III

Archaeological excavations at Harehaugh hillfort in 2002

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SUMMARY

Excavations at Harehaugh hillfort in Coquetdale, Northumberland, were carried out in 2002 as part of a wider project to determine the rate at which the monument was being damaged by erosion and how this was impacting upon significant archaeological remains. The results of the excavations and an associated, 10-year programme of erosion-scar monitoring indicate that erosion is having a very significant impact upon archaeological remains, some of which remain well preserved with the potential to reveal important information. Although the overall picture remains rather patchy and nothing approaching a complete chronological sequence for the site can yet be attempted, the 2002 excavations have provided significant new insights into the character and phasing of the site. The defences are shown to be of varied construction, possibly in part resulting from episodes of ad hoc repair, but include earthen and stone construction elements with at least one section of well-built stone revetment. Work in the interior revealed evidence for ephemeral structures as well as activities such as metalworking and cooking. In terms of chronology, radiocarbon dates in the middle and later Iron Age were procured from wood charcoal, but there was insufficient evidence either to support or to challenge accepted notions on the phasing of Northumbrian hillforts. However, it was determined that an interior earthwork, probably part of the earliest enclosure on the site and shown to be much more substantial then previously recognised, probably holds the key to the broad phasing of the site. Finally, some comments are offered on the significance and potential of the hillfort and its environs, and an attempt is made to place it in the context of regional Iron Age studies, particularly in the light of recent contextual surveys of hillforts in upland Northumberland and discoveries of large lowland sites to the south.

INTRODUCTION

The excavation of 11 evaluation trenches at Harehaugh hillfort in 2002 was the culmination of a programme of work initiated in Northumberland National Park in 1993 which aimed to address the problem of erosion damage being caused to the monument by a combination of rabbits, sheep and bracken roots. This report on the excavations is one of several important products of a wider programme of research — Discovering our Hillfort Heritage (DoHH) — which from 1999 to 2004 aimed to address key issues of conservation, research and interpretation focusing on Iron Age landscapes in the Cheviot Hills of Northumberland (Oswald *et al.* 2006, vi). The excavations at Harehaugh were carried out by the Archaeological Practice (then part of the Department of Archaeology at Newcastle University), monitored and funded by English Heritage under the guidance of Jonathan Last and facilitated by the Northumberland National Park Archaeologists, Iain Hedley and Paul Frodsham. This report is a summary of the full archive report lodged with English Heritage

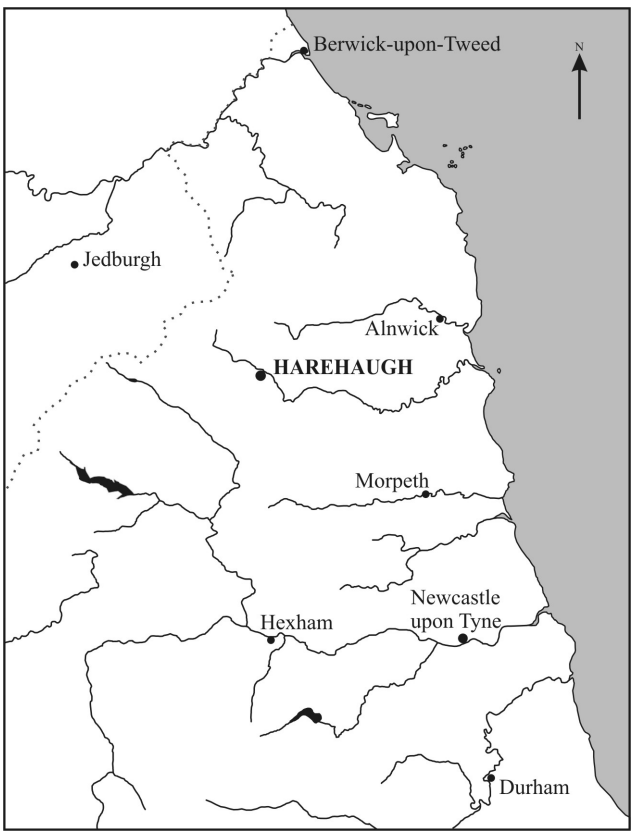

Fig. 1 The location of Harehaugh.

and the Archaeological Data Services (ADS), York, which, in addition to the geophysical and aerial photographic data derived in advance of excavation, contains a number of specialist reports procured as part of the wider site investigations during and following excavation. These are listed in the Acknowledgements, and form part of a larger site archive to be curated by the Great North Museum, Newcastle upon Tyne.

Harehaugh hillfort, on the north side of the B6341, Elsdon to Hepple road, lies at about 170 m OD towards the east end of a ridge which descends eastwards towards Harehaugh farm and overlooks the confluence of the River Coquet and the Grasslees Burn (fig. 1). The ridge extends westwards towards the watershed with Redesdale, and is very likely to have been used as a route between the valleys of Coquet and Rede since antiquity. There are steep slopes on the north and south sides of the ridge at this point, those on the north being slightly steeper with significant rock outcrops on their upper edge. The highest point within the fort is close to its west end, and from there the terrain slopes gently away westwards for a few hundred metres before rising again to the summit of the ridge. Eastwards, the ground falls away gently in a series of irregular (apparently natural) terraces and scarps through the interior of the fort to a point about 150 m to the east of the eastern defences, after which the slope falls more sharply to the flood plain of the Coquet. There are commanding views of the Coquet valley to the north and east (fig. 4), and of the Grasslees Burn to the south (fig. 21).

The underlying geology of the site is Fell Sandstone which frequently outcrops along the ridge, notably within the hillfort site itself. There is a patchy covering of glacial till on the surface of the ridge, but the agricultural potential of all the land in and around the site is extremely poor; the land is currently managed as a shooting estate with upland pasture as a secondary use.

The earthworks of the monument comprise at least four defensive ramparts on the west side (figs. 5–7), within which is what appears to be the original entrance (figs. 3, 6, 7). The eastern sector comprises three ditches and ramparts, whilst natural slopes augment the defences to the north — where built defences appear absent in places — and to the south, where the central section appears to have been severely eroded. An internal linear earthwork running north-south across the centre of the site uses and enhances a natural scarp marking the edge of the plateau. This internal earthwork may have been part of a smaller fort of 'promontory' type, but whether it is earlier, as suggested by Jobey (1965, 25–6), or later, as recently preferred by Oswald *et al.* (2006, 56) is part of the discussion below. The defensive earthworks at Harehaugh are regarded as constituting a classic example of a hillfort dating to the middle and later part of the first millennium BC, within the period of the middle and later Iron Age.

Monuments of known or presumed prehistoric date in the vicinity of Harehaugh include two univallate enclosures: Witchy Neuk, some 1.4 km to the south-west (Wake 1939) and the unexcavated Soldier's Fold in the valley of the Grasslees Burn some 500 m to the south (fig. 21). Further afield, Burgh hillfort at Tosson, a univallate structure of presumed Iron Age date, lies some 6 km east of Harehaugh but is visible from it, and the remains of a multivallate enclosure of presumed Iron Age date at Lanternside, or Campville, outside Holystone, lie some 2.5 km north of Harehaugh, but is not visible from it. Various trackways and hollow-ways associated with these monuments may also be ancient in origin, some perhaps originally used in the driving of stock to watering places, while others may have been part of longer distance routeways. Particularly deeply-incised hollow-ways run from Harehaugh hillfort eastwards towards Harehaugh farm and the Coquet, whilst embanked routes and hollow-ways pass past Soldier's Fold on the south side of the Grasslees Burn below Harehaugh hillfort, running parallel with, but pre-dating the modern road on an important route between Coquetdale and Redesdale.

In addition to those of suspected Iron Age date, there are in the vicinity of Harehaugh a large number of recorded monuments, principally cairns, of presumed Bronze Age date. The most prominent are the standing stones known as the Five Kings, some 1.1 km NNW of Harehaugh. Closer to the hilllfort, a number of cairns came to light in October 2004 during a reconnaissance visit to the area following the most recent phase of excavations,[1] and were subsequently surveyed in 2005 (fig. 2). Particularly noteworthy is a group of over 20 such features some 300–500 m west of the fort, the majority of which comprising small mounds some 2 to 3 m across, at least one of which apparently has kerb-stones; most of the mounds are surrounded or associated with ditches or hollows. Several of these small mounds occur in a line running east from a small ridge of bedrock which outcrops at 179 m OD, some 500 m west of the hillfort, the site of a Neolithic long cairn excavated in 2005 (Carne 2006). Whether the smaller cairns are derived from burial, clearance or quarrying activities is unknown and untested. An additional cairn or clearance mound lies exposed close to the public road near Harehaugh farm, and it was here that a small flint flake was discovered in a molehill in 2004.

Although medieval occupation and land-use is well-attested locally, the later history of the locality is sparsely represented by upstanding or earthwork remains until the period of

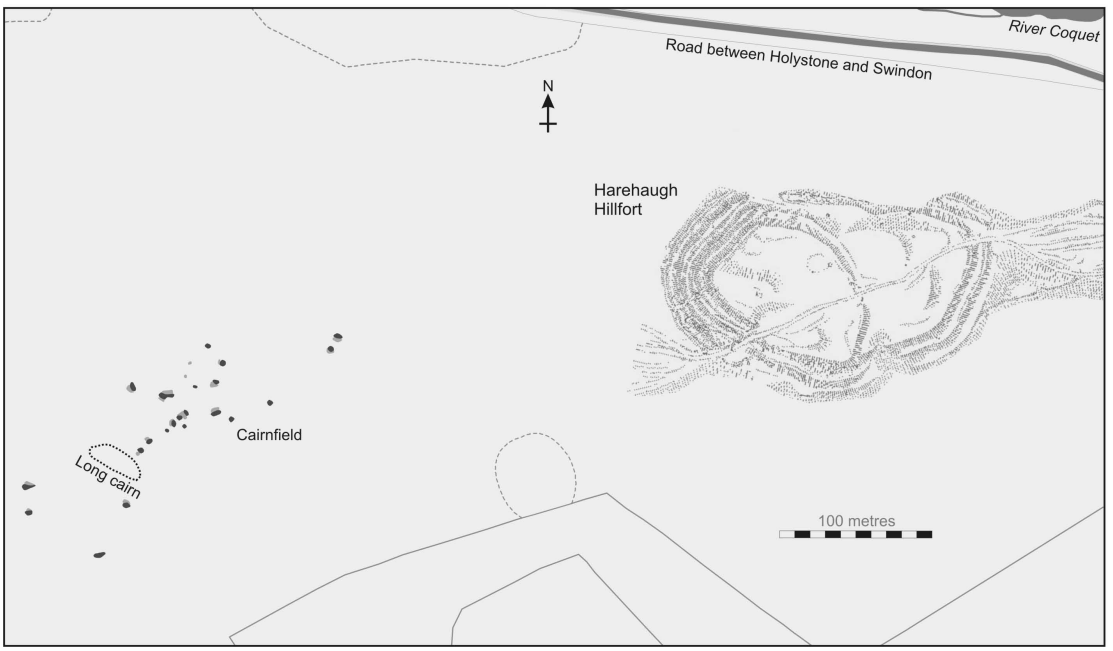

Fig. 2 A plan of Harehaugh hillfort surveyed in 1993 by RCHME (Waddington *et al*. 1998, 89–92) shown in relation to the adjacent long cairn, excavated in 2005 (Carne 2006) and the cairnfield, surveyed in 2004 by the author, with upstanding cairns shown black and associated ditches and hollows shown in grey.

post-medieval bastle construction; examples of this survive nearby at Holystone Grange (Woodhouse bastle) and Harehaugh farm. Later remains in the vicinity include those of mining, in the form of bell pits and trackways associated with a tile-works at Ovenstones, some 1.5 km south-west of Harehaugh (Carlton 2010).

PREVIOUS INVESTIGATIONS

There is no evidence, either from traces on the ground or from documentary sources, of any invasive work at the fort prior to the small-scale investigative fieldwork carried out in 1994. However, its prominent position at an important crossing point between Redesdale and Coquetdale means that the fort did not escape the attentions of early antiquarians, amongst whom Mackenzie (1825, 49–50) appears to have been the first to publish a detailed descriptive account and a schematic plan. MacLauchlan (1867, 85–6), Dixon (1903, 121), Phillips (1957) and Jobey (1965, 25–6) subsequently produced brief accounts, but the first detailed survey of the earthworks was carried out by the Newcastle office of the Royal Commission on the Historical Monuments of England (RCHME) ahead of trial excavation and photographic recording of erosion scars in 1994 (Waddington *et al.* 1998, 89–92). The single trench of the trial excavation, carried out by the Department of Archaeology of the University of Newcastle in June 1994, yielded important information on processes of erosion occurring on the south-west face of Rampart 3,[2] to the north of the main (south-western) entrance, and produced archaeological evidence which was used to suggest two or possibly three phases of

Fig. 3 Aerial photograph of Harehaugh taken in 1997, with Harehaugh farmstead to the rear. Photograph by Tim Gates. Copyright reserved.

rampart construction. This envisaged glacial till being dumped in Phase I on what the excavators interpreted, on the basis of a dated charcoal sample, as a Neolithic land-surface. In Phase II the earthwork was encased with a 'cladding' of stone, forming an upper rampart 2.2 m across. In Phase IIa, which the excavators suggested may have been contemporary with or subsequent to Phase II, a palisade slot was cut in the top of the rampart to hold a defensive wooden breastwork. The excavators also found evidence that the ditch was in use during Phase II and, furthermore, that soil profiles in the ditch-fill indicated episodes of silting and turf build-up, implying several phases of occupation.

Prior to the excavations in 2002, described in this paper, Harehaugh, had been identified (Speak and Frodsham 1996) as the hillfort in the National Park that offered the most archaeological potential, yet it was also the one most in need of remedial action.

Fig. 4 View northwards from the western ramparts towards the River Coquet.

Fig. 5 View southwards over the ramparts in the north-west sector of the fort.

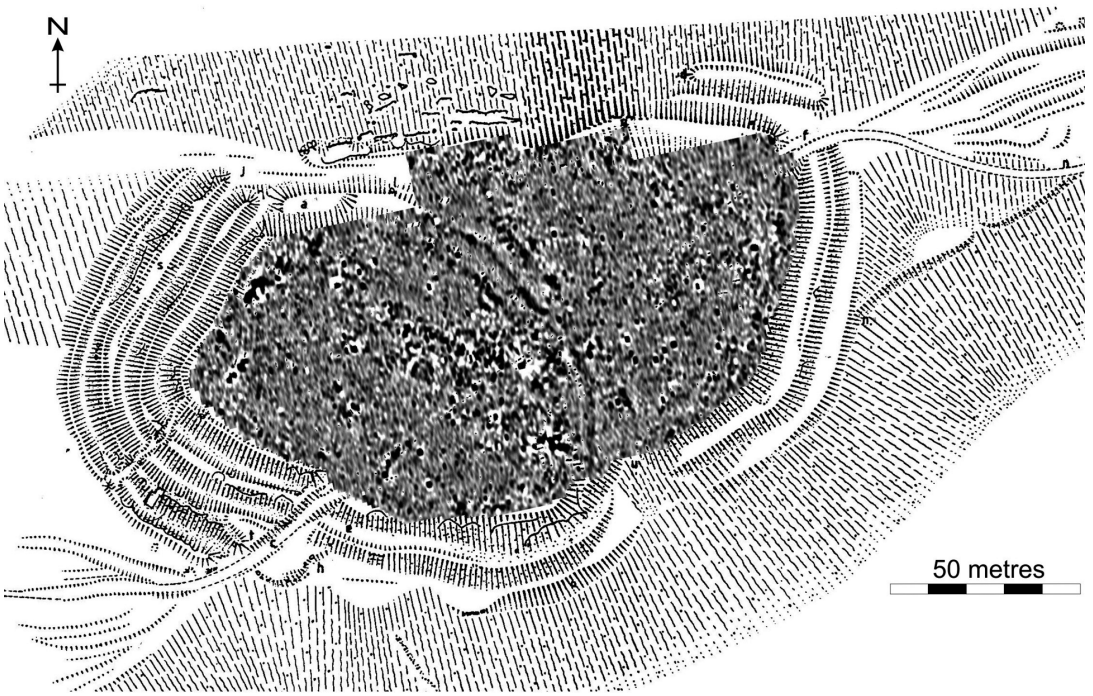

Fig. 6 A plot of features detected by magnetometry survey carried out in 2001, superimposed upon the RCHME analytical survey (Copyright: Timescape Surveys, and Crown copyright).

FIELDWORK IN 2001–2

The conservation-led, archaeological and related work carried out in late 2001 through to Summer 2002 comprised a number of interdependent elements, including geophysical prospection[3] the evaluation of ditch-fills, of off-site colluvial deposits and of environmental contexts, alongside a reinvestigation of the erosion scars first examined in 1994.

Geophysical survey identified a palimpsest of features (figs. 6 and 7), some of which are undoubtedly anthropogenic while others may be geological in origin. The character of these features indicated that the western portion of the fort is more disturbed, and may have been more intensively occupied, than the eastern portion which, it is speculated, appears more agricultural or pastoral in function (Biggins 2001, 14). An exception appears to be the highest part of the fort towards the western ramparts, which appears relatively undisturbed. The delineator of this variability appears to be the central earthwork (Biggins 2001, 13), which appears topographically as a single upstanding earthwork, but which is revealed by geophysical survey (fig. 6) to include three linear cut features (ditches or gullies) which follow the alignment of the earthwork depicted on the RCHME survey (Waddington *et al.* 1998; fig. 2). Only the central ditch in this system seems to continue south to meet the southern defences; the flanking ditches seem to stop quite abruptly some 10 m to the north of a suspected central entrance. It is speculated that these ditches could have been part of a more complex entrance to the fort from the north — the eastward curve at the north end of the eastern ditch could be accommodated by this argument — or that they could have formed

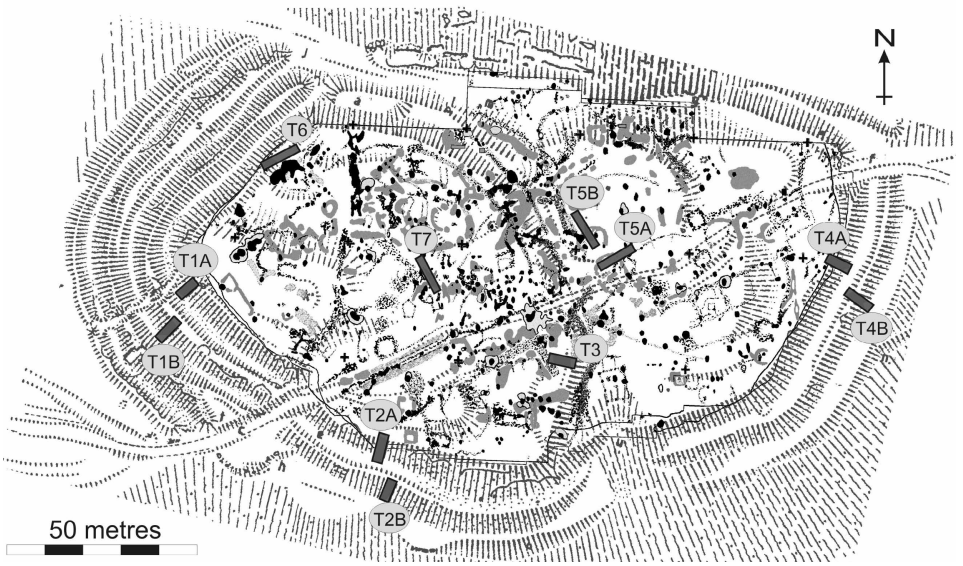

Fig. 7 Location of trenches in relation to a plot of anomalous features detected by geophysical survey (resistivity & magnetometry) in 2001, superimposed upon the RCHME analytical survey (Copyright: Timescape Surveys, and Crown copyright).

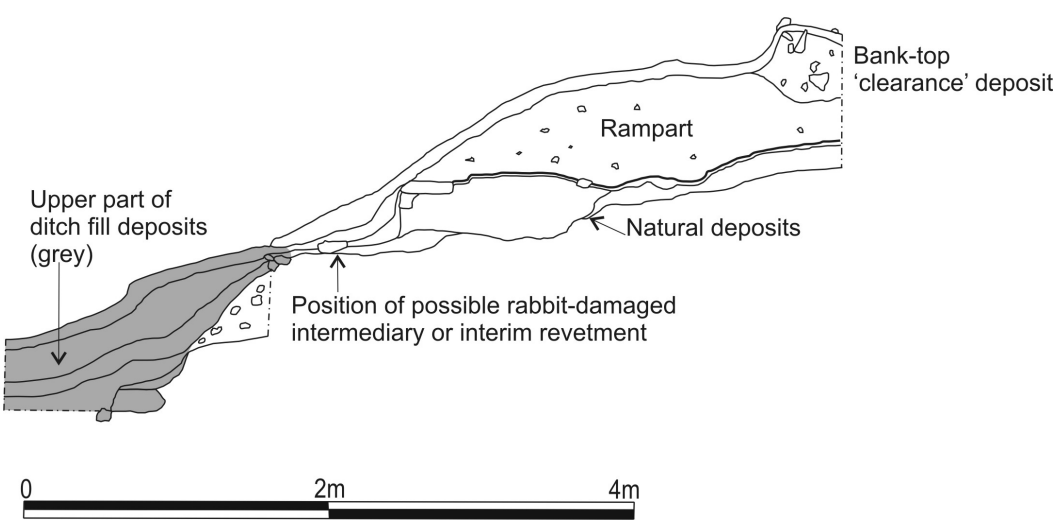

Fig. 8 The south-east facing section of Trench 1A.

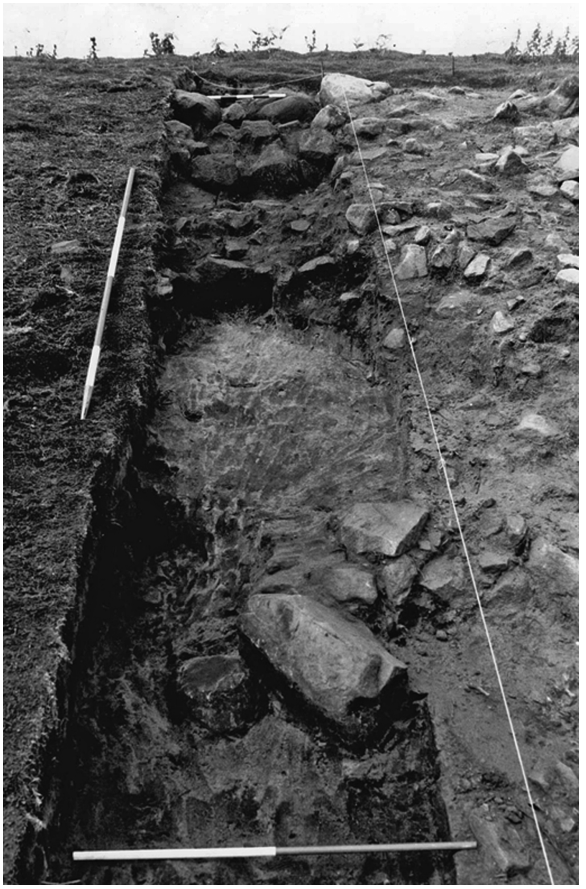

Fig. 9 View of Trench 2A showing the Phase II rampart dump on the crest of the slope.

part of an uncompleted defensive system superseded by the extant outer bivallate eastern defences (Biggins 2001, 13).

Within the western part of the fort geophysical survey revealed a number of anomalies (fig. 7) which were particularly focused on the high ground in the north-western sector, north of the absolute high point which itself contains few anomalies and appears to be encircled by an interrupted ditch feature. Large numbers of pits (positive magnetic anomalies and circular low resistance anomalies) appear to occur here, some in alignments, but others occur across much the remainder of the site. The evidence for hut circles or other buildings is generally slight, as are indications of plot divisions or internal enclosures, though some suggestion of these is found east of the internal boundary feature, particularly in the south-east sector (Biggins 2001, 14).

The excavations (fig. 7), partly based on the results of geophysical survey, consisted of: pairs of trenches cut at three points across the main ramparts (Trenches 1A & 1B, 2A & 2B, and 4A & 4B); a single trench cut across the inner enclosure rampart (Trench 3); and in the interior, where a pair of trenches (Trenches 5a & 5b) and two single trenches (Trenches 6 and 7) were opened. The trenches were 2.5 m wide by 6 to 8 m long, and by this means a total area of approximately 165 sq m was investigated.

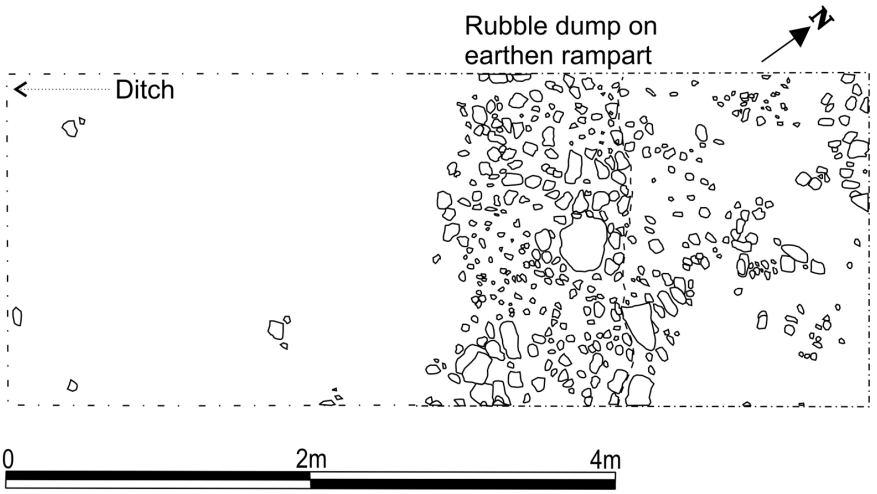

Fig. 10 Plan of Trench 2B following removal of surface deposits to reveal the Phase II rampart dump.

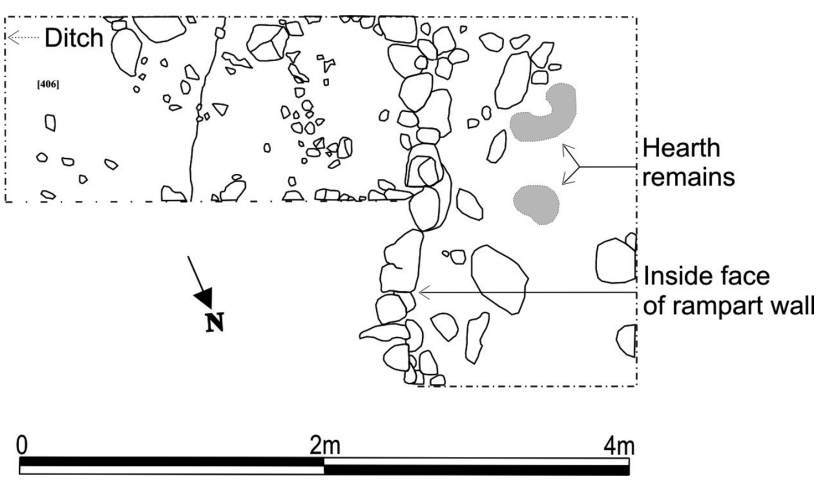

Fig. 11 Plan of Trench 4A.

Broadly speaking, the objectives of the work were to establish the character, extent and date of buried deposits and the impact of erosional processes upon them. However, the scope of the excavation programme and its ability to produce data for archaeological research purposes were inevitably restricted by the conservation-led objectives and by its relatively small scale: no large areas were opened, the ditches were not examined, and complete sections through the defences were not obtained.

Fig. 12 The upper part of a section of the internal face of the rampart, revealed in Trench 4A.

The defences

The objectives in opening the six trenches across the ramparts (figs. 7–13: Trenches 1A, 1B, 2A, 2B, 4A, 4B) were to assess the survival of buried archaeology and the impact of erosion upon it, and to determine how the constructional techniques employed had affected the nature and rate of the erosion.

The excavations carried out on the two innermost ramparts, numbers 1 and 2, indicate that the method of rampart construction employed in both cases was similar to that suggested on the basis of the 1994 excavation of Rampart 3 (Waddington *et al.* 1998). In phase I, an earthwork was constructed on a relatively flat land surface, largely by terracing and down-cast, but apparently also with some considerable up-cast into the site interior. The degree of erosion (including continuing rabbit burrowing on the tops of the ramparts) precluded the possibility of revealing palisade slots or trenches associated with phase I of Ramparts 1 (in Trench 1A) and Rampart 2 (Trench 2A). Therefore, the case for a palisade cannot be argued strongly here on the basis of the excavated evidence, although it seems to be stronger for Rampart 3 where the rampart top excavated in 1994 was better preserved and contained more phase II stonework (Waddington *et al.* 1998, 98). In practical terms, however, it is difficult to envisage that the ramparts could have had significant defensive or stock-management capabilities unless they had been surmounted by a palisade, fence or hedge. Both of the Phase II stone-based ramparts revealed in Trenches 1A (fig. 8) and 2A appear to have been rather insubstantial with only slight signs of deliberate construction using coursed stonework or revetting;

Fig. 13 Part of a section of revetment of the internal face of the rampart following excavation to sub-soil level in Trench 4A.

however, the likelihood that their present form is the result of substantial erosion of stonework into the ditches was not tested by excavation.

Little of the stone 'cladding' on the rampart sides reported from Rampart 3 in the 1994 excavations was encountered on Ramparts 1 and 2 on the south-west side of the fort, but was revealed in Trench 2A to be present in Rampart 1 (fig. 9). The process of cladding seems to have been carried out deliberately, as evidenced by careful sorting of stone sizes, and appears likely to have been done for structural reasons, to prevent slumping and to facilitate access. The suggested functions proposed following the 1994 excavation — to deflect missiles and enhance the solid appearance of the monument (Waddington *et al.* 1998, 98) — seem less tenable but may also have played a part. The relatively large number of finds from the upper part of Rampart 1, as revealed in Trench 2A, including pot-boilers and a large fragment of very coarsely-tempered pottery (which, alternatively, might have been a piece of ceramic oven wall or burnt daub), may point to to domestic cooking activity, apparently on quite a large scale, in the immediate locality.

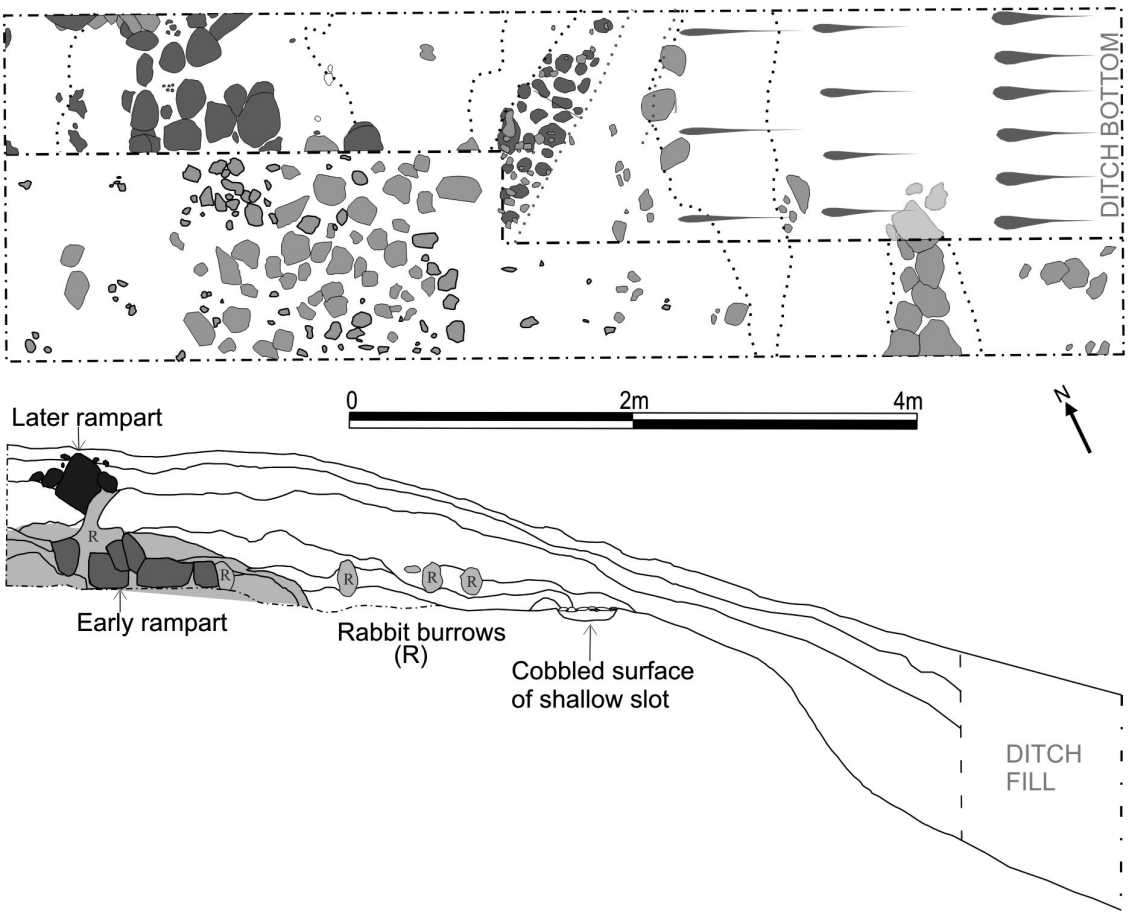

Fig. 14 The plan and south-west facing section of Trench 3.

Evidence for the same sequence of construction seen elsewhere on the site — the ramparts being initially formed by up-cast from the ditches, and the subsequent construction (or development by gradual accretion) of an overlying rubble layer on the highest point of the rampart — is also provided by the results from Trenches 4A (figs. 11–13) and 4B. Trench 4A also contained the only substantial evidence for a stone-built revetment on the inner face of the rampart of the type also recorded at Wether Hill (ASUD/NAG 2002; Topping and McOmish 2004) and Dod Law (Smith 1990).[4] Whether this stone construction (figs. 16–18) was built during, prior to, or following the establishment of the rampart core is uncertain. No secure evidence for a palisade or other kind of structural feature was found beneath or upon the rampart. The area of the interior bounded by the face of the stone-lined inner revetment, as revealed in Trench 4A, was also the richest part of the entire site in terms of finds, including pottery, rubbing stones, pot boilers and abundant carbonised remains of timber; the latter included birch, hazel and oak within burnt deposits that suggested the presence of *in situ* hearths or tipped hearth material.[5] Environmental analysis provided evidence for foodstuffs

Fig. 15 View of Trench 3 from the south-east, following the removal of surface deposits, showing the latest phase of rampart build-up and, downslope, part of a possible revetment to the second phase rampart material (foreground).

Fig. 16 View from the east of Trench 3 with excavation in progress, showing possible traces of late revetment and a cobble-filled slot on the berm between the ditch and the rampart.

Fig. 17 Part of the south-facing section of Trench 3 during recording, showing a partly-excavated cobble-filled slot on the berm above the ditch and rabbit burrows under the later rampart material.

Fig. 18 View of the ditch partly-excavated in Trench 3.

in this area, including some degraded fragments of bone from domestic stock, as well as cultivated crops (such as barley) and gathered resources (such as hazelnut). The association of pottery, pot-boilers, hearths and foodstuffs suggests that this area within the eastern ramparts was favoured for cooking activities, although whether these were domestic or communal in nature cannot be determined.

Trench 3 (figs. 14–18) was located across the inner eastern rampart which divides the site into two sections and is usually thought to belong to a primary univallate phase of the monument. The geophysics plot, based on magnetometry survey (fig. 4), suggests at least the possibility that a multivallate system, including at least two ditch lines, crossed the interior. These are most clearly apparent on the geophysics plot to the north of the trackway that bisects the fort interior from SW to NE, but fainter traces also appear to the south, where Trench 3 was located. Excavation here revealed several phases of construction which appeared quite different in character to those of the ramparts and ditches encountered elsewhere on the site. The first phase of construction was a rampart of stone construction which is stratigraphically clearly separated from a (phase II) earthen rampart. The latter is topped by some loose stone rubble which may itself be a secondary deposit on the line of the surviving scarp following destruction of this line of defences; it is assumed that the rampart material was used to fill in the ditch.

The evidence derived from the excavation of Trench 3 and from the geophysical survey suggests occupation of the site over a considerable timescale, perhaps in two main phases prior to a putative eastern extension. The wide, deep ditch revealed in this trench (fig. 18) outside the phase I and phase II ramparts here — the scale of which was not suggested by visible remains on the ground, nor by aerial photographic evidence — is certainly defensive in character and clearly identifies these earthworks as much more than those of an internal division. This tends to support the suggestion that the monument as a whole may have originated as a much smaller defensive structure and persisted as such for a considerable time before a new line of defences was built farther to the east. The abandonment of this original line of defences is suggested by the complete infilling of its substantial ditch(es), a process not replicated in the defences elsewhere on the site. A shallow, cobble-filled feature (fig. 17), perhaps best interpreted as a pathway or drain, lies underneath the phase II rampart and may be contemporary with the phase I construction, but is entirely enigmatic in terms of function and its relationship with other features. No secure dating evidence was recovered from Trench 3; a portable cup-marked stone or incipient tool found within the cobble-filled feature was the only artefact recovered, but in form and function is insufficiently diagnostic to be dateable (see below).

None of the ditches on the site was explored by excavation, except where rampart excavations extended partially into ditch-fill, but a number of cores were taken within the western defences in order to assess the potential for extracting pollen or other organic remains from the ditch-fill deposits, and in order to investigate their depth and possible stratigraphy. The results of coring indicated discrete layers of silt- and loam-based deposits extending up to a maximum depth of 1.48 m below current ground level.

The interior

In the interior of the fort the results of the geophysical investigation were used to target areas for investigation by excavation. Four features of potential interest were examined in this way.

Trenches 5A and 5B were located in the eastern sector of the fort where resistivity survey indicated the presence of various, curved and straight linear features. The deposits in both trenches had been heavily disturbed by rabbits and moles down to sub-soil level, and only in Trench 5B were features of interest revealed. Most significant was a linear feature, 0.11 m wide and 0.09 m deep, running approximately north-south lengthways through the trench for up to 4.6 m, becoming wider and less distinct to the north as a result of erosion damage. Its dark fill contained large quantities of charcoal fragments, some quite substantial pieces of roundwood, and small post-holes with packing stones were apparent in the base at intervals. This feature, apparently some kind of staked, linear boundary, produced a pair of radiocarbon dates, attesting activity between the early fourth and the mid second century BC.

Trench 6 was opened over a geophysical hot-spot near the inner rampart in the north-west sector of the enclosure. A large number of pot-boiler fragments and pieces of iron slag were recovered from an apparent work surface in this trench. In the north-west corner was a probable hearth, surrounded by a number of sandstone slabs and associated with a concentration of iron slag, indicating ironworking in this location.

Trench 7 was opened over a geophysical hot-spot towards the centre of the site. The deposits here were heavily disturbed by rabbits and moles, thereby considerably reducing their archaeological potential, but a flint blade and a rubbing- or whet-stone were recovered from the disturbed upper levels. The flint, a segment of a grey mottled flake of blade-like proportions, is of possible later Neolithic date, but neither its form nor context of discovery provide a secure foundation for dating.

Artefacts and ecofacts

The excavations at Harehaugh led to the recovery of a small assemblage of finds (fig. 19, a–h), including eight sherds of ceramic material, three flints, one fragment of shale armlet, a cup-marked cobblestone, five rubbing stones and several dozen pot boilers. The artefacts were studied by Christopher Tolan-Smith, whose descriptions and interpretations are incorporated in the following discussion. Most finds came from the trenches opened up across the ramparts, although some material was also recovered from the interior.

The flints comprise a segment of a grey mottled flint flake of blade-like proportions, a probable core rejuvenation flake and a spall of ginger-brown flint with one surface heavily patinated (fig. 19, f, g). Another, a proximal blade segment of pale grey, translucent flint, was found south east of the hillfort, near the bottom of the slope in 2004, and a flake and bladelet are reported to have been collected on visits to the site between 1994 and 1998 (Waddington *et al.* 1998, 99–100). Two of the flints are indicative a knapping tradition which favoured the production of parallel-sided blades and end-scrapers with steep retouch. Together they suggest a date in the Neolithic, probably in its latter half. This was also the date favoured for one of the earlier flint finds (Waddington *et al.* 99) whilst the remaining three items are insufficiently diagnostic for further comment. While the dating evidence produced by analysis of worked flint from Harehaugh apparently testifies to intermittent activity there over several millennia, better understanding of the nature of later prehistoric flint technologies, as advocated by Young and Humphrey (1999), may yet alter that conclusion.

The fragment of a black shale armlet (fig. 19h), which had an internal diameter of 87 mm and a width of 8 mm, was found in the topsoil of Trench 2A. The fragment is derived from an unpolished (and perhaps unfinished) armlet of rectangular section and unusually large

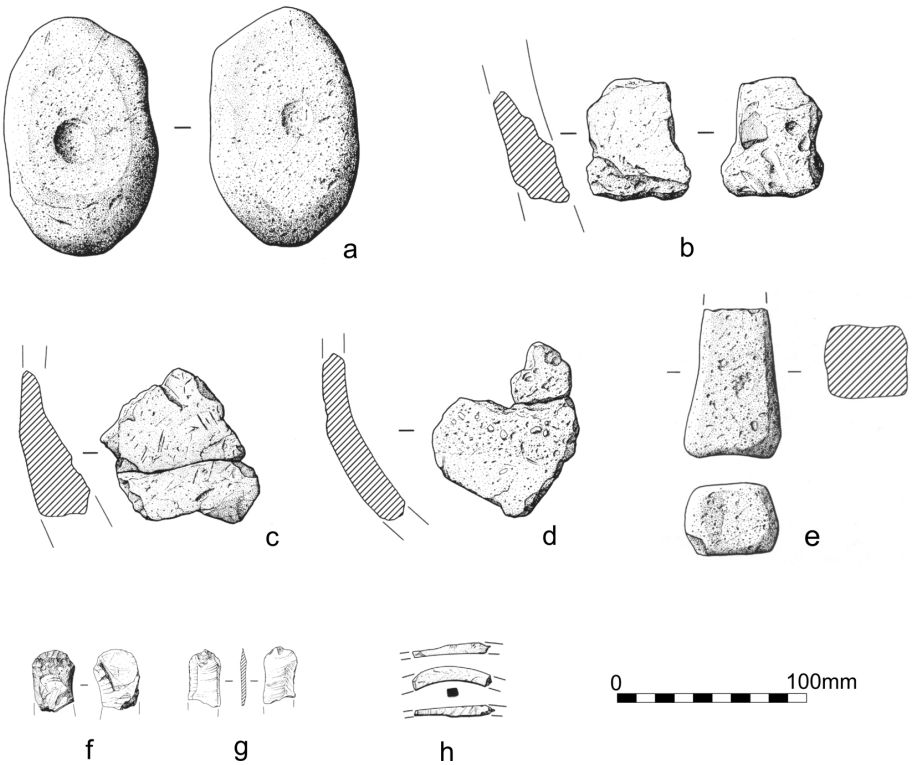

Fig. 19 A selection of finds from the excavations:
a, Water worn sandstone cobble with artificially created indentations on two opposing surfaces, interpreted as a cup-marked stone or an unfinished mace-head of possible Bronze Age origin. Trench 3;
b, A possible lower body sherd from a large ceramic vessel or oven wall found in Trench 4A, in a similar fabric to sherds from Trench 2A;
c, Two conjoining body sherds from a large, coarse ceramic vessel or oven wall, found in Trench 2A;
d, Two conjoining body sherds from a globular ceramic vessel in a relatively fine fabric, found in Trench 4A;
e, A fragment of an elongated cuboid pebble showing traces of wear through use as a rubber;
f, A flake of dark brown chocolate-coloured flint interpreted as a well-used end scraper, found in the upper ditch fill of Trench 1A;
g, Segment of a grey mottled flint flake of blade-like proportions found in Trench 7;
h, Fragment of a black shale armlet from the upper ditch fill of Trench 2A.

diameter.[6] It is made from a material common in the region and could, therefore, have been made locally. Such rectangular-sectioned shale armlets are not known in Iron Age contexts in the north of England, but rectangular-sectioned jet armlets are common throughout the military north of Roman Britain from the late second to the late fourth century AD (Allason-Jones 1996). The implication is, therefore, that this artefact is a product of a late phase of activity on the site.

The portable cup-marked stone (fig. 19a) recovered from Trench 3 would normally be regarded as being of Bronze Age or Late Neolithic date, though the time at which symbols of this kind passed out of use is not known. Cobbles modified in this fashion are a common find on late prehistoric sites throughout northern and western Britain, and various interpretations have been offered, depending on the context of the find and its associations. In Northumberland, partly owing to the widespread occurrence of cup-and-ring carvings on exposed rock surfaces, such modified cobbles are often regarded as having a symbolic significance and described as portable or 'mobiliary' cup-marks (Hewitt 1993, 51). Some of the various contexts in which they are found, including Bronze Age funerary monuments, suggest symbolic significance, but they are also regularly found on later sites of a domestic nature. An alternative interpretation of this find is provided by Stan Beckensall, who regards the water-worn sandstone cobble as an unfinished mace-head, a ceremonial rather than utilitarian object of late Neolithic or early Bronze Age date, but it could be equally interpreted as an unfinished loom-weight or thatch-weight. The shallow feature in which it was found (with other cobbles) — deliberately cut into the lip of the ditch but running obliquely to it and later filled — may have been associated with the construction of the rampart but could have been a residual feature pre-dating it.

Other stone finds included four possible whet-stones or rubbers (fig. 19e), the best example of which came from Trench 5, and, from Trench 3, a large, subrectangular block of andesite, one surface of which has been rubbed smooth, suggesting that it had been set in the earth to provide the sort of surface on which the rubbers were used. Numerous pot-boilers, mostly fragmentary pieces of non-sedimentary rock — fine-grained, extrusive igneous rocks such as andesite being preferred for this purpose — were also collected from all parts of the site, with particular concentrations noted on and just inside the ramparts. In some cases it is likely that the pot boilers were used in situ, as in Trench 4a where they were found associated with pottery and domestic hearth deposits, but those found as part of phase II rampart cladding, as in Trench 2A, are more likely to have been redeposited there as refuse.[7]

The eight sherds of ceramic material (e.g. fig. 19, b–d), representing a maximum of six vessels, are very crude, but are typical of the late Iron Age and native Roman period in the region. Although most are undoubtedly fragments of pottery vessels, the largest sherds — from rampart material in Trench 2A — are roughly smoothed with an oxidised exterior surface and are tempered with very large andesite and sandstone inclusions, as well as with organic material; these are perhaps better interpreted as the remains of an oven wall. In general, the pottery from Harehaugh is well matched by the larger assemblage from the Dod Law West hillfort, notably in the occurrence of relatively 'fine' and 'coarse' fabric types. At Dod Law West the former was dated to the mid-third century BC while the latter was generally recovered from later contexts, none later than the mid-second century AD (Vaughan and Smith 1990).

Non-artefactual finds — that is, material products or residues of human activity which are not deliberately fashioned — include iron slag, recovered from six of the eleven trenches, with a particularly high proportion coming from Trench 6 just inside the north-west ramparts. The possible remains of hearth floors were recovered from this area as well as in Trench 5 and inside the rampart in Trench 4A. The evidence shows for the first time that iron-working was being practised by the Iron Age inhabitants of Harehaugh; it is likely that smelting as well as smithing was being carried out. Some of the slag has been identified through specialist

analysis as tap slag, indicating that smithing was practiced on the site; it is suggested that other pieces could be parts of hearth or furnace structures.

A wide variety of biological remains were also recovered, including a small number of non-diagnostic animal bones and plant remains. Overall, the information obtained from the plant remains was limited in value, but it has been determined that they included a fragment of hazel nutshell (*Corylus avellana*), several charred grains of hulled barley (*Hordeum vulgare*) and a single indeterminate glume base of a hulled wheat. Due to the paucity of the crop and weed seed remains it is not possible to determine if any crop processing activity took place in the area. A considerable amount of wood charcoal was also recovered and, although species identifications were hampered by the small size of the fragments, samples of alder, oak, 10-year-old ash (*Fraxinus*) roundwood, small birch roundwood and fragments of hazel (not roundwood) were identified.

Radiocarbon dating (Table 1 and fig. 20)

The charcoal remains proved sufficient for the application of carbon-dating, and from the range of appropriate samples isolated, six were chosen from three contexts for radiocarbon analysis. Each of the three contexts was associated with a specific event, including a domestic hearth from Trench 4A, a slot or trench with stake holes from Trench 5 and a probable smithing hearth from Trench 6. The six samples were processed at the Oxford Radiocarbon Accelerator Unit by Accelerator Mass Spectrometry (AMS), and the results were calibrated using OxCal program (v3.5).

Table 1 Radiocarbon data from Harehaugh charcoal samples (see also fig. 20)

Trench No. & Context Description	Material	Laboratory No. & Sample Ref.	Radio-carbon Age	Calibrated Date (68% confidence)	Calibrated Date (95% confidence)
Trench 6 – Burnt deposit including clinker	*Charcoal, Betula*	OXA-13461 H2002/603/A	2161±29	350–160 cal BC	360–110 cal BC
		OXA-13462 H2002/603/B	2114±30	200–60 cal BC	350–40 cal BC
Trench 4A – An organic-rich deposit including hearth deposits and pot-boilers	*Charcoal, Alnus glutinosa*	OXA-13463 H2002/415/A	2091±30	170–40 cal BC	200–10 cal BC
		OXA-13464 H2002/415/B	2231±31	380–200 cal BC	400–180 cal BC
Trench 5B – Fill of a linear feature containing charcoal associated with stake-holes	*Charcoal, Corylus avellana, roundwood, 15 mm diam., 16 growth rings*	OXA-13465 H2002/560/A	2194±30	360–180 cal BC	380–160 cal BC
		OXA-13466 H2002/560/B	2178±29	360–170 cal BC	360–120 cal BC

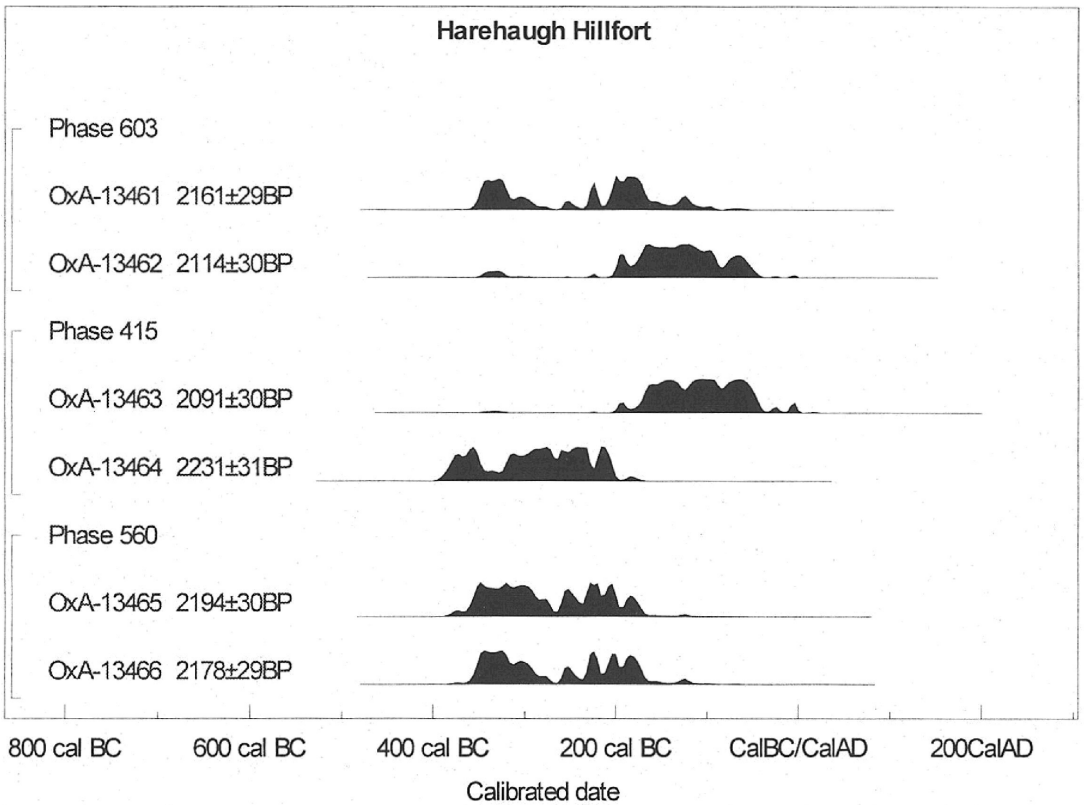

Fig. 20 Probability distributions of radiocarbon dates from Harehaugh hillfort, produced by the Oxford Radiocarbon Accelerator Unit using Accelerator Mass Spectrometry (AMS), the results calibrated using OxCal program (v3.5).

Analysis of the results of radiocarbon analysis indicates that the pair of measurements from the eastern ramparts explored in Trench 4A, are not statistically consistent, meaning they represent the results of two distinct phases of activity between the early fourth and the late first century BC. The other two pairs of samples, from Trenches 5 and 6, are statistically consistent and, thus, the samples from these two contexts could be of the same age in the period between the mid-fourth and the mid-first century BC.

COMMENTARY

From a conservation perspective, it may be noted that all of the trenches excavated in 2002 showed signs of continuing erosion, principally caused by the burrowing activities of rabbits but also, in some cases, by moles and bracken roots. The types of damage represented are as described by Dunwell and Trout (1999), and include the displacement and removal of material, causing damage to archaeologically sensitive deposits, the removal of stratigraphic clarity, the disturbance of artefacts, and the general weakening of earthworks leading to potential and actual collapse. Interior parts of the hillfort were, if anything, even more

damaged by erosion than the ramparts, perhaps because of the combined effects of rabbits and moles, but the picture was somewhat patchy. The ramparts suffered additionally from the attentions of sheep which exploited weaknesses developed by rabbit burrowing to create scrapes for shelter; this, in turn, led to large-scale rampart collapse.

From a research perspective, although necessarily subject to the restrictions of a conservation-led research agenda, the 2002 excavations have provided significant new insights into the character and phasing of the site, although the overall picture remains less than clear and nothing approaching a complete chronological sequence for the site can yet be attempted.

The ramparts throughout the site are constructed from re-deposited boulder-clay till thrown down-hill, or occasionally upwards from the ditches. Wherever possible, they were constructed in order to make use of the natural slopes of the site. Those sited on the rim of the flattish ridge on which the hillfort is positioned were formed largely by terracing into the sides of the slope (as on the south-west, south, east and north-east sides), but where the natural slopes were slight (as on the west side), the up-cast from ditches was used for the ramparts. These methods of rampart construction are apparent throughout the site. No definitive sign was found of wooden or stone revetments to shape the external faces of the ramparts, although certain stone alignments found during the excavations, along with others visible elsewhere on the site, suggest that *ad hoc* revetments may have been built in order to stabilise the ramparts at some stage(s) during or following construction. This is likely also to have been the main purpose of the 'cladding' reported from the 1994 excavation and from Trench 2A in 2002.

The stone revetment built on the inside face of Rampart 1 on the east side of the site, exposed in Trench 4A (figs. 12, 13), was the only such feature uncovered during the excavations, although another section has since come to light bordering the north end of the internal rampart in the north-west sector; it remains highly likely that similar stretches of walling survive elsewhere in unexcavated parts of the site. Although all other ramparts displayed upper stone phases, in no case did this exposed stone appear to have been crafted as a structure; rather, it appeared to be a simple dump of stone, although it is acknowledged that this appearance could be the result of erosion. Other than fragmentary linear arrangements visible on the surface or in erosion scars, the only other apparent example of built stone-work in rampart construction seen through excavation was an arrangement of boulders underlying the later earthen rampart exposed in Trench 3, which did appear to be both deliberately selected and placed, as well as being discrete from an overlying deposit of more randomly-sorted stonework.

Most previous commentators have taken the view that the system of ramparts represent more than a single phase of development (MacLaughlan 1867, 85–6; Jobey 1965, 25–6; Waddington *et al.* 1998), and the overall impression derived from both surface observation and from the results of excavation is of a monument built and rebuilt in several phases. Repairs seem to have been carried out to various parts of the defences as and when the need arose, using whatever materials and devices were to hand. Key to understanding the broader phasing of the site appears to be the earthwork running north-south across the interior of the monument. The scale of the ditch revealed by excavation here (fig. 18) clearly identifies it as a defensive structure, along with the adjacent rampart which was of earthen construction topped by stone rubble. A wall of boulders underlying the earthen rampart is likely to have been part of an earlier defensive feature. The relationship of this to the the ditch is uncertain,

since a wide berm separated the lip of the ditch and the east face of the wall; it may be that the ditch was secondary, contemporary with the later, earthen rampart. Partial excavation revealed a ditch considerably deeper than that suggested by surface remains or geophysical survey; the evidence strongly suggested that it had been deliberately back-filled.

A number of models for the development of the site remain possible, but the preferred interpretation is that an uni- or bivallate enclosure occupying the western and highest part of the hill was superseded by, and was incorporated within, a larger multivallate complex. The suggestion by Waddington *et al.* (1988) of a Neolithic origin, perhaps commencing as a smaller ditched enclosure upon the highest point of the fort, remains possible but unproven. Also worthy of note at this point is the potential relationship of a stony scarp, noted as an ancillary feature in the RCHME survey (Waddington *et al.* 92; fig. 2), which runs south-westwards at an oblique angle into the (putatively late) outer eastern rampart and which could be interpreted as contiguous with the line of the inner southern rampart which meets the south end of the interior rampart further to the south-west. It is possible, therefore, that this feature is contemporary with the primary enclosure, but whether it formed part of an ancillary enclosure or boundary is unclear. The next stage in the development of the defences is even more difficult to determine, but it is suggested that the multivallation of the western sector may have been accompanied by a similar process within the ramparts that evidently crossed the interior from north to south, only to be discontinued there in favour of an increased area with the provision of a bivallate defensive system further east. This process led, either immediately or after some hiatus, to the infilling of the central ditch(es). It may be that the final phase in the elaboration of the defences was unfinished and that it was originally intended that the massive ramparts on the west were to be continued around at least the south and east sides, but it is more likely that the rampart of the west side were always intended to be more secure and more impressive.

There is no evidence to support the notion that the site was first defended as a promontory by the construction of multiple ramparts on the west side. Although the massive triple, or even quadruple, ramparts at the west end differ markedly from the slighter ramparts to the south and east, while those to the north barely exist at all, it seems likely that they were built to be more secure and appear imposing, compensating for the relatively vulnerable approach on that side, rather than necessarily indicating a different phase of development. Some of the discrepancy in the scale of ramparts in different parts of the site may also be due to the collapse of rampart material down the steep south and north slopes, although this does not hold for the ramparts at the east end of the ridge. A recent suggestion that the site started as a large promontory fort but was later reduced in size by the construction of the inner earthwork (Oswald *et al.* 2006, 56), seems untenable on the basis of discovery in Trench 3 of a substantial, infilled ditch.

Unfortunately, since secure dating evidence is lacking from Trench 3 and the structural relationship between the external defences and those crossing the site from north to south was not investigated by excavation, no further weight can be given to these options. Dating evidence from three locations elsewhere on the site supports activity over a time-scale encompassing the mid-late pre-Roman Iron Age, between around the early fourth and the end of the first century BC. A mixed organic-rich deposit containing charcoal, pottery and pot boilers from Trench 4A at the eastern end of the site provided dates suggesting the possibility of activity throughout this period, while Trench 6 in the north-west part of the site interior provided a pair of dates restricted to the middle of the fourth to the late second century. The

dating evidence, albeit limited to three positions within the site, therefore supports the position that the hillfort was constructed and was occupied for a very considerable period in the Iron Age, and provides no further support for putative Neolithic origins suggested on the basis of a charcoal-rich buried soil horizon in a section of the outer rampart for which a late fourth millennium calibrated BC radiocarbon date was obtained in 1994 (Waddington *et al.* 1998, 96). It is difficult to assess the relationship between this single date and the construction of the overlying rampart, and even whether the charcoal in question is necessarily anthropogenic in origin. Unlike Humbledon Hill, however, where an English Heritage survey refuted the suggestion of a Neolithic outer enclosure (Oswald *et al.* 2008, 3), there is unsufficient evidence at Harehaugh either to support or refute such a suggestion, although it is unlikely, on the basis of the accumulated evidence, that the re-occupation of a Neolithic enclosure would now be suggested.

While carbon-dating indicates human activity at Harehaugh between the early fourth and the late first century BC, the finds evidence hints at both earlier and later activity, with several pieces of worked flint suggesting a possible Neolithic presence and a fragment of shale armlet finding its closest parallels in the Romano-British period. In the context of the radiocarbon dates, the shale armlet appears anomalously late, but this may be more a reflection of the samples selected for dating than it is of a definate hiatus in the occupation of the site. As noted by Tolan-Smith (above), the relative paucity of artefactual evidence (at least in quantity if not in variety) provides little basis on which to propose a sequence of development for the site, but it does at least document settlement activity from at least the mid fourth century BC to the beginning of the Roman Iron Age, a period of 300–400 years. The few sherds of crude pottery could certainly be Iron Age in origin, although they are too small and formless to be securely diagnostic, while much of the used stone, shale armlet and iron-working waste is unlikely to pre-date the Iron Age. Although two flint tools were found of a type commonly represented in the later Neolithic, it is by no means clear that such tools were not produced or re-used in later contexts, or that their presence on the site represents anything more than a background presence. The find of a cup-marked stone, or a possible unfinished tool, is similarly ambivalent, since there is no diagnostic certainty of Bronze Age origin and, even if it is a Bronze Age artefact, it could be representative of the sort of low-level activity on the site which may be expected to have occurred over the course of several millennia prior to the middle Iron Age.

The excavations in 2002 allow some additional conclusions with regard to the function of the site, discussion of which has previously centred on its clear defensive capabilities, which are most apparent on the vulnerable west side of the site. There seems no reason to doubt this, although defence of stock against predators, particularly wolves, may have been intended in addition to the defence of people and provisions against human raiders. The demonstration of power and status may have been an additional consideration, particularly in view of the prominent strategic position of the site. With regard to its non-defensive and non-symbolic functions, the diversity of artefacts and the ecofactual evidence recovered indicate a range of both domestic and industrial practices, including metal-working and cooking/food preparation. Barley, wheat and hazelnut were included amongst the foodstuffs represented in burnt domestic waste deposits recovered from Trench 4A, and some fragments of animal bone and horn were also recovered, although their condition did not allow species determination. Radiocarbon dating evidence from hearth deposits associated with pot-boilers and pottery in Trench 4A indicates the long-term use of the sheltered area inside the eastern ramparts as a

cooking area. The wide dispersal of pot-boilers elsewhere suggests that cooking is likely to have been widespread across the site.

Although no remains of houses were identified, some evidence for internal features within the site was found, notably in the form of a four metre long, straight, narrow slot in Trench 5B, identified as a probable fence-line, parallel, but not necessarily contemporary with, the rampart crossing the site, radiocarbon-dated to the period between the early fourth and the late second century BC. Elsewhere, an enigmatic shallow, cobble-filled trench of unknown function, running obliquely into the rampart was found in Trench 3 on a berm between the rampart and an external ditch. Further excavation will be required to elucidate the use of the hillfort suggested by such remains and to shed light on whether it served as a permanently defended settlement in which various domestic, industrial and agricultural activities took place, or as the centre of a seasonal summering ground principally focussed on stock management (equivalent to a medieval vaccary or a shieling), or even a temporary seasonal gathering place. Whatever the activities carried out there, it is clear from its strategically important position and commanding appearance from the Coquetdale to the north and west, and from the Grasslees Burn (the corridor to Redesdale) to the south and south-west, that it also played a significant role in commanding prestige and displaying the power of a local elite.

WIDER IMPLICATIONS

The Harehaugh excavations in 2002 produced a number of notable results, particularly in providing secure dating evidence for the use of the site during the fourth to first century BC, as well as artefactual evidence suggesting intermittent occupation over a much longer period, perhaps over several millennia and very probably extending into the first or second century AD. In addition, the smithing and probable smelting of iron has been shown to have occurred, and domestic occupation has been attested by finds of hearths, pottery, pot boilers and rubbing stones. With regard to the structure of the hillfort, a wider variety of constructional methods have been identified, including drystone walling, than were previously attested. It remains to consider the value of these excavations in the wider context of hillfort studies in Northumberland and the Borders.

There are, according to Speak and Frodsham (1996), up to 140 sites in Northumberland that have been identified as hillforts, although clearly this figure depends on the definition of the term. It is clear that the majority of such sites must have been highly prominent elements of the Iron Age landscape and it has long been assumed that they performed a role of corresponding importance to their physical prominence; that they were important, directly or indirectly, to the majority of the upland population. Whatever their actual role in the economy and society of the north British Iron Age, and accepting that this role may have varied over time, or according to size and location, sites identified as hillforts tend to be imbued with a relatively high level of significance, although in many cases there is little or no clear archaeological evidence from which to deduce their function or perceived status. Since the mid twentieth century, when the assumption grew that the main problems of the Iron Age had been solved — on the basis of reasonably well-controlled excavations at six Northumberland hillforts, mostly in the mid nineteenth century — a great deal of work has been undertaken (Frodsham 2004; Oswald *et al*. 2006, 25–32), yet considerable opportunities remain to further advance the understanding of morphology and chronology, as well as social and economic functions.

The long-accepted model for the chronological development of hillforts in northern England and southern Scotland, which still persists — although with much reservation and various suggested modifications (Harding 2004, 54) — was established by excavations at Hownam Rings (C. Piggott 1948; S. Piggott 1966). This 'Hownam sequence' suggests a structural progression of increasing complexity: from unenclosed settlements to palisaded sites of the late second millennium BC and first half of the first millennium BC, superseded by sites defended by univallate ramparts and ditches, which subsequently developed into elaborate systems of multiple ramparts, before giving way in turn to undefended settlement in the Roman period. That this model persists today is not a testament to its enduring robustness in the face of continual testing but it is a product of the paucity of excavation in the intervening period. Where it has been tested there have been fundamental differences in chronology and detail, as at Eildon Hill North, where excavations suggest that there was a hiatus in the use of the hilltop between the end of the Bronze Age and the Roman Iron Age (Rideout *et al.* 1992). A recent consideration of the Hownam sequence concluded that the first part of the sequence — from timber palisade to earth and stone rampart — appears to remain valid, while the increasing elaboration envisaged by the second part seems more dubious (Oswald *et al.* 2008, 7–10). However, the general lack of large-scale excavations makes even the broad chronology imprecise, and it certainly remains unsafe to assume that all, or even most hillforts in Northumberland necessarily originated as palisaded enclosures (Welfare 2002, 73–4).

Excavations in southern Scotland have revealed a far more complex and varied sequence than that allowed by the Hownam sequence, as well as the coexistence of different enclosure types, but there is relatively scant data from Northumberland to compare with the better-defined Scottish picture. Indeed, although small trenches at Brough Law (Jobey 1971), Ell's Knowe (Burgess unpublished), Yeavering (Hope Taylor 1977) and Harehaugh (Waddington *et al.* 1998) have all provided useful insights, the excavations carried out at Dod Law in 1985–6 (Smith 1990) and at Wether Hill in 2000–3 (ASUD 2002; Topping 2004) remain the only large-scale excavations of hillfort defences in Northumberland, where fieldwork has tended to concentrate on smaller classes of monuments (Jobey 1964; 1978).

An exception to the norm of small-scale fieldwork has been the recent programme of analytical survey carried out by English Heritage as part of the Discovering Our Hill-Forts Heritage (DoHH) project, involving the investigation of numerous hillforts in the Northumberland National Park, including intensive surveys at 11 of them (Oswald *et al.* 2006 & 2008). This work demonstrated the potential to recognise multiple phases of construction from the earthwork evidence alone (Oswald *et al.* 2008, 15). A remaining problem, however, is that dating evidence continues to be elusive, or is fragmentary.

Contemporary with the programme of extensive field survey carried out in the uplands has been an exciting series of large-scale excavations on the coastal plain in south Northumberland which have identified and excavated large, contemporary sites at Blagdon Hall and at Shotton (McKelvey 2009), at Pegswood (Proctor 2009) and at Newcastle Great Park.[8] These point to a common sequence of occupation commencing with the establishment of small, unenclosed farmsteads, succeeded by much larger enclosed sites with associated field systems and stock enclosures, which continued up to the 2nd century AD. This modifies the view of Iron Age settlement derived largely from the study of upland sites such as Harehaugh, and indicates that the previous emphasis on hillforts as the main centres of Iron Age activity reflects, at least in part, a bias derived from the preservation of earthworks.

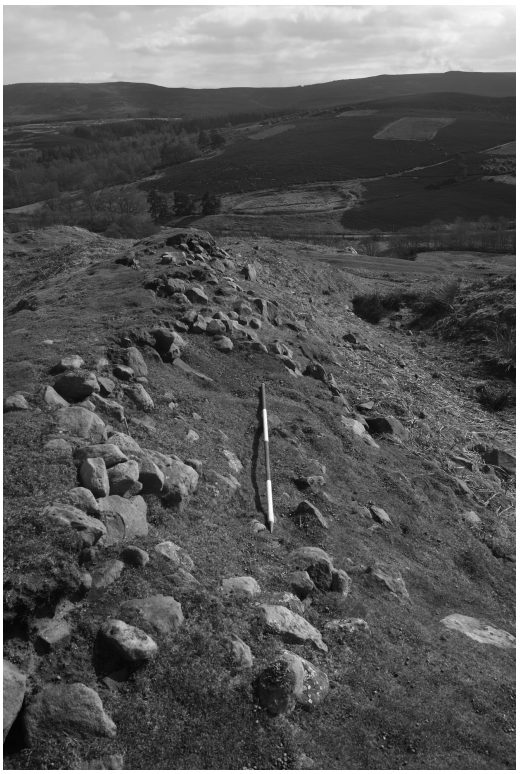

Fig. 21 View southwards along the eroded top of the medial western rampart towards Tosson Hill, with Soldier's Fold enclosure appearing on the heather-clad hillside in the middle distance.

Fig. 22 View from the north-west of erosion damage on the western ramparts.

The discovery in these lowland excavations of field systems and trackways outside the main occupation areas has also served as a reminder that Iron Age settlements, including hillforts, existed within and depended upon farmed and managed landscapes, a view enhanced in the uplands by the contextual approach adopted by English Heritage (Oswald *et al.* 2008, 34–8). Although neither the lowland excavations, nor the upland surveys conducted by English Heritage have provided evidence to contradict the established chronological sequence of hillfort (or larger settlement) development, the existence of complex lowland sites with apparent similarities to the hillforts suggests the possibility that the populations of the uplands could, at times, have been supported by the lowlands, thereby allowing the potential for seasonal movements of people and stock.

In essence, despite this recent work, studies of larger settlement sites, and particularly hillforts in southern Scotland and Northumberland have not yet reached the stage where a dataset of sufficient size and quality exists to enable questions of chronology and morphology to be addressed with confidence, far less speculations on function and seasonality. The English Heritage Research Agenda recognised this in defining Late Iron Age hillforts, enclosures and settlements as a priority, noting that, '… the understanding of (such) monuments… and their place in the landscape, is only gradually developing…' (English Heritage 1997, 8). There is still a lack of firm evidence with which to support or challenge the Hownam sequence in Northumberland; the evidence from Wether Hill tends to confirm it (ASUD 2002, 39), whilst that at Dod Law (Smith 1990, 17), where a palisade is reported on top of the Phase II ramparts, does not. The state of knowledge about Harehaugh largely reflects this wider picture, for, although the results of the 2002 excavations have revealed a variety of forms and phases of rampart construction and have provided artefactual and ecofactual evidence with which to illustrate the function of the site and the activities carried out there, an overall site sequence and a clear chronology are still lacking.

The conservation-led approach constrained the excavation strategy to such a degree that information essential to the management of the site could not be gained. In particular, without excavating a complete profile of the defences, including the ditches, preferably in several places, it has been impossible to determine a reliable construction sequence for the monument. An approach balancing the interests of conservation and archaeological research would have provided information more pertinent to the continued management of the monument, since it remains difficult to conserve that which is not well understood, or to prioritise different parts of the site. The balance between physically conserving and understanding this monument remains a matter of urgent concern in view of its continuing degradation (figs. 21–22). The issue of erosion and the appropriate archaeological management response to it — whether by physical conservation or by record — has been reported separately (Carlton 2006), and it is hoped that the discussion and limited testing of various solutions to its physical decay, will soon begin to bear fruit.[9]

ACKNOWLEDGEMENTS

The work at Harehaugh in the summer of 2002 was the last major excavation in Britain to be directed by John Dore, ceramicist, archaeologist, Roman Frontiers specialist and scholar of North African history, archaeology and culture. From its inception, Paul Frodsham of the Northumberland National Park Authority (NNPA) worked with John Dore to set up the Harehaugh fieldwork project, and was also instrumental in commissioning a geophysical

survey of the site by Alan Biggins of Timescape Surveys, and a series of aerial photographs from Tim Gates, who subsequently visited the site and offered useful interpretive comments during the excavations. The fieldwork and subsequent analytical phase were monitored by Jonathan Last of English Heritage, its principle funder, and by Iain Hedley of NNPA, coordinator of the DoHH project. Excavation work was carried out by students from the University of Newcastle, assisted by colleagues from Glasgow, Bristol and Durham, supervised by staff from the Archaeological Practice, including Alan Rushworth, Alan Williams and Jonathan Shipley.

Christopher Tolan-Smith reported on the artefacts and contributed both descriptively and analytically to the main text. Additional comments were provided for the shale armlet by Lindsay Allason-Jones of Newcastle University, for the pot-boilers by Robert Shiel of Newcastle Unviersity, and for the cup-marked stone by Stan Beckensall, who also assisted with the excavations and contributed to the discussion of its results. Reports on off-site geoarchaeological evaluations were produced by David Passmore, Simon Hildon and Lynda Yorke of Newcastle University, with soil profiles and the analysis of construction materials by David Manning, John Veterlein and Rachel Creamer, also of Newcastle University, and an additional thermal analysis (TG-DSC) of soils by David Manning. A report on plant macrofossils and industrial residues was provided by Archaeological Services, University of Durham [ASUD Report 947], with the analysis of metallurgical finds carried out by Phil Clogg. Additional analysis of wood and charcoal was undertaken by Jacqui Huntley of English Heritage who also selected samples for Radiocarbon dating, which was subsequently carried out by the Oxford Radiocarbon Accelerator Unit under the direction of Peter Marshall from the English Heritage Scientific Dating Team.

Thanks are offered to the Dueshill Estate and its gamekeeper, Chris Nairn, for permitting, facilitating and informing the excavation, and to the villagers of Elsdon for hosting the excavation team. The results of fieldwork were prepared for publication by the present author, who gratefully acknowledges the comments of Humphrey Welfare and an anonymous referee.

NOTES

[1] Reconnaissance fieldwork carried out in October 2004 by Richard Carlton and Christopher Tolan-Smith.

[2] The individual ramparts forming the fort defences are labelled 1–4 from inside to outside.

[3] By Alan Biggins of TimeScape Surveys.

[4] Subsequently, another section of stone-facing or, perhaps, a partly buried wall, has come to light, possibly due to the effects of erosion or removal of covering vegetation, at the foot of the outer face of Rampart 1 in the north-west part of the site.

[5] Fuller discussion of the finds is provided in the specialist reports procured as part of the wider site investigations and which are included in the full archive report lodged with English Heritage and Archaeological Data Services (ADS), York. .

[6] Lindsay Allason-Jones, pers. com.

[7] Investigations elsewhere, such as the Ty Mawr Hut-Circles site on Anglesey, where pot-boilers were deliberately selected from a non-local geological source (Conway 1996), have shown that the detailed analysis of these artefacts can be rewarding.

[8] Information derived from the Tyne & Wear Heritage Environment Record.

[9] *Harehaugh Hillfort, Assessment of Potential for Analysis and Updated Project Design*. Unpublished document prepared for English Heritage in February 2004 (see also Carlton 2006).

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