

Analytical Earthwork Survey of a Hillfort near Whitley Crag, Asby, Cumbria

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Summary

IN 2008 an analytical earthwork survey was undertaken of a small enclosure at Whitley Crag near Asby, Cumbria. The site had seen no research since it was first identified through aerial reconnaissance 25 years earlier. The survey suggests that the earthworks, comprising a double bank and ditch enclosure with west-facing entrance, probably represent the remains of an Iron Age hillfort which may have been constructed concentrically to a Bronze Age barrow. Though the survival of a hillfort is remarkable, the earthworks have been damaged by tracks, and by post-medieval ridge-and-furrow ploughing. The hill-top site overlooks uplands to the south. To the north foothills slope gently down to the Eden Valley. In the medieval period, the uplands offered rough grazing, while the valley floor and lower foothills were under arable cultivation. It seems likely that the same was true in the Iron Age. Commanding panoramic views, the hillfort dominated a possible 'territory' defined by minor tributaries of the River Eden.

Introduction

Whitley Crag is a prominent ribbon of exposed limestone pavement terminating in a low cliff. It lies within fields of improved pasture at Breake Hall Farm, five miles south of Appleby-in-Westmorland in the Eden Valley, Cumbria (Fig. 1). The Crag defines the south-western edge of an un-named rounded hilltop, which is the highest point of a promontory of upland located between two minor tributaries of the River Eden. The probable hillfort occupies the north-west brow of the hilltop, which rises to a maximum elevation of 223m above Ordnance Datum.¹

The site is recorded as an 'enclosure' in the Historic Environment Record, (SMR Number 5828) having first been identified through aerial reconnaissance by Tom Clare in 1984, although little more was known about it, or about its temporal or spatial context. Throughout this article the term 'hillfort' denotes a hilltop settlement, possibly of relatively high status, that is enclosed by concentric banks and ditches. The earthworks may have been embellished by a stone wall or timber palisade during phases of its use. However, the enclosure is small and cannot have comprised more than a few houses, in marked contrast to the giant enclosures conventionally called hillforts in other contexts (most notably Wessex). The paucity of research into the site is remarkable, given that the earthworks survive fairly well, and the area has been subject to successive mapping 'sweeps' by the Ordnance Survey and decades of aerial reconnaissance.

To the south, the hilltop is overlooked by unenclosed moorland, which appears to have been used as seasonal rough pasture since the medieval period, if not earlier.

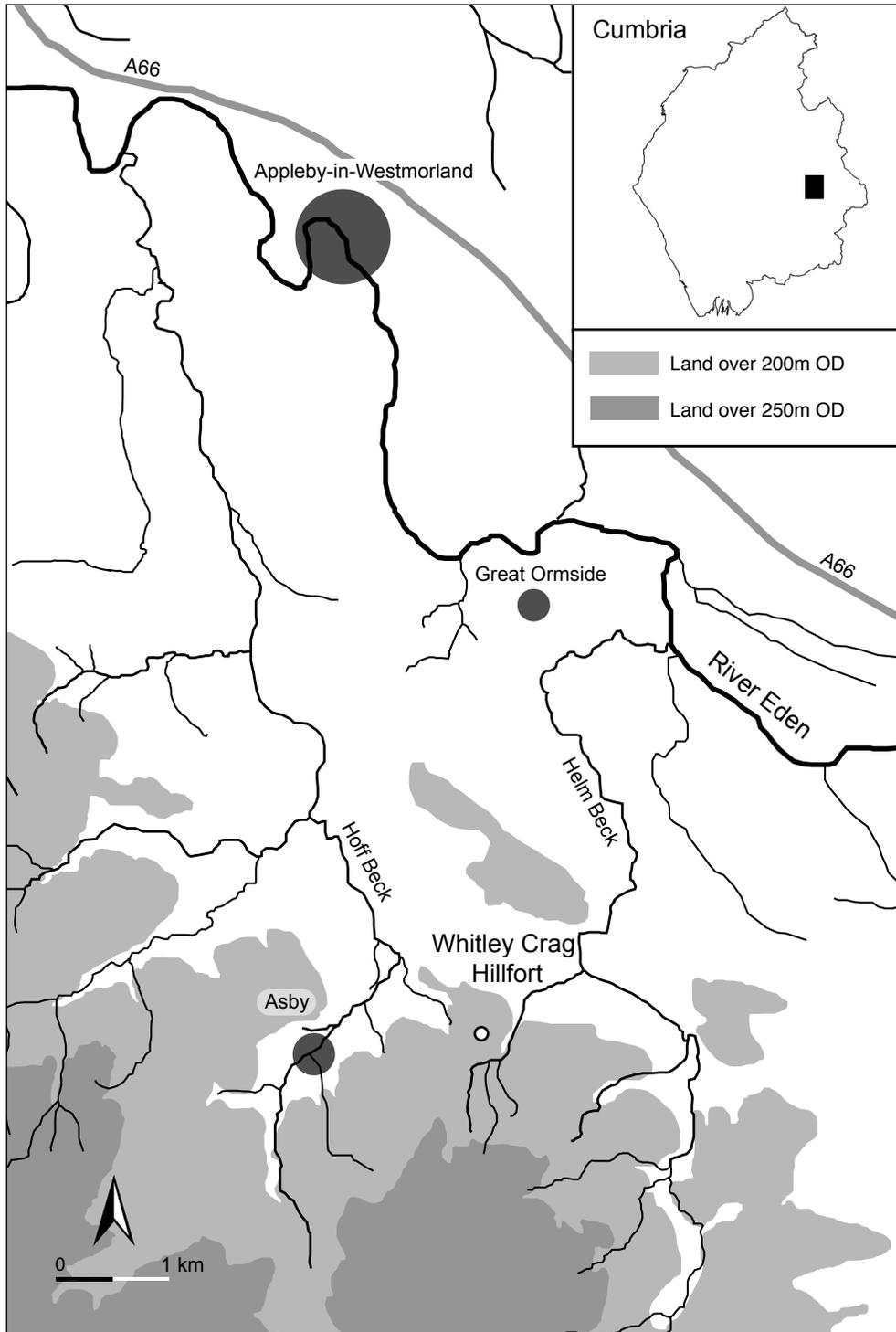


FIG. 1. Location map of Whitley Crag hillfort.

From this upland two tributaries of the River Eden spring, defining the spur on which the hillfort stands. By contrast, the southern aspect commands broad views over a wide terrace, which has seen arable cultivation in the past. The terrace falls away to the floodplain of the Eden Valley, beyond which the south-western scarp of the Pennines rises more abruptly.

The field in which the hillfort is situated is now used for pasture, and consequently a layer of turf protects the archaeological features. However, the earthworks have evidently suffered centuries of natural erosion, an apparently brief episode of ploughing in the post-medieval period, and probably also from robbing and re-use of any stone which may have once formed elements of the fort. For these reasons, and because of the modest size of the hillfort, what remains of the banks and ditches appear relatively insubstantial by the standards of the larger Iron Age hillforts typical of southern Britain. The upstanding remains at Maiden Castle (Dorset) or Poundbury (Dorset) clearly indicate a greater investment in terms of construction. Despite this comparison, the construction and habitation of the hillfort would certainly have represented a significant statement of power over both the local landscape and its inhabitants throughout its occupation, which may have persisted from the Iron Age into the Roman Iron Age.

The primary aim of the analytical earthwork survey was to elucidate the nature of the extant site and its immediate archaeological and topographic landscape context. This was achieved through the production of a geographically referenced and metrically accurate analytical survey of the earthworks. Given the research potential and relatively stable condition of the site, it was considered appropriate to evaluate the character of the hillfort and associated earthworks prior to intrusive excavation work.

Geology, topography and land use

The underlying solid geology of the Eden Valley and Pennine range comprises Tournasian and Viséan carboniferous limestone. The drift geology of the lowland areas consists mainly of glacial and fluvial alluvium and tills (British Geological Survey, 1977, 1979). In recent times the fertile floodplain of the Eden Valley has been used predominantly for the production of arable crops, while the valley slopes have provided grazing for sheep and cattle (Jarvis, *et al.*, 1984). Hodgson and Brennand (2006) note the evidence for widespread land clearance associated with hillforts, suggesting agricultural land use was closely connected to location. Although excavations have so far yielded relatively little in the way of animal and plant remains the evidence from Brook House Farm in Cheshire shows clear evidence of butchery (Cowell and Philpott, 2000). Both Brook House Farm and Great Woolden Hall in Greater Manchester suggest a mixed economy based on both pastoral and arable agriculture (Fairburn, 2003; Nevell, 2001). Thus the location of the hillfort on a commanding and conspicuous eminence at the geological interface between upland and lowland provides easy access to both the pastoral grassland slopes to the south and the fertile arable soils of the valley to the north. This situation facilitates the employment of diverse agricultural regimes by the inhabitants and dependents of the settlement. Indeed, this facility may have been a primary factor in the original location of the settlement and in its continued use.

Although the area immediately surrounding the hillfort is now used mainly for grazing, the field pattern and associated remnants of ridge-and-furrow ploughing, presumably of medieval and post-medieval date, indicate that this was not always the case (Fig. 3, 4). The medieval north-west to south-east orientated 'strip' fields that divide the terrace to the west terminate at the ancient western boundary of the field, now fossilised by a drystone wall. Consequently, the upper slope of the hill and the earthworks remained undamaged by medieval arable agriculture. However, brief episodes of post-medieval ridge-and-furrow ploughing in a north-east to south-west orientation has caused some limited erosion of the earthworks that can clearly be seen in Figs. 3 and 4. The fact that the hillfort rampart survives at all, along with negligible depth of the furrows, strongly suggests that the episode of ploughing was relatively brief. This cultivation possibly accounts for the failure of the recent survey to recognise any slight settlement-related earthworks, such as roundhouse platforms, which might otherwise have been expected within the hillfort. The furrows left by this ploughing appear to respect a field bank which apparently continued the line of the north-east to south-west medieval field boundary from the 'strip' fields to the west.

If stone made up a significant proportion of the hillfort and possible barrow, as might be assumed given its availability, it may have been robbed to provide material for the construction of nearby field boundary walls. In this context, the existence of a track which leads from the north-west of the internal space of the hillfort and forms a confluence with a pre-existing field bank that runs in-line with a wall, gives a strong indication that the practice of stone robbing and re-use in field boundary walls was indeed being employed at the site. The theory is corroborated by the existence of a track of similar dimensions that extends between the northern section of the hillfort and the corner of two walls and adjacent two-storey farmhouse, which has now fallen into disrepair but appears on the aerial photograph in Fig. 2.

Archaeological and historical background

The archaeological context of the hillfort and its environs are not well documented for the late prehistoric period. The current state of archaeological understanding of the Iron Age in the North West has been described as a 'black hole' (Haselgrove, *et al.*, 2001), and although this may not be entirely accurate, there is certainly a relative paucity of dateable pottery or metal finds. Relatively few large settlement sites have been identified which can securely be dated to the Iron Age (Hodgson and Brennand, 2006). Despite 20 years of active research, much more needs to be done; indeed the hillfort has not been subjected to any recorded investigation since its identification by aerial photograph. What excavation there has been in this field of study has largely focused on the 'defensive' elements of hillforts; although it is assumed they were internally occupied, there is very little archaeological evidence to confirm it. The poverty of evidence for Iron Age activity contrasts sharply with the research undertaken by Burl (2000) and more recently and comprehensively by Evans (2008) into the relatively abundant Neolithic and Bronze Age monuments, burials, and settlements of the area.

In her list of the known prehistoric 'settlement' enclosures in Cumbria, Evans (2008) provides summaries of studies that indicate possible Iron Age construction



FIG. 2. Aerial Photograph of the site taken from the north-west.

for elements of the enclosures at Carrock Fell near Keswick (RCHME, 1996), and Skelmore Heads on the Furness Peninsula (Brown, 1996). Although parts of the earth and stone ramparts may date from the Iron Age, both enclosures apparently have their origins in the Neolithic period. These enclosures are situated some distance from Whitley Crag and were constructed on a grander scale.

There are only two known prehistoric enclosures that lie in close proximity to Whitley Crag; the first is Howe Robin on Crosby Ravensworth Fell some 6.5 miles to the south-west (Brown, 2002; Evans, 2008). Despite assertions made by Collingwood (1933) that the enclosure at Howe Robin and local area were extensively settled during the Iron Age and Romano-British period, subsequent landscape and finds analysis has demonstrated that no evidence can be provided in support of these claims for an area within a one kilometer radius of Howe Robin (Brown, 2002, 110). The second, more recently identified by Peter Horne of English Heritage from aerial photographs, is a roughly oval prehistoric enclosure possibly of Iron Age date of the area (NMR Number: NY60SE10). The enclosure is defined by a ditch and bank measuring approximately 150m by 100m, and lies about five miles due south of Whitley Crag, immediately north of Weasdale. Further study of these enclosures holds great potential for our understanding of later prehistory in Cumbria, but because investigation is at an early stage, definitive evidence for Iron Age activity in the area remains sparse and consequently offers little possibility for comparative and contextual study at the present time.

Description and interpretation of the site

For the purposes of this survey report the 'site' is defined by the area portrayed in Fig. 3, though this does not exclude consideration and reference to relevant contextual topographic features situated outside the survey area. The landscape around the hillfort is considered first, then the hillfort itself, and finally the internal features.

Based on stratigraphic and typological analysis, it is proposed that the initial feature to occupy the site was a possible Bronze Age barrow which was positioned on the north-facing brow of the hill. This was followed by the concentric earthworks that make up the hillfort, then the field bank that runs north-west to south-east was constructed. There then followed a phase of stone robbing from the hillfort for re-use in drystone walls and buildings as demonstrated by two tracks that lead from the hillfort to structures in the west. Various regimes of ridge-and-furrow ploughing were employed during and after the tracks were in use, and the most recent evidence for activity comes from large quantities of limestone blocks that have been cleared from the farmland and dumped in the two sink holes to the south of the hillfort.

The landscape around the Hillfort

Tributaries of Hoff Beck to the west, and those of Helm Beck to the east must have greatly enhanced the suitability of the site for human and animal occupation. The site at Mellor provides a useful comparison, similarly located within easy reach of flat agricultural land and with a plentiful water supply in the form of streams and a natural spring (Noble and Thompson, 2005). However, it is the possible role of streams as

boundary markers enclosing a topographic 'block' that carries greater significance in the pursuit of interpreting the divisions, sub-divisions and tenurial claims in the local Iron Age landscape. If the proposition that the becks represented tenurial boundaries has any validity for Whitley Crag hillfort, then it follows that there may be neighbouring topographic 'blocks' extending along the becks to the east and north-west. In which case there are likely to be corresponding Iron Age settlements making similar claims upon those 'territories'. Evans (2008) has argued that watercourses represented a significant cultural marker in the earlier prehistoric landscape, dividing it up into 'parcels'. In addition she argues that these individual parcels were associated with particular monuments representing a human claim upon the landscape, much like hillforts may have done in the Iron Age.

Conversely, it is also possible that the topographic 'block' defined by the becks represent pastoral zones sometimes known in Cumbria as 'hefts', whereby cattle and sheep can be relatively easily trained to respect apparently insignificant physical boundaries. Although not foolproof, by this method, areas that appear to be open grazing (such as on the Howgill Fells to the south) are in fact divided into zones dictated by the natural topography, and recognised by a herd or flock. In the majority of cases these boundaries are streams, and it seems reasonable to entertain the possibility that the 'blocks' defined by the tributaries of the Eden form a 'hefted' landscape. The upland and lowland areas flanked by the becks could be argued to provide summer and winter grazing zones for this system. Evans (2008) has argued that long cairns were designed as a focus for movement between upland and lowland landscape zones during the Neolithic and Bronze Age; other monuments also located along routes of seasonal movement can be seen as part of the maintenance of social identity and tenurial ties (Evans, 2008) and may explain the location of the hillfort. Given these observations, it remains a compelling possibility that the form and location of the hillfort held particular significance for the inhabitants of the local and neighbouring topographic 'blocks' and may have had its origins in the organisation and management of lowland arable, and upland pastoral farming regimes that persist to this day.

The hillfort

The defences of the probable hillfort at Whitley Crag comprise two closely-spaced concentric banks and ditches that enclose an area of 0.26 hectares (0.63 acres) with an internal diameter of 56m north to south by 53m east to west (Figs. 3, 4). While it might be suspected that the two circuits could represent different phases of construction, there is nothing in the form of the earthworks to suggest this. Although relatively modest in size now, primarily as a result of colluvial erosion (soil creep) and post-medieval plough damage, the visual impact of the ditches and banks would have been considerably greater at the time of their construction, maintenance and use, though the exact original scale cannot be ascertained without excavation. Despite the degradation, enough remains of the outer ditch to measure the external diameter which is 90m north to south, and 83m east to west. The hillfort then is consistently irregular, being slightly elongated along its north to south axis, but a glance at the plan will show that it is sufficiently close to a geometrically perfect circle to be called sub-circular and to have been viewed as a circle by those who perceived the monument in its original form.

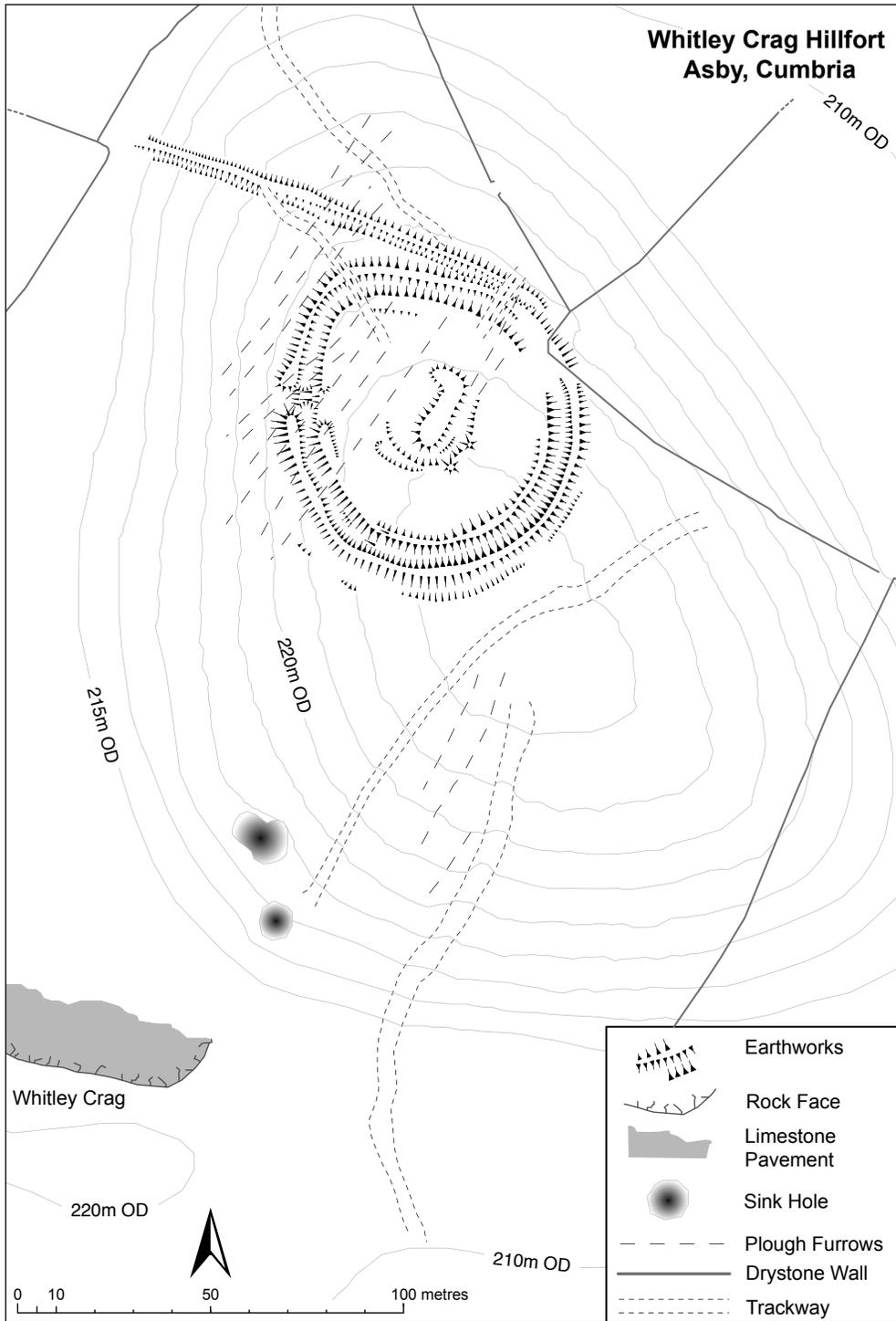


FIG. 3. The hillfort and its local topographic setting.

The relationship of these earthworks to the topography is an interesting one, for while it might be assumed that the circuit would follow the contours of the hilltop, this is not the case. Instead, the concentric earthworks occupy the brow to the north-west of the highest point, enhancing the visibility of the hillfort from the terrace to the north and west. There must have been a strong motivation for favouring this location, whether functional or political and/or symbolic.

The innermost of the features is the internal bank which has been flattened for the most part on the northern half of the hillfort. The bank retains its height relatively well to the south-east at the summit of the hill, where it survives to 0.25m high, and is also well-defined at the entrance where the rounded terminals give way to the causeway. It seems reasonable to propose that the inner bank was constructed using up-cast from the internal ditch, and possibly also from levelling that may have taken place within the hillfort, though this may not necessarily have been undertaken during a single phase of activity. Whether this earthwork supported a timber or palisade or wall is not discernible without excavation, but circumstantial evidence to support this possibility can be gathered from the shape of the earthworks in plan. The straightened sections of banks and ditches that flank the entrance may have been purposefully designed with the intention of making the putative palisade or wall appear more formidable, effectively creating a façade that faces the arable terrace and upland to the west. This possibility has implications for the ways in which the inhabitants wished to present their settlement, and the direction in which they perceived that it was most important to impose their influence or defend their claim upon the local land and people.

The ditch associated with the internal bank is also best-preserved in the south-eastern section, surviving to a maximum depth of 0.3m. Emphasised by banks on both the inside and outside, the ditch is the most readily identifiable feature of all the earthworks. There are two specific aspects of the feature that warrant particular attention. Firstly, at the base of the ditch in the south-eastern section a step was identified which might represent a change in the level of the solid geology (bedrock). If so, it may be inferred that the ditch is shallow and has not been subjected to a great deal of infilling. It is also possible that the base of the ditch was excavated into the limestone bedrock, representing a significant degree of investment of resources and raising the possibility that the rampart may have been faced by stone quarried from the ditches. Blocks of limestone could also have been quarried and transported relatively easily from Whitley Crag itself, though the quarrying now evident there is undoubtedly of post-medieval origin.

The second noteworthy aspect of the internal data concerns the ditch terminal at the southern side of the entrance which extends about half way across the entrance gap in the rampart, allowing only for restricted access to the interior of the hillfort (Fig. 4). If this is not simply the result of a collapse of the stone façade or core material of the rampart, but was an intentional part of the construction, there are implications for how we interpret the control of access and use of internal space during the phase when this ditch was constructed. Was this narrow causeway a modification of an original wider entrance, or was it conceived as part of the initial phase of construction and designed to control the size of vehicles, or number of people or animals entering simultaneously by way of a narrow gate? It is arguably much easier to control access through a narrow passage, but if this was a primary consideration for the inhabitants,

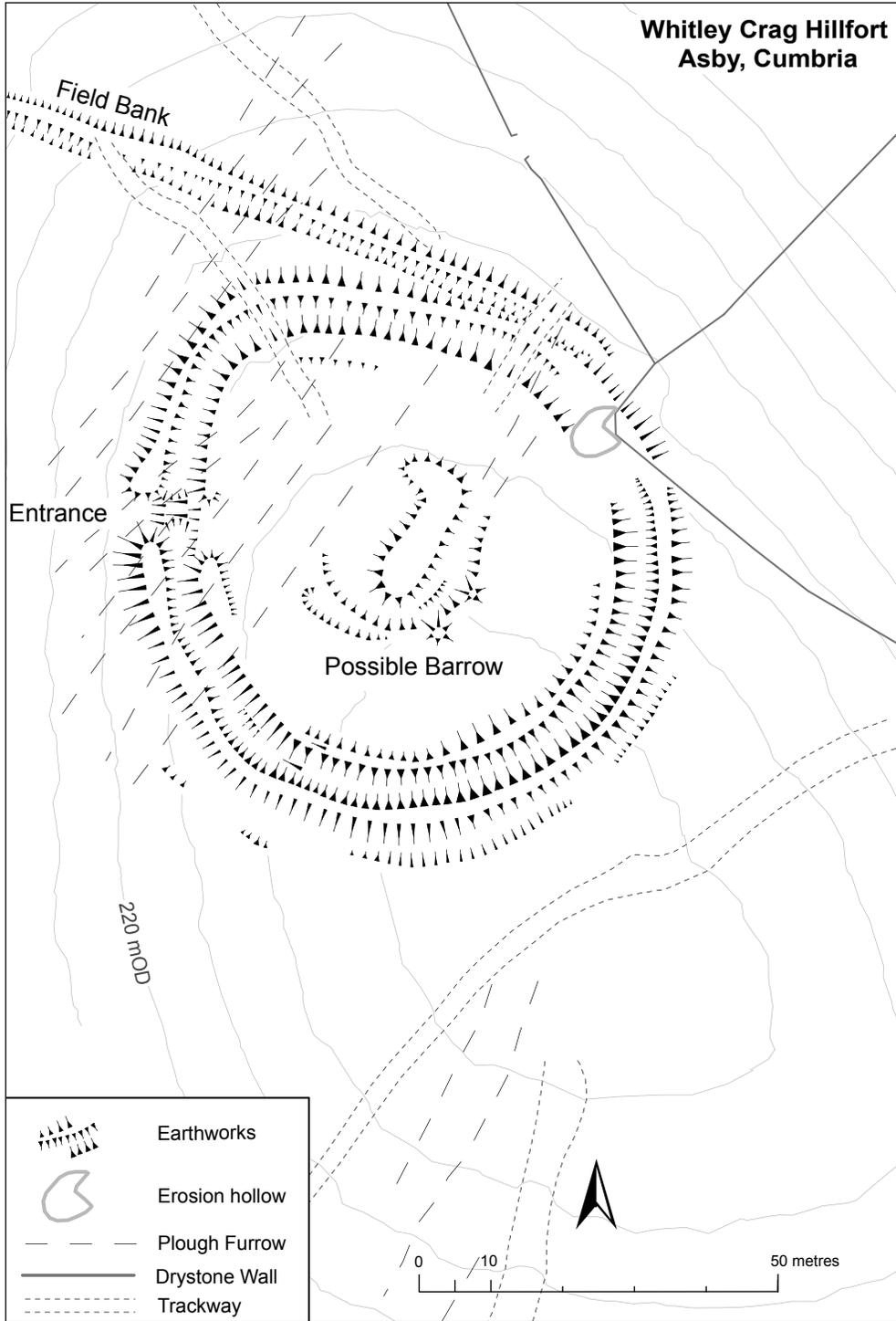


FIG. 4. Detailed plan of the hillfort and associated features.

why were the terminals of the inner and outer banks not correspondingly close to each other to further limit free access? This irregularity in the layout may also pertain to different phases of construction, but excavation would be required to pursue this avenue of enquiry further.

Encircling the inner ditch is an outer bank, presumably constructed from the up-cast created during excavation of the inner and/or outer ditches. Were it not for the apparent existence of the outer ditch, the outer bank might be in effect dismissed as a 'counterscarp bank', implying it to be merely a by-product of cleaning or maintenance of the inner ditch. However, the existence of the outer ditch implies the outer bank was purposefully created, from which it might be inferred that it played an important structural role. The earthwork has a steeper inward than outward facing slope and best survives plough damage at the south-east section. The bank has slightly flared terminals at the entrance though this effect might have been partially caused by post-medieval plough damage. Like the inner bank, it may have formed the foundation for a timber palisade or reinforcement for a wall at some stage of the hillfort's life, though the likelihood is similarly only testable through excavation.

The outer ditch is barely discernible for most of its circumference, but retains a shallow depth in the southern section towards the summit of the hill. Its original depth cannot be ascertained without excavation. Furthermore, the pertinent issue of whether the banks, ditches and possible timber palisades or stone façade ever formed a 'defensible' rampart cannot be satisfactorily addressed here. Inquiry into what they might have represented or what functions the ramparts performed might constitute part of any future investigation and interpretation of this or any other 'hillfort'.

Features in the interior of the hillfort

Careful inspection of the interior, paying particular attention to ephemeral traces within the areas affected by the post-medieval ploughing, did not bring to light any features, such as house platforms, which could straightforwardly be associated with occupation or other use of the hillfort. Within the enclosure the land slopes so gently that little in the way of ground-works and levelling would have been necessary for the successful introduction of buildings. Geophysical survey, and ultimately excavation are more likely to reveal settlement remains or other features associated with activities in the interior.

A plough-damaged mound of roughly elliptical plan, which occupies the exact centre of the hillfort, deserves further consideration. It is thought unlikely that the mound represents a geological feature due to its protruding shape which appears inconsistent with the roughly horizontal underlying layers of limestone bedrock. With no obvious characteristics analogous to other Iron Age monuments in Britain, contemporaneity with the banks and ditches seems equally unlikely. The possibility that the mound represents a clearance cairn located at the edge of the post-medieval ridge-and-furrow can also apparently be dismissed because it must predate the ploughing, having been slightly truncated on the north-west side. In addition, large quantities of cleared stones have been dumped into the sink holes situated near the crag immediately to the south on the lower slope of the hill – a far more expedient and efficient solution for their removal from the productive land.

The tentative interpretation of the elliptical feature is that it represents the heavily disturbed remains of a cairn or barrow with a shallow ditch that is now mostly infilled. If this interpretation is correct, the specific location of the monument also warrants further investigation. In an attempt to refine a proposition made by L. V. Grinsell (1953) that Bronze Age barrows were constructed on 'false crests' in order to be visible from the valleys, Chris Dunn (1988) tested this theory for mid-Wales and found that from the valley bottoms barrows dominate the skyline and appear to be on the summits. In fact they are located off the summits on the lip of the sloping sides of the hilltops concerned. Barrows placed on the true summits are often invisible from the lower ground because of the width of the 'dead ground' between the summits and hilltop edges. Dunn's study refined and to some degree amplified Grinsell's 'false-crest' theory, corroborating the proposal that false-crest sited barrows were deliberately sited so that they could be seen from the valley floors, but Dunn argued that there was a reciprocal element so that burial mounds were also sited to 'look' down into the valleys. In a more recent study that considered evidence from northern England, John Barnatt (1999) argues that Middle Bronze Age barrows in the Peak District were apparently always associated with settlements and designed and constructed by small communities or families. The monuments were located both to look out over the agricultural territory of the social unit in question, and also to be visible from that territory, serving both the perceived requirements of the ancestors and the living. Evans (2008) has drawn similar conclusions with reference to the Cumbrian context, noting that upland monuments are not always located at the highest point in the landscape, but almost always with a significant view-shed over the surrounding area, as well as being situated along routes of seasonal movement between different areas of agricultural exploitation.

Discussion

Throughout this article the term 'hillfort' has been applied to the concentric earthworks, though it is prudent here to challenge the tentative conclusions made about the site. Specifically, it is possible that either the earthworks represent an earlier monument that has been reworked, and consequently what we now see is an evolutionary collection of phases of construction, or that the monument has survived intact from an earlier time. If the 'hillfort' can be attributed to an early prehistoric period, the potential use and context of the enclosure would require further consideration given the proximity and density of Neolithic and Bronze Age monuments in the vicinity. Yet in the absence of any incontrovertible evidence for dating, this apparently individual construction retains some mystique, but on typological grounds alone, it probably represents a late prehistoric farm settlement.

Consequently we return to the original notion that the concentric earthworks represent a 'hillfort', a term that conjures images of the complex and extensive defences of so many southern examples and carries with it a host of other assumptions about Iron Age and Roman Iron Age activity that are not necessarily all relevant to our analysis of this particular site. The assumption that the location and 'defensive' features of hillforts implies a military role may be erroneous. Although there are clear defensive features in some hillforts, such as the stone guard chambers at the east entrance to Eddisbury (Cheshire), it remains unclear whether all hillforts played a military role,

or indeed were primarily or incidentally defensive (Hodgson and Brennand, 2006). Cowell (2006) argues that despite the significant enclosure ditches at small sites such as Portfield, Brook House Farm and Great Woolden, the defensive function was probably less important than other factors.

A more useful basis for comparison are the much smaller hillforts in the Northumberland Cheviots and Borders, where the defences were evidently much less significant, with populations, economic/political influence and territories to match. This new survey certainly attracts comparison with these enclosed 'defended farmsteads' or 'hillforts', a sample of which was investigated recently (Oswald, *et al.*, 2005; 2008). The 'Discovering our Hillforts Heritage' project followed on from the tireless surveying and excavation pursuits of George Jobey, who advanced the study of Iron Age and Roman Iron Age archaeological sites in Northumberland (Jobey, 1960; 1962; 1964; 1965; 1966). Jobey's achievements built upon the systematic mapping of prehistoric and Roman enclosures and other earthwork remains carried out by the Ordnance Survey over the course of 150 years. For lowland Northumberland, three decades of aerial reconnaissance by Tim Gates and others have balanced and expanded our knowledge of the distribution of earthwork sites. It is due to these extensive programmes of research that the Iron Age and Roman Iron Age archaeology of Northumberland is at an advanced stage, while our understanding of activity to the west of the Pennines remains insubstantial.

The hillforts of the Cheviots, therefore, provide a useful and accessible comparative study. When compared with the earthworks at Whitley Crag, compelling evidence can be found to support the proposal that the builders of the Cheviot and Borders hillforts shared key ideas that were expressed through recurring elements of hillfort form, setting, and their potential interaction with the landscape. For example, although accessible by two or three entrances at various phases of development, the modest hillfort located at the summit of Wether Hill encircled a possible Bronze Age barrow and extended over a comparable area to Whitley Crag hillfort with a similarly configured double bank and ditch (Oswald, *et al.*, 2005; Oswald, *et al.*, 2008). Taking this, and the evidence from central Wales and the Peak District into consideration, the locations of both the barrow and hillfort could be argued to have served some similar purposes so that the symbiotic nature of the relationships between tribal or family ancestors, land claims and the living community were fossilised in the monumental constructions of the hillfort and barrow. Because of these emotive social and economic purposes, hillfort construction may have maintained a dynamic role in managing the agriculture of the local area while representing a nominally defensive stage-set for the tenurial disputes, claims and counter-claims made by the local inhabitants and perhaps immigrants. This may explain the choice of the builders of the hillfort to maintain the barrow and replicate its location and outlook.

In light of the possibilities outlined above we may be moved to enquire whether any of the social implications of the economic systems have been translated in to recognisable archaeological features. Unfortunately a comprehensive investigation is beyond the scope of this study, but preliminary observations regarding the evidence gathered at Whitley Crag suggest that the location of the hillfort in the landscape might signify a wish by its occupants to develop or perhaps to maintain a degree of political, economic and/or military dominance upon either a defined area, or a

dynamic 'territory'. Circumstantial evidence relating to this specific issue may be inferred from the orientation of the entrance of the hillfort and from its view-shed. It is probable that the view-shed achieved by the hillfort held particular significance for the orientation and nature of its intended dominance over those who occupied and worked the local landscape, and/or over the adjacent 'territory' to the west. The possible stone façade and entrance might have been designed and orientated to serve the dual purposes of emphasising the subjugation of local inhabitants and workers as they farmed the arable terrace, while opposing the perceived threat embodied in any neighbouring hillforts or settlements.

At Whitley Crag and in the Northumberland Cheviots and Borders it is thought that the earthworks represent a symbolic defensive element rather than real fortification as these earthworks would have proved highly impractical against concerted attack for myriad reasons. Even the sites of Skelmore Heads and Carrock Fell, despite being larger and more overtly 'defensive', are themselves not practically defensible (Edmonds, 1993; 1999; Evans, 2008). While few settlements of this form have been identified as extant earthworks in southern Britain, it is certain that those in lowland and valley-floor locations have been disguised by subjection of the land to centuries of intensive arable farming, effectively levelling and ploughing-out the remains. Consequently the examples that survive as earthworks are disproportionately well known and understood. Many such monuments are known from aerial photography and others from excavation, such as from the Danebury Environs Programme (Cunliffe, 2000a-g). Given the relative paucity of known examples from Cumbria, we must turn to a systematic evaluation of the evidence for similar enclosures that might partially survive as up-standing earthworks awaiting discovery on the uplands, or as ploughed-out cropmarks in the valley before any 'social' implications can be proposed for the construction and use of the hillfort. Alongside this wider search in the landscape for contextual data, a programme of targeted excavation at the hillfort would help to answer many of the questions posed by the survey. Given the success achieved for the understanding of Iron Age and Roman Iron Age in Northumberland, the methodology can now be applied to Whitley Crag as an individual site, and subsequently to the wider landscape of Cumbria.

Methodology

The field investigation was undertaken by David Fell and Alastair Oswald using a satellite-based Trimble dual frequency Global Positioning System (GPS). The base receiver was set up over a permanent marker (a brass rivet) specially installed for the purpose at the corner of the wall where it truncates northern section the hillfort earthworks. Two remote 'rover' receivers (Trimble 5800 model) were used to record the remains, working independently in real-time kinematic mode. The results were downloaded in to Autodesk AutoCAD for error correction and scaling, then transferred in to Adobe Illustrator CS4 for presentation purposes.

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Note

¹ 1:10,000 sheet: NY61E . Grid Reference: 369700 513560. SMR No: 5828.

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