fort was about to begin. In fact, the Pilgrimage ended on August 23rd and the eight-week excavation commenced on September 7th. The excavation was prompted by an episode of natural cliff erosion that was damaging the archaeology of the known cemetery site (Fig. 4.45). An area 15m wide on the cliff edge was totally excavated in order to recover and record the archaeology under long- and medium-term threat. The excavation was carried out by the Archaeological Projects Team of (then) English Heritage, aided by a team from Newcastle University's archaeology department.

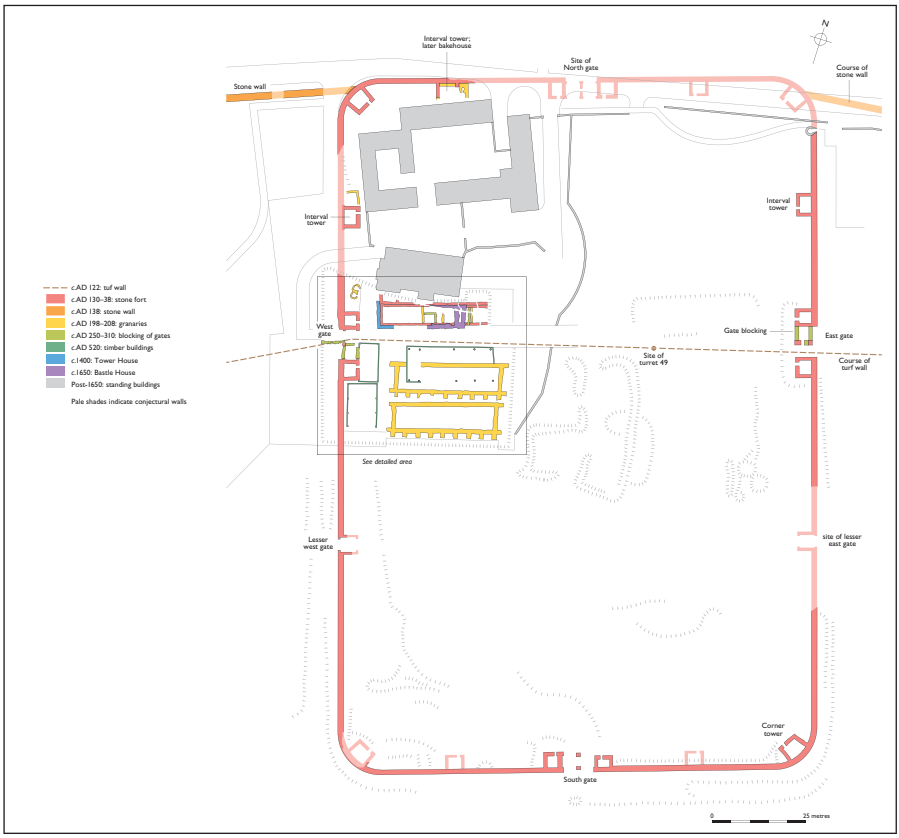


Figure 4.44: A plan of Birdoswald Roman fort and its internal structures, showing broad phasing of building and refurbishment activities. Source: English Heritage.

It was found that a road had run uphill to the cemetery from the fort's extramural settlement. Previous discoveries within the cemetery had come from the south side of this road, where 3rd-century cremation vessels were found during ploughing (Wilmott 1993), and where Channel 4's *Time Team* excavated in 1999 (Wilmott *et al.* 2009). The 2009 excavation area was on the east (cliff) side of the road. An area within the cemetery was contained within a shallow ditched boundary. This was traced for 61m north-south, but the eastward return was only 7m long before reaching the cliff edge. It was clear that centuries of erosion had taken their toll on the site.

Within the enclosure, a total of 48 cremation-related deposits were excavated. Of these only nine could be described as 'urned cremations' in the conventional sense that the cremated remains were placed into a pot. Pottery

Figure 4.45: Aerial photograph of erosion scars beneath the cemetery at Birdoswald. The pale grassed area on the edge of the cliff was totally excavated. Source: Historic England.

vessels were found in a number of other deposits, but rather as accessory vessels to the main deposit. The pottery was the only artefactual dating evidence present, though there is an intention to undertake a programme of C14 work. All of the ceramics dated to the Hadrianic-Antonine period.

The deposits were extraordinarily varied. The most common feature (34 out of 49) took the form of a simple, circular or rectangular pit containing charcoal and calcined bone. Most of these were devoid of any form of finds, except for nails, which may have originated from scrap wood used as pyre fuel, rather than ritual deposition of any kind. There was a tendency for the rectangular pits to contain more in the way of finds material, but this seems to have been material placed on the pyre, such as glass vessels melted in the heat, and some heat-affected potsherds. One of these was provided with a flagstone base, and one was lined with pieces from a deliberately broken stone slab.

A single, heavily disturbed feature may have been tile lined, and there were three long features that appeared to represent *bustum* type cremations in situ. One of these was surrounded with a large number of burned stake-holes, possibly supporting the original pyre structure. A pit divided into two

compartments by a rough stone lining contained a small quantity of charcoal and burnt bone, but three small drinking vessels had been smashed in the bottom before backfilling. A mass of calcined bone, which had clearly been separated from any associated charcoal, appears to have been buried in a bag, or some other organic container.

Figure 4.46: A stone-lined cist at Birdoswald cemetery, showing a pot on its side and a spread of calcined bone to the right. Source: Historic England.

Three stone cists were found, but all were different from each other. The largest consisted of a rectangular stone-lined and lidded pit containing a small quantity of burnt bone and charcoal and an empty pot, holed in the base and laid on its side (Fig. 4.46). The cist appears to have been covered by a mound, with the material won from a ring ditch around the cist. A thick and broken stone slab set upright adjacent to the cist may have been the base of a tombstone or grave marker. The second cist was a tiny feature, only 0.35m long, and empty of any burnt material. The final cist was roughly built of cobbles, with a small accessory vessel built into the wall. This seems to have been built around a wooden box, which had decayed leaving the pattern of nails that held it together intact. This box contained charcoal and calcined bone.

Two pits contained pots standing upright that both contained and were embedded in burnt material. These are more like the majority of ordinary

pits than conventional urned cremations. There were two urned deposits, and these were associated with each other (Fig. 4.47). In the first, a small pit contained a mid- to late-1st-century BB1 jar containing the cremated remains of a child of some 5 years of age. Within the same enclosure, a pit cutting the first pit held a jar of similar type and age. This touched, but did not damage the first jar. It contained the cremated remains of a young adult female aged some 20-40 years. This was a remarkable burial, as it contained an interesting group of objects. These included a polished stone ring, a copper alloy ring, copper alloy wire and pendant, and a cast copper alloy object. Possibly the most interesting element was the presence of a small piece of chain mail. This material had corroded into a mass in the base of the pot, making it impossible to remove the other objects that had fused with it. The possibility that this was a mother buried with a pre-deceased child must be considered.

Figure 4.47: A pair of urned cremations found in situ at Birdoswald cemetery. Source: Historic England.

In no case was a full cremated body interred – in every case a small (but inconsistent) amount of calcined bone and charcoal was deposited. Clearly the burial of a token quantity of material from the pyre was considered adequate to create commemorative deposits as locations where the deceased person could be remembered, and this in turn suggests that the important aspect of the treatment of the dead was the ceremony surrounding the funeral itself.

Commemoration clearly took a number of forms, but whether this represents differing ethnic or customary practices imported to Birdoswald remains to be determined, through the study of comparative deposits. An example of this approach is the fact that small pieces of chain mail associated with other objects are paralleled in female cremations of the Przeworsk culture of central Europe (Czarnecka 1995).

A wide-ranging programme of scientific analysis of the remains is in progress, including studies of osteology, the wood used for fuel, and analysis of firing temperatures. Publication through CWAAS is expected in late 2019 or early 2020.

This suggests that what was buried comprised token commemorative deposits, each of which represents the commemoration of a single deceased individual.

Although the emphasis was on 2nd-century material, there was some indication of later use. Three apparent inhumation burials were grouped around the entrance to the enclosure. No bone was present – unsurprisingly due to the extremely acid nature of the soil – however one grave was lined with cobbles, while a second appeared to be a double inhumation of a tall and a short individual, with a flat pillow-stone provided for the male. These closely parallel the late-Roman inhumation graves excavated at Maryport in 2012, which share similar features.

Summer 2018 saw the opening of a new exhibition at Birdoswald by the English Heritage Trust. This emphasises 'family friendly' presentation. Newly on display are several of the conserved cremation vessels from the cemetery excavation, including the vessel containing the chain mail and finds. These will happily be available for the Pilgrims to examine.

Milecastle 50 TW

It has been proposed that the famous sliver of a wooden building inscription (Fig. 4.48; *RIB* 1935), seemingly recording construction under

Figure 4.48: The fragmentary dedication inscription carved in wood from milecastle 50 TW, set in a reconstruction of the entire inscription. Source: Tullie House Museum Trust.

Platorius Nepos, was not discarded as rubbish, but formed part of a ritual decommissioning exercise when the milecastle was abandoned (Symonds 2018b).

Wall mile 50 (Lanerton)

Humphrey Welfare

A temporary camp, identified on LiDAR, lies 200m south-south-west of Turret 50b (TW), beside the farm road to Lanerton. Measuring about 180m from east to west, it covers an area of at least 1.6 ha. The position of the south side is uncertain.

Rock of Gelt

Work was undertaken in February 2019 to remove vegetation from rock faces that bear Roman inscriptions and are known as the Written Rock of Gelt, in order to complete a detailed condition survey (Hilts *et al.* 2019). The site is a significant source of information, with *RIB* 1009 providing testimony of quarrying undertaken during the Severan period. A detailed photographic survey and 3D-scanning was undertaken of the rock faces. This work confirmed that only one inscription has been lost to weathering, while seven new carvings were identified, including a phallus and a simple bust in profile (Fig. 4.49).

STANWIX FORT (*Petriana*)

John Zant

Note the publication, since 2009, of Zant and Town 2013. This details the results of investigations in 2004 to the north-east of the Wall fort, where further remains of an extensive system of arable fields pre-dating the construction of Hadrian's Wall were found (Smith 1978), sealed beneath layers of earth and clay that *possibly* relate to the fort's parade ground.

Note also a project, commissioned by English Heritage in 2012, to map and assess the distribution and preservation of waterlogged archaeological strata, including deposits of Roman date, in Carlisle and Stanwix (*see below*).

Stanwix bathhouse

Frank Giecco

Two phases of archaeological evaluation undertaken between May and November 2017 at the Carlisle Cricket Club on the northern bank of the River

Figure 4.49: The recently discovered inscribed profile of a soldier on the quarry face at Gelt. Source: Jon Allison, Newcastle University.

Eden revealed well-preserved evidence of a Severan bathhouse complex. The building was made up of at least eight rooms and was constructed on a truly monumental scale, measuring over 40m by 35m (Fig. 4.50). Analysis of the recorded Roman features and material culture indicates the main structure was constructed in the early 3rd century AD. The size of the building surpasses any other bathhouse in the northern frontier zone, as does the scale and quality of interior painted walls. It would have been one of the largest buildings (based on what we currently understand) in Roman (Luguvalium) Carlisle.

The building inscription dedicated to either the Empress Julia Domna or Julia Mamaea is significant (Fig. 3.24), particularly when linked to the numerous imperial stamped ceramic tiles recovered from the site. This was a very important period in the growth of Roman Carlisle, when the city gained its civic status and a number of other monumental buildings were constructed within the city. Given the scale of the remains it is possible that the building could equate to something more than a conventional bathhouse, perhaps as part of a mansio or administrative complex, but this cannot be more than speculation without further work on the site. Associated with the structure were copious amounts of Roman tile used both in heating conduits, and forming floor-supporting columns. Recovery of nozzled vaulting tubes

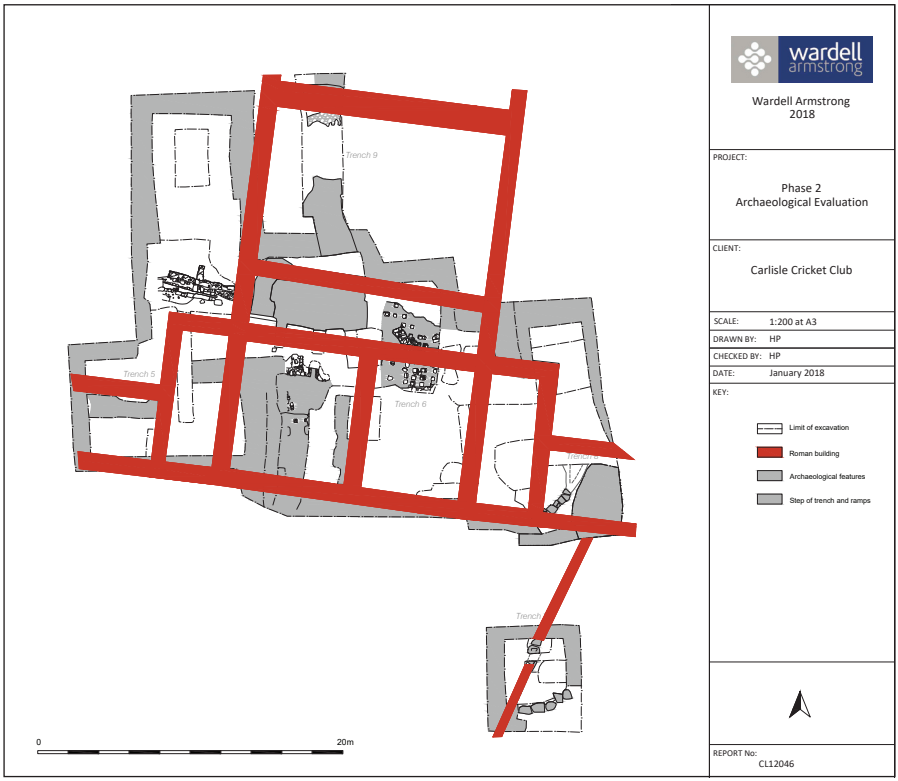


Figure 4.50: A plan of the Severan bathhouse discovered on the site of the Carlisle Cricket Club, on the north bank of the River Eden. Source: Wardell Armstrong.

was of particular significance; these were used in the construction of the vaulted bathhouse roof. The presence of these vaulting tubes combined with a general lack of roofing tile suggests that the building had a vaulted concrete roof.

The reuse of large pieces of Roman *opus signinum* in the excavated part of the *praefurnium* indicates a potential late remodelling of the 3rd-century bathhouse using materials from the earlier structure. Traces of this 4th-century remodelling were recorded throughout the site and the presence of a 5th-century bronze 'hand' pin could indicate activity extending well into that century (Fig. 4.51). It is also clear that this that this building was set in a much larger complex, which undoubtedly contained other structures, with traces of timber buildings, ovens, and a substantial road recorded to the south of the main building complex.

Scotland Road

Excavations about 100m north of Stanwix fort revealed important traces of activity underway to the north of the Wall. Although study of this material is not yet complete, investigation revealed a sizable cobbled area, a well, ditch, and a portion of a timber structure. Pottery and coins from the site can be dated from the 2nd to the 4th century AD (Martin 2010). This activity was not only focused nearby what became the home of the most prestigious auxiliary unit in Britain, but also adjacent to the key north-south Roman highway in the west. The occurrence of such material just north of where a major road crossed the Wall is certainly intriguing.

CARLISLE (*Luguvalium*)

John Zant

In 2012, English Heritage commissioned a project to map and assess the distribution and significance of waterlogged archaeological deposits in Carlisle and Stanwix, as part of the National Heritage Protection Plan. This utilised existing information to better understand the character, extent, and importance of such deposits, and their potential vulnerability to future development (OAN 2013a). The dataset generated by the project included a large number of records pertaining to waterlogged remains of the Roman period, covering both the fort and the adjacent settlement, and a GIS model was produced.

In 2013, a watching brief maintained during redevelopment of the former Sherwood Hotel, on the north side of Botchergate, found no significant remains (OAN 2013b), despite the proximity of the site to areas where complex Roman deposits, including burials and elements of a probable industrial complex, have been recorded (Zant *et al.* 2011).

Note also the following reports pertaining to Roman Carlisle that have appeared/will appear between 2009 and 2019: Zant

Figure 4.51: A copper-alloy 'hand' pin found in the Stanwix bathouse, dating to the 5th century. Source: Wardell Armstrong.

et al. 2011; Zant and Howard-Davis in press (2019). The results of the Carlisle Millennium Project were published in 2009 (Zant 2009).

Figure 4.52 indicates the area of the Roman town relative to the Wall and forts.

Burgh Road

A V-shaped ditch *c.* 3.6m wide and up to 1.4m deep preserving the western and southern sides of an enclosure was encountered off of Burgh Road. The estimated dimensions (*c.* 35m by 30m) are comparable to a watch-tower or small fortlet, though most of the interior of the enclosure was outside the area of excavation. A complex of smaller ditches may be related to Roman land management, but is probably not contemporary to the enclosure (*Britannia* 40, 234).

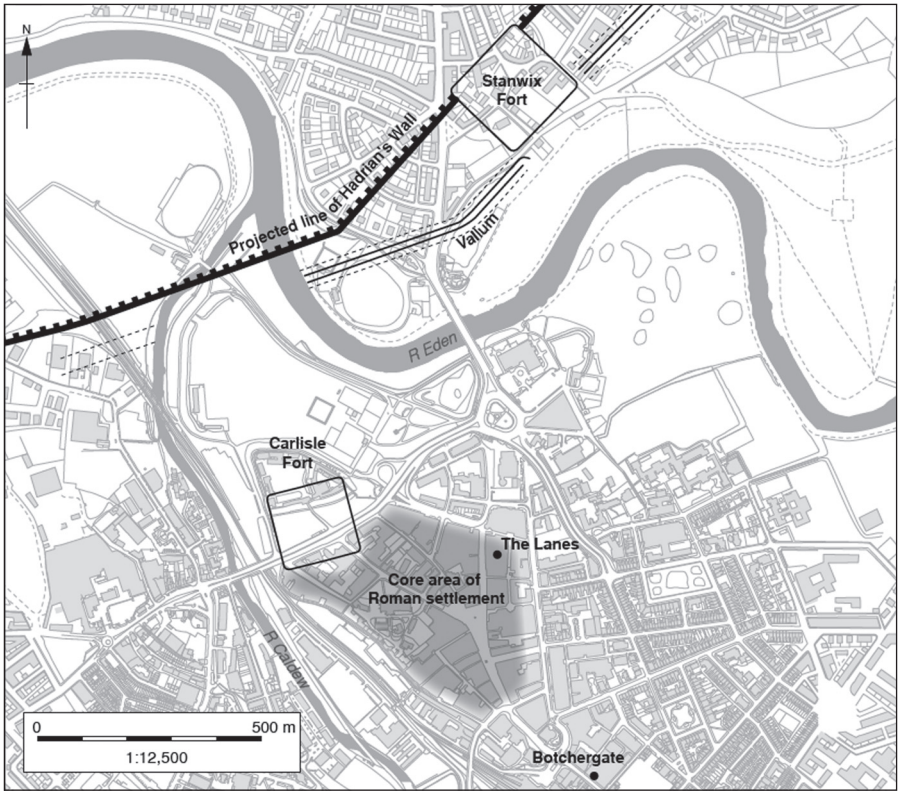


Figure 4.52: A map of Roman Carlisle, showing the outline of the fort and the extent of the town. Key sites where archaeological investigations have taken place are located. Source: OAN.

Wall mile 67 (Knockupworth Farm)

John Zant

In 2008 – 2009, excavations on the line of the Wall and the Vallum were undertaken near Knockupworth Farm, prior to the construction of a road bridge over the River Eden, as part of the Carlisle Northern Development Route. At the time of the 13th Pilgrimage, the archaeological works had recently been completed, and an interim statement was presented in the summary of excavation and research prepared at that time (Hodgson 2009a, 150). However, subsequent analysis – the results of which are nearing publication (Brown *et al.* in prep) – has led to better understanding of the excavated remains of the Roman frontier works, which, at this locale, occupied a steep cliff forming the south bank of the river (Fig. 4.53).

The Turf Wall, which survived as a low bank up to 3.45m wide and 0.3m high (the northern edge having been destroyed by erosion), was demolished almost to ground level prior to the construction of the Stone Wall, which was built directly over it. A stone-lined drain at the base of the earthwork had

Figure 4.53: The excavated remains of the Stone Wall, looking north-west, showing its position relative to the tail of the levelled Turf Wall indicated by darker soil immediately to the left of the Stone Wall. Source: OAN.

been set in a hollow formed by a small pre-Roman ditch. The Stone Wall, the remains of which were up to 2.72m wide at foundation level (having also been eroded to the north), comprised an earth and rubble core faced with squared, coursed rubble. The facing stones were set on a footing of sandstone flags, but the core had no foundation, being laid directly on the levelled Turf Wall. A stone drain was culverted through the base, in the same position as the earlier, Turf Wall, drain. Traces of a cobbled surface, up to 1.65m wide, recorded in two evaluation trenches immediately behind the Stone Wall, may have been the remains of a track, as has been recorded elsewhere (Breeze 2006a, 89).

A substantially complete section through the Vallum was obtained, including a full profile of the ditch and the north mound, together with spreads of material probably derived from the south mound and, possibly, the marginal mound. The ditch, which lay approximately 50m behind the Turf Wall, had undergone a degree of weathering prior to the deposition of a large block of layered turf and clay, which had been dumped into it together with other layers of earth and clay. It is thought that these deposits represent the remains of a secondary crossing of the Vallum, created when the Wall was temporarily abandoned in the early Antonine period, the turf block deriving – most probably – from the slighted Turf Wall (Breeze 2015b, 11). Subsequently, presumably when the Wall was recommissioned following the withdrawal from Scotland, the ditch was recut, resulting in the removal of the upper part of the crossing.

In one part of the site, the remains of a metalled surface, 3.35m wide and aligned parallel to the Vallum, were found on the berm between the north mound and the ditch. This feature, which was constructed of compacted gravel and pebbles on a foundation of larger cobbles, could represent a fragment of the Military Way.

Wall mile 69 (Kirkandrews on Eden)

The core of the Stone Wall was revealed during a small evaluation; no facing stones remained (*Britannia* 43, 293).

BURGH-BY-SANDS FORT (*Aballava*)

John Zant

In 2018, an evaluation at The Pack, *c.* 25m outside the north-west angle of the stone Wall fort (Burgh II), revealed a large, east/west-aligned ditch in excess of 6m wide (its northern edge lay beyond the area available for

investigation) and 2.6m deep from the modern ground surface (OAN 2018). Although this yielded no artefacts, its location, and its profile (roughly V-shaped, with a possible 'ankle-breaker' at the base), are suggestive of a Roman military origin. It may possibly represent an element of Burgh II's ditch system, though if, as geophysical evidence might suggest (Breeze and Woolliscroft 2009, 77), the Stone Wall was realigned to meet the northern corners of the fort, it could in fact be part of the Wall ditch.

Burgh Marsh

Humphrey Welfare

The name of the fort at Drumburgh, *Congabata* ('scooped out' or 'dish-like': Rivet and Smith 1979, 315; *Britannia* 35, 344-345, fn.47), almost certainly refers to the topographical feature that the fort looked out onto: Burgh Marsh, a low-lying expanse of estuarine grassland and saltmarsh, just above the level of normal high tides. Extending along the south shore of the Solway between milecastles 73 and 76, this is a gap of 4.2 km (2.6 miles) in our knowledge of the Wall complex (Fig. 4.54). Here there is a total lack of direct evidence for the curtain and the Vallum, although that is not to say that there were no defences here.

Although the course of the Eden shifts and is eroding southwards, most of the surface of the marsh is comparatively stable, as demonstrated by the natural stepped benchlines across it that mark changes in sea-level. It seems that the latter may not have changed significantly since the Roman period, the major difference being that in the last few centuries the marsh has been

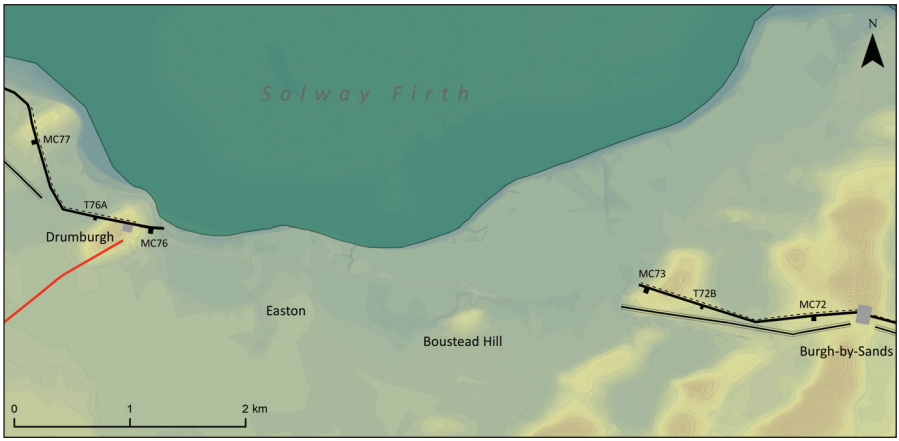


Figure 4.54: The known features of the Wall complex between milecastle 73 and 76. Source: WallCAP.

much more efficiently drained. In its earlier saturated state, it would have been a formidable obstacle for its sinuous south edge is as much as 500m to the south of the modern road. A drumlin at Boustead Hill (10m OD) provides the highest ground. The milecastles to the east and west, 73 and 76, are in tellingly similar positions, just above the edge of the marsh. The stub-ends of the Wall that extend from them are aligned slightly northwards, towards the River Eden. The marsh, however, bears no sign of any barrier, either of turf or of stone. The picture is complicated by drains; by the earthworks associated with the canal to Port Carlisle, of 1823; by those of the railway that replaced the canal in 1854; by sea-defences that are likely to be of various dates between the 14th and the 19th century; and by a road depicted on Thomas Donald's map of Cumberland, 1771.

There have been antiquarian rumours, from Horsley (1732, 157) onwards, that the Wall skirted the marsh to the south. This has never been substantiated and there is no convincing trace of it revealed by LiDAR data. Resistance to the plough may more probably be evidence for the course of the Military Way.

The tides here have a range of over 8m and can be extremely powerful; even as now drained, the marsh is flooded at some point every year. It is unlikely that the Romans would have successfully constructed a sea-bank – such as that at milecastle 79 (Simpson and Richmond 1952, 26-28) – over this distance. The options for defences include a palisade, analogous to those on the *limes* in Raetia, and / or that the marsh was treated as an isolated section of the Cumbrian coast, with fortlets and towers but no continuous barrier. Boustead Hill is an obvious site for such provision, with other structures placed along the edge of the dry ground.

DRUMBURGH FORT (*Congabata*)

The road connecting Drumburgh and Kirkbride is visible running south-west of the fort in the LiDAR data (*Britannia* 49, 345-347).

BOWNESS ON SOLWAY FORT (*Maia*)

Geophysical survey was undertaken to the north-east of St Michael's Church, revealing a road system and buildings in a loose grid system of north-west to south-east alignment, probably from the extramural settlement relating to the fort (Graham 2018).

BECKFOOT FORT (?*Bibra*)

Ian Haynes

The Roman fort at Beckfoot has been relatively little disturbed by archaeological interventions in recent times. First located and partially excavated by Joseph Robinson in 1879-1880 (Robinson 1881), it was briefly explored in an undocumented excavation by a Harold Duff of Maryport in 1935. Little is known of Duff's investigations there, other than that Collingwood records that they involved the fort's west gate (Collingwood 1936, 78). A modern bungalow, "Romanway", excluded from the Scheduled Area, lies on the north-west corner of the fort platform. Excavations conducted in 2011 prior to the rebuilding of the bungalow exposed traces of the fort ditches (Martin 2011). Aerial photography has offered further detail on the internal configuration of the buildings of the *praetentura* and central range (notably Frere and St Joseph 1983, 72, fig. 39), but ground responses in the south-eastern part of the fort are less good, making it harder to discern the form of buildings there. The fort platform has since undergone both magnetometry and resistivity survey as part of the Beckfoot Fort and Environs Project (BFEP) run by Newcastle University in conjunction with John and Val Murray, residents at Beckfoot. For reasons linked to the post-Roman history of the fort platform the geophysics results have not significantly advanced our understanding of the complex's interior configuration. Elsewhere however, the BFEP, led by Ian Haynes, Alex Taylor, Jon Mills, and Skylar Arbuthnot has yielded significant new results (Fig. 4.55).

The fort forms part of an extensive settlement with evidence for extramural activity to the north, east, and south. This area has now been subject to successive geophysical surveys using a range of different systems. A survey conducted south of the fort in 1995, traced the Roman road for 700m and identified a large enclosure with rounded corners in the vicinity (Burnham *et.al.* 1996, 406-407). Work by the BFEP from 2016 onwards has expanded upon this picture, following the Roman road for 300m to the south, but extending coverage further to the west and east and in the process revealing ditched enclosures to the east. Interpretation of these enclosures remains challenging, but it is possible that they represent a funerary area of similar form to that explored by English Heritage at Birdoswald in 2009 (see p.186).

This possibility may be further supported by the fact that extensive cemetery deposits are known to the west of the road at this point, though it must be acknowledged that those on the west continue significantly further south. This area has been the focus of much academic interest and concern, as it has suffered seriously with the steady erosion of sand dunes. Bellhouse investigated the conjectured location of milefortlet 15 here in in 1954 and 1956,

Figure 4.55: Gradiometer survey of Beckfoot Roman fort and environs by the Beckfoot Fort and Environs Survey. The image incorporates (with permission) results derived from a separate gradiometer survey undertaken for the Maryport and District Archaeology Society (MADAS) by Wardell Armstrong Archaeology in the first, second and fourth fields from the northeast. Source: Ian Haynes.

but failed to locate the structure clearly (Bellhouse 1957 21-22). Geophysical survey by the English Heritage Geophysics Team in 2005 (Martin 2006) and Oxford Archaeology North in 2006 (Healey 2007) similarly found no clear evidence for the milefortlet, though a number of magnetic anomalies were recorded, which would be consistent with the presence of cremation burials.

In addition to limited excavation by the Oxford Archaeology North team (Healey 2007) Beckfoot Roman cemetery has seen excavation by Hogg (1949) and sporadic recording of finds thereafter. Since Caruana compiled a complete inventory and analysis of cremation-related material (2004), further isolated finds and elements of discrete cremation deposits have been exposed as a result of coastal erosion. In a further attempt to monitor damage to the archaeological deposits here, Newcastle University has modelled historic landscape data (as part of the international Cultural Heritage Through Time 2 project) and launched a programme of UAV surveys (part of a lapetus-funded PhD project undertaken by Lesley Davidson) (Fieber *et al.* 2018).

Magnetometry survey by BFEP to the east of the fort has identified some trackways and field systems, but it has been to the north of the site where geophysics has yielded the most extensive evidence for settlement activity. Sporadic finds in this area include the discovery near Beckfoot Farm in 2010 of a hoard of 309 coins (latest coin an issue of Tetricus II) and a fragment of a fine Rhineland beaker decorated with figures of gladiators. Archaeological material unearthed by the landowner near Beckfoot Farm, immediately south-east of where the eponymous beck (stream) runs under the B5300 Coast Road, led to a brief intervention by Newcastle University in 2016. This revealed traces of the demolished carding mill, which had previously stood adjacent to the site, and redeposited Roman material, but no clear traces of Roman activity, suggesting that the stream may have marked the northern edge of the settlement.

The intervention contributed to the BFEP's work north of the fort, which itself built upon geomagnetic survey between Beckfoot Farm and the scheduled area of the fort undertaken in 2013 by Wardell Armstrong for Maryport and District Archaeology Society (Wardell Armstrong 2014). This survey was facilitated by John Murray and Walter Longcake. Working with John Murray and Walter Longcake the BFEP has since resurveyed the area targeted by Wardell Armstrong and expanded the area covered by magnetometry. The combined results show strip houses running either side of the road, with paths and trackways running off to the West. BFEP research in the area is ongoing, with steady progress being made in expanding resistivity coverage of the same targets.

Beckfoot cemetery

An evaluation undertaken to examine the extent and condition of the cemetery to the south-west of the fort was undertaken in 2006 by Oxford Archaeology North. This project was prompted by the ongoing damage caused by coastal erosion and resulted in 12 evaluation trenches being opened. Publication of the results provides an important glimpse of funerary activity in the vicinity of a frontier fort (Howard-Davis *et al.* 2017). The cemetery seems to have been actively used from the 2nd century until either late in the 3rd century, or into the 4th. There are also indications that memorial rites in the form of visits to the cemetery continued into the 4th century. Although there was no direct evidence for grave markers to act as a focus for such acts of remembrance, two burials were ringed by ditches, which may have provided material to raise a small barrow. Analysis of the cremations has demonstrated that this burial rite was still practised until at least the late 3rd century (Fig. 4.56), providing further evidence that the military north bucked the increasing preference for inhumations encountered further south from the late 2nd century.

Figure 4.56: Cemetery urn 408 excavated at Beckfoot. Source: OAN.

MARYPORT FORT (?*Alauna*)

There has been no recent work within the fort, but for an up-to-date account of the fort and its hinterland, see Breeze 2018b. Beyond the rampart, three projects have examined elements of the fort's immediate environs.

Altar pits and temples

Ian Haynes

Between 2011 and 2015, excavations at Maryport explored two areas to illuminate the archaeological context of the celebrated altar group discovered in 1870, 300m north-east of the Roman fort (Fig. 4.57). The importance of these altars, mostly dedicated to Jupiter Optimus Maximus, has long been recognised internationally. All of them were dedicated by soldiers within a short period of one another during the 2nd century AD. Importantly, we can see that some named individuals, all commanding officers of Maryport,

Figure 4.57: Two areas investigated in relation to the altars held in the Senhouse collection, including the location of the pits where the altars were buried and the site of two previously identified temples. Source: Ian Haynes.

dedicated multiple altars within the group – evidence for repeat offerings made at key moments in the religious year.

The altars thus offer a powerful insight into the worship of Jupiter on the fringes of the Roman Empire, and are frequently cited as such by specialists worldwide, but many questions remained unanswered following the 1870 discoveries. Among these, two were particularly significant: where were the altars originally displayed and why were they buried in pits? A long-standing theory was that as each new altar was erected at the side of the fort parade ground, its predecessor was ritually interred. Work by David J. Breeze and Peter Hill raised fundamental questions about the likelihood of this explanation, and in 2010 the Senhouse Museum Trust (SMT) invited applications to investigate the site of the 1870s discovery. Newcastle University was privileged to receive SMT's blessing and financial support, adding its own resources to the challenge. What began as a one-year project ended up running for five years, all generously funded by SMT and Newcastle University, and benefitting from the support of volunteers and the local community.

Team members first focussed on the location of the 1870s pits, examining how antiquarian excavations there were conducted (Fig. 4.58). Scrutiny of these pits revealed several features that the 19th-century investigators had

Figure 4.58: Excavation of the pits containing Roman altars north of the fort at Maryport. Source: Matthew Symonds.

not considered, among these was clear evidence that the pits were used as part of the foundations of massive timber buildings. Substantial squared upright posts had been erected in the pits and packed with stone ballast, much of it from dismantled buildings, but altars also formed part of the fill. Indeed, the team recovered several elements of altars, including one complete example – to Jupiter – that had been missed by the 1870s excavators (Fig. 4.59). Interestingly, the complete example was offered by T. Attius Tutor, commander of *cohors I Baetasiorum*, and dedicator of three other known altars from the site. On only one other stone was it possible to restore a dedicating unit's name. This was a fragment from another altar erected by members of *cohors I Hispanorum* to Jupiter; the unit is the most prolific amongst those making dedications to I.O.M. at Maryport.

Figure 4.59: A newly discovered altar to Jupiter Optimus Maximus dedicated by T. Attius Tutor. Source: R.S.O. Tomlin.

Excavation of the altar pits also demonstrated that there had been a still earlier phase of antiquarian investigation at the site. A fragment of *RIB* 823, another I.O.M. dedication by the Spanish cohort, was recovered from a context associated with the extraction of a large altar shaped stone, almost certainly *RIB* 823 itself. This was a particularly striking discovery as *RIB* 823 was first described by John Horsley in the Garden of Netherhall in 1725.

As noted, the pits in fact attest not to an annual ritual of altar *burial,* but to the construction of large timber structures. Interpreting these structures remains a challenge, because the original floor surfaces have long since been destroyed, but it is possible to offer a partial reconstruction for the configuration of the posts in at least one phase. The scale and character of their construction suggests that they were erected by Roman builders. Their location, on the most prominent point in the Maryport landscape, straddling the location of a modern trig point,

is noteworthy. Whatever their function, the buildings standing here would have at once offered a clear view of, and been clearly visible from, the Solway, the coast, and for some distance inland.

These buildings overlay a curvilinear ditch containing Crambeck Parchment Ware, indicating that the ditch must have been open at some stage in the late 4th century AD. The ditch's role is itself uncertain, it was too shallow and uneven in places to have served any defensive purpose and would not have been suited to drainage, a possibility is that it served to define a space within it, or to disrupt – by contributing to the obliteration of – a space previously serving another role.

In the process of reinvestigating the 1870s site, several other important new discoveries were made. Amongst these was a cluster of burials, one of the earliest of which contained a fragment of textile of late Roman date (240-340 Cal AD), together with fragments of a bracelet and bead necklace. The pattern of these burials, the way in which several intercut, and their proximity to other features raises important questions about the overall interpretation of the site. Soil conditions meant that no human remains survived.

Following extensive work at the 1870s site from 2011 to mid-season 2013, the team shifted its attention from 2013 to 2015 to an area 100m to the south, where in 1880 another fragment of an altar dedicated to Jupiter, and two buildings, one circular and one rectangular, had been discovered (Fig. 4.60). Excavations here demonstrated that the rectangular building was a classical style temple, the north-westernmost known example in the Roman world. They also uncovered evidence for animal sacrifice prior to the temple's construction. Radiocarbon dates recovered from the sacrifice deposit offer a 225-390 cal AD range. While the latter part of this range must seem extremely unlikely given the growing impact of Christianity in public spaces from the reign of Constantine onwards, it now seems clear that the rectangular temple post-dates the altar group.

Investigations of the circular building, previously interpreted as a mausoleum with cremations, revealed it to be a cult building with a porch. Of interest is the orientation of the porch, which runs parallel to the axis of the rectangular temple: both buildings point toward the high ground where the altar pits were discovered, and away from the fort. Investigation has further demonstrated that these buildings formed part of a cobbled area at least partially enclosed by walls and accessible from an entry structure to the north-north-west.

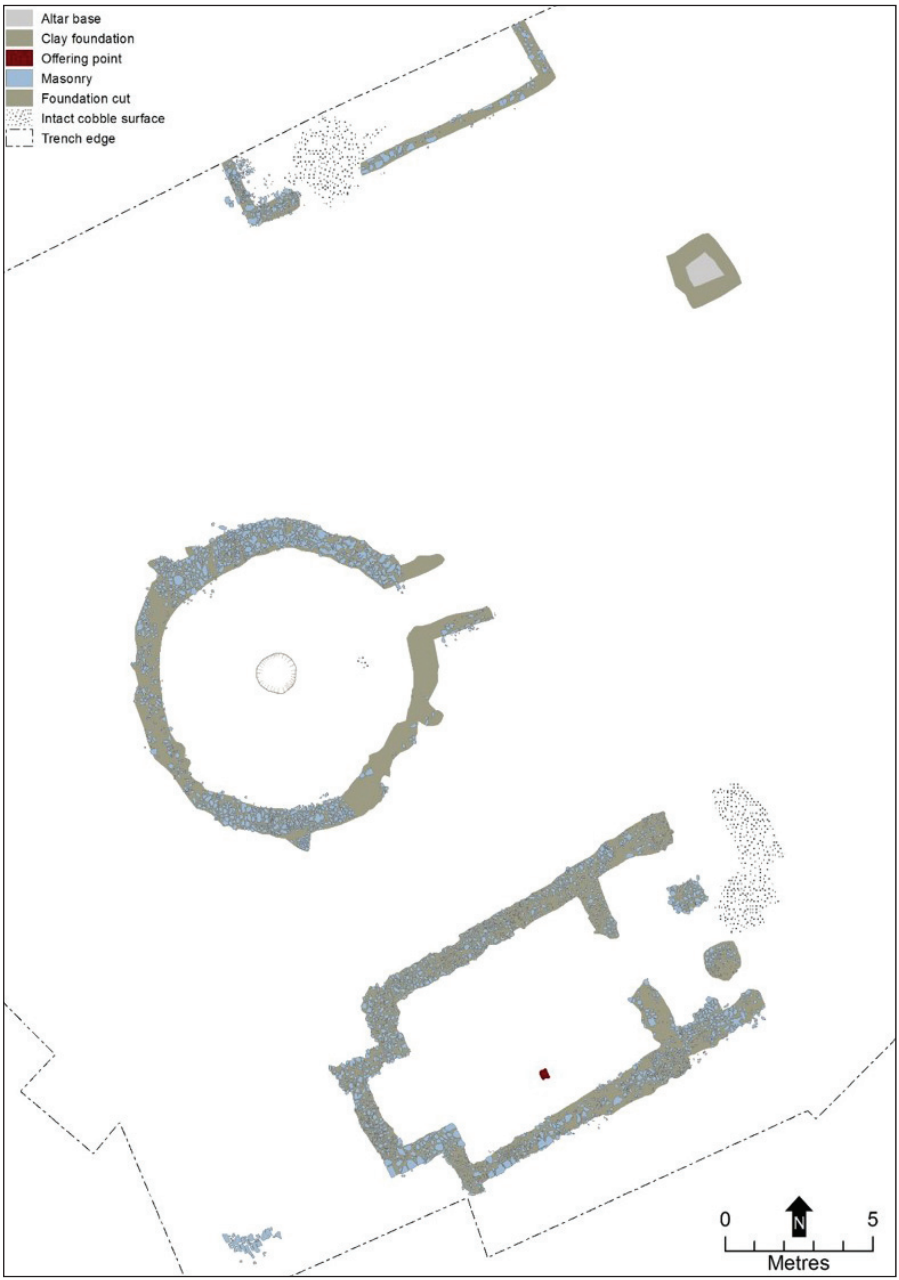


Figure 4.60: Plan of the rectangular and circular temples north of the fort at Maryport. Source: Ian Haynes.

The Maryport Roman Settlement Project

John Zant

In 2013 – 2014, Oxford Archaeology North undertook a research and community training excavation within the settlement north-east of the fort (Zant in press). Based on the existing geophysical survey evidence (Biggins and Taylor 2004), a block of four putative Roman building plots north of the axial road leading from the fort's *porta principalis dextra* was selected for investigation.

Following a ground-penetrating radar survey and the excavation of four test-pits, a single plot was selected for detailed investigation. Part of the axial road was also exposed, and the latest Roman remains in the areas immediately north and south of the targeted plot were recorded, though these were not excavated. On the street frontage, the earliest feature was a small, U-profiled ditch of uncertain function, located 10m north-west of, and aligned broadly parallel to, the road. This was not closely dated, but the near-absence of Flavian / Trajanic samian and other pottery from the site provides a strong indication that the investigated area saw little activity before the reign of Hadrian. The ditch was overlain by a timber strip-building, *c.* 16m long and 4.5-5m wide, probably of Hadrianic date, aligned gable-end-on to the street and subdivided, internally, into three rooms. This went out of use around the mid 2nd century and was replaced by another wholly timber structure of near-identical form, which was itself demolished in the late 2nd or early 3rd century, following which the area was blanketed by dark soils containing large amounts of pottery and other domestic refuse. However, during the first half of the 3rd century, perhaps *c.* AD 220-30, a stone-footed strip-building was erected over this. Similar buildings also occupied the plots to the north and south during this period, the southernmost being separated from the targeted plot by a paved street or lane extending from the axial road. One of the test-pits located north-east of the main excavation area revealed part of a substantial, L-shaped clay-and-cobble foundation, presumably the corner of another (undated and otherwise unexcavated) timber building.

In the area behind the street frontage, the boundaries of the plot were defined by ditches and gullies. In one phase, the north-western boundary seems to have lain *c.* 56m from the axial road, but Roman features were recorded well beyond this, to at least 85m from the road, and it may be that the length of the plot was either increased or reduced at some point, though its width remained constant, at no more than 5m. Within the backplot was a palimpsest of features, mostly pits and gullies, including a group of six rectangular, vertical-sided pits, possibly wells and/or water cisterns; no evidence for buildings or other substantive structures was found in this area.

The virtual absence of late-3rd- and 4th-century pottery from the site (and the complete lack of contemporary coinage) strongly suggest that the targeted building plot, and probably also those adjacent, were largely abandoned by *c.* AD 270. In the late 3rd / early 4th century, the boundary between the targeted building plot and the area to the north was redefined by a ditch, and a handful of other features also yielded a few later Roman sherds, though most appear to have fallen from use earlier, since the late pottery came from their upper fills. No evidence for medieval or early post-medieval activity was found, the Roman remains being everywhere overlain by a shallow depth of modern agricultural soil.

18-19 The Promenade

In 2013, watching briefs were maintained during the excavation of foundations for house extensions at 18-19 The Promenade, *c.* 40m beyond the south-west corner of the fort defences (OAN 2013c; 2013d). Directly above the natural clay was a layer of cobbles, which was in turn sealed by deposits of silty clay, up to 0.25m thick, some of which yielded a few poorly-preserved Roman potsherds. Due to the limited nature of the works, these remains could not be meaningfully interpreted; however, the cobbled layer calls to mind observations of cobbling made during the construction of houses on The Promenade in the 1920s (Bailey 1923). Additionally, the site was situated in the vicinity of Pudding Pie Hill (destroyed when the houses in this area were built), formerly interpreted as the *tribunal* for the fort's parade ground, but now thought more likely to have been a prehistoric burial mound (Breeze 2018b, 10-11). It also lay *c.* 80m north-west of the site (now occupied by a playground) where Roman remains, interpreted as those of a fort pre-dating the Hadrianic installation (Flynn 2006), were recorded in 2002 and 2005.

Rural settlement

A multiphase rural settlement has been excavated to the south-east of the fort in Deer Park Field. The later settlement had a rectilinear enclosure ditch containing a roundhouse. Pottery, glass, and metalworking debris were found in association with the settlement, with the site currently undergoing post-excavation analysis (Fig. 4.61; Breeze 2018b, 87).

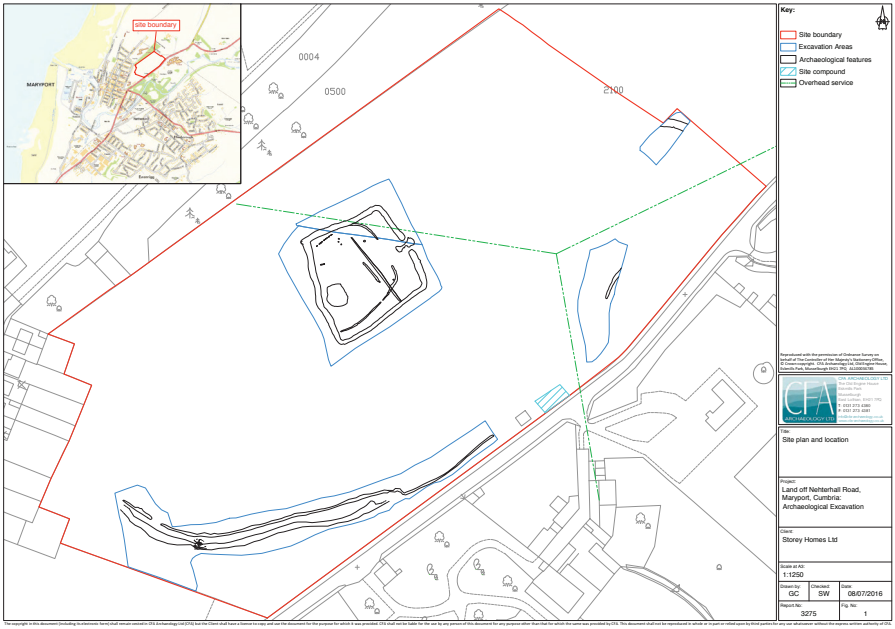


Figure 4.61: A plan of the rural settlement excavated south of the fort at Maryport. Source: CFA Archaeology Ltd.

Workington

John Zant

The results of excavations undertaken in 1995 – 1997 by the former Carlisle Archaeological Unit at St Michael's Church, Workington, are nearing publication (Zant and Parsons 2019). The church occupies an elevated coastal position south of the River Derwent, opposite the fort at Burrow Walls, which lies *c.* 1.5km to the north. Although the site was of post-Roman date, a few Roman-period artefacts were recovered, including fragments from a rotary quern and a small millstone and, seemingly, a sherd of Huntcliffe-type pottery and a few fragments of glass (McCarthy and Paterson 2015), though these latter items were not seen during the recent programme of analysis. Whilst the significance of this material is uncertain, it might indicate some form of on-site activity during the Roman period, conceivably associated with the coastal defences.

THE OUTPOST FORTS

BEWCASTLE FORT (*Fanum Cocidii*)

It has been suggested that the precocious decision to tailor the fort shape to the local geomorphology – a technique widely used in the late period to create more effective defences – may indicate that the fort was inserted into a region where greater security concerns existed. Deposits encountered in the fort strongroom during excavations in 1937 may represent a structured ritual deposit of a type arguably present in some other fort *principia* (Symonds 2019).

Geophysical survey of the fort interior and extramural areas has revealed further traces of numerous features, many of which have been attributed to the Roman period (Taylor and Biggins 2012). Extramural features include what appear to be timber- and stone-built structures.

Temporary camp

Humphrey Welfare

A temporary camp was identified on the ridge 300m south-east of the fort, close to the line of the Maiden Way. Almost square on plan and covering 2.2ha, it has slightly convex east and west sides. These may have had central gates with internal *claviculae* (*Britannia* 42, 343-344; 47, 303-304).

NETHERBY FORT (*Castra Exploratum*)

Topographic and LiDAR survey have identified evidence that Netherby Hall sits within the enclosure of the Roman fort (Oswald *et al*. 2017).

BIRRENS FORT (*Blatobulgium*)

Geophysical survey revealed building outlines and roads contained in a multiple ditch enclosure immediately west of the fort at Birrens that indicate either an earlier camp or a possible fort annexe (*Britannia* 44, 287). The lack of remains outside the west rampart of the standing remains at Birrens suggests an earlier fort is more likely.

Probable camp

Humphrey Welfare

On the south-east side of the River Sark, near Guards Mill, to the east of Gretna, the cropmarks of a probable temporary camp were identified during aerial reconnaissance (*Britannia* 44, 290).

RISINGHAM FORT (*Habitancum*)

Geophysical and earthwork surveys of the fort and its immediate environs were undertaken in 2009 and 2012 (Fig 4.62; Biggins *et al.* 2014). These confirmed that the fort had originally faced south, before being reorganised so that the *principia* was aligned to the west. This radical reorganisation resulted in an unusual and distinctive internal layout, with the final phase of Roman military activity seemingly seeing extensive use of the space within the fort rampart. Other notable results from the survey are the lack of evidence for an east gateway, while a possible *praetorium* to the north of the *principia* appears to obstruct access to the north gateway. Traces of a possible rampart beyond the extant curtain were tentatively taken as a sign that a larger, pre-Antonine fort may have existed at the site.

As at Bewcastle, there was little evidence for extensive extramural activity. To the south of the fort, a ditched enclosure measuring 70m by 62m and containing possible storage facilities could have acted as a form of annex, while two candidates for a bathhouse and what may be an aqueduct were also detected. The survey work did not reveal any traces of a cemetery, although the quantity of tombstones recovered from the site makes it certain that one or more must have existed.

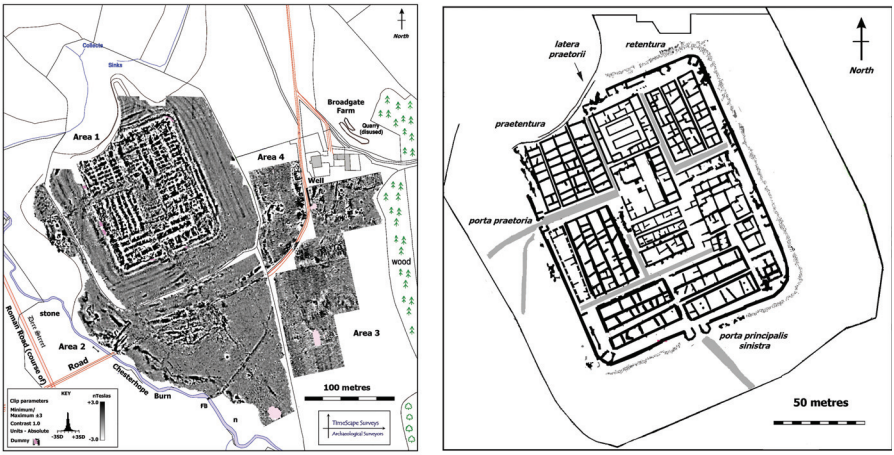


Figure 4.62: Magnetometry survey completed by the late Alan Biggins at Risingham (left) and the interpretation of the fort interior (right). Source: Timescape Surveys.

A hoard of later Antonine date was found by metal-detecting outside the scheduled area north-west of the fort (NCL-5BD5BD). The hoard consists of 24 coins, all of *as* or *dupondius* denomination, and seven objects, including a phallic mount and a key.

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The multi-generational scholarship of the Birley family has also led to some bibliographic irregularities if the normal convention of using first and middle name initials were applied here. To reduce confusion of the reader, we have imposed a consistent use of initials for all members of the Birley family published in this volume, regardless of how each individual Birley has published. To clarify: **A** Birley = Andrew (R) Birley; **AR** Birley = Anthony (R) Birley; **B** Birley = Barbara Birley; **E** Birley = Eric Birley; **R** Birley = Robin Birley.

Abbreviations:

AA[1-5]	Archaeologia Aeliana, series 1-5
Arbeia J.	Arbeia Journal
Arch. J.	Archaeological Journal
ASDU	Archaeological Services Durham University
BAR	British Archaeologcal Reports, British and International Series
CW[1-3]	Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society, series 1-3
CWAAS	Cumberland and Westmorland Antiquarian and Archaeological Society
JRS	Journal of Roman Studies
NAA	Northern Archaeological Associates
OAN	Oxford Archaeology North
O.Krok.	Cuvigny, H. 2005 *Ostraca de Krokodilô, La correspondence militaire et sa circulation*. Cairo: Institut Français d'archéologie orientale.
RIB	R.G. Collingwood and R.P. Wright 1965 *The Roman Inscriptions of Britain: volume 1 inscriptions on Stone* Oxford: Oxford University Press.
RIB II	R.G. Collingwood and R.P. Wright (S. Frere, M. Roxan, and R.S.O. Tomlin eds) 1990-1995 *The Roman Inscriptions of Britain: volume II, Instrumentum Domesticum (Personal Belongings and the like)*. Stroud: Haverfield Bequest.

RIB III	R.S.O. Tomlin, R.P. Wright, and M.W.C. Hassall 2009 *Inscriptions on Stone found or notified between 1 January 1955 and 31 December 2006*, Oxford: Oxbow.
SANT	Society of Antiquaries of Newcastle upon Tyne
Tab. Vindol. II	Bowman, A.K. and Thomas, J.D. 1994 *The Vindolanda Writing-Tablets* (Tabulae Vindolandenses) II
*Tab. Vindol.*III	Bowman, A.K. and Thomas, J.D. 2003 *The Vindolanda Writing-Tablets* (Tabulae Vindolandenses) III
TWAM	Tyne & Wear Archives & Museums

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Websites

Arbiea Society: https://arbeiaromanfort.org.uk/about-us/friends
C&W: https://cumbriapast.com/cgi-bin/cwaas/cp_main.pl
English Heritage, Hadrian's Wall: https://www.english-heritage.org.uk/visit/places/hadrians-wall/
Hadrian's Wall Community Archaeology Project: https://wallcap.ncl.ac.uk/
Hadrian's Wall Country: https://hadrianswallcountry.co.uk/
Hadrian's Wall MOOC: https://www.futurelearn.com/courses/hadrians-wall
Hadrian's Wall Research Framework: https://www.dur.ac.uk/research/directory/view/?mode=project&id=485
Historic England: https://historicengland.org.uk/
Per Lineam Valli: https://perlineamvalli.wordpress.com/
RIB Online: https://romaninscriptionsofbritain.org/
SANT: http://www.newcastle-antiquaries.org.uk/
Senhouse Museum: http://www.senhousemuseum.co.uk/
Tyne & Wear Archives & Museums: https://www.twmuseums.org.uk/
Tullie House Trust: https://www.tulliehouse.co.uk/
Vindolanda Tablets Online: http://vindolanda.csad.ox.ac.uk/
Vindolanda Trust: https://www.vindolanda.com/

Apps

A range of apps are available, listed below. It is recommended that you look for the following in your iStore or GooglePlay store.
ALApp (Advanced Limes app)
Antonine Wall
Go Roman
Vindolanda game

Social Media

Facebook

If you have a Facebook account, search for the following group or organisation pages:

CWAAS	Hadrian's Wall Community
SANT	Hadrian's Wall Pilgrimage

Twitter
Arbeia Roman Fort: @ArbeiaRomanFort
EH Hadrian's Wall: @EHHadriansWall
Hadrian's Wall Country: @HadriansWall
Hadrian's Wall (the unofficial voice for the monument): @SwallHadrian
Hadrian's Wall Coins: @wall_coins
Hadrian's Wall Path: @HWpath
Hadrian's Wall Pilgrimage: @Wall_pilgrims
Heart of Hadrian's Wall: @HofHadriansWall
Senhouse: @senhousemuseum
WallCAP: @wall_cap
Walltogether: @WallTogether
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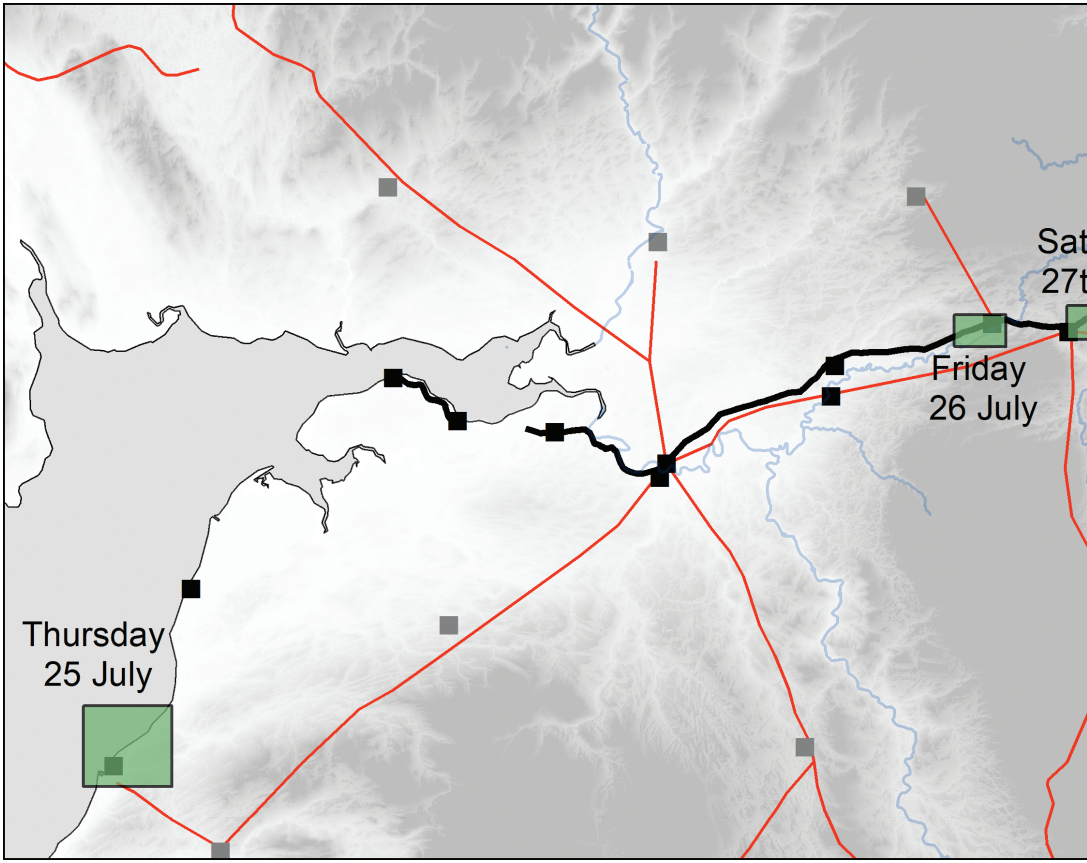
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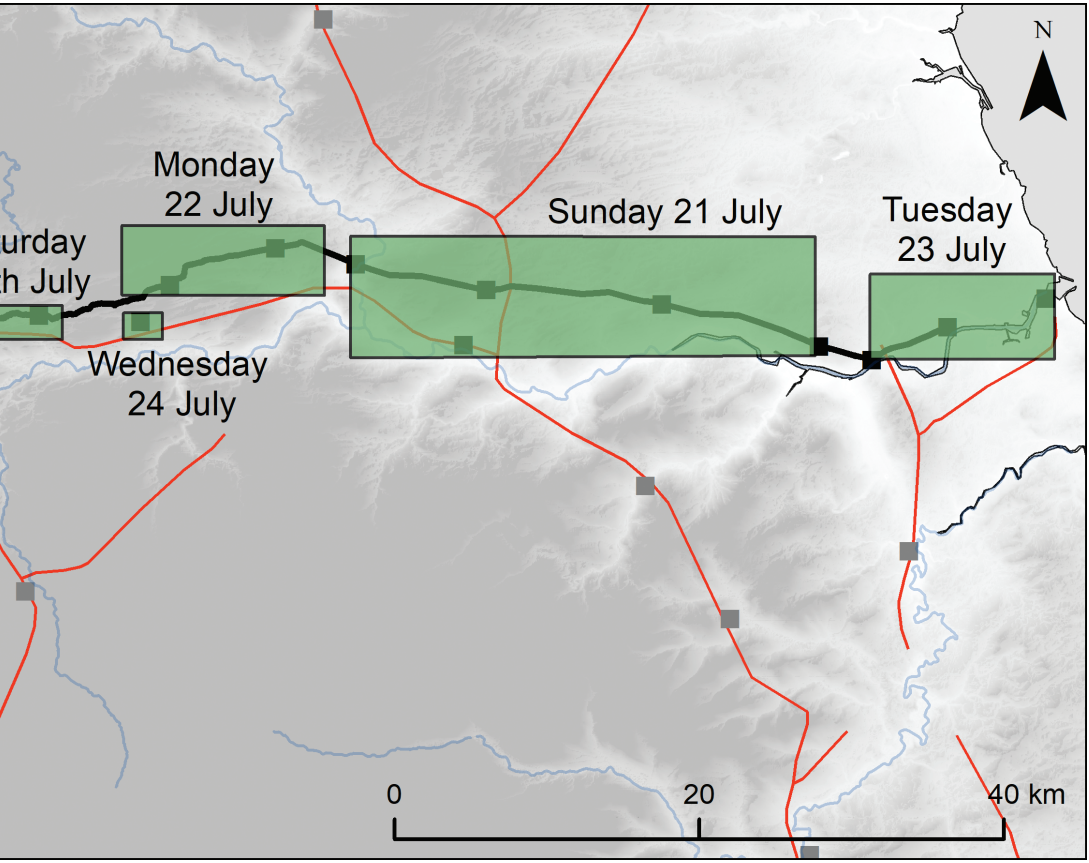
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Hadrian's Wall 2009-2019

A summary of recent excavation and research prepared for the Fourteenth Pilgrimage of Hadrian's Wall, 2019

The last decade has seen remarkable discoveries along Hadrian's Wall. Excavations and survey have overturned long-held beliefs and set new questions for the future. Such advances are invigorating longstanding debate about the nature of life in the shadow of the Wall. This summary of research reviews the evidence for when and why the Wall was constructed, the nature of the relationship between military garrisons and local farmers, and the changes underway in the twilight of Roman Britain, among many other subjects. It contains contributions by leading archaeologists describing the results of their work, and has been compiled to accompany the Pilgrimage of Hadrian's Wall, a tour of the monument first held in 1849. The contents will appeal to anyone visiting or studying this remarkable relic of Roman military might.

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Front cover: Head of a tutela, with mural crown, from South Shields.
Back cover: Walltown Crags by J. Yarrow