

THE NEOLITHIC AND BRONZE AGE MONUMENT COMPLEX OF THORNBOROUGH, NORTH YORKSHIRE, AND ITS LANDSCAPE CONTEXT

DESK TOP ASSESSMENT



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ASSESSMENT SUMMARY

The monument complex at Thornborough, North Yorkshire, is an archaeological landscape of regional, national and international importance. The unparalleled cluster of three massive henges, in association with other Neolithic-early Bronze Age monuments and extensive traces of contemporary settlement, represent what would have been one of Britain's premier 'sacred landscapes' during the third and second millennium BC. Strategically located on a vital east-west routeway, the complex was well positioned to serve the densely settled Ure-Swale Catchment. The complex was also visited by people from as far afield as East Yorkshire and the Pennines, suggesting it was a regional 'hub' in the religious life of many widely dispersed groups. Such a role would account for the massive size of the Thornborough henges and the landscape's long and complex sequence of development. Only four sites in the British Isles are larger — all in Wiltshire and Dorset — and nowhere else are there three closely-spaced and identical henge monuments. They attest to a huge mobilisation of labour and an exception level of planning.

Mineral extraction and intensive farming have had a detrimental impact on the landscape and represent a continuing threat to its archaeology. Previous archaeological investigations demonstrate the great fragility but extensive potential of the resource. Large parts of the henge monuments survive as fabulous earthworks and are associated with a quite remarkable range of buried features. Good preservation has also been demonstrated at the cursus monument, a long mortuary enclosure, at least one double pit alignment, and a number of single pit alignments, while the landscape's surviving round barrows are likely to contain substantial archaeological features and deposits. The widespread distribution of ploughsoil lithics and excavated occupation pits suggest the extensive remains of Neolithic-early Bronze Age settlement across much of the landscape.

Thornborough offers the opportunity to explore what are nationally and internationally significant questions about the long-term development and use of a 'sacred landscape' during the fourth to second millennium BC. Previous excavations have demonstrated that the henges were the product of episodic construction, but the detail of this sequence is currently unknown. Additional information would greatly contribute to our understanding of both the henge phenomena and their socio-political role. The Thornborough henges also possess what are unique structural features. It is believed that additional fieldwork would generate unparalleled information about the original appearance of these later Neolithic enclosures. Of equal importance are the indications of a highly organised landscape. Surface scatters suggest a distinction between the gravel plateau, across which the monuments were located, and the surrounding landscape with its extensive traces of later Neolithic-early Bronze Age settlement. Third and second millennium BC occupation is poorly understood and the proper investigation of surface scatters and associated buried remains would constitute a major advance in Neolithic studies.

Current proposals for additional large-scale mineral extraction places all those involved in the landscape's curation at a cross-roads. It is believed that Thornborough's unique importance, as well as its very vulnerability, emphasises the urgent need for a creative long-term strategy which links together archaeologically-sensitive landscape management, research-driven fieldwork programmes, and a coherent and financially viable policy for public dissemination. Only then can Thornborough assume its rightful position alongside the other comparable later Neolithic-early Bronze Age 'sacred landscapes' (and World Heritage Sites) of Stonehenge, Avebury and the Boyne Valley.

1. INTRODUCTION

1.1 Location, topography and geology

The area discussed is based between SE2677-3282 and focused around the Neolithic-early Bronze Age monument complex at SE285795 (centred), which comprises three large henges, a definite cursus and a possible cursus, a long mortuary enclosure, nine round barrows, two double pit alignments, contemporary settlement and other features or finds of archaeological significance (Fig. 1).

The topography of the landscape is largely flat or gently undulates between 35 and 45 metres OD (Fig. 2). However, it does rise steeply to the west, between the villages of West Tanfield and Well, to a height of over 135m. The River Ure lies to the south-west. The soils are typical brown earths, with calcareous brown earths to the west, and alluvial gley soils to the north. The drift geology is predominantly undifferentiated fluvio-glacial terrace deposits, with undifferentiated river terrace deposits around the River Ure and isolated pockets of till and peat to the west and north respectively (Fig. 3). The solid geology comprises Lower Magnesian Limestone to the west, Middle Marl through the central areas, and Upper Magnesian Limestone to the east.

All the monuments lie on the fluvio-glacial terrace deposits along a slight north-south decline towards the River Ure. The primary foci of the monument complex are the three massive henges built 0.75 kilometres apart (Fig. 1a-c), along a north-west to south-east axis. These monuments are the fifth largest of their kind in the British Isles and nowhere else are contemporary monuments built so close together on such a large scale. They not only share the same axis, but their entrances are all aligned north-west to south-east. They are located on predominantly flat ground, although low ridges lie between them, preventing perfect visibility between each site. The Cursus (Fig. 1d) ran for over a kilometre across flat ground, at right-angles to the alignment of the henges. The southern entrance to the Central Henge was built directly over the known centre of the monument. The Oval Enclosure (Fig. 1h) lies c. 0.5 kilometres to the east of the known eastern end of the Cursus. The Possible Cursus (Fig. 1e) runs along the same axis as the henges immediately to the east of the Northern Henge. The two double pit alignments lie at opposite ends of the complex. The Southern Double Pit Alignment (Fig. 1f) runs for over 350 metres north-north-east to south-south-west, to the west of the Southern Henge across ground which slopes gently from north to south with a slight, but pronounced, ridge of a little over two metres height at around the midway point. The Northern Double Pit Alignment (Fig. 1g) runs immediately east of the Northern Henge, along the terminal of the Possible Cursus. The nine round barrows were scattered across the landscape: three formed the linear Three Hills Barrow group c. 0.5 kilometres to the east of the Northern Henge (Fig. 1i-k); two were immediately to the west and south-west of the Central Henge, on opposite sides of the Cursus (Fig. 1l-m); one was on the mid-point of the axis between the Central and Southern Henges, marking out the northern end of the Southern Double Pit Alignment (Fig. 1n); further barrows lie at the southern end of the Southern Double Pit Alignment immediately to the west of the Southern Henge (Fig. 1o), another over 0.5 kilometres to the east-south-east of the Southern Henge (Fig. 1p), and finally, two lie nearly a kilometre south-east of the Southern Henge on and near the axis of the three henge monuments (Fig. 1q-r).

1.2 Background

1.2.1 Land use history

The history of the Thornborough landscape began after the retreat of the glaciers around 12,000 years ago. Transient Mesolithic groups moved across the landscape, as evidenced by scattered flint artefacts. Its first intensive use occurred during the Neolithic period, when the creation of clearances within the heavy deciduous woodland provided space for settlement, agriculture and the building of large ceremonial structures such as a fourth millennium BC cursus monument. That this landscape was of particular importance and significance is demonstrated by its subsequent development over the next 1000 years into one of the largest and most impressive ceremonial centres in the British Isles. At the height of its use the three massive, closely-spaced henges formed a religious focus for a population living as far afield as the central Pennines and the chalklands of the Yorkshire Wolds. By the Iron Age the monument complex was no longer in use, but was still a noticeable landmark, and was certainly

visited during the Roman period, as shown by the discovery of a first century AD brooch at the Southern Henge. Later peoples may well have re-used the monuments. The presence of 14th-15th century AD pottery, and an associated stone structure, were discovered at the Southern Henge, suggesting its use as a 'fair'. The Deserted Medieval Village of East Tanfield is located just to the south of the monument complex. The complex has therefore formed an important, if periodic, focus to its surrounding landscape since its initial creation some 5,000 years ago.

More recent events and land-use have had a detrimental effect on both the monuments and their landscape setting. The Central Henge was used as a munitions dump during the Second World War and parts of the bank have been removed, either during this event or for other unknown purposes. It is also likely that a significant section of the Southern Henge was deliberately bulldozed in the 1960s, presumably in an attempt to flatten it. Of most relevance to the current landscape are intensive agricultural practices and extensive mineral extraction. The landscape possesses great potential for both, classed as Grade II agricultural land and containing extensive sand and gravel resources within its fluvio-glacial terrace deposits. The two quarries to the north and west of the monument complex have destroyed a significantly large part of the surrounding landscape.

Agriculture has levelled, and in some cases destroyed, all of the round barrows as well as the ditches of the Southern and Central henges and the Cursus. There is little evidence of later prehistoric and medieval farming — characterised by cord rig and ridge and furrow — and it is probable that increasingly intensive farming practices over the last two centuries have already destroyed the field systems that must have once existed, as evidenced by the nearby medieval villages of East Tanfield (SE289781) and Howgrave (SE314791). These field systems would have overlain and protected the prehistoric monuments and settlements, their destruction leaving these sites vulnerable to modern ploughing. The impact of the latter was clearly evident at the Southern Henge, where the outside edge of the bank has been sliced away by the plough, prior to the implementation of the recent Stewardship Agreement. The impact of agriculture outside this managed zone is most alarmingly demonstrated at the barrow to the east of the Southern Henge. Here the discovery of early Neolithic pottery in the ploughsoil suggests that the monument's primary deposits are being severely damaged by agricultural activity.

It is gravel extraction, however, that has had the most marked impact upon the physical landscape and its archaeological resource. The main areas of working lie immediately to the west and the north of the monument complex (Fig. 1). These have led to the discovery, partial investigation and destruction of archaeological features which include a large number of Neolithic pits immediately to the north of the complex and a Beaker burial to the west. However, quarrying has also destroyed at least two round barrows and extensive parts of the cursus with no archaeological fieldwork being undertaken. It is highly probable that more ephemeral features, such as settlement traces and evidence of ceremonial practices such as the deposition of artefacts in pits, known from other similar but better investigated landscapes, have been lost.

The current proposals for additional large-scale mineral extraction, if given the go-ahead, would result in the quarrying out of the surviving landscape which surrounds the henge monuments.

1.2.2 History of archaeological research

The area under assessment has seen little archaeological study in comparison to the amount of fieldwork undertaken across comparable areas of archaeological significance, such as the World Heritage landscapes of Stonehenge and Avebury in Wiltshire.

The first recorded fieldwork was undertaken in 1864 by the Rev. W. C. Lukis, who discovered "certain small flint implements" across the landscape (Lukis 1870). He also opened four of the round barrows — that of Centre Hill, located between the Southern and Central Henges, and each of the Three Hills Barrow Group. Aerial photographic reconnaissance by Dr J K St Joseph between 1945 and 1952 discovered a number of previously unknown monuments which included the Cursus that runs beneath the Central Henge. The relationship between these two monuments, and the bank and ditch of the

henge monument, was investigated by N Thomas in 1952. His excavation trenches, each of which were small, were located at the south-west inner ditch terminal, and the point where the northern cursus ditch ran under the western henge bank (Thomas 1955). He also dug two small trenches at the Northern Henge. Leslie Grinsell produced a brief description of the barrows of the area in the same report. The cursus was further investigated in 1955 by F Vatcher, who conducted rescue excavations at its western terminal prior to its destruction by gravel extraction (Vatcher 1960). The Southern Double Pit Alignment was discovered by aerial photography in 1975 (St Joseph 1977).

The first systematic investigations did not occur until the 1990s. Between 1994 and 1998 a programme of fieldwork was undertaken by Dr J Harding, based initially at the University of Reading and later at the University of Newcastle upon Tyne. The *Vale of Mowbray Neolithic Landscape Project* (hereafter known as VMNLP) included a desktop study, geophysical and topographic surveys, excavations at the Southern Double Pit Alignment, the Oval Enclosure and the Southern and Central Henges, and a programme of surface collection across c 180 hectares of the landscape in the immediate vicinity of the monuments (Harding 1998a). The programme of fieldwork was complemented by an interpretive account of Thornborough's social significance (ibid, 2000). The project will be fully published as a major monograph. The latter will include other independent and unpublished work undertaken in the 1990s, namely Ed Denison's earthwork survey of the Northern Henge and Roger Martlew's unpublished geophysical survey of the Southern Henge.

An additional archaeological study, by Mike Griffiths and Associates, commenced in 1995 at the Nosterfield Quarry. It focuses on the area of mineral extraction immediately to the north of the Northern Henge. The fieldwork is ongoing.

Isolated finds have consisted of a number of Neolithic-Bronze Age polished stone axes and metal spearheads, numerous flint tools and pottery fragments, and the occasional discovery of a feature.

The extent, nature and results of all fieldwork work is discussed in **1.4 Summary of assessment results**.

1.2.3 Regional and national context

Thornborough does not occur in isolation, but is part of a more extensive cluster of Neolithic and early Bronze Age monuments found along a 12 kilometres stretch of the River Ure (Fig. 4). Some 5 kilometres to the south-east of Thornborough, and on exactly the same alignment, is the single henge of Nunwick (Dymond 1964). Approximately 4 kilometres to the south is a further cluster of Neolithic and early Bronze Age sites, including the henges of Hutton Moor and Cana Barn, twenty round barrows, a single and a double pit alignment, and an elongated enclosure. The deliberate siting of the two henges on either side of a pronounced ridge, at the top of which is the elongated enclosure, suggests that, like Thornborough, they functioned as a single complex. Further south-east are over 100 known pits, excavated in 1994 and 1995 as part of the A1(M) widening (Tavener 1996). These form distinct concentrations and are associated with the remains of extensive Neolithic settlement. They were also associated with two double pit alignments. Finally, the three standing stones of the Devil's Arrows lie just to the south of the River Ure (Burl 1991). These massive monoliths share the same approximate alignment of the three henges at Thornborough.

The Thornborough complex is therefore one of a series of 'sacred landscapes' which extend over an area of around 75 square kilometres. This series of monuments represents an unusually dense and unique concentration of henges, all the more remarkable given that the appearance of each site is almost identical. They are around 240 metres in diameter, defined by a massive ditch and bank, and interrupted by a pair of opposed entrances, aligned north-west to south-east. There is also an irregular and segmentary outer ditch around each site, which is, with one exception, a feature unique to the henge monuments of the Ure-Swale Catchment. Recent excavations at the Thornborough henges have demonstrated that the outer ditch was accompanied by another bank.

The impressive size and complexity of these low-lying henges certainly contrast with others known in Yorkshire. The nearest geographically are two sites to the east, located 20 kilometres apart across the central Pennines. Little is known about either of these henges and their immediate landscapes, but both are of a small size and architecturally straightforward, consisting of a single earthwork perimeter. The larger of the two is Castle Dykes, near Aysgarth in Wensleydale, with a diameter of some 80 metres. The other site is Yarnbury, near Grassington in Wharfedale. This poorly-preserved single-entrance site

has a diameter of 35 metres (Dymond 1965). Another possible henge can be found some 35 kilometres to the north at Catterick (Moloney *et al* Unpub), near the better known Scorton cursus (Topping 1982). These two sites are located at the top of Fig. 4.

It is probable that the Thornborough complex was an important focus for groups living across a large part of northern England and possibly beyond. It has long been known that Neolithic trading networks connect Cumbria and Yorkshire (Bradley and Edmonds 1993), and it is significant that Thornborough is strategically located alongside the River Ure, whose course represents one of the best routes across the central Pennines. Indeed, the recent discovery of two polished stone axes from Nosterfield and Well demonstrate a close association between Thornborough and cross-Pennine trade, for the stone from which these objects are made has been sourced to Langdale in the Lake District. Surface collection from Thornborough has also produced worked flint known to have originated along the Yorkshire coast, the chalkland Wolds and the central Pennines. Its presence across the Thornborough landscape supports the suggestion made elsewhere that flint was moving westwards, from Yorkshire to Cumbria, in exchange for the polished stone axes known to have been moving in the opposite direction. The presence of other polished axes, such as one made of a distinctive type of Cornish stone, demonstrate links even further afield than Cumbria.

Similarly large-scale Neolithic-early Bronze Age 'sacred landscapes' exist in such disparate areas as Stonehenge and Avebury, both in Wiltshire, the Boyne Valley in Ireland, and Orkney. Comparisons therefore suggest that the development of the monument complex at Thornborough was part of a wider phenomenon played out across certain parts of the Britain Isles. Whilst henges and cursuses are primarily a British and Irish phenomenon, other monuments at Thornborough have a known distribution across most of north-west Europe: this is apparent with both round barrows and linear alignments, usually with either stone or timber uprights. Hence, the complex was connected to social traditions which stretched across a huge area. Understanding them can only be achieved through a detailed and comprehensive study of each monument complex and the way in which they relate to or differ from one another. Thornborough therefore has an important role to play in developing an archaeological understanding of the Neolithic and Bronze Age, not only locally and regionally, but nationally and internationally.

1.3 Methodology

Data was collected from a number of resources:

- The National Monuments Record — held and maintained by English Heritage.
- The Sites and Monuments Record — held and maintained by North Yorkshire County Council. Comprises Ordnance Survey reference cards, aerial photographs, rectified plots of aerial photographs, records of fieldwork, finds and other miscellany by Parish, and a digital archive which collates elements of all of the above.
- Other aerial photographic data not held by the SMR, most importantly the Cambridge University Collection of Aerial Photographs (CUCAP).
- Published material from journals and collected works. A full listing can be found in the **Bibliography**.
- Unpublished reports, held either by the SMR or by the Vale of Mowbray Neolithic Landscape Project (VMNLP).
- Data supplied by Mike Griffiths and Associates.
- The archive results of fieldwork undertaken by the VMNLP between 1994 and 1998.

All data was checked, referenced and entered into a Microsoft Access database. This resource contains all known Neolithic and Bronze Age archaeology from the study area and has been used to produce the textual and visual information presented within the assessment report.

The various accessed resources possessed varying levels and standards of data. The National Monuments Record provided an extensive printout of all the data held, which, although containing high quality data of a consistent nature (i.e. all the data fields were comprehensively filled in, unlike the SMR), lacked a number of sites and isolated finds. The Sites and Monuments Record was extremely variable in quality. Recent fieldwork and finds had been partially entered into a digital archive, which also contained an incomplete record for some, but certainly not all, the other sites and finds. The Ordnance Survey reference cards, held by the Sites and Monuments Record, provided the most extensive and comprehensive catalogue, although there were elements of missing data. The 1:10,000 maps for the area had been overlaid with rectified aerial photograph data, although this was inconsistent in quality and interpretation. Parish records contained records from miscellaneous sources such as newspaper articles, as well as the results of fieldwork prior to and during large-scale acts of archaeological destruction such as gravel extraction. Aerial photographs were comprehensive, and when combined with others from the CUCAP provided an excellent data source, even if limited in its interpretative potential. Journals, in particular that of the Yorkshire Archaeological Society, provided a wealth of information about excavations and finds in the late nineteenth and early to mid-twentieth centuries. Only partial records of the data collected by Mike Griffiths and Associates was placed at the disposal of this project, and the results, whilst interesting, are only discussed in a cursory fashion. The project archive held by the VMNLP, at the University of Newcastle, provided in-depth information about those parts of the monument complex that had been the focus for fieldwork.

1.4 Summary of assessment results

1.4.1 The monument complex (Fig. 1)

The known monuments considered part of the Thornborough monument complex are as follows:

- a Northern Henge
- b Central Henge
- c Southern Henge
- d Cursus
- e Possible Cursus
- f Southern Double Pit Alignment
- g Northern Double Pit Alignment
- h Oval Enclosure
- i northernmost barrow of the Three Hills Barrow Group
- j central barrow of the Three Hills Barrow Group
- k southernmost barrow of the Three Hills Barrow Group
- l barrow to the west of the Central Henge
- m barrow to the south of the Central Henge
- n Centre Hill Barrow, between the Central and Southern Henges
- o barrow to the south-west of the Southern Double Pit Alignment
- p Double-Ditched Barrow to the east of the Southern Henge
- q barrow to the south-east of the Southern Henge
- r barrow to the south-east of the Southern Henge

1.4.1.1 Northern Henge (Fig. 1a)

NGR: SE28050850050 NMR: SE27NE31 SMR:21543 SAM: NYORKS36

Description: Class IIa henge

Period: later Neolithic

Discussion: The most northerly of the three massive henges is the best preserved, surviving as a substantial earthwork with a pair of ditches and outer banks (Fig. 5). The outer ditch is narrower and more segmented than the inner ditch. The entrances are aligned NW-SE. Thomas's 1952 excavations consisted of two small 'sounding pits' dug into the inner ditch. These produced similar information as the trenches he excavated at the Central Henge, the basal deposits suggesting a dry, open environment (Thomas 1955). He recorded that the central bank was 3 metres high and 18 metres wide, with a berm of 12 metres separating it from the inner ditch, which was nearly 20 metres wide. An earthwork survey was undertaken in 1996 (Dennison unpub 1996). The henge currently lies within woodland which has provided protection from ploughing, but caused damage through root action and animal burrows. Aerial photographs show a short length of pits, between 7.5 and 11 metres apart and 2.5 to 4 metres diameter, running east from the outer ditch. Whether these are of later Neolithic or early Bronze Age date is unclear.

Aerial photographs: SE2880/2, AWS54, AWS55, B18, B19, BTY33, BTY42, SE2880/1, SE2880/3

Publications: Harding and Lee, 1987, Henge monuments and related sites..., 314; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.2 Central Henge (Fig. 1b)

NGR: SE2854079460 *NMR:* SE27NE32 *SMR:* 21543 *SAM:* NYORKS36

Description: Class IIa henge

Period: later Neolithic

Discussion: Consists of a circular bank and internal ditch, separated by a substantial berm, and a narrower and segmentary external ditch (Fig. 6). The two opposing entrances are aligned NW-SE. The henge, particularly its outer and inner ditches, has been badly affected by ploughing. But despite this, its earthworks are still impressive and an earthwork survey was undertaken in 1998 by the VMNLP

(Harding *et al*, unpub 1999a). The inner ditch survives to a maximum depth of 1.05 metres and is approximately 25 metres wide. The bank survives to a maximum height of 4.5 metres and width of 18 metres at the western terminal of the southern entrance, but in other areas, especially to the north-east, has been reduced to a height of 0.85 metres and a width of 11 metres. Signs of quarrying are visible in the south and south-east of the bank. The outer ditch does not survive as an earthwork, presumably flattened out by ploughing. It is, however, clearly visible on aerial photographs. A significant section of

the outer ditch has been lost to quarrying immediately to the west of the henge. The overall diameter of the monument is between 240 and 250 metres.

Geophysical survey was undertaken across the south-west section of the outer ditch in 1998 by Timescape Limited prior to excavation by the VMNLP (Timescape, unpub 1998). The survey clearly showed the external ditch as a continuous feature, and produced evidence for extensive activity, in the form of pits and linear features, both inside and outside the ditch. Excavations substantiated that a large number of these anomalies may have indeed been archaeological features associated with the Central Henge and Cursus (see below). The Department of Archaeological Sciences, University of Bradford, undertook additional geophysical survey, during the summer of 1998, around the site's centre and its southern entrance. The small survey at the centre produced no significant results, but that across the internal southern entrance established the presence of a number of anomalies. These included a pit of approximately 5 metres diameter, a linear ditch running through the entrance from the large pit for over 25 metres, and a ditch cut across the entrance axis between the inner ditches (Horsley T, unpub 1999). Aerial photography ascertains that the latter feature was the northern Cursus ditch.

Excavations were undertaken by N Thomas in 1952. He dug two slot trenches at the south-western terminal of the inner ditch and on the south-west of the bank where it overlies the Cursus (Thomas 1955). He also dug a small test pit at the centre of the site. No trace of these excavation trenches were discovered by the earthwork survey. The inner ditch was recorded as possessing a shallow U-shaped profile, 17.6 metres wide and 2.1 metres deep. The bank dimensions are similar to those above and it appears likely that it was built as a series of connecting dumps. It sealed a palaeosurface that suggested a wooded environment, whereas the basal ditch deposits are characteristic of a dry open environment. A large quantity of gypsum was also noticed mixed throughout the lower bank deposits, suggesting that the feature had originally been coated in the material. It was concluded by Thomas that the two monuments were separated by a significant period of time, the cursus being Neolithic, the henge early Bronze Age. No prehistoric finds were recorded.

The VMNLP undertook excavations at the Central Henge in 1998 (Harding unpub 1999c). A 20 metre by 20 metre trench was located across a section of the south-western outer ditch and what was incorrectly considered to be the southern Cursus ditch (Fig. 7). The excavated outer henge ditch has a shallow V-shaped profile, with a variable width of between 4.7 metres and 6.9 metres across its top, and between 0.5 metres and 1.4 metres across its base, with a corresponding deepening of the feature from 1.0 metres to 1.3 metres. The southern edge of the cut was more regular and steeper than its northern edge, suggesting it was excavated from the south to the north. Traces of an outer bank survived to a maximum height of 0.25 metres and a width in excess of 5 metres. Thirteen small postholes lay beneath this feature. There was also a steep-sided linear feature terminating just short of the henge ditch. Features were also uncovered within the outer henge ditch. These included a large, shallow bottomed depression, associated with four substantial post holes, as well as 59 smaller postholes of between 0.26 and 0.78 metres diameter and 0.31 to 0.58 metres depth and circles of stone

set within a 0.25 metres to 0.5 metres thick deposit of sandy-silt, extending across the top of the depression and three-quarters of the inner area. The eastern edge of the deposit parallels the axis of the linear feature. No finds were discovered during the excavation.

Aerial photographs: CKD025, BTY47, AAB11, ACB14, ACB19, AKC12, AKC13, AGG28, ATG79, AWS54, AWS55, B18, B19, BDE53, BPF93, BJE8, RU58, BPF99, BTY46, CDI20, BZG82, CAL50, CAL50, CEG34, CEG35, CGX12, CGX15, CGX16, CHJ15, CQJ14, CQJ15, SE2878/5, SE2879/8, SE2879/11, SE2879/61/12, SE2879/3, SE2879/20, JH83, JH85, SE2879/35, SE2879/32, SE2879/8, SE2879/15, SE2879/16, SE2879/17, SE2879/64, SE2879/65

Publications: Harding and Lee, 1987, Henge monuments and related sites..., 314; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445; Vatcher F, 1960, *Thornborough Cursus, Yorks*, Yorkshire Archaeological Journal, 40, 169-182

1.4.1.3 Southern Henge (Fig. 1c)

NGR: SE2895078850 NMR: SE27NE33 SMR: 21543 SAM: NYORKS36

Description: Class IIa henge

Period: later Neolithic

Discussion: Consists of a circular bank and internal ditch, separated by a substantial berm, and a narrower and segmentary external ditch. The two opposing entrances are aligned NW-SE. The henge has been extensively damaged by ploughing and a deliberate attempt to remove some of the earthwork (Fig. 8). An earthwork survey was undertaken in 1997 and 1998 by the VMNLP (Harding *et al* unpub 1999a). The inner ditch is poorly preserved in relation that to the Central Henge. It survives to a maximum depth of 0.6 metres and is approximately 16 metres wide. The bank survives to a maximum height of 1.8 metres and width of 20 metres to the north-west, but in other areas, especially to the east and south-east, has been reduced to a height of 0.3 metres and a width of over 30 metres. An act of bulldozing in the 1960s may account for this. The outer ditch possibly survives as an earthwork to a depth of 0.25 metres to the north. The southern entrance has been extensively disturbed, as has the bank to the east. The overall diameter of the monument is between 240 and 250 metres.

Geophysical survey was undertaken in ?1990, 1996 and 1997. The latest of these, as part of the VMNLP, examined the western half of the outer ditch (Harding *et al* unpub 1999b). Its clearly showed the outer ditch as a discontinuous and substantial feature. The 1996 survey were undertaken by the Department of Archaeological Sciences at the University of Bradford, examined the northern inner ditch terminal. It successfully located the henge ditch and bank. The ?1990 survey by Roger Martlew of the University of Leeds was of the complete monument and part of the adjacent Double Pit Alignment. It located all the site's major archaeological features and a flattened-V shaped linear anomaly within its inner area. No interim report yet exists for both the ?1990 and 1996 surveys.

Small-scale excavation was undertaken by the VMNLP at both the outer and inner ditches in 1996 and 1997 respectively (Harding 1998). The 8 metres by 7.5 metres excavation trench on the western side of the outer ditch produced evidence for a shallow U-shaped feature some 2.5 metres wide and with a maximum depth of just 0.6 metres (Fig. 9). It terminated at its southern end in a causeway with four stake holes. An external bank of simple dump construction ran along the outside of the ditch, and this feature, like the ditch, was the product of two major episodes of construction. A narrow steep-sided bedding trench also ran along its inside. A small assemblage of 17 worked lithics were discovered during excavation. The only diagnostic find was a scraper.

The 20 metres by 15 metres excavation trench dug in 1997 focused upon the north-western inner ditch terminal (Fig. 10). The ditch had a maximum depth of 2.6 metres and a width of 15.8 metres, sloping steeply on the eastern side and more gradually on the western side with a flattened butt end (Harding 1998). The area within the causeway contained evidence for a badly disturbed banked feature and five stake- or postholes. A large pit with two further postholes was cut into this entrance feature. At the top of the ditch was a narrow linear feature of stone construction. This was associated with quantities of 14th and 15th Century Medieval pottery, but no prehistoric finds were discovered during excavation. A single radiocarbon date of 3350 ± 50 BP (1745-1515 Cal BC, Beta-143015) was from a small fragment of charcoal at the top of the primary ditch fill.

Aerial photographs: CKD025, BTY40, CQJ16, CQJ17, CQJ18, AWS54, AWS55, B18, B19, BPF97, BTY27, BTY28, BZG83, CGX14, CGX17, CHJ13, CKD21, CKD26, CQJ14, CQJ15, SE2878/19, SE2878/11, SE2878/20, RG3, JH77, RU60, SE2878/25

Publications: Harding, J, 1998, Recent fieldwork at the Neolithic monument complex of Thornborough, North Yorkshire, *Northern Archaeology* 15/16, 27-38; Harding and Lee, 1987, Henge monuments and related sites..., 314; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.4 Cursus (Fig. 1d)

NGR: SE2850079300 (centred) NMR: SE27NE1 SMR: 21543 SAM: NYORKS36

Description: Cursus

Period: early Neolithic

Discussion: Originally a substantial monument over 1.2 kilometres long and 43 metres wide, its western half has now been destroyed by quarrying. What remains no longer survives as an earthwork but as a cropmark on aerial photographs. A small part of the western terminal was excavated by F de M Vatcher in 1958, and a section under the western bank of the Central Henge by N Thomas in 1952. Possible internal features may have been excavated by the VMNLP in 1998. Vatcher explored the western terminal and a length of the cursus over 105 metres (Vatcher 1960). The rest of the monument between this point and the Central Henge has been destroyed with no archaeological mitigation. The excavated ditch was between 2.1 and 2.7 metres wide and between 0.6 and 0.9 metres deep, with a U-

shaped profile. The terminal end was a broad curve and broken by two gaps to the north-west and possibly one to the south-east which had been refilled. There was no trace of a bank, although this had presumably been destroyed by ploughing, activity which also disturbed the upper fills of the ditch. No finds were recovered. Later in 1958 a stone cist containing a crouched inhumation with its head to the terminal was uncovered by an excavator driver about 4.5 metres from the terminal end. This had not been seen during the previous archaeological fieldwork. Thomas (1955) also recorded two sections exposed in the quarry face, showing a generally shallow U- and V-shaped, varying in width between 2.1 and 3.0 metres and with a depth of between 0.6 and 1.0 metres. Here the bank appears to have been on the outside of the monument. The ditch had silted through natural processes and was presumably an insubstantial feature when the overlaying henge had been constructed.

The VMNLP excavations uncovered a linear feature running parallel to the cursus ditch (Fig. 7). The feature is also evident on aerial photographs. A 6 metre long section was excavated. It was found to be 0.5 metres wide, with a V-shaped profile, surviving to a depth of 0.95 metres, but rising to a depth of 0.7 metres. Its rounded terminal was 1.0 metre from the cut of the outer henge ditch. No finds were recovered from the feature. Its date and purpose are unknown. It is, however, reminiscent of a bedding trench for a small palisade or fence.

Aerial photographs: CHJ15, JH83, JH85, SE2879/3, SE2879/20, SE2879/35, SE2879/32, SE2879/15, SE2879/16, SE2879/17, SE2879/64, SE2879/65

Publications: Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding, Yorkshire* Archaeological Journal 38, 425-445; Vatcher F, 1960, *Thornborough Cursus, Yorks, Yorkshire* Archaeological Journal, 40, 169-182

1.4.1.5 Possible Cursus (Fig. 1e)

NGR: SE2826080110 NMR: - SMR: - SAM: -

Description: possible cursus

Period: early Neolithic

Discussion: A section of what could be a cursus monument appears on aerial photographs to the east of the Northern Henge. Surviving for a length of 240 metres and a width of 72 metres, the feature has a squared terminal immediately south-east of the Northern Double Pit Alignment. Geophysics undertaken by the VMNLP was inconclusive about the nature of this monument, but located a possible ring ditch (Harding J *et al* unpub. 1999b). The latter is not evident on any aerial photographs.

Aerial photographs: SE3572/4/1A, SE3572/4/0A

1.4.1.6 Southern Double Pit Alignment (Fig. 1f)

NGR: 2870078900 (centred) NMR: SE27NE20 SMR:21543 SAM: NYORKS36

Description: double pit alignment

Period: later Neolithic-early Bronze Age

Discussion: Discovered as an aerial photograph cropmark near the Southern Henge in 1975 (St Joseph 1977). Known to be 350m long, with pits every 5 metres to 7 metres (Fig. 9). The rows of the alignment are between 10 metres to 11 metres apart. At the northern end are two, closely set, parallel lines of nine trenches, each about 3 metres long. About 80 metres north-east are two further large pits that align with the Double Ditched Round Barrow. Geophysics and excavation was undertaken on the monument by the VMNLP in 1994 and 1998-1999 respectively. The limited geophysics was towards the southern end of the alignment. It confirmed a double row of sub-circular features (Harding *et al* unpub. 1999b). Subsequent excavations uncovered 88 pits (Fig. 11). These varied in size from 0.75 metres diameter and 0.35 metres deep to 4 metres diameter and 1.8 metres deep. The existence of post-pipes and stone packing suggested that most contained post settings. There was a gap of c 30 metres in the eastern line of pits, where it passed closest to the northern entrance of the Southern Henge. The northern and southern extents of the monument were not located. One of the excavated pits contained the upper half of an inverted Deverel-Rimbury vessel, another three sherds of Collared Urn. A total of 66 worked lithic pieces were discovered, including 3 cores, 2 scrapers and 2 microlithic. The majority of this material was of later Neolithic-early Bronze Age date and type. A radiocarbon date of 3385 ± 38 BP (OxA-11009, 1750-1590 Cal BC) was from a small charcoal fragment in the post-pipe of one pit, while others of 2716 ± 37 BP (OxA-11010, 925-800 Cal BC) and 2761 ± 35 BP (OxA-11033,

1000-825 Cal BC) were from a small fragment of charcoal in the top of a pit's recut.

Aerial photographs: BTY33, BTY40, BTY47, GU72, CQJ16, CQJ17, CQJ18, AQA35, BTY27, BTY28, BTY37, BZG84, CEG41, CGX18, CKD21

Publications: St. Joseph, 1977, Aerial reconnaissance: recent results, *Antiquity* 51, 143-45

1.4.1.7 Northern Double Pit Alignment (Fig. 1g)

NGR: SE2820080230 NMR: - SMR: - SAM: -

Description: double pit alignment

Period: later Neolithic-early Bronze Age

Discussion: A cropmark to the east of the Northern Henge, running south-west to north-east for a distance of 132 metres. The two lines of pits are c 9 to 10 metres apart. There is a pit every 10 metres along these rows.

Aerial photographs: SE2880/7

1.4.1.8 Oval Enclosure (Fig. 1h)

NGR: SE2917079530 NMR: - SMR: - SAM: -

Description: long mortuary enclosure

Period: early Neolithic

Discussion: Visible as a sub-oval cropmark to the east of the Cursus. The monument was the focus of geophysics and excavation by the VMNLP in 1996 (Harding 1998). The geophysics was inconclusive, although the enclosure ditch was partially visible. Excavations uncovered a ditched enclosure 17 metres north-south by 25 metres east-west (Fig. 12). The ditches were generally U-shaped in profile, 2.5 metres wide and between 0.6 and 0.75 metres deep. The ditch appears to be segmented at its north-west corner and contained internal features that were not excavated. One trench produced the remains of a 2.2 metre wide bank, suggesting it was an open monument as opposed to a levelled long barrow. No finds were recovered.

Aerial photographs: BTY30

Publications: Harding, J, 1998, Recent fieldwork at the Neolithic monument complex of Thornborough, North Yorkshire, *Northern Archaeology* 15/16, 27-38

1.4.1.9 Northernmost barrow of the Three Hills Barrow Group (Fig. 1i)

NGR: SE2860080240 NMR: SE28SE6 SMR: 21011 SAM: -

Description: round barrow

Period: Bronze Age

Discussion: Northernmost of the Three Hills barrow group, this monument was much reduced by ploughing to a diameter of 18 metres and a height of 0.3 metres when it was investigated by the Rev. W C Lukis in 1864 (Lukis 1870). At a depth of 0.15 cm from the highest point of the barrow he discovered two 'jars of coarse earthenware'. These held the cremated bones of an adult and a child and were associated with flints, some of which had been heat affected. Beneath these 'jars' two clay layers sealed a heat affected, clay lined pit, 0.5 metres diameter and 0.3 metres deep, which contained charcoal and calcined human bone. Lukis suggests that the deposits are from one event, in which the cremations occurred in the pit and were then transferred to the 'jars', the pit sealed and the 'jars' deposited on top, prior to the capping of the burial. It is also possible that the deposits represent a primary cremation in the clay lined pit, and a later secondary addition of the two cremations in 'jars'. The monument has now been completely destroyed by ploughing.

Aerial photographs: JH87, OS72, OS118, OS667, OS668, AHU51, AKC14

Publications: Lukis W, 1870, *Of the flint implements and tumuli of the neighbourhood of Wath*, Yorkshire Archaeological Journal, 1, 116-128; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.10 Central barrow of the Three Hills Barrow Group (Fig. 1j)

NGR: SE2862080220 NMR: SE28SE6 SMR: 21011 SAM: -

Description: round barrow

Period: Bronze Age

Discussion: Central of the Three Hills Barrow Group, the monument was reduced by ploughing to a diameter of 18 metres and a height of 0.3 metres when it was investigated by the Rev. W C Lukis in 1864 (Lukis 1870). The deposits were similar in form to those at the northernmost barrow, with clay layers sealing a heat affected, clay lined pit 0.6 metres in diameter and 0.45 metres in depth, which was filled with charcoal and burnt bone. Only a few pottery fragments were found above the clay layers. The monument has been completely destroyed by ploughing.

Aerial photographs: JH87, OS72, OS118, OS667, OS668, AHU51, AKC14

Publications: Lukis W, 1870, *Of the flint implements and tumuli of the neighbourhood of Wath*, Yorkshire Archaeological Journal, 1, 116-128; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.11 southernmost barrow of the Three Hills Barrow Group (Fig. 1k)

NGR: SE2860080150 NMR: SE28SE6 SMR: 21011 SAM: NYORKS984

Description: round barrow

Period: Bronze Age

Discussion: Southernmost and largest of the Three Hills Barrow Group, the monument was reduced to a diameter of 24 metres and a height of 1 metre when it was investigated by the Rev. W C Lukis in 1864 (Lukis 1870). A quantity of burnt bone and charcoal was discovered 0.2 metres from the apex and a large collection of cobbles and a fragment of burnt bone 0.6 metres further down. No other finds were recovered.

Aerial photographs: JH87, OS72, OS118, OS667, OS668, AHU51, AKC14, CEG40

Publications: Lukis W, 1870, *Of the flint implements and tumuli of the neighbourhood of Wath*, Yorkshire Archaeological Journal, 1, 116-128; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.12 barrow to the west of the Central Henge (Fig. 1l)

NGR: SE2835079480 NMR: SE27NE5 SMR: SAM: -

Description: round barrow

Period: Bronze Age

Discussion: Completely destroyed by quarrying with no archaeological mitigation.

Publications: Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.13 barrow to the south of the Central Henge (Fig. 1m)

NGR: SE2845079170 NMR: SE27NE2 SMR: SAM: -

Description: round barrow

Period: Bronze Age

Discussion: Completely destroyed by quarrying with no archaeological mitigation.

Publications: Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.13 Centre Hill Barrow (Fig. 1n)

NGR: SE2878079100 NMR: SE27NE3 SMR: 21543 SAM: NYORKS36

Description: round barrow

Period: Bronze Age

Discussion: A large barrow lying on a slight ridge on the axis between the Central and Southern Henges. The monument was reduced by ploughing to 18 metres diameter and 1 metre high when it was investigated by the Rev. W C Lukis in 1864 (Lukis 1870). At a depth of 1.5 metres from its apex, small unburnt bone fragments were found in the remnants of a wooden coffin aligned north-east to south-west (the same axis as the henge monuments). A 'rudely ornamented jar of coarse earthenware' and an Early Bronze Age flint implement formed on a flake, were associated with the body.

Aerial photographs: BTY27, BTY28, CQJ16, CQJ17, CQJ18, BTY33, BTY37, BZG84, BZG86, CHJ14, CQJ14, CGJ15, SE2879/13, SE2879/14

Publications: Lukis W, 1870, *Of the flint implements and tumuli of the neighbourhood of Wath*, Yorkshire Archaeological Journal, 1, 116-128; Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding*, Yorkshire Archaeological Journal 38, 425-445

1.4.1.13 barrow to the south-west of the southern double pit alignment (Fig. 1o)

NGR: SE2863078700 NMR: - SMR: SAM: -

Description: round barrow

Period: Bronze Age

Aerial photographs: CQJ16, CQJ17, CQJ18, ACB18, CAL54, CKD21, CKD26

Discussion: Known from aerial photographs, but no trace of the barrow remains extant.

1.4.1.13 Double Ditched Barrow to the south-east of the Southern Henge (Fig. 1p)

NGR: SE2940078680 NMR: SE27NE6 SMR: 21012 SAM: NYORKS1202

Description: round barrow

Period: early Neolithic or Bronze Age

Discussion: Known from an aerial photograph which clearly show two concentric ditches. There also appears to be at least one associated pit concentration. Ploughing had reduced the monument to 30.5

metres diameter and 1.5 metres high by 1952. A chert flake and flint core were found nearby. In 1997 the VMNLP discovered Grimston Ware pottery sherds in the soil mark of its inner ditch. It is therefore possible that the site is early Neolithic in date.

Aerial photographs: CKD24

Publications: Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding, Yorkshire* Archaeological Journal 38, 425-445

1.4.1.13 barrow to the south of the South Henge (Fig. 1q)

NGR: SE2929478226 *NMR:* - *SMR:* - *SAM:* -

Description: round barrow

Period: Bronze Age

Discussion: Known from aerial photographs.

Aerial photographs: ANY163/16 + 17

1.4.1.14 barrow to the south of the South Henge (Fig. 1r)

NGR: SE2910278337 *NMR:* - *SMR:* - *SAM:* -

Description: round barrow

Period: Bronze Age

Discussion: Known from aerial photographs.

Aerial photographs: ANY163/16 + 17

1.4.2 Other Neolithic and Bronze Age archaeology

There are other likely or possible Neolithic-early Bronze Age sites and isolated finds in the vicinity of the monument complex (Fig. 13). These include another barrow, pit alignments, a burial, and isolated finds of stone and bronze tools.

1.4.2.1 Possible Cursus (fig. 13a)

NGR: SE3077080070 *NMR:* - *SMR:* - *SAM:* -

Description: possible cursus

Period: Unknown/Neolithic

Discussion: Known from aerial photographs. A short length of two parallel ditch c 96 metres long and 40 metres wide. This is a similar width to the Cursus under the Central Henge. It is possible, however, that it is associated with nearby rectilinear enclosures and trackways, but if so, it is a more ephemeral feature than all the others.

Aerial photographs: SE3080/2/17

1.4.2.2 Pit Alignment to south of Southern Henge (fig. 1b)

NGR: SE2943077840 *NMR:* - *SMR:* - *SAM:* -

Description: single pit alignment

Period: Unknown/Neolithic-Bronze Age-Iron Age

Discussion: Known from aerial photographs. A 102 metre length of 13 pits appears to become a continuous ditch feature that runs for a further 104 metres to the east. The alignment cuts across the continuation of the henge axis.

Aerial photographs: BZG 87

1.4.2.3 Pit Alignment to east of Southern Henge (fig. 13c)

NGR: SE3000079200 *NMR:* - *SMR:* 13755- *SAM:* -

Description: single pit alignment

Period: Unknown/Neolithic-Bronze Age-Iron Age

Discussion: Known from aerial photographs. A shallow arc of 31 pits running for 192 metres.

Aerial photographs: AQA37, BTY31, BTY32, AQA 36

1.4.2.4 Round Barrow (fig. 13d)

NGR: SE3168080210 *NMR:* SE38SW5 *SMR:* 20147 *SAM:* NYORKS736

Description: round barrow

Period: Bronze Age

Discussion: Destroyed by quarrying.

Publications: Thomas N, 1955, *The Thornborough Circles near Ripon, North Riding, Yorkshire* Archaeological Journal 38, 425-445 (Grinsell No 7)

1.4.2.5 Burial (fig. 13e)

NGR: SE2600077900 NMR: SE27NE19 SMR: 15522 SAM: -

Description: Burial

Period: Bronze Age

Discussion: The skeleton of a 25 year old male found whilst quarrying. A crouched inhumation associated with a Beaker vessel.

Publications: Thorp F, 1974, *The Yorkshire Archaeological Register:1973*, Yorkshire Archaeological Journal, 46, 143; Mayes P *et al*, 1986, *A Beaker Burial at West Tanfield, North Yorkshire*, Yorkshire Archaeological Journal, 58, 1-4

1.4.2.6 Bronze Spear (fig. 13f)

NGR: SE2600082000 NMR: SE28SE13 SMR: - SAM: -

Description: Bronze Spear

Period: Bronze Age

Discussion: Found in 1951 and now in Bradford Museum.

1.4.2.7 Stone Axe (fig. 13g)

NGR: SE2862080780 NMR: - SMR: - SAM: -

Description: polished stone axe

Period: Neolithic

Discussion: A small Group VI axe.

1.4.2.8 Stone Axe (fig. 13h)

NGR: SE2815081180 NMR: - SMR: - SAM: -

Description: polished stone axe

Period: Neolithic

Discussion: A large Group I axe.

1.4.2.9 Stone Axe (fig. 13i)

NGR: SE2850079200 NMR: - SMR: - SAM: -

Description: polished stone axe

Period: Neolithic

Discussion: Bought in 1960 in Ripon, found in "Danish Camp on Thornboro' Moor".

Publications: Thomas N, 1963, *A polished flint axe-head from the Thornborough Circles*, Yorkshire Archaeological Journal, 41, 14

1.4.2.10 Stone Axe (fig. 13j)

NGR: SE2810080700 NMR: SMR: 23368 SAM: -

Description: polished stone axe

Period: Neolithic

Discussion: Small axe. Found in 2001.

Publications: Ripon Gazetteer 21/12/01

1.4.2.11 Stone Axe (fig. 13k)

NGR: SE2700078000 NMR: - SMR: - SAM: -

Description: polished stone axe

Period: Neolithic

Discussion: From the vicinity of West Tanfield, made of greenstone and now held in the British Museum.

Publications: Clough T H Mck and Cummins W A, 1988, *Stone Axe Studies Volume II: The petrology of prehistoric stone implements from the British Isles*, CBA Research Report 67, 213

1.4.2.12 Stone Axe (fig. 13l)

NGR: SE3100081000 NMR: SE38SW15 SMR: 20176 SAM: -

Description: polished flint axe

Period: Neolithic

Discussion: A polished flint axe, found around 1847

Publications: Speight H, 1897, *Romantic Richmondshire*, 149-50

1.4.2.13 Axe Hammer (fig. 13m)

NGR: SE2845082000 NMR: - SMR: - SAM: -

Description: axe hammer

Period: Bronze Age

Discussion: A polished, perforated mace head.

1.4.2.14 Axe Hammer (fig. 13n)

NGR: SE2940079300 NMR: SE27NE7 SMR: 15805 SAM: -

Description: axe hammer

Period: Bronze Age

Discussion: Found around the vicinity of Chapel Hill in about 1900.

1.4.2.15 Axe Hammer (fig. 13o)

NGR: SE3200077000 NMR: - SMR: - SAM: -

Description: axe hammer

Period: Bronze Age

Discussion: Made of coarse greywacke

Publications: Clough T H Mck and Cummins W A, 1988, *Stone Axe Studies Volume II: The petrology of prehistoric stone implements from the British Isles*, CBA Research Report 67, 213

1.4.3 Surface collection

As well as the isolated finds mentioned above, found by members of the general public, farmers and others, the VMNLP undertook an extensive fieldwalking programme across the landscape between 1994 and 1998. The results established the presence of 1,232 pieces of worked flint and chert in and around the monument complex (Fig. 14-15). Detailed specialist reports, which are part of the VMNLP Archive, have been completed for the entire assemblage.

The evidence suggests a small-scale Mesolithic and early Neolithic presence across the entire landscape (Fig. 16). By the later Neolithic-early Bronze Age it appears that levels of occupation had increased markedly and was now focused in areas spatially removed from the monument complex (Fig. 17). The evidence suggests a particular focus of the east-facing slope of Chapel Hill (Fields 10 and 11), some 0.7 kilometres immediately to the east of the Central Henge. Smaller concentrations were recorded to the south-east of the complex (Field 32), to its south-west next to the present course of the River Ure (Field 2b), and to the north of the village of Nosterfield (Nost 1). Conversely, later Neolithic-early Bronze Age flint is rare from the area in the immediate vicinity of the monument complex. This striking dichotomy is reiterated by the general absence of material culture from the henge monuments themselves.

1.4.4 The results from Nosterfield Quarry

Partial excavations in advance of gravel extraction presented evidence for extensive Neolithic and Bronze Age occupation in an area to the north of the Northern Henge. The archaeological remains consist of a series of pit and hearth features, linear ditches, pit alignments, ring ditches and other burials. Excavations in 1995 uncovered an area of 70 pits and 13 hearths in two loose groupings. Only 38 of these features were excavated, the rest roughly dug to retrieve any finds. Pottery of Grimston Ware, Peterborough Ware, and Grooved Ware were recovered, associated with distinct parts of the site (Grimston Ware to the south, Peterborough Ware in the central area and Grooved Ware to the north and south). The lithics were dominated by scraping tools, suggesting potential domestic processing, although the presence of unused arrowheads deposited within pits perhaps reflects purposeful ritual deposition. Pottery and lithic traditions produce a picture of sporadic but long lived occupation continuity by Neolithic and Bronze Age peoples. They presumably used the area as a temporary settlement site whilst visiting the monument complex.

Later excavations revealed more scattered pit groups, two stone axes, part of a jet bead, ring ditches and burials, and partial evidence for what appears to be a Bronze Age field system. The latter consists of linear features, up to 4 metres wide and 1.5 metres deep, and a series of single pit alignments, two of which appear to respect the linear features. Recent fieldwork from other landscapes have established a close association between Bronze Age burials and field boundaries. This is evident at Nosterfield where three ring ditches (round barrow quarry ditches) and a number of cremations and inhumations burials, some placed deliberately in the pit alignments, were located.

2. DISCUSSION OF RESULTS

The following section discusses the Neolithic-early Bronze Age archaeology of the study area, as outlined above, and focuses specifically upon:

- The survival, condition, period, rarity and vulnerability of the archaeology
- The value, limitations and potentials of the archaeological resource, suggesting priorities to further characterise, assess and develop the resource

2.1 The henge monuments

Henges are often regarded as a “hallmark of their age” (Harding & Lee 1987, 66). As a monument class they are generally defined as a circular or oval area of variable size enclosed by a bank, an internal ditch, and usually broken by one or more entrances (Harding & Lee 1987). They are subdivided into Class I (one entrance) and Class II (two entrance) sites. A further subdivision is that of Class IIA, characterised by a further external bank — but these monuments are only found between the Rivers Ure and Swale in North Yorkshire. Over 120 definite henge monuments are now known from the British Isles, with specific concentrations in the Moray Firth, Scotland, the Milfield Basin, Northumberland, the Ure-Swale Catchment, North Yorkshire, the Thames Valley, the Mendips, the Salisbury Avon and the Boyne Valley, Ireland. They vary considerably in size, from 6 metres diameter to the massive henges of Avebury and Durrington Walls, in Wiltshire, whose diameters are in excess of 500 metres. Internal and external structures are extremely varied and include stone and timber settings, pits, and burials.

The henge monuments found between within the Ure-Swale Catchment are the largest in the British Isles (with the exception of the four giant Wessex ‘henge-enclosures’ of Avebury, Marden, Durrington Walls, Marden and Mount Pleasant). Of these sites the examples at Thornborough are the best preserved. Although gravel extraction and ploughing — as well as other less obvious practices such as the account of bulldozing at the Southern Henge and the creation of a munitions dump at the Central Henge — have caused considerable damage it is still possible to establish how these monuments may have appeared when first built. The inner bank and ditch of both the Northern and Central Henges continue to survive as impressive earthworks. Of particular note is the ditch at the northernmost of the monument, which has retained much of its original profile. This is undoubtedly the best preserved henge earthwork in the British Isles. The outer ditch fills of each of the three henge are also largely undisturbed. Their long-term preservation has been greatly enhanced by the implementation of the Stewardship Agreement.

The exact dating of the Thornborough monuments is problematic, as excavation has produced no quality dating material (the single radiocarbon date from the inner ditch of the Southern Henge is considered unreliable). Accepted theory and evidence from a number of other henges place them firmly within the third millennium BC, or later Neolithic, but little is known as to whether henge variability reflects chronological change. The dating of the Thornborough sites are of particular interest given they possess a segmented outer ditch, a form of construction reminiscent of early Neolithic causewayed enclosures. The association between the Cursus and Central Henge is crucial in terms of understanding chronological development, but unfortunately, excavations in 1998 were inconclusive. The linear feature discovered by excavation may have been associated with the cursus, but if so its termination just short of the outer henge ditch suggests either broad contemporaneity between both sites, or the unlikely possibility that the cursus post-dated the henge. On the other hand, excavations in the 1950s indicate that the Cursus ditches were fully silted prior to the construction of the much more substantial inner bank and ditch. It must therefore remain a distinct possibility that the henges were the product of at least two major phases of activity, the external ditch and bank preceding the more substantial and morphologically different internal bank and ditch. Furthermore, excavations at the outer ditch of the Southern Henge suggest that the earthwork was the product of two minor phases of construction. These questions of chronology and monument development make Thornborough uniquely important. It is believed that further excavation at the Central Henge and Cursus would add significantly to an understanding of both this complex and monument development during the later Neolithic of the British Isles.

Small-scale excavation and geophysical survey has demonstrated the existence of structural features around the entrances and interiors of these monuments. The investigations at the Southern Henge established the presence of internal features, consisting of low banks and posts, along one edge of its northern entrance, whilst geophysics at the Central Henge established the existence of a large anomaly (possibly a pit) within the southern entrance. The survival of these features provides an excellent opportunity for further understanding how people passed into and out of these monuments. Excavations at the Central Henge have also demonstrated features between the inner and outer earthworks. These consisted of the remains of a platform, a dug feature, large numbers of stake and post holes, and circles of small stones. Their purpose is presently unknown, as is their connection with the Cursus. They do, however, suggest how much is still to be discovered about the original role and purpose of these monuments. It is believed that Thornborough provides a rare opportunity to significantly expand on our understanding of one of Britain's most impressive and numerous types of prehistoric monument.

2.2 The cursus monuments and 'long mortuary enclosure'

A range of enigmatic linear earthwork monuments were constructed during the fourth millennium BC. The best known and most numerous of these are the cursuses (Harding and Barclay 1999). At least one of these monuments was built at Thornborough. Cursuses generally consist of an elongated or rectilinear banked and ditched enclosure between 20-128 metres wide and 170-10,000 metres long. Their ends are usually closed with either squared or convex terminals. Long mortuary enclosures, a category which includes the Oval Enclosure at Thornborough, are a related tradition, although smaller at less than 150 metres long and 25 metres wide. These ditch and internal enclosures are usually ovate or trapezoidal in shape and often regarded as ploughed flat long barrows.

No trace of either cursus monument or the Oval Enclosure exists above ground, presumably as a result of levelling by ploughing. The present Stewardship Agreement will protect the length of the Cursus, as long as it is kept out of cultivation, and fortunately, the Oval Enclosure does not currently suffer from deep ploughing or sub-soiling. On the other hand, it is highly regrettable that quarrying destroyed the western end of the Central Cursus. Past excavations of both these sites have demonstrated the potential for significant below ground archaeological deposits. This is particularly the case at the Central Henge, where uniquely in the British Isles, a cursus ditch, and presumably a contemporary old land surface, are known to be sealed and protected by a subsequent earthwork. The potential importance of these deposits can not be over-stated.

It is supposed, rather than demonstrated, that both the Cursus and the Oval Enclosure date to the fourth millennium BC. Significant questions also remain with both site's original structural appearance. The potential for further dating evidence is, in all likelihood, low, but the remaining deposits may shed light on other key questions. Further excavation could confirm whether the Oval Enclosure was indeed an open long mortuary enclosure or a plough-raised long barrow — earlier excavations demonstrated an inner bank — and the role or purpose of enclosed features discovered in the evaluation trenches (including whether they contained human bone). There are also significant limitations as to what is known about the Cursus. Most notably, whether the site continues under the village of Thornborough, and whether its eastern end was open (as it appears on aerial photographs). Importance should also be attached to ascertaining its chronological relationship with the Central Henge, and with which of the two sites the features discovered by excavation in 1998 were associated. Any link with the cursus would represent a significant development in our general appreciation of these monuments.

The exact nature of the cropmark adjacent to the Northern Henge is presently undetermined. However, the aerial photographs suggest the possibility of it being a cursus. The terminals of other known cursuses are usually square, or slightly rounded at the corners, unlike the broad curve of the Central Cursus terminal. The Possible Cursus therefore fits within the known morphology of these monuments, although only a short length is known from aerial photography (and its absence in aerial photographs to the south of the road certainly suggests it is not long enough to be a cursus). The possible presence of a ring ditch near to its suggested terminal is also in keeping with the evidence discussed above. Small scale excavation across the proposed alignment of the Possible Cursus would be highly informative. Any indication that it was in fact an early Neolithic monument would significantly alter our interpretation of Thornborough. It would suggest that the monument complex was larger and more complex during the fourth millennium BC than previously assumed.

2.3 The round barrows

Round barrows first appeared in the fourth millennium BC and became common in the early Bronze Age. They normally consist of a circular mound and at least one surrounding ditch (Woodward 2000). Interments of either cremations or inhumations are often associated with grave goods of pottery, lithics, occasional metalwork and other ‘exotic’ objects. The tradition of monument construction developed from the long mounds of the early Neolithic and is commonly interpreted as the product of increasing social hierarchy.

The nine known round barrows across the Thornborough landscape form an interesting palimpsest of data. Four of the sites have been destroyed, either by agricultural activity or by gravel extraction. Two of those destroyed had no archaeological mitigation prior to their destruction. The locations of these barrows, near to both the Cursus and the Central Henge, suggest they may have been significant monuments. Another two barrows, part of the Three Hills Barrow Group, were excavated by Lukis (1870), as was the Centre Hill Barrow, prior to their destruction. However the scale of these investigations, along with the standard of information provided by the excavations, is poor. It is certainly inadequate for discussing the cultural context of the monuments. There has been no systematic survey of the current state of these barrows — which must surely be a priority for future fieldwork — although field observation suggest they are largely levelled. The impact of modern agricultural practices has been most vividly demonstrated at the Double Ditched Barrow, where Grimston Ware was picked from ploughed-out ditch fills. Fortunately, the Centre Hill Barrow and the Three Hills Barrow group still survive as ephemeral earthworks. Geophysical prospection and excavation would determine the extent to which dug features continue to exist at the surviving barrows.

The variety of evidence presents a range of potential dates. The ‘jars’ illustrated by Lukis are difficult to provenance but may tentatively be ascribed to the Beaker tradition, although the vessel from the Centre Hill Barrow is most likely a Food Vessel. Beakers and Food Vessels are commonly found in funerary contexts, associated with single inhumations of cremations and other grave goods. Beakers represent a slightly earlier (2500 – 1800 BC) tradition than Food Vessels (2000 – 1500 BC), but there is considerable overlap between them. The presence of a coffin at the Centre Hill Barrow is significant, particularly given that the site is located at the end of the broadly contemporary Southern Double Pit Alignment. Early Bronze Age burial practice usually involve the placing of the body in a crouched or flexed position directly into a pit or onto the bare ground. This, then, is a rare burial practice for the period, and one can only speculate, given the current state of the evidence, whether the barrow at the other end of the Southern Double Pit Alignment was equally unusual. Also of significance is the presence of Grimston Ware in the ploughed-out remains of the Double Ditched Barrow. Not only is the morphology of the site different to other barrows at Thornborough, but the pottery is of early Neolithic date. Confirmation of this barrow’s early date would add significantly to our knowledge and understanding of the Thornborough monument complex.

2.4 The pit alignments

The recognition of pit alignments is a relatively recent phenomenon, largely reflecting the increase in aerial photographic coverage and interpretation in the post-war years. They show great variety in their morphology, but can be divided into single and double alignments, with the latter being far less common (Waddington 1997). Single pit alignments are thought to have played some role in the agricultural landscapes of the Iron Age, whereas double alignments are thought of as earlier and more specifically ceremonial, possibly performing a similar function to cursus monuments. In this sense, the presence of two such alignments at Thornborough is of considerable significance, particularly since the southernmost of these is the longest known double pit alignment in the British Isles.

The excavations at the Southern Double Pit Alignment in 1998-9 represent the single most important contribution to the study of this monument category. Eighty eight of its pits were excavated along a 350 metre length. It was evident that the alignment was more or less continuous and straight. The features themselves were in a relatively good condition and it was possible to divide the monument into four distinctive lengths on account of differences in pit size. Interestingly, these lengths corresponded to changes in topography, illustrating how the monument made subtle use of the natural dips and rises in the old land surface. The presence of post-pipes and stone packing suggests that many of these pits

originally held timber uprights. The gap in the eastern line, at the closest point to the northern entrance of the Southern Henge, suggests that the monument was part of a processional route which incorporated the earlier henges. The function of the eighteen 'grooves' at the northern end of the alignment is not clear, but it appears that the two post lines narrowed, with their uprights increasing in size, at this end, forming a façade to the processional route. The current condition and function of the Northern Double Pit Alignment is unknown.

Double pit alignments are generally ascribed to the early Bronze Age, and the excavated evidence from the Thornborough monument confirms this. The small number of diagnostic flints were largely of later Neolithic or early Bronze Age date, while more importantly, sherds of collared urn and the large part of a Deverel-Rimbury pottery vessel, were found in two of the pits. Two radiocarbon dates firmly place the monument in the early second millennium BC.

2.5 The surface lithics

A major limitation with the study of the Neolithic and early Bronze Age is our failure to detail settlement patterns, and more specifically, to know whether occupation was permanent or sedentary. The majority of the evidence is provided by surface lithic scatters, or what is no more than a partial and incomplete 'signature' of original occupation sites. This necessitates the need for the systematic and intensive examination of both the ploughsoil and underlying sub-surfaces, yet this rarely happens.

The surface lithics from Thornborough, collected during wided spaced fieldwalking, provide a detailed and highly informative dataset. Their distribution offers an important insight into the level, continuity and organisation of Neolithic and early Bronze Age settlement. Of most importance is the long-term division made between the gravel plateau, across which the monument complex was located, and its surrounding hinterland, where the majority of the later Neolithic-early Bronze Age flint is to be found. This could be taken as an attempt to spatially foreground the sacred, providing a profoundly significant contribution to our understanding of third and early second millennium BC landscape perception. The evidence from Thornborough also provides a framework for the future examination of Neolithic and early Bronze Age settlement, including the investigation of associated sub-surface remains. It would be particularly valuable to explore the differences between the low, medium and high density scatters — to ascertain whether they equate to differing sized settlements or, as the current evidence suggests, locales with contrasting roles.

Geomorphological data assembled from the area immediately to the north of the River Ure suggests that the deposition of river sediment could actually mask Neolithic-early Bronze Age evidence. The shifting course of braided river channels known from across this part of the Thornborough landscape would have distributed alluvial sediments and it is highly likely that some of these episodes were broadly contemporary with, or later than, the construction and use of the monument complex, consequently burying any cultural remains under in some cases substantial depths of deposit. The same braided river channels would have also played a part in determining the location of occupation.

2.6 Nosterfield Quarry

The results of the archaeological fieldwork at the quarry present a tantalising glimpse of the relationship between the monument complex, the people who used it, and the landscape they inhabited. Of most importance is the presence of significant and extensive archaeological deposits, previously unknown, of a different character to the monumental structures nearby. That these features cover a time depth from the early Neolithic to the later Bronze Age, a period of nearly two thousand years, in such close proximity only serves to magnify the importance of the surrounding landscape to the monument complex. The large number of Neolithic-early Bronze Age pits highlights the tremendous archaeological potential of the surface lithics recovered from elsewhere across the landscape. The substantial and extensive features of a Bronze Age field system makes a similar point. These appear largely absent from the Thornborough landscape, even after intensive aerial photography, yet their existence at Nosterfield demonstrates how impressive archaeological deposits remain undiscovered within the landscape.

2.7 Isolated small finds

Random finds of lithics, polished stone axes, bronze work and other finds demonstrate that the monument complex formed an important focus within the landscape. It is possible that natural features also acted as a focus for activity. The use of wetland areas and rivers as places of votive deposition is well documented for both the Neolithic and Bronze Age. It is therefore of considerable interest to note the area immediately to the north of Nosterfield, presently being destroyed by quarrying. Excavations have demonstrated what may have been a permanently waterlogged landscape. The available evidence suggests its presence during the Neolithic and Bronze Age, which is particularly noteworthy given the recent discovery of two Langdale polished stone axes from its immediate vicinity. This suggests — as does the large number of Neolithic-early Bronze Age pits discovered in the Nosterfield Quarry — that this was an area of not inconsiderable importance.

3. THE SIGNIFICANCE OF THE MONUMENT COMPLEX

3.1 Local significance

The six known henges located along a 12 km stretch of the River Ure represent a distinctive cluster of monuments **(1.2.3)**. They are not only closely-spaced but share exactly the same design. The presence of three of these at Thornborough, along with the only early Neolithic cursus monument, suggests its pivotal importance. Here there developed the largest of the local monument complexes, and the reasons for this represent a substantial and exciting research question (see below). The ‘sacred landscape’ can therefore be regarded as a focal point, or hub, for local patterns of activity across the Ure-Swale Catchment. The lithic evidence from Thornborough suggests that mobility was clearly integral to lifestyles and the complex may have been the final and ultimate destination for people visiting the other nearby henge monuments (Harding 2000). Its role has been likened to that of a key shrine or temple on a pilgrimage route.

It is the best preserved and most thoroughly studied of the local archaeological landscapes. The evidence from Thornborough highlights a cycle of monument construction which commenced in the latter half of the fourth millennium BC, but intensified dramatically during the third millennium BC. The marked increase in monument construction is matched by higher levels of occupation and a more complex pattern of landscape organisation. Taken together, the evidence suggests the socio-political sophistication of those communities occupying or using the Ure-Swale Catchment.

3.2 Regional significance

The chalklands of eastern Yorkshire have long been seen as a ‘core zone’ of later Neolithic occupation and activity (Bradley 1984). By contrast, little importance has been attached to the Ure-Swale Catchment, despite the presence of what is the largest concentration of third millennium monuments from across the county. Both the size, density and uniqueness of these sites is unrivalled across the length and breadth of the British Isles, with the exception of the Wessex chalkland, as is the existence of three closely-spaced henges forming a single ceremonial complex. The available evidence from Thornborough emphatically illustrates that the Ure-Swale Catchment was in no way secondary to eastern Yorkshire. Indeed, it is far more likely that it surpassed the latter as an area of later Neolithic occupation and settlement. These low-lying vales were certainly intensively settled during the historic periods and formed a vital north-south artery on the eastern side of the Pennines. The same is likely to have been true of earlier periods.

The Thornborough monument complex was of regional significance and used by people from far afield. Part of its importance may have been its location next to the banks of the River Ure as its course bends southwards and descends from the central Pennines into the low-lying Yorkshire vales. If both Langdale axes and Yorkshire chalkland and coastal flint were being moved across the Pennines then one of the routeways is along the River Ure and through Wensleydale. Such a route would take you directly past Thornborough. The latter, then, would have been well placed to have acted as a regional

focus: and that it played such a role is suggested by the wide range of raw materials present in the surface lithics, including Yorkshire coastal flint, chalk flint from the Yorkshire Wolds, and Pennine Chert.

3.3 National and International significance

General accounts of the later Neolithic focus on southern England at the expense of other parts of the British Isles (eg. Barrett 1994; Thomas 1999). The bias reflects the spectacular nature of the Wessex chalkland monuments and the relatively high levels of fieldwork. The Thornborough complex presents an opportunity to escape from such a prescriptive interpretive framework. Its size and complexity indicate a level of socio-political development which parallels the Wessex chalkland, while both the quality and quantity of its evidence should encourage the future study of the Ure-Swale catchment, or what was clearly a ‘hot spot’ for later Neolithic society.

Recent evidence from Thornborough provides a unique insight into specific research questions. Our understanding of the long-term development of Neolithic-early Bronze Age monument complexes is extremely limited. The sequence at Thornborough — with its emphasis on long-term continuity and episodic construction — is highly informative. Of similar value is what Thornborough tells us about occupation in and around a monument complex. It suggests the importance of mobility and short-term settlement, contradicting prevailing models of later Neolithic settlement (Bradley 1989; Edmonds 1989), and the ways in which the ‘sacred’ and ‘profane’ were articulated as part of everyday life.

The later Neolithic of the British Isles is well known internationally for its monument complexes. The World Heritage Sites of Avebury and Stonehenge in Wiltshire, or the Boyne Valley in Ireland, are acclaimed cultural achievements. Thornborough is the equal of these ‘sacred landscapes’. Only the four giant ‘henge enclosures’ of the Wessex chalkland are larger than Thornborough’s enclosures, and nowhere else — with the doubtful exception of the Priddy Circles in Somerset, sites which are unlikely to be henges — do three henges form a single alignment. Thornborough also possesses the chronological depth which so characterises these World Heritage Sites, its sequence of building extending over as much as two thousand years.

It is unfortunate that such a large expanse of the Thornborough landscape has been destroyed by quarrying. Its archaeological significance, and the large amount of damage done hitherto, highlights the importance of protecting the monument complex from further destruction. It is also in the nation’s interest that at least some of the complex be opened to the general public. The spectacular and highly informative nature of the archaeological resource makes it particularly well-suited to public dissemination, and the existence of the Stewardship Agreement offers an important foundation for the complex’s future presentation and management. The alternative of continuing obscurity and degradation benefits no one.

3.4 Fieldwork recommendations

What is apparent is the high quality, vast potential and numerous unanswered questions that exist with this archaeological landscape. The regional, national and international significance of the Thornborough monument complex highlights the desirability of additional high quality fieldwork. But it also highlights the need for future archaeological investigations to be part of a long-term strategy for the landscape’s management and presentation, with any fieldwork tightly focused on specific questions. Such an approach will provide the best archaeological results, and perhaps most importantly, maintain the resource for future generations of archaeologists to investigate.

3.4.1 The investigation of the henges

The archaeological potential of the henge’s enclosed areas and substantial inner bank deposits — which in the case of the central henge uniquely preserves sections of the underlying cursus — remain unknown. It is likely that geophysical prospection across the Central and Southern Henge will successfully locate any surviving sub-surface features. Targeted excavation at the Central Henge should focus on the condition, potential and date of any inner features, the structure of the inner henge bank, and the old land surface and ditch of the underlying cursus. One possibility would be to locate an

excavation trench immediately inside its southern entrance where aerial photographs illustrate the cursus ditch and a large and anomalous circular feature. The removal of a small section of the monument's inner bank would allow the investigation of the feature's structure (including whether it was indeed coated in gypsum), an extensive section of the cursus ditch, and any surviving old land surface associated with this earlier monument.

3.4.2 The investigation of surviving round barrows

There is no detailed or up-to-date record of the 6 surviving round barrows. All but one continues to be ploughed and their deterioration as a resource has been noticeable over the last ten years. Geophysical prospection and survey should be undertaken at each of these monuments, providing, for the first time, an accurate assessment of their current state. The information could be usefully complemented by evaluation trenches, ascertaining the condition, potential and date of any buried features.

3.4.3 The investigation of settlement evidence

Past surface collection has identified what is a distinctive structure to the organisation of the Thornborough landscape during the later Neolithic and early Bronze Age. There are, however, large parts of the landscape where fieldwalking was not undertaken, and as a result, about which we know little. This includes the ridge immediately to the west of the complex, the area to the north-east, the gently sloping landscape to the north of the current Nosterfield Quarry, and much of the area to the south-east (Fig. 14).

It is possible to identify the location of high, medium and low density flint scatters from the immediate vicinity of the monument complex. Unfortunately, nothing is known about their relationship with any sub-surface archaeology. Furthermore, while fieldwalking across the lower terrace failed to produce much surface flint this area has witnessed intense river channel formation and natural sedimentation over the last four thousand years. The existing surface collection data should therefore be enhanced by total collection, geophysical prospection and test-pitting at selected 'low', 'medium' and 'high' density scatters, as well as the lower portion of the river terrace. Such a detailed investigation will provide an insight into: the relationship between surface and sub-surface remains; the condition and archaeological potential of any buried deposits; and the possibility that previously unrecorded settlements of Neolithic and early Bronze Age date are masked by the deep deposits of alluvium and relatively recent gravel formation across the lower terrace. The results constitute a 'framework of understanding' for lithic scatters at both Thornborough and other comparable landscapes.

3.4.4 Other recommendations

Other fieldwork priorities could include: geophysical prospection between the known eastern extent of the Cursus, and the village of Thornborough, to ascertain the full length of the monument; the excavation of small evaluation trenches to explore the archaeological status of the Possible Cursus; the excavation of previously discovered inner features at the Oval Enclosure; and a programme of test-pitting and environmental evaluation around the surviving northern edge of the boggy area to the north of Ing's Goit.

Bibliography

- Barrett, J.C., 1994, *Fragments from Antiquity. An Archaeology of Social Life in Britain, 2900-1200 BC*, Oxford: Blackwell
- Bradley, R., 1984, *The Social Foundations of Prehistoric Britain*, London: Longman
- Bradley, R. & Edmonds, M., 1993, *Interpreting the Axe Trade: production and exchange in Neolithic Britain*, Cambridge: Cambridge University Press
- Burl, A., 1991, The Devil's Arrows, Boroughbridge, North Yorkshire: the archaeology of a stone row, *Yorkshire Archaeological Journal* 63, 1-24
- Clough T H Mck and Cummins W A, 1988, *Stone Axe Studies Volume II: The petrology of prehistoric stone implements from the British Isles*, CBA Research Report 67, 213
- Dennison E, unpub. 1996, *Archaeological and Ecological survey*, EDAS report 1996/25R.01
- Dymond, D.P., 1964, The 'henge' monument at Nunwick, near Ripon: 1961 excavation, *Yorkshire Archaeological Journal* 41, 98-108
- Harding, A.F. & Lee, G.E., 1987, *Henge Monuments and Related Sites of Great Britain*, Oxford: BAR British Series 175
- Harding, J., 1998a, Recent fieldwork at the Neolithic monument complex of Thornborough, North Yorkshire, *Northern Archaeology* 15/16, 27-38
- Harding, A., 2000, Henge monuments and landscape features in northern England: monumentality and nature, in A. Ritchie (ed.) *Neolithic Orkney in its European Context*, Cambridge: McDonald Institute Monographs, 267-75.
- Harding, J. & Barclay, A., 1999, An introduction to the cursus monuments of Neolithic Britain and Ireland, in A. Barclay & J. Harding (eds.) *Pathways and Ceremonies: the cursus monuments of Britain and Ireland*, Oxford and Oakville: Oxbow Books, 1-10
- Harding J, unpub. 1998, *Vale of Mowbray Neolithic Landscape Project, Interim Report 1997*
- Harding J *et al*, unpub. 1999a, *Archaeological Survey of the Southern and Central Thornborough Henges, North Yorkshire 1997-1998*
- Harding J *et al*, unpub. 1999b, *Geophysical Survey at the Thornborough Henge Complex, North Yorkshire, 1994-1996*
- Harding J, unpub. 1999c, *Vale of Mowbray Neolithic Landscape Project, Interim Report 1998: Central Thornborough Henge*
- Horsley T, unpub. 1999, *Thornborough Central Henge, North Yorkshire; Report on Geophysical Surveys*, University of Bradford MSc Paper
- Lukis, W.C., 1870, On the flint implements and tumuli of the neighbourhood of Wath, *Yorkshire Archaeological Journal* 1, 116-21
- Mayes P *et al*, 1986, A Beaker Burial at West Tanfield, North Yorkshire, *Yorkshire Archaeological Journal* 58, 1-4
- Moloney C, Holbrey, R., Whitehouse, P. & Roberts I, Unpub., *Catterick Racecourse, North Yorkshire: re-use and adaptation in the landscape from prehistoric to Anglian times*
- St. Joseph, J.K., 1977, Aerial reconnaissance: recent results, *Antiquity* 51, 143-45

- Tavener N, 1996, Evidence of Neolithic activity near Marton-le-Moor, North Yorkshire. In P. Frodsham (eds) *Neolithic Studies in No-Man's Land: Papers on the Neolithic of Northern England from the Trent to the Tweed. Northern Archaeology* 13/14, 183-8
- Thomas, J., 1999, *Understanding the Neolithic*, Cambridge University Press
- Thomas N, 1955, The Thornborough Circles near Ripon, North Riding, *Yorkshire Archaeological Journal* 38, 425-445
- Thomas N, 1963, A polished flint axe-head from the Thornborough Circles, *Yorkshire Archaeological Journal* 41, 14
- Thorp F, 1974, *The Yorkshire Archaeological Register: 1973*, *Yorkshire Archaeological Journal* 46, 143
- Timescape, unpub. 1998, *Geophysical Survey of the Central Henge at Thornborough, North Yorkshire, 1998*
- Topping P, 1982, Excavation at the cursus at Scorton, North Yorkshire 1978, *The Yorkshire Archaeological Journal* 54, 7-21
- Woodward, A, 2000, *British Barrows*, Stroud: Tempus Books
- Vatcher F, 1960, Thornborough Cursus, Yorks, *Yorkshire Archaeological Journal*, 40, 169-182