

## II

## Excavation of a rock art site at Hunterheugh Crag, Northumberland

*Clive Waddington  
with Benjamin Johnson and Aron Mazel*

## SUMMARY

*This paper reports the findings from an excavation on a cup and ring marked outcrop rock in Northumberland. There have been notably few dedicated excavations of rock art sites in the British Isles and this work provides key information relating to chronology, the changing use of the art and sites over time, and the potential of excavation to improve understanding of this tradition. The excavation report is followed by a discussion that places the findings in a wider context, including a preliminary interpretation of the site in relation to current thinking in British rock art studies.*

## INTRODUCTION

The understanding of rock art in the British Isles has gained considerable ground in the last decade or so as mainstream archaeology has embraced the study of this curious tradition. This has resulted in rock art research gaining a more central role in archaeological discourse (e.g. Beckensall 1983, 1999; Burgess 1990; Bradley 1997; Waddington 1998; RAPP 2000, Purcell 2002). Although this new impetus has stimulated debate and nudged us towards an improved understanding of these enigmatic motifs, there has been notably little work aimed at investigating rock carvings in the field. Apart from the excavations near to cup and ring marked rocks at the Backstone Beck enclosure on Ilkley Moor, West Yorkshire (Edwards and Bradley 1999), and the

excavation of a cairn that was found to overlie a cup and ring marked outcrop at Fowberry, Northumberland (Beckensall 2001, 126–9), there has been no systematic attempt to excavate around cup and ring marked rocks in mainland Britain. In Ireland promising work has been undertaken focusing on an inscribed outcrop encompassed by a low, banked enclosure at Drumirril, Co Monaghan (O'Connor 2003). At this site Blaze O'Connor has employed geophysics and targeted excavations to investigate archaeological deposits around carved rock panels, resulting in the recovery of Early Neolithic ceramics and Later Neolithic to Early Bronze Age material, together with evidence for structural features and samples for radiocarbon analysis. This key work has demonstrated that excavation around rock outcrop sites has great potential, and the challenge now is for archaeologists to undertake systematic field investigations at sites that show potential for providing evidence for chronology and the activities that took place there. The Hunterheugh 1 excavation project reported here was designed to investigate a remote site in Northumberland where a small stone cairn overlay a carved rock outcrop (Beckensall 2001, 82). It was thought that if the cairn could be dated then at least a *terminus ante quem* could be obtained for the rock art. The investigations, however, exposed a more complex and informative sequence than anticipated. In what follows, the term 'carving' is used to refer to rock art motifs generally; it is not meant to imply that all the motifs were necessarily made by employing a carving technique.

## ROCK ART AT HUNTERHEUGH CRAG, NORTHUMBERLAND

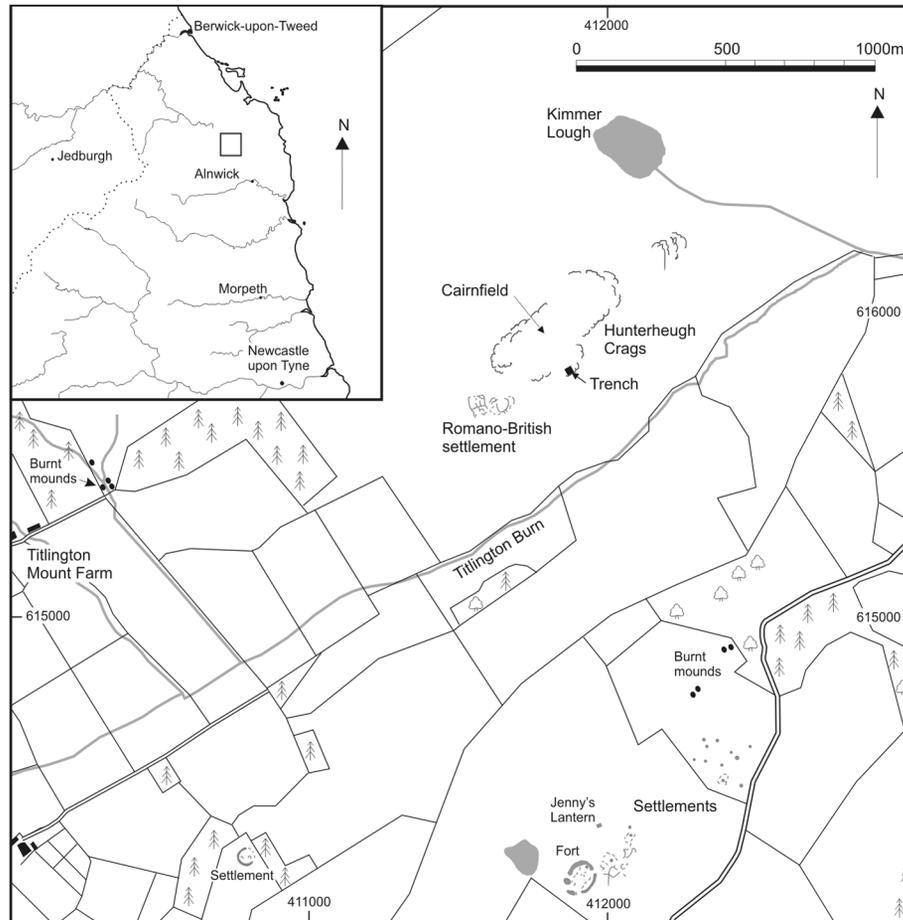


Fig. 1 Location Map (1:25000).

### BACKGROUND

Hunterheugh Crag is situated on the Fell Sandstone escarpment at the south end of Beanley Moor at NU 1175 1678 in east Northumberland (fig. 1). The site lies 14 km from the Northumberland coast above the Titlington Burn, a tributary stream of the Eglington Burn, which is itself a tributary of the river Aln. It lies at 125 m above OD amongst bracken and heather dominated moorland given over to rough pasture. To the south the site overlooks the valley of the Titlington Burn and beyond towards the hilltop known as

Jenny's Lantern and further still to Alnwick Moor. To the south-west there are views towards Glanton and the Cheviot Hills, while to the south-east the North Sea can be seen between a dip in the hills north of Alnwick. The most expansive view is to the north-east where there are wide vistas over the valley of the Eglington Burn. Due north and west views are restricted by the rising ground of Beanley Moor. Some 650 m north of the site is a natural upland lough, or lake, known as Kimmer Lough. If it is anything like the other small wetlands on the sandstone escarpment, such as Ford Moss for example, the lough is

likely to contain a sediment sequence reaching back to the beginning of the Holocene. This would mean that there is significant potential for obtaining a localised vegetation sequence that could be used to characterise the surrounding environment during the different phases of activity at the cup and ring marked rock.

The landscape around Hunterheugh Crag contains a remarkable archaeological palimpsest with upstanding remains dating from the Bronze Age, Iron Age, Roman-British and medieval periods as well as the Neolithic (see Discussion section below). Evidence for cup and ring marked rocks include Hunterheugh rocks 1–4 and another at Midstead below Jenny's Lantern (Beckensall 2001, 82–4). The sites at Hunterheugh 1 and 2, which lie only 75 m apart, both have denuded cairns overlying them and support a thick heather cover which obscures the rest of the rock. Four panels of rock art (a-d) have been previously recorded at Hunterheugh 1 (Beckensall 2001, 82–3), and it is this site that forms the focus for this investigation. The only definite Neolithic archaeology so far recovered from this area prior to this work is a pristine end-scraper made from light grey flint of glacial or beach origin that was discovered by the farmer next to a stream to the west of the crags where a gas pipeline had disturbed the ground. The flint was inspected by the author (CW) and was identified as a classic Early Neolithic artefact made on a narrow blade with retouch along both long edges, as well as at the thicker distal end.

Early Bronze Age activity is widely represented across this landscape and includes a series of cairns and burnt mound sites (Tate 1865; Topping 1998). At the east end of Hunterheugh Crag there are remains of two robbed out cairns; one surviving up to 12 m in diameter and containing a cist that has had its capstone removed. It is interesting to note that a cup and ring marked cist cover was discovered on Beanley Moor in 1864, and can still be seen in Alnwick Castle Museum. Precise details of the original location remain vague although it was apparently uncovered about 100 yards to the west of the Ringses

hillfort (Tate 1865, 25). Other cairns are known across the moor including those on and around the rock art panels, as well as two cairnfields of 30 plus and 20 plus cairns, located to the north-west and south-east of Kimmer Crag respectively. There are areas of cleared ground close to many of these cairns indicating that field clearance has taken place, presumably during later prehistory; this implies that a good number of these cairns have resulted from field clearance. However, since kerbs can be noted on a few of the cairns, while some are of a considerably larger diameter than others and some have been shown to contain cists, some of these cairns were clearly for burial. We must, though, be cautious about attributing all such burial cairns to the Early Bronze Age as Jobey's excavations at the Chatton Sandyford cairnfield have shown that some of the non-kerbed low cairns can in fact date to the Neolithic (Jobey 1968). A group of four burnt mounds are located beside a stream, 1.6 km west of Hunterheugh Crag. Two of these four mounds have been investigated by the Northumberland Archaeological Group in recent years revealing that the sites contained stoneline troughs, together with associated structural features, and were in use from around 2000 BC to 1500 BC (Cal.) (Topping 1998).

Iron Age activity is represented by the enclosed settlements and hillfort sites that stud the perimeter of Beanley Moor. These include the fort known as the Ringses at the north end of the moor, the fort in Beanley Plantation, and the sites at Jenny's Lantern, South Titlington and Titlington Mount (Jobey 1965). To the immediate south west of Hunterheugh Crag are the well preserved remains of a Roman-British farmstead which include the farmstead enclosure together with hut circles, stone-walled paddocks and extensive field boundaries, some of which have entrances clearly visible (Jobey 1964; Ainsworth and Gates 1981). Areas of cleared ground on the south-facing slopes around this settlement are still visible although, typically for disturbed ground in the uplands, much of this area has since been colonised by bracken. Medieval and post medieval activity is represented by a swathe of



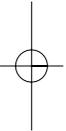
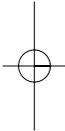
ROCK ART AT HUNTERHEUGH CRAG, NORTHUMBERLAND



*Fig. 2 View of the site looking east before excavation.*



*Fig. 3 View of the site looking south-west showing the rock dome as a discrete area with a pronounced profile.*



ridge and furrow that survives in a field 600 m to the south west of Hunterheugh Craggs, and by the remains of a millstone quarry and an iron smelting site (bloomery) to the west and east of the crags respectively.

### EXCAVATION

The Hunterheugh 1 rock panels were selected for excavation because a stratigraphic relationship appeared to exist between an overlying cairn and the carvings. Furthermore, the site did not appear to have suffered from disturbance in recent times so it was considered to have good potential for investigation. The site is positioned on a Fell Sandstone scarp edge, averaging 2.5 m in height, that runs along the north side of the valley of the Titlington Burn. The rock gently rises to a localised high point and it is on this low dome that the rock carvings are located. Directly overlying the carved rock was a well-established area of heather that had a thin root-mat and was attached directly on to the bedrock with no intervening soil horizon. The drift geology around the outcropping Fell Sandstone is glacial till which is easily recognised as a stiff ferruginous clay sand, orange-brown in colour, with occasional angular stone inclusions. Overlying the till is a 'brown sand' soil horizon, averaging 0.25 m deep, that formed under forest conditions and which at one time must have been a productive, light and easily tilled soil. However, it is now highly acidic and supports a predominantly bracken cover. The cause of this soil degradation is no doubt associated with removal of the tree cover and subsequent over-cultivation which has led to the leaching and acidification of the soil. Charting the pattern of clearance and cultivation on the sandstone escarpment of Northumberland remains a key research question because this will influence how rock art sites are interpreted in relation to contemporary land-use, their landscape setting and their position in relation to each other. A preliminary pollen study at Camp Hill Moss suggested that the first episodes of clearance did not take

place on the sandstone escarpment until *c.*1800 BC (Cal.) (Davies and Turner 1979, 799–800), although the way pollen data was calculated and presented at the time may have suppressed evidence for earlier clearance activity.

An area measuring 14.25 m by 14 m was marked out around the Hunterheugh 1 rock carvings and the cover of heather and bracken removed (fig.1). The trench was positioned so that the dome of rock was fully exposed together with some of the flat ground that extends back from the rock edge. It was hoped that, by extending the trench out on to the natural flat shelf behind the scarp edge, evidence for cut features might be discovered in the surrounding till sediments. Given time constraints the trench was only extended 2 m in this direction and the exposed area produced no evidence for any archaeological features or areas of burning. However, it is still considered worthwhile enlarging the trench in the future to see if any features are located a short distance from the rock, possibly as a follow up to a close-spaced geophysical survey across this area.

Before excavation the rock was, for the most part, covered by thick vegetation, appearing as a few small flat sheets of rock amongst thick tufts of heather (fig. 2). The scene was in no way monumental: some of the rock carvings were difficult to find, and the site did not particularly catch the attention of a passing walker. Once the heather cover and turf/root mat were removed and the rock surface cleaned the site took on an altogether different appearance. Away from the escarpment edge the rock dome shelved off fairly steeply giving it an almost monumental appearance due to its more pronounced profile (fig. 3). Moreover this raised dome appeared to form a discrete rock entity slightly apart from, and more upstanding than, the rest of the rock outcrop. The limit of the original exposed bedrock could be determined by the extent of the carvings over the rock surface and by observing where undisturbed glacial till was encountered encroaching on to the bedrock. It quickly became clear that the modern impression of this site hardly reflected the way this rock must have appeared

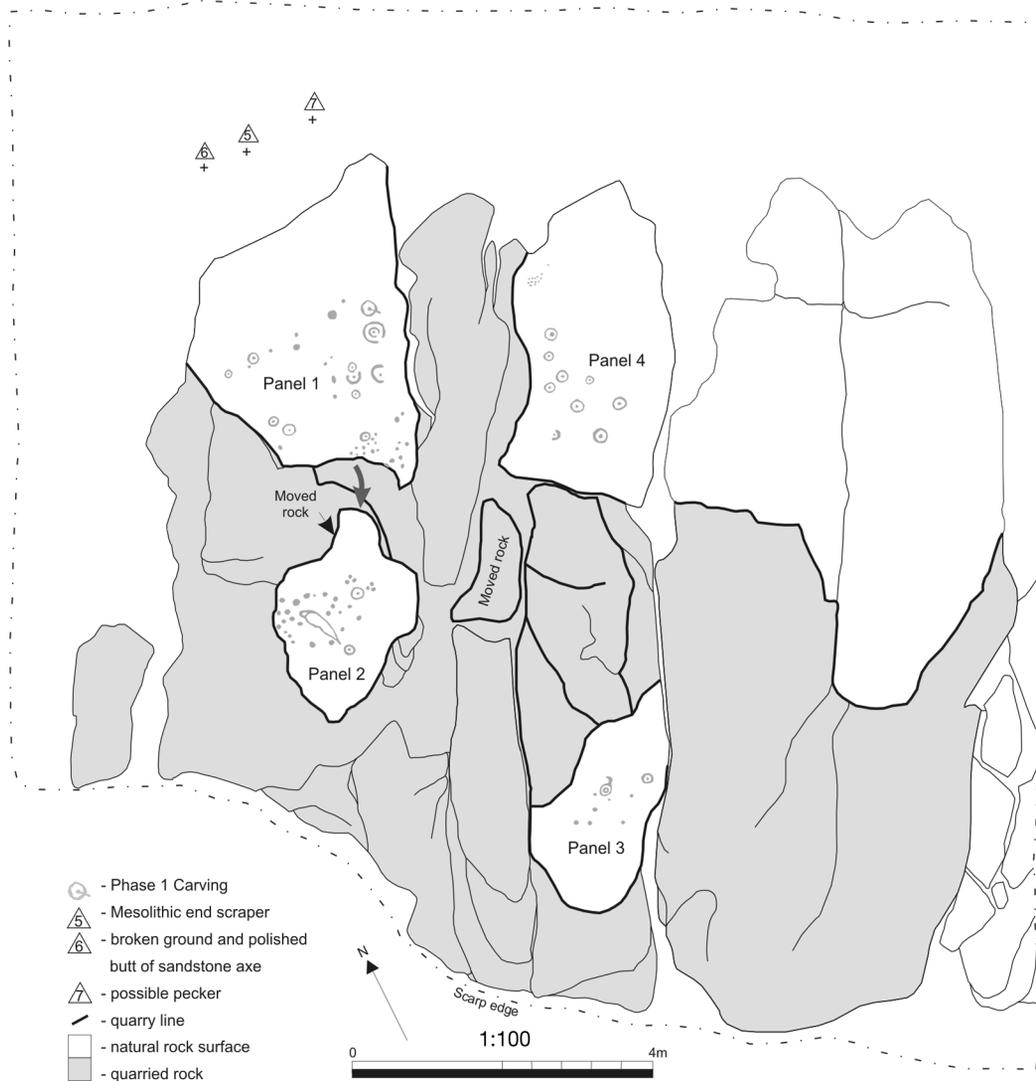


Fig. 4 Phase 1 plan.

at the time when it was carved. This point cannot be overstated as the character and extent of the carved rock after re-exposure was completely different from its modern day appearance, and this has serious implications for how other carved outcrops are interpreted in future. Once exposed, the rock proved reminiscent of the Roughting Linn hogback, a scene that differs greatly from what, before

excavation, appeared to be a few flat rock slabs disguised amongst heather.

As the heather was removed from around the rock surface two dozen new motifs were discovered including cups, cup and rings and grooves. However, it soon became evident that the rock surface had also been heavily quarried and that all the fresh (and apparently more deeply pecked) motifs were located on quarried

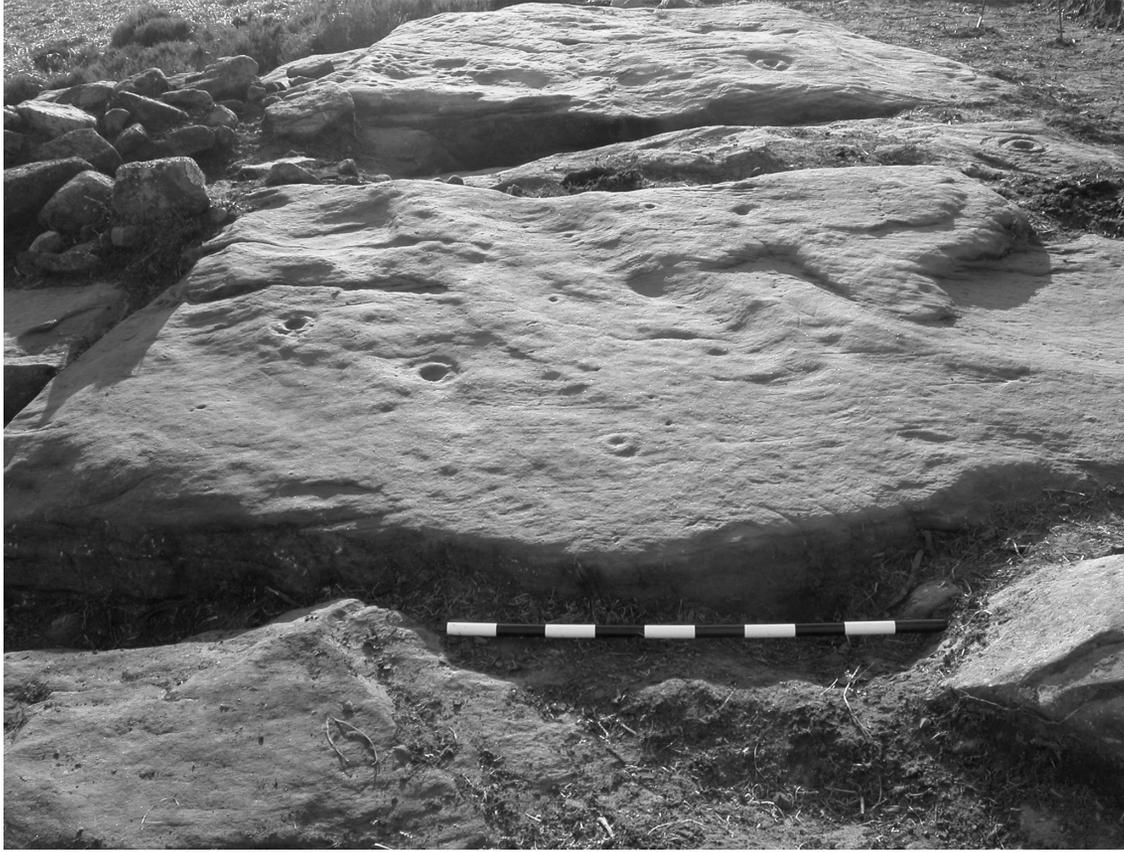


*Fig. 5 The weathered carvings on panel 1 in the foreground utilising natural undulations in the rock surface and panel 2 beyond with matching quarry edges where it has been broken off through a group of cup marks (scale: 1 m).*

surfaces, which in one case at least had cut through clusters of pre-existing and very heavily weathered motifs. A cairn overlay some of the quarried areas and a later prehistoric field boundary had then been aligned on to the cairn, so a lengthy stratigraphic sequence could be observed. On the basis of the observed stratigraphy the site can be divided into three discrete stratigraphic phases although the phase 2 activity includes a series of sequential events separated by what is likely to be only a short period of time.

### **Phase 1**

The first phase of activity visible on the rock is represented by the cup and ring carvings made directly on to the natural rock surface (figs. 4 and 5). This original carving episode may have included one or a number of carving events, but either way they are likely to have been executed within a relatively short period as they all show a similar degree of weathering. These motifs are easily identified as they exist only on unquarried natural rock surfaces and all, without exception, are heavily weathered with



*Fig. 6 View of panel 4 showing the newly discovered phase 1 carvings (scale: 1 m).*

some only barely visible even under low sunlight conditions. The phase 1 motifs might well have covered the entire rock dome but the later quarrying (phase 2) has evidently destroyed many other motifs. This quarrying has separated the groups of phase 1 markings to form artificially separated panels. Indeed one of the panels is on a huge piece of quarried stone that has been moved about 0.2 m to form part of the cairn. To aid description these panels have been numbered 1–4 (fig. 4).

Panel 1 includes many of the carvings first recorded by Beckensall as Hunterheugh 1a (2001, 83). Three further motifs were found lower down this rock on its east side consisting of a cup with one ring and a radial groove and next to it a cup surrounded by two rings, and

beyond this another very weathered cup with one ring. Additional cup marks were also noted at the top of the rock (at its south end) below the cairn material. All these motifs were heavily weathered and had utilised existing undulations in the rock surface to form the motifs (fig. 5). When rainwater fell onto this panel the positioning of the motifs was such that water trickled from one carving to the next by way of the natural fall of the rock or by enhanced grooves. This interlinking of carvings, either by formal grooves or by running water, is a recurrent theme at Northumbrian rock art sites. The carvings on the main rock at Weetwood Moor, for example, are all linked by carved grooves, while at Roughting Linn and the Old Bewick main rock, surface water flows

out of one carving into another by way of the careful positioning of motifs on the undulating natural surface, as well as by interconnecting carved grooves.

Panel 2 (fig. 4), which equates with Beckensall's Hunterheugh 1c (2001, 83), is a particularly interesting slab of rock as it was originally connected to panel 1 (the opposing edges of the two rocks could be observed to make a perfect fit – see fig. 5). The panel 2 rock slab, weighing several tons, has been separated from the main rock dome by quarrying through the upper cluster of cup marks on panel 1 and then shunting the rock slightly to form part of the central cairn structure. The heavily weathered motifs that survive on its upper surface belong to the Phase 1 carving episode. In fact they formed part of the same group of motifs on the highest part of panel 1 but these were broken through when the rock was quarried. Apart from a single cup that was overlain by the cairn material next to the quarried edge no other new carvings were discovered on this panel.

Panel 3, which forms the southern part of Beckensall's Hunterheugh 1d (2001, 83), is located close to the scarp edge and consists of a small group of heavily weathered motifs that include cup marks, two of which have very degraded single rings (fig. 4). As with panels 1 and 2 the markings are located so as to include the natural undulations of the rock surface into their overall design. These carvings were also made on to the natural rock surface and not on to a previously quarried area.

Panel 4 was an entirely new group of carvings uncovered by this excavation (fig. 4). It included a cluster of nine or ten cup marks all with a single ring around them (fig. 6). None of them had formally carved radial grooves, but nearly all of them were interlinked by natural undulations in the rock surface so that surface water trickled from the highest carvings to the lowest in a manner similar to those on panel 1. All the motifs were very heavily weathered, despite being covered by vegetation, to the point that they were not even recognised after the initial removal of the turf and heather. It was only after a subsequent inspection on the

following day under low sunlight conditions that the markings were recognised. It is likely that these carvings have been covered for the same amount of time as the phase 2 carvings, since the depth of topsoil and turf covering them was the same. This means that the differential weathering between phase 1 and phase 2 carvings cannot be explained by the phase 1 motifs being exposed and the phase 2 motifs being covered. Rather, this difference must relate to a substantial chronological separation between the time when each phase of carving took place, as well as the depth to which they were originally carved.

Although easily distinguishable from the other carvings because of their position on the non-quarried original outcrop surface and their heavily weathered appearance, the phase 1 carvings also appear to have a distinctive 'style'. This can be characterised as comprising simple designs of cups, cups with single rings, occasional cups with two rings and occasional cups with ring and radial groove. Equally distinctive though is the way these markings were positioned on the rock to incorporate the natural shapes and undulations of the rock surface so as to form interlinked designs that literally flowed into each other when surface water was present. This early style can be typified by its utilisation of the already extant features of the natural rock surface.

Some small finds were recovered from close to the north edge of the outcrop although these cannot be related with certainty to any of the identified phases. These include what appear to be the butt end of a ground and polished Fell Sandstone axehead and a 'pecking' tool also made from Fell Sandstone (see Small Finds section below and fig.17). Sandstone axeheads have been found elsewhere in Northumberland and include examples from Kimmerston (Waddington 1999, 123) and Berwick (Waddington 2004, 6). If the piece found at Hunterheugh is an axehead fragment then it provides evidence for Neolithic activity at the site. The enigmatic pecking tool has clear signs of use at its proximal end and it is tempting to speculate that it may have been used to help produce the carvings. A similar pecking tool

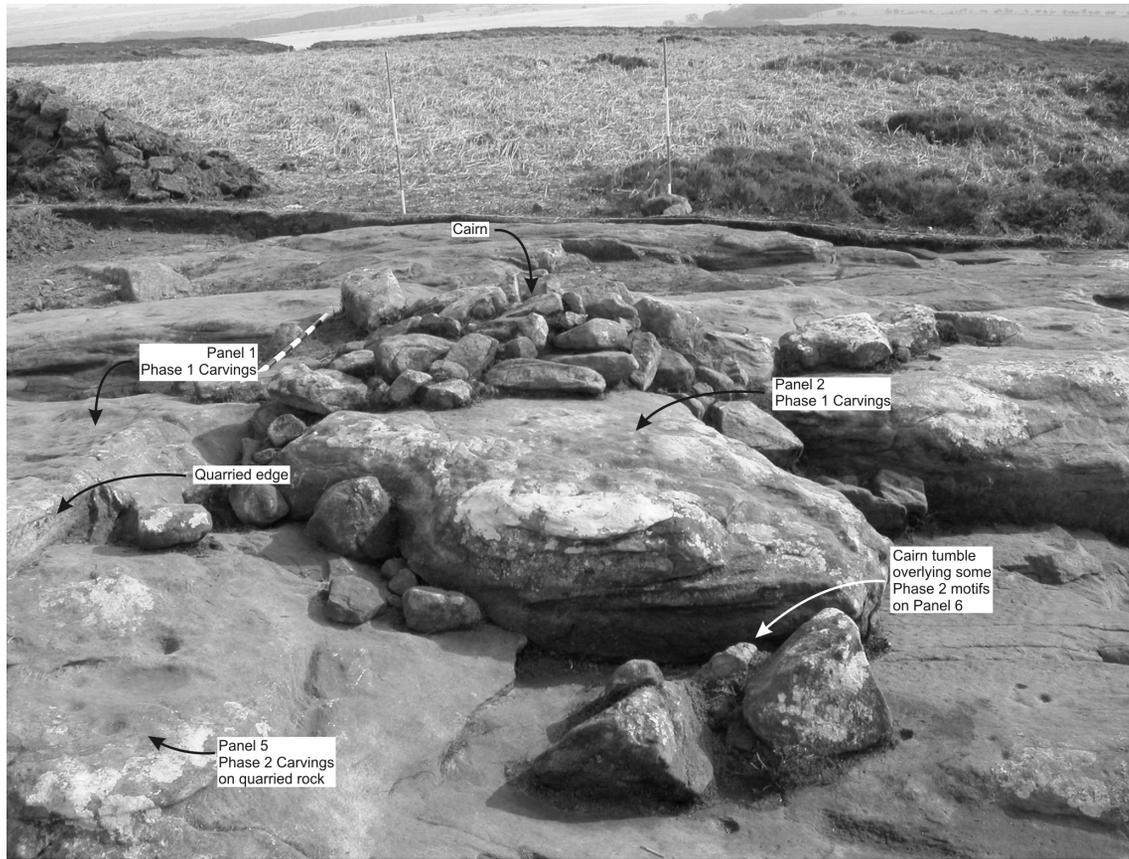
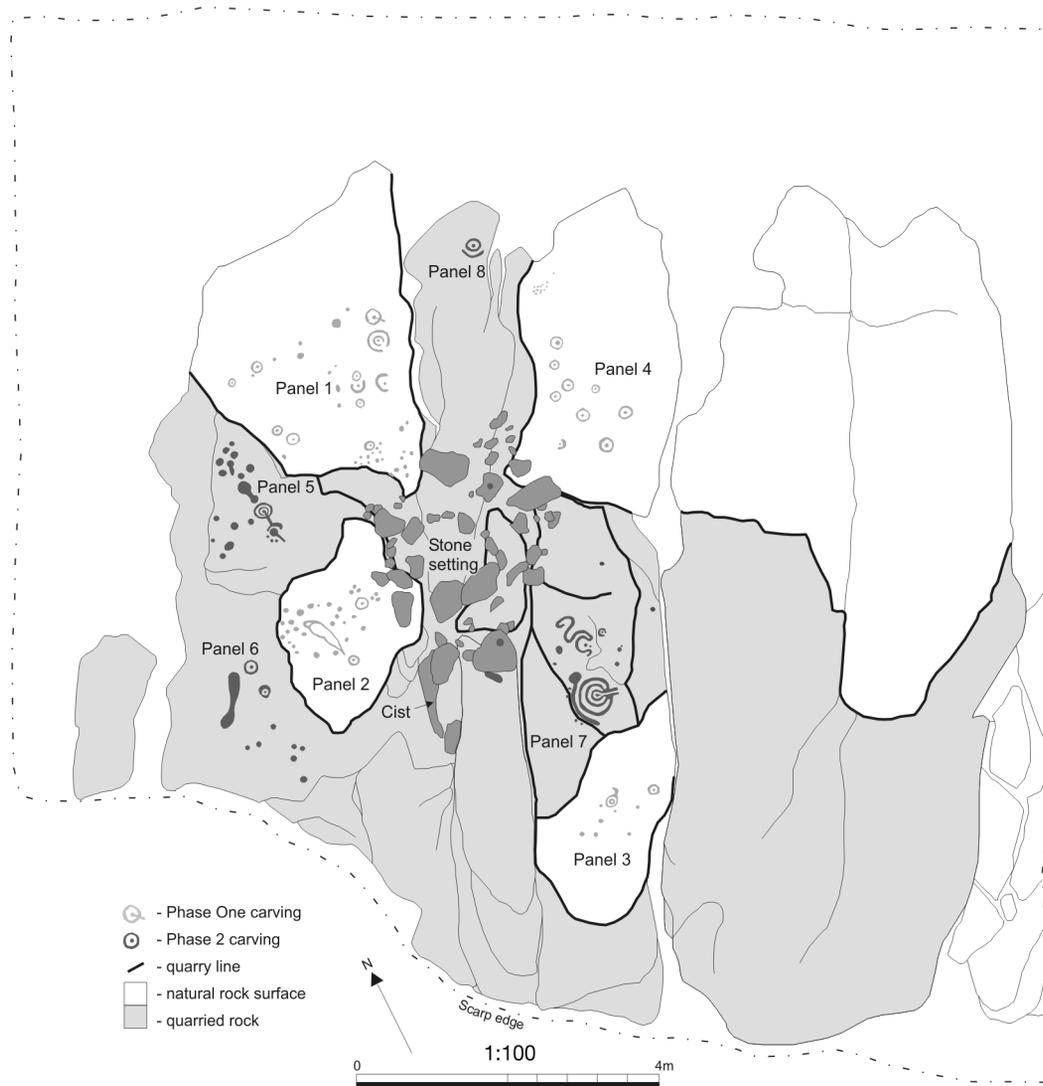


Fig. 7 General site shot looking east indicating where phase 2 quarrying has broken across an area of phase 1 carvings and then phase 2 carvings placed on the new, lower, surface. The cairn can also be seen overlying panel 2 demonstrating that it is structurally later than the quarrying event that moved the rock (scale next to cairn: 1 m).

was also found close to cup and ring carvings at Dod Law West during excavations on the hillfort (Smith 1990). The earliest datable small find from the site is a small end scraper made on a stubby blade, found 1.25 m north of the outcrop in the topsoil horizon, that is directly analogous to some of the end scrapers from the Mesolithic hut at Howick that has been dated to around 7,800 BC (Cal.) (Waddington *et al* 2003, 6). This suggests that the rock outcrop was visited by Mesolithic inhabitants of the region who may have used the crag as a rock shelter.

## Phase 2

The second discrete phase of activity that can be recognised on the rock outcrop begins with the quarrying away of parts of the natural rock surface (fig. 7). This quarrying has broken through an area of phase 1 carvings on panel 1 and has almost certainly destroyed other carvings that would have existed elsewhere on the rock. The quarrying included splitting the sandstone along its bedding planes to unseat the rock, presumably by the use of wooden wedges, and then chiselling in from above to make a lateral detachment. What appear to be

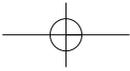


*Fig. 8 Phase 2 plan showing panels 5-8 and the exposed cist and secondary stone setting higher up in the cairn mound.*

metal tooling marks can still be seen on several of the quarry edges such as those at the top of panel 1 (fig. 7). The quarrying was undertaken as a staged affair with one block removed, then another and so on, as the newly exposed surfaces opened up a new layer of rock to quarry.

Associated with the quarrying event(s) came a secondary phase of carving. On the new rock

surfaces exposed by the quarrying both deep and shallow motifs were pecked into the surfaces to produce a group of secondary motifs (figs. 7 and 8). These motifs could be distinguished from those of phase 1 not only on the basis of their stratigraphic position on quarried surfaces but also because they were all extremely fresh in appearance with peck marks



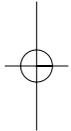
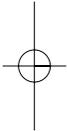
ROCK ART AT HUNTERHEUGH CRAG, NORTHUMBERLAND



*Fig. 9 The panel 7 motifs immediately next to the cairn (scale: 1 m).*



*Fig. 10 The cist formed between a large quarried slab and a quarry edge (scale: 0.25 m).*



visible in all of the carvings. Panel 5 (fig. 8) incorporated the group of motifs recorded by Beckensall as Hunterheugh 1b (2001, 83) and includes a cluster of single cups together with a cup with two rings and radial groove which joins it to the penannular ring around another cup with radial groove. On a still later quarried surface is the next group of phase 2 carvings that form panel 6 (figs. 7 and 8). These carvings were newly discovered as a result of the excavation and included seven single cups, two cups with a single ring around them and a linear groove with bulbous ends. The peck marks on all of these motifs are particularly fresh suggesting that they had become covered over soon after being made. In fact one of the cup and ring motifs was partly covered by collapsed material from the stone cairn. On the east side of the rock is panel 7 which equates with the main area of motifs recorded by Beckensall as Hunterheugh 1d (2001, 83). These are the most complex designs on the site and include an unusual cup and ring design with keyhole entrance (figs. 8 and 9). There is a substantial pecked basin with groove above this design and next to it is another keyhole design around a cupped centre. Part of the keyhole then meanders across the rock as a sinuous groove that turns back on itself. There are also some single cups, a small cup and ring and an unusual short deep groove above the main designs that was only discovered after the removal of cairn material. These carvings have been made on to a quarried surface from which a rock sheet has been detached, and all have fresh peck marks showing little sign of weathering. The final phase 2 motif is a single deeply pecked cup and ring with an additional half ring forming panel 8 (fig. 8) on another quarried surface. This carving was a new discovery and was, typically for the quarried surfaces, in a very fresh condition with the peck marks clearly visible.

The phase 2 carvings do not possess the same stylistic qualities as the phase 1 carvings. Although they include simple designs such as cups, basins and grooves, they also include more complex patterns such as the keyhole design. Nor do any of the motifs link with each

other either by formal grooves or by undulations in the rock surface. Although these designs have been carved on to relatively smooth quarried surfaces the surfaces still have considerable variations in relief which could have been incorporated into the motifs in the same way as the phase 1 motifs accommodate the pattern of the natural rock surface. However, it is very clear in the case of the phase 2 carvings that, with the exception of part of the keyhole design, they have been positioned as isolated motifs on to the rock with no attempt to blend them into the form of the rock surface.

Subsequent to the application of this secondary set of motifs a cairn was constructed over the centre of the rock dome. The cairn incorporated the quarried slab that carries panel 2 as well as another quarried slab that has no carvings, the latter being detached from the east side of the rock dome (fig. 8). A small cist with maximum internal dimensions of 0.3 m wide by 0.5 m long by 0.5 m deep had been deliberately constructed in a gap formed by the freed stone (panel 2) and a quarry edge; it had then been covered with angular cairn material (figs. 8, 10 and 11). It was aligned in a north-south direction and the quarried surface that formed the base of the cist had been gouged out to make the cist space deeper. At a higher level, partly covering the freed stone (panel 2), was a secondary stone setting that may have formed part of a later grave (fig. 8). This oval arrangement of set stones measured 1.3 m long by 0.9 m wide with its long axis orientated east-west. The acidic conditions of the soil and turf mat were such that no unburnt organic remains survived in this environment. Root penetration all the way through the soil to the bedrock meant there was no possibility of obtaining any reliable charred organic material. That said, no suitable organic residues were encountered during excavation. As the cairn contained a primary cist-setting, the initial construction of the cairn can be reasonably judged to have taken place during the Early Bronze Age. The cairn, which was evidently denuded and partly collapsed, had maximum surviving dimensions of 4.25 m



Fig. 11 Phase 2 plan, modified to show the extent of the overlying material from the later cairn.

north-south by 3.0 m east-west and stood 1.5 m high from the base of the cist. It directly overlay the cist, the stone setting and some of the phase 1 cup marks at the top of panel 1, as well as part of the detached panel 2 which was also carved with phase 1 motifs before being detached (fig. 12). Some of the collapsed cairn material overlay some of the phase 2 motifs on panels 6 and 7 respectively (fig. 12). The cairn

also contained 5 portables that had cup or groove markings pecked on to them (fig. 13). These portables, or 'mobiliary' pieces, occurred as part of the cairn-material, apparently as randomly positioned stones; two had the motif facing outwards while in the case of the other three the motif faced inwards.

Two flints were recovered from near to the cairn (figs. 8 and 16), one of which was a

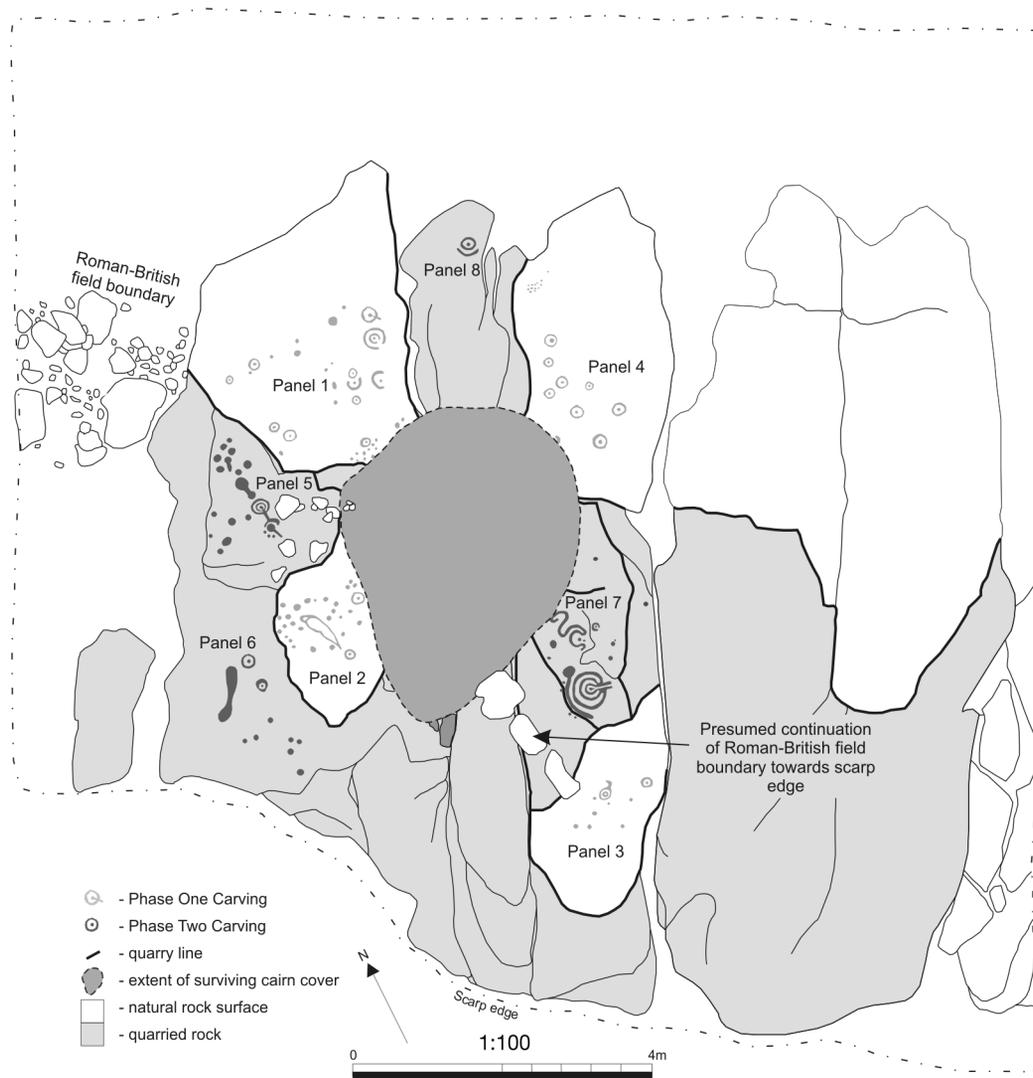


Fig. 12 Phase 3 plan showing the collapsed Roman-British boundary.

broken plano-convex knife, the other an edgetrimmed flake. Plano-convex knives are an artefact type considered to be diagnostic of the Early Bronze Age, being frequently found in graves (Clark 1932; Edmonds 1995). The presence of this broken specimen within disturbed deposits 2.5 m downslope from the cist adds further weight to the Early Bronze Age date for the cairn. A total of 155 natural quartz

pebbles and 30 small chert nodules of various sizes were found in and around the cairn material, but as these occur naturally in the soils of this area they are not considered to have had any particular significance. These pieces were found in rock crevices, where they appeared to have fallen as a result of gravity, to form part of the soil matrix. There was no evidence to suggest that any of these unmodi-



Fig. 13 The carved 'portables' found within the cairn material (scale: 0.5 m).

fied natural pebbles had been deliberately placed in any way. Three pieces of red ochre were also recovered during sieving of the cairn's soil matrix; these are unlikely to have arrived on the site by natural processes and suggest that ochre may have had a special purpose at Early Bronze Age cist burial sites. A parallel for these finds are the substantial chunks of yellow ochre that were discovered on, and next to, the capstones of the Early Bronze Age cist cemetery at Howick (Waddington *et al* 2003). The small size of the Hunterheugh cist suggests it was for the burial of an infant and again this is also the case for four of the five Howick cists, one of which contained the degraded fragments of a small skull. Child cremations were also discovered associated with the cist burials at the Early Bronze Age Turf Knowe site in the nearby Ingram Valley (Frodsham and Waddington 2004).

### Phase 3

The final phase of activity that can be discerned belongs to the Roman-British period and is represented by a stone field boundary that extends from the nearby Roman-British enclosed settlement earthworks all the way to the cairn and possibly beyond to the scarp edge (figs. 12 and 14). The cairn is likely to have been denuded to assist in the construction of this section of the boundary and this would account for the relatively small size of the cairn and the three blocks set in a line beyond the cairn that lead towards the scarp edge (fig. 12). One of these blocks directly overlay one of the phase 2 carvings on panel 7. The boundary survives to a varying height along its course and further towards the enclosure there is evidence for the use of large orthostats set on end. Elsewhere it survives largely as a collapsed rubble wall. Next to the carved rock the rubble



*Fig. 14 View west along the Roman-British boundary from the cairn (scale: 1 m).*

spread measured 2.35 m wide. This type of boundary construction is mirrored in the other walls forming part of the Roman-British farmstead complex.

#### NEW DISCOVERIES

A further series of cup and ring inscribed panels were discovered on the edge of a nearby sandstone crag that forms part of the Roman-British enclosed farmstead complex (Hunterheugh 8a–e). The small areas of exposed rock are situated in an area heavily vegetated with heather and so only a very small proportion of the potential carved rock surfaces are visible. These carvings include cups, occasional cups with rings, dots and grooves and a ‘domino’

design. These carvings have been identified on five outcrop surfaces so far. The carvings are highly degraded and can be easily missed and this no doubt accounts for why they have not been noted before. The rock surfaces have mature lichen cover on them which also serves to disguise the carvings. In addition, a re-used cup-marked rock has also been used as an orthostat which forms part of the entrance into the Roman-British enclosure (Sara Rushton, pers. comm.). A further cup-marked rock was discovered further to the west where the track crosses a stream. These new panels are being more fully recorded by Stan Beckensall and Aron Mazel who will add them to the on-line rock art archive for Northumberland (Northumberland Rock Art Project 2004).



*Fig. 15 The Hunterheugh 2 panel with its overlying cairn now covered in heather.*

### DISCUSSION

Establishing a chronological sequence for British rock art is a key challenge that must be addressed if meaningful interpretations are to be achieved. Because the chronology question is of such importance it makes the stratigraphic sequence revealed by this excavation particularly significant. In summary, the excavation revealed an initial phase of carving cup and ring motifs on outcropping bedrock that predated the Early Bronze Age by a length of time which is unknown but considered to be substantial. Therefore, it can be reasonably stated that the original phase 1 carvings were made sometime in the Neolithic. At a later date, presumably as part of the cairn building episode, parts of the rock outcrop were quarried and new motifs were carved on to the surfaces where rock had been removed. The time gap between the two phases of carving is likely to be considerable as the phase 1 motifs are extremely weathered and degraded whereas

those belonging to phase 2 appear remarkably fresh. This difference cannot be explained simply by the phase 1 carvings having been exposed to the elements up to the present day and the phase 2 ones being covered by vegetation, as the motifs on panel 4 which belong to phase 1 were some of the most weathered motifs on the site and yet they were completely covered over by a considerable thickness of soil and overlying vegetation. Some of the phase 1 cup marks on panel 1 that were covered by cairn material were also highly weathered even by the time of the quarrying-re-carving-cairn building episode. It is therefore evident that the difference in freshness is related to a substantial time difference between the two phases of carving.

As part of the phase 2 activity a substantial piece of quarried rock that had phase 1 carvings on its surface had been moved towards the centre of the rock dome and another quarried rock was moved towards it from the east side of the dome. What appears to be a cist box,

probably for an infant, was then constructed between these two quarried slabs with three sandstones blocks set on their edges to form the sides of the box and at the base of the box the rock had been quarried down to create a deeper void. A cairn was then piled over the cist and central rock dome and, either as a secondary insertion or as part of this phase, a stone setting was made towards the top of the cairn which may have served as a grave for a secondary burial. This type of monument is typical of the Early Bronze Age and those nearby sites that have been excavated and dated have produced C14 determinations dating to the centuries around 2000 BC (e.g. Turf Knowe in the Breamish valley, see Frodsham and Waddington 2004, 175). The cairn directly overlay the cist, as well as phase 1 carvings on panels 1 and 2 (the latter having been quarried and moved), and part of the phase 2 carvings on panel 7. Some tumbled cairn material also overlay one of the phase 2 cup and ring marks on panel 6. A similar sequence appears to exist at the Hunterheugh 2 site where a beautifully decorated panel is also partly overlain by a stone cairn now covered in heather (fig. 15). After the construction of the cairn the next structural event was the aligning of a Roman-British field boundary on the cairn and probably beyond to the scarp edge. The cairn is likely to have been partially robbed in the construction of this boundary. Some of the blocks forming the extension of the boundary from the cairn to the scarp edge directly overlay some of the phase 2 carvings on panel 7.

There are two major findings resulting from this sequence: firstly that there are different episodes of carving on the same rock interrupted by what appears to be a substantial period of time based on the difference in weathering and secondly, that the cairn provides a *terminus ante quem* of the Early Bronze Age for both phases of rock art. The first point is critical because it means that, in future, rock art panels must be carefully scrutinised to identify whether there is any phasing evident on inscribed outcrop surfaces, as the compositions we see today could be the result of a number of carving events separated by many hundreds,

even a thousand or more, years. The second point has significant implications as the phase 1 carvings are clearly much earlier than the phase 2 carvings. This observation provides a direct indication that in Britain cup and ring markings on natural rock outcrops must date back well into the Neolithic. This, together with the re-use of weathered cup-marked slabs broken from outcrop contexts in 4th millennium BC monuments (see Waddington 1998, 31–2), now demonstrates the Neolithic origin for this tradition. Moreover the re-use of cup marked slabs from outcrop situations in megalithic monuments suggests that it was rock outcrops that formed the original context of deployment for this tradition (see also Waddington 1998).

None of the phase 2 motifs was found on the same surfaces as the phase 1 motifs, implying that the people carving these secondary markings did not intend adding to the existing compositions. Indeed their quarrying of the rock clearly broke through some of the original phase 1 carvings (see above). The phase 2 carvings, however, had only been applied in areas where quarrying had taken place and this suggests that carvings of this later phase had perhaps been placed on the bedrock as a kind of replacement for ones removed by quarrying.

It is also worth recalling that there is a stylistic difference between the phase 1 and phase 2 carvings. The phase 1 rock art is applied in such a way that the motifs respect and incorporate the natural shape and relief of the rock surface and are usually interconnected by formal grooves, or by the pathways taken by trickling water along natural depressions. This contrasts with the secondary carvings which, although they can be complex (e.g. panel 7), are executed in a less sophisticated style, with each motif isolated from those around it, and they do not generally incorporate the undulations and patterning of the rock surface in their design. Taking all this into account it is possible that this Early Bronze Age phase of carving represents something akin to a superstitious reaction to the removal of pre-existing carvings, and re-use of the site for the construction of a burial cairn. Indeed the lack of

understanding of the phase 1 stylistic conventions by the phase 2 carvers betrays an apparent dislocation in the understanding and use of the rock art and this gains further support by the fact that phase 1 carvings were broken through as part of the phase 2 activity. If there is indeed a dislocation between the two phases of carving then an argument can be advanced to suggest that by the Early Bronze Age the original meaning(s) behind rock art had been lost or transformed, and that the use of rock art was governed more by respect for ancient markings than by a direct notion of what they were originally intended to symbolise.

One of the authors has previously argued that the deliberate extinction of the cup and ring tradition took place in the Early Bronze Age (Waddington 1998) as implied by the breaking up of outcrop panels at this time, the erection of cairns directly over rock art (e.g. Hunterheugh, Fowberry, Lordenshaws) and the incorporation of decorated panels, often broken off from outcrop situations, into cist burials. The Hunterheugh evidence could also be interpreted in this way as the phase 1 carvings were intentionally broken and in some cases covered over. However, the evidence could also be interpreted as a re-dedication of the site in the Early Bronze Age. The latter possibility, however, seems a little unlikely as this would not account for why the original carvings were broken. It seems more probable that the rock surface was being appropriated in some way and the significance of the place redefined for its use as a resting place for the dead. In this way the old traditions that the earlier cup and ring marks stood for would need to be extinguished and a new layer of meaning defined. Either way, it remains telling that after the Early Bronze Age the purposeful carving of cup and ring art never happens again and so this period marks the final use of the tradition. (Although in the Iron Age, cup-marked boulders are occasionally found in enclosure ditch fills, and incorporated into the walls of souterrains.)

The Hunterheugh 1 site is not alone in having been quarried and then secondary carvings applied to the newly exposed surfaces.

This can clearly be seen at other sites in Northumberland such as the Dod Law main rock where the unusual rectilinear and heart-shaped designs are on quarried areas below the original surviving rock surface that has a few very weathered cup and partial ring marks on it (Beckensall 2001, 33–5). Elsewhere in Northumberland a rectangular slab, probably for a cist, has been removed from a cup and ring marked outcrop at the North Plantation site at Fowberry and a cup and ring design with radial groove has been pecked on to the newly exposed surface (Beckensall 2001, 62–3). As with Hunterheugh 1 the cup and ring marks on the upper rock surface are weathered whereas the secondary one on the quarried area is as fresh as if it had been made yesterday. Similarly at West Horton 1b there are very faint cup and ring markings on the upper surface of a linear rock outcrop; its lower surface appears to have been quarried and carries two unusual cup and ring type designs in an extremely fresh state with all the peck marks once again clearly visible (Beckensall 2001, 44–5). The pattern that is emerging is of a phase of original cup and ring marking on outcrop rocks during the Neolithic and certainly back into the 4th millennium as indicated by the re-use of weathered carvings in C14-dated monuments. A further phase of cup and ring marking then appears to have occurred on decorated rock outcrops as part of a quarrying process, that in some cases included the construction of cairns over the earlier rock art. On the basis of the current evidence from Hunterheugh 1 this quarrying and re-carving horizon can be dated to the Early Bronze Age. This final phase seems to involve imitation of the earlier shapes but it does not share the same sense of positioning on the rock surface, or the incorporation of natural undulations within the designs, as is characterised by the phase 1 tradition. This copying of design elements only, without a sense of embellishing the already existing patterns of the rock, implies a lack of understanding of the original thinking that lay behind the carving tradition. As research continues in other regions of the British Isles it will be interesting to see if other areas show evidence for a

late/final rock carving horizon, and whether that too dates to the Early Bronze Age.

The carving of motifs on quarried surfaces is interesting because of what this implies for prehistoric quarrying. It suggests that Early Bronze Age quarrying included some sense of ritual and/or superstition whereby it was felt important that ancient rock art sites disturbed by quarrying activities had in some way to be rededicated in order to maintain a peaceful relationship with the otherworld. What the quarried stone was used for remains unclear although in the case of the Hunterheugh site two very large stones were incorporated into the cairn structure. The only surviving stone-built structures belonging to the Early Bronze Age in Northumberland are standing stone monuments (e.g. 'four posters' which are burial monuments), burial cairns (Frodsham and Waddington 2004), the troughs of the nearby burnt mounds (Topping 1998) and probably some cultivation terrace walls (Frodsham and Waddington 2004). In the case of the burial cairns, where there are quarried sandstone slabs present, these are used to form a cist box. The use of quarried cup and ring marked rocks in cists is directly evidenced by those graves where decorated cist slabs have been found, such as the cist cover found on a nearby site on Beanley Moor (Beckensall 1983, 175). Why (by then) ancient cup and ring marked surfaces were chosen for inclusion in these new burial monuments remains puzzling; understanding this new treatment of rock art in the Early Bronze Age forms a major research question.

There is some evidence for tooling along successive quarry edges at Hunterheugh which suggests the use of metal picks. Elsewhere it can be clearly seen where the rock has been split along natural fractures and the slab unseated from the rock by splitting along the bedding plane. This was probably achieved by using wooden wedges, soaking them in water to force the wood to expand and then removing the slab after it had split.

Making sense of the initial phase 1 markings is hampered by the fact that we can now only observe a part of the original designs as many of the carvings have no doubt been lost as a

result of the later quarrying. However, if it is assumed that most of the rock dome had carvings on it then this outcrop would have had an appearance, and a quantity of motifs, not unlike the better known site at Roughting Linn. On the scant pollen evidence currently available for the sandstone escarpment it is likely that the phase 1 rock outcrop was situated in a forested area comprising typical broad leaf species such as oak, elm, ash and hazel during the Neolithic (Davies and Turner 1976). As a result, the surrounding views would be different from those of today, and the setting of the rock, in what would have been a productive landscape supporting diverse flora, fauna and birdlife, would have been in stark contrast to the present barren, open moorland. It is as part of such a resource-rich and living environment that the original cup and ring marked outcrops should be conceived. It was only in the Early Bronze Age that these parts of the landscape, and cup and ring marked outcrop rocks, became associated with death and burial.

One of the more striking reminders that the original phase of cup and ring marking occurred in circumstances far removed from their later re-use in the Early Bronze Age is the way in which the carvings incorporate the shape and aesthetics of the natural rock surface into their design. By incorporating the design into the rock in this way the art can be seen to embellish an already extant natural monument in a way that does not detract from the primacy and natural beauty of the rock itself. It has been argued elsewhere that this may to some extent reflect the ambiguities in Early Neolithic society, where early farming groups grappled with the emerging concept of humans as separate from nature, a world view no doubt at odds with the previous hunter-gatherer beliefs (Waddington 1998, 49–50). Carved on 'living rock' the phase 1 motifs are deployed so as to emulate and enhance rather than dominate the natural rock. This emulation of the natural living world is emphasised by the curvilinear character of the tradition which compliments patterns visible in the natural world such as raindrops splashing into water, gas rings around planets, an eye and so

forth. As cup and ring marked outcrops would have occupied clearings caused by the presence of bedrock at or near the surface, in what appears to have been an otherwise wooded landscape, these areas would have attracted browsing and grazing animals. As a result these places would have been areas where animals were known to congregate, and this may have been one reason why these rocks were thought special and inscribed in the first place. Consequently these clearings would have served as important areas vital to the successful supply of food for Neolithic groups. In this way the areas of carved outcrops may have helped sustain life as part of the subsistence regime.

Yet another link with life and fertility is the obvious sexual imagery that the basic cup with radial groove imply (vagina and penis respectively), giving recognition to the sex act and the reproduction of life. The life-giving theme is further echoed by the positioning of carvings so that rainwater trickles down the rock surface from one motif into another, then into another and so on until the water reaches the earth beyond the rock from which plants grow and life begins. Taking these various observations into account, the cup and ring tradition as originally conceived appears to have connotations relating it to the living world, sustenance, fecundity and reproduction. The original context of use therefore seems at odds with the later breakage, re-carving and re-use of cup and ring marks in areas of landscape and monuments devoted to the dead. Whether this interpretation is accurate or not it remains clear that there is a difference in context, and therefore meaning, between the Neolithic phase of carving on bedrock and the secondary phase of carving in the Early Bronze Age which may have involved the deliberate destruction of the earlier tradition (see Waddington 1998) as originally conceived.

### CONCLUSION

The Hunterheugh 1 excavation has provided a tantalising glimpse of the potential for excavation at open air rock art sites and the way that

they can usefully increase the knowledge base surrounding British rock art. More extensive excavations, coupled with close-spaced geophysical survey, geochemical analyses of the surrounding soils and high resolution pollen analysis from nearby sediments offer a fruitful avenue for further research. By undertaking this sort of fieldwork it is possible to deepen our understanding of the chronology of the tradition, the landscape settings in which they occurred and the changes to these settings, as well as information on the kind of activities that took place on and around the sites. As more of this type of information is acquired we may nudge ourselves, slowly perhaps, to a more accurate and informed understanding of these compelling motifs and their role in prehistoric communities.

The site can still be seen on the ground, although the cairn and part of the cist have been removed, and the smaller of the quarried rocks below the cairn was moved slightly from its position when it was checked to see whether it covered any further carvings.

### SMALL FINDS

#### Lithics

1. A broken segment of a plano-convex knife made from a grey flint likely to be of beach or glacial origin (fig. 16). It has abrupt retouch along one edge while the opposing edge has spalled where it has broken, possibly from use. Subsequently the piece has broken again across the width of the knife. It was located in the soil cover 2.5 m downslope from the cist (see fig. 8). In all likelihood the find had fallen with the cairn tumble that can be found on the slopes below. This piece is a typical Early Bronze Age artefact type and, together with the presence of a small cist, suggests that the cairn is Early Bronze Age in date.
2. A tiny, broken dark grey chert flake found just next to the plano-convex knife fragment (fig. 8). Undiagnostic.

## SMALL FINDS

51

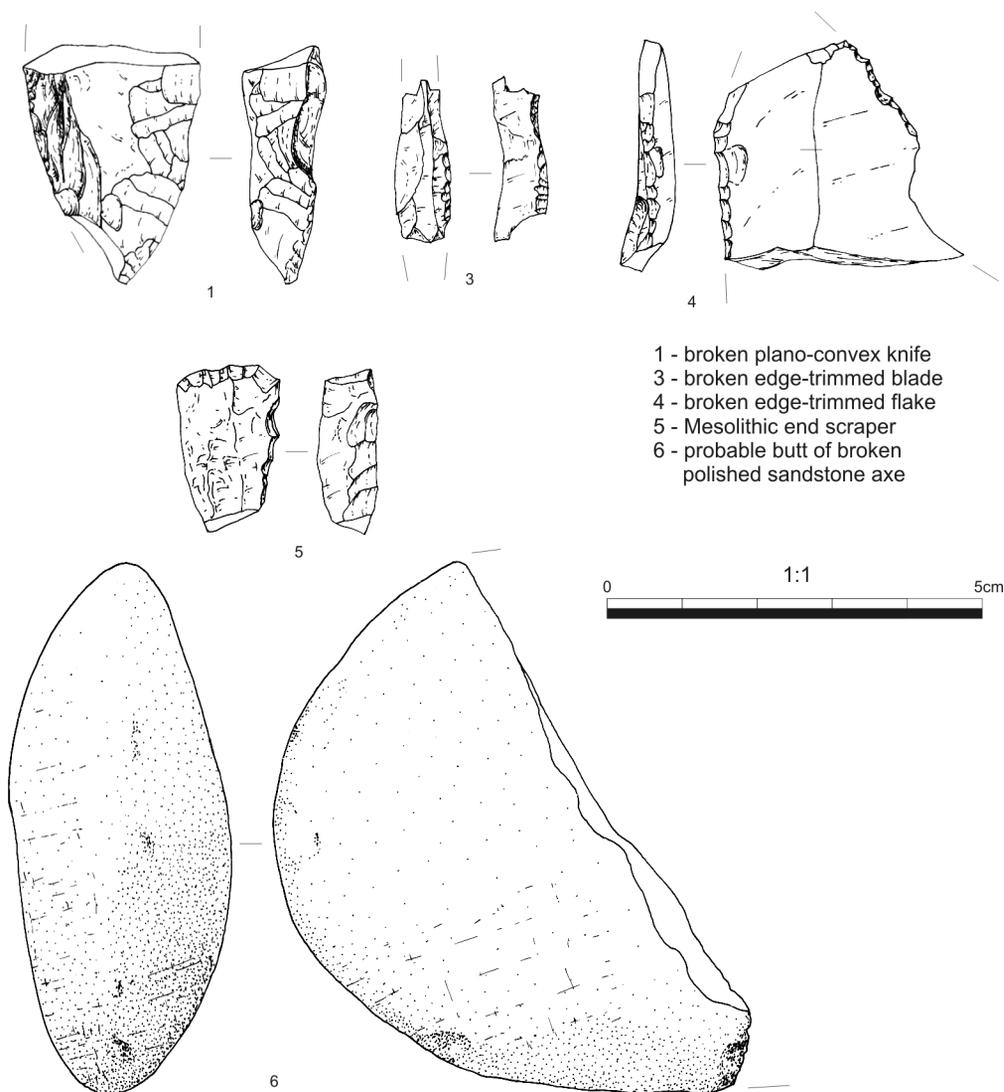
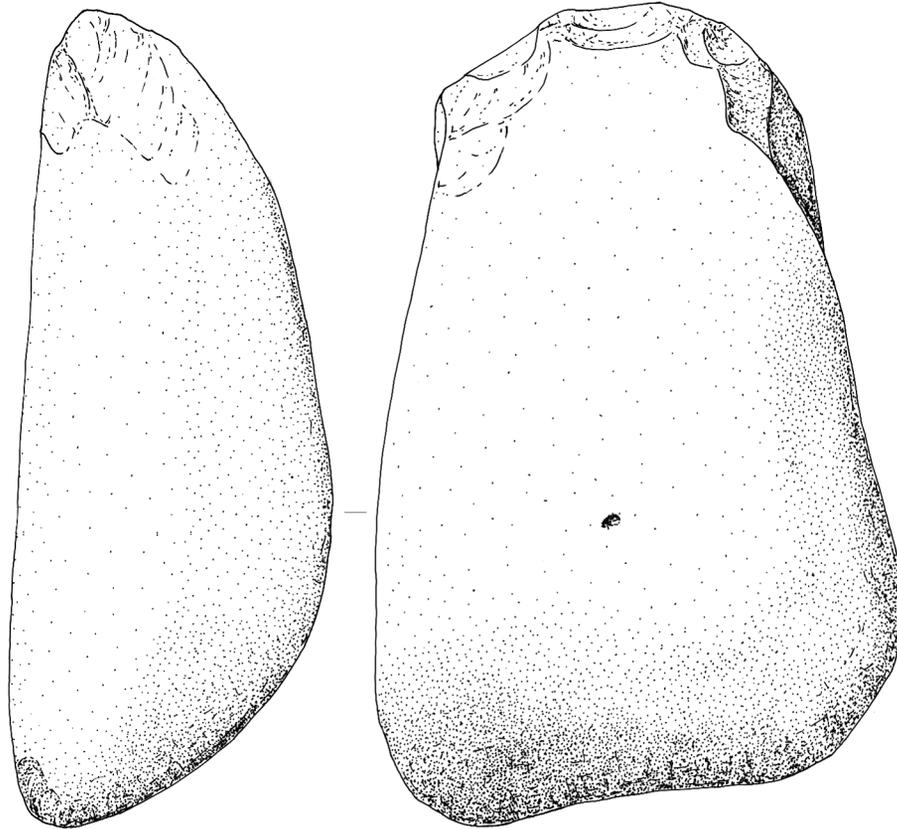


Fig. 16 Small finds.

3. A small, broken edge-trimmed blade made from blue-grey chert and with triangular section. One of the breaks has cut through the short edge-trimmed section which appears to have been accomplished with a narrow-tipped soft hammer. Other than being of blade form this piece is undiagnostic. The piece was found in the soil matrix of the cairn on its east side (fig. 11).
4. A broken edge-trimmed flake made from good quality light grey flint (fig. 16). This flake was originally part of a sizeable piece. The edge-trimming occurs all the way along the surviving length of both of the long sides although on one side the direction of trimming flakes changes from the dorsal to the ventral surface. Although not particularly diagnostic this piece is likely to date from the Neolithic or Early



7 - sandstone pecking tool

*Fig. 17 Sandstone 'pecking' tool.*

- Bronze Age. It was recovered from the cairn soil matrix during sieving and so could be associated with the cairn activity.
5. A small end scraper made from what appears to be a pale brown agate that has begun to develop a patina (figs. 4 and 15). It is made on a stubby blade and has abrupt retouch all down one long side and across its end. It has a maximum length, width and depth of 20 mm, 13.5 mm and 8 mm respectively. It is an artefact type typical of Mesolithic assemblages in the north-east and can be directly paralleled with

- scrapers from the Mesolithic site at Howick, 14 km away, which has been dated to around 7,800 BC (Cal.) (Waddington et al 2003, 6). The piece was found 1.25 m north of the rock outcrop in the topsoil horizon.
6. A ground and polished broken, fine-grained, sandstone artefact. It has been polished either side of a lateral plane and looks very much as though it could be the butt end of a polished stone axehead (fig. 16). There is evidence of some wear at its butt end. Polished sandstone axeheads are known from Northumberland

and include one discovered at Kimmerston Bog near Milfield (Waddington 1999, 123) and one from Berwick (Waddington 2004, 6). Both of these axes also had clear wear patterns indicating that they were functional objects. As only a fragment of this piece survives it cannot be designated as a stone axehead with certainty, but it is clearly a made object and a stone axehead is probably the least contentious interpretation. If it is part of a stone axehead then it is suggestive of Neolithic activity at the site. It was discovered 1.2 m north of the rock outcrop in the topsoil horizon (fig. 4).

7. A smoothed 'tortoise' shaped fine-grained sandstone cobble with a single flat side that appears to have been smoothed into shape (fig. 17). It is hand size and there is clear evidence for wear resulting from percussive actions at its narrowest end. Although it can only be surmised what this tool was used for it is possible that it may have been used for striking rock. However, it can not be determined whether it was used in the quarrying process or for the creation of the rock art. This piece was found 0.8 m north of the rock outcrop and 2.4 m from the nearest carving (fig. 4). The only other possible rock art 'pecker' that has been discovered is the sandstone pick recovered during excavations by Chris Tolan-Smith on Dod Law West hillfort where a group of cup and ring marks were uncovered in the fort annexe with the sandstone pick lying nearby (Smith 1990).

#### Portable Rock Art (all from the cairn material)

1. A quarried stone with maximum dimensions of 0.23 m by 0.21 m by 0.07 m. It has peck marks on both sides. Side 1 has a few peck marks randomly spaced whereas side 2 has an area of dense pecking along one edge extending over an area measuring 0.12 m by 0.15 m.
2. A possibly quarried stone with maximum dimensions of 0.23 m by 0.16 m by 0.07 m. Side 1 has a single cup with the peck marks still visible and side 2 has a random scatter of peck marks.
3. A quarried stone with maximum dimensions of 0.31 m by 0.23 m by 0.12 m. There is a single cup with the peck marks still visible and a few scattered peck marks on one side. The rock was discovered in the cairn material with the cup mark facing outwards.
4. A quarried stone with maximum dimensions of 0.45 m by 0.24 m by 0.12 m. There is a single

groove on one side with the peck marks still visible measuring 0.11 m by 0.025 m. The rock was discovered in the cairn material with the groove facing inwards.

5. A small boulder with maximum dimensions of 0.33 m by 0.30 m by 0.12 m. There is a single shallow cup with the peck marks still visible on one side. The rock was discovered in the cairn material with the cup mark facing outwards.

#### Ochre

1. A small, broken piece of red ochre with maximum length, width and thickness measurements of 26.5 mm, 16 mm and 6.5 mm.
2. A small, nodule of red ochre with maximum length, width and thickness measurements of 32.5 mm, 16 mm and 15 mm.
3. A small, broken nodule of red ochre with maximum length, width and thickness measurements of 27 mm, 19 mm and 9.5 mm.

#### ACKNOWLEDGEMENTS

We would like to extend our thanks to the landowner, Ian Brown, who kindly gave access to the site, helped with logistics and supported the excavation throughout. We are also grateful to the field team and volunteers who made a superb effort in difficult weather conditions and to the Society of Antiquaries of Newcastle upon Tyne who kindly provided the funding for this project. Stan Beckensall kindly made rubbings of the new carvings and these illustrations now form part of the archive.

#### BIBLIOGRAPHY

- AINSWORTH, S. and GATES, T. 1981 *Field Survey in Northumberland 1981*, 21–2. (unpublished report).
- BECKENSALL, S. 1983 *Northumberland's Prehistoric Rock Carvings*, Rothbury.
- BECKENSALL, S. 1999 *British Prehistoric Rock Art*, Stroud.
- BECKENSALL, S. 2001 *Prehistoric Rock Art in Northumberland*, Stroud.
- BRADLEY, R. 1997 *Rock Art and the Prehistory of Atlantic Europe: Signing the Land*, London.
- BURGESS, C. 1990 'The Chronology of Cup and Ring Marks in Britain and Ireland', *Northern Archaeology*, 10, 21–26.

- CLARK, J. G. D. 1932 'The Date of the Plano-Convex Flint-Knife in England and Wales', *Antiquaries Journal*, 12, 158–162.
- DAVIES, G. and TURNER, J. 1979 'Pollen Diagrams From Northumberland', *New Phytologist*, 82, 783–804.
- EDMONDS, M. 1995 *Stone Tools And Society: Working Stone in Neolithic and Bronze Age Britain*, London.
- EDWARDS, G. and BRADLEY, R. 1999 'Rock carvings and Neolithic artefacts on Ilkley Moor, West Yorkshire', in R. Cleal and A. MacSween (eds.) *Grooved Ware in Britain and Ireland* [Neolithic Studies Group Seminar Papers 3], Oxford, 76–77.
- FRODSHAM, P. and WADDINGTON, C. 2004 'The Breamish Valley Archaeological Project 1994–2002', in P. Frodsham (ed.), *Archaeology in Northumberland National Park*, 171–189.
- JOBNEY, G. 1964 'Enclosed stone built settlements in North Northumberland', *AA<sup>4</sup>*, 42, 41–64.
- JOBNEY, G. 1965 'Hillforts and Settlements in Northumberland', *AA<sup>4</sup>*, 43, 21–64.
- JOBNEY, G. 1968 'Excavations of Cairns at Chatton Sandyford, Northumberland', *AA<sup>4</sup>*, 46, 5–50.
- NORTHUMBERLAND ROCK ART PROJECT 2004 Available at: <http://rockart.ncl.ac.uk> (Accessed: 3 April, 2005).
- O'CONNOR, B. 2003 'Recent excavations in a rock art landscape', *Archaeology Ireland*, 17 (4), 14–16.
- PURCELL, A. 2002 'The rock art landscape of the Iveragh Peninsula, County Kerry, south-west Ireland', in G. Nash and C. Chippindale (eds.) *European Landscapes of Rock Art*, London, 71–92.
- RAPP 2000 *Rock Art Pilot Project: Main Report*, Bournemouth and London [Bournemouth University School of Conservation Sciences and University College London Institute of Archaeology for English Heritage. Limited circulation printed report].
- SMITH, C. 1990 'Excavations at Dod Law West hillfort, Northumberland', *Northern Archaeology*, 9, 1–55.
- TATE, G. 1865 *The Ancient British Sculptured Rocks of Northumberland and the Eastern Borders, with Notices of the Remains associated with these sculptures*, Alnwick.
- TOPPING, P. 1998 'The excavation of burnt mounds at Titlington Mount, north Northumberland, 1992–3', *Northern Archaeology*, 15/16, 3–25.
- WADDINGTON, C. 1998 'Cup and ring marks in context', *Cambridge Archaeological Journal*, 8 (1), 29–54.
- WADDINGTON, C. 1999 *A Landscape Archaeological Study of the Mesolithic-Neolithic in the Milfield Basin, Northumberland* [British Archaeological Reports, British Series 291], Oxford.
- WADDINGTON, C. 2004 *The Joy of Flint: an Introduction to Stone Tools and Guide to the Museum of Antiquities Collection*, Newcastle upon Tyne.
- WADDINGTON, C., et al 2003 'A Mesolithic settlement site at Howick, Northumberland: a preliminary report', *AA<sup>5</sup>*, 32, 1–12.