

Appleyard lithics collection

Keith Boughey

Introduction

A large flint collection, amounting to over 3500 pieces, was brought to the attention of the author towards the end of 2009. Collected between 1972 and 1995 by a husband-and-wife team, Geoff and Margaret Appleyard, and their two daughters, Sue and Jennie, of Wrose, Bradford, it all comes from a group of six adjoining fields N of Thirlsey Farm centred approximately on SE 9805 9208 at 185m O.D., on the extreme NE fringe of the North York Moors overlooking Scalby, a few km NW of Scarborough and the present coastline (Figs 1 and 2). The fields, covering a total of over 30ha, are all on land that slopes and drains gently southwards between the 190m and 170m contours from Silpho Brow until it drops off abruptly into the steep finger-like gorges of Thirlsey Bottom flanking Crossdales and Lowdales Becks, tributaries of the River Derwent (Figs 3 and 5). The fields are private land belonging to the Malthouse family, who have farmed the area for generations. The land is covered with a fine pinkish-brown sandy tilth produced from the underlying Oxford clays of the Hackness Basin which in turn sit over the Jurassic sandstone ridge that forms the prominent scarp of Silpho Brow to the north (Dimpleby 1962; Rayner and Hemingway 1974). The fields are regularly sown with spring wheat (Fig 4) and other crops and have been given over to the plough for centuries which has scattered the finds which were all recovered from ploughsoil without any attempts at excavation. Unfortunately, there is no specific provenance for individual pieces, only that they all came from any one of the six fields. However, given the lie and drainage of the land, it seems likely that many of the finds may well have originated from sites further N along the S edge of Silpho Brow and moved gradually southwards over time due to a combination of soil-wash and ploughing. The collecting methodology was simply for the four members of the family to search each field in turn walking side-by-side along a set of three to four NW-SE plough furrows running at right angles to the farm-track between the months of October to March before the spring wheat became too tall. All flint seen was collected, whether obviously worked pieces or waste though pottery was ignored! The flints were bagged, taken home, washed and provisionally sorted into what groups the Appleyards were able to recognise – borers, burins, cores, knives, microliths, points, saws and scrapers while much of the waste was discarded, forming the base of a garden path! The Appleyards were not professional archaeologists in any sense nor held any recognised qualifications in archaeology, being entirely self-taught, yet in the circumstances did a remarkably good job, making the job of later classification a whole lot easier.

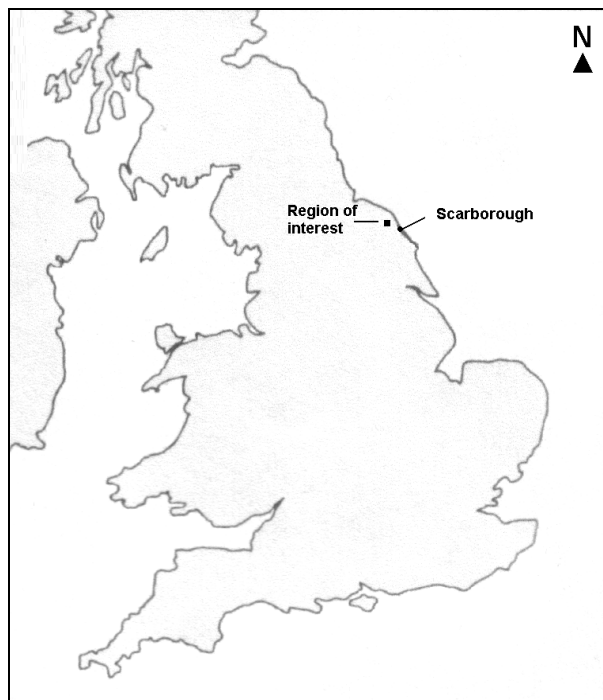


Fig 1: Location of collecting area, UK

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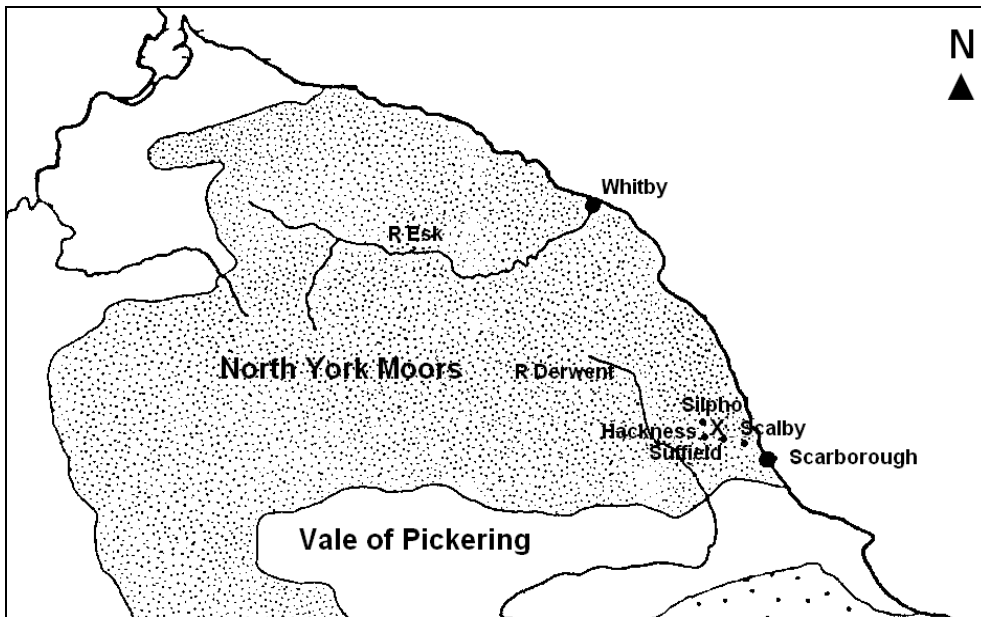


Fig 2: Location of collecting area (marked by X), North York Moors

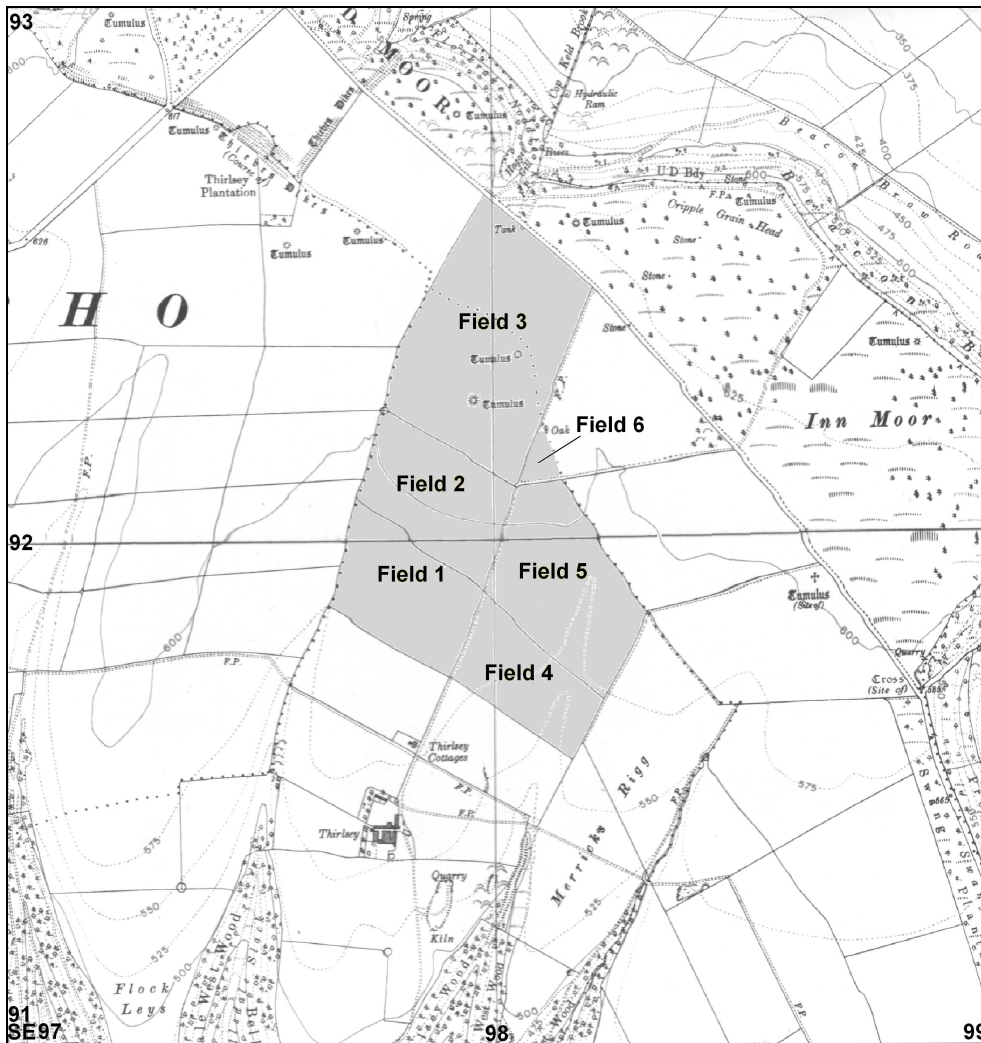


Fig 3: Location of collecting area, Thirlsey Farm
(based on Ordnance Survey 6 in to the mile Sheet SE 99 SE Provisional Edition 1958)

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Fig 4: view of Silpho Wood and Brow from field 3

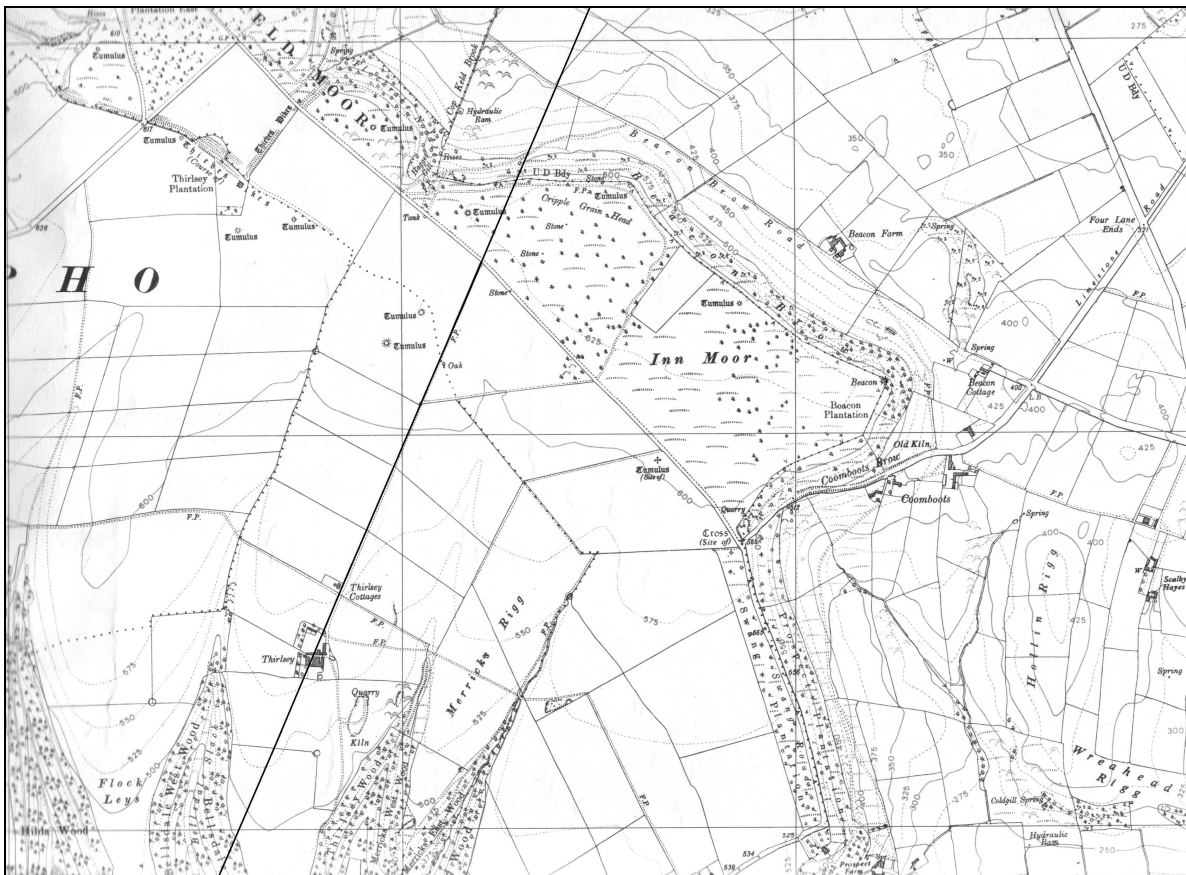


Fig 5: Path of line transect across collecting area
(note the 'fingers' of the steep-sided deeply-dissected gorges of Thirlsey Bottoms to the S and the sinuous edge of Silpho Brow snaking across the map from NW to SE)

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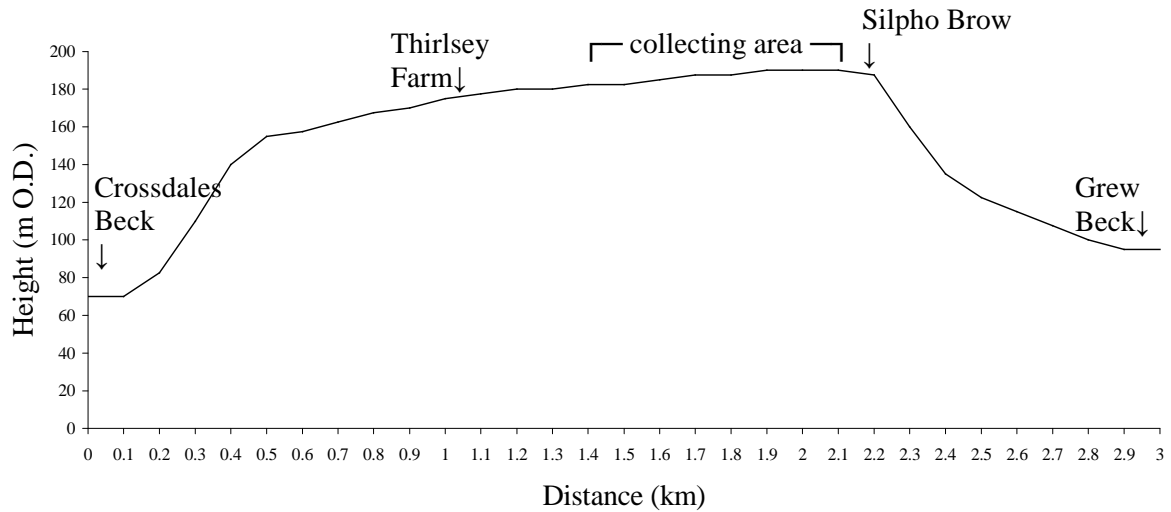


Fig 6: Landscape profile across collecting area

Figs 5 and 6 represent a profile of the land based on a 3km transect running across the collecting area from SSW to NNE, parallel with the main track from Thirlsey Farm that effectively splits the flint collecting area in two. It begins at Crossdales Beck in Thirlsey Bottoms at SE 9742 9052 just below the 70m contour, climbing steeply up to the plateau on which Thirlsey Farm lies (SE 9777 9142) at 175m O.D., rising gently through the six fields of the collecting area from 180m O.D to a maximum elevation of 190m O.D., a rise of less than 1 in 100, before ending on Suffield Moor and the distinct scarp edge of Silpho Brow (Fig 7) overlooking the cut of Grew Beck at SE 9855 9329. The key factors in support of the archaeology that are immediately apparent from a consideration of the topography are that the area within which the flints have been collected lies on gently sloping almost level land, facing S, with well-drained fertile soils leading up to the sepulchral ridge of Silpho Brow that is littered with EBA burial mounds, and with a clear view of the coastal lowlands and the sea beyond (Fig 8).



Fig 7: View of Silpho Brow from the N



Fig 8: View of coast from Silpho Brow immediately above Thirlsey Farm

The sizes and locations of each of the six fields (Fig 3) are given in Table 1 below:

Table 1: Thirlsey Farm fields

Field	NW	N	NE	SW	SE	Size (ha)
1	SE 9772 9206	–	SE 9798 9192	SE 9766 9189	SE 9791 9176	3.2
2	SE 9778 9222	–	SE 9805 9208	SE 9772 9206	SE 9798 9192	4.8
3	SE 9798 9262	–	SE 9820 9244	SE 9778 9222	SE 9805 9208	12.1
4	SE 9798 9192	–	SE 9822 9171	SE 9791 9176	SE 9816 9158	4.8
5	SE 9805 9208	SE 9819 9209	SE 9831 9187	SE 9798 9192	SE 9822 9171	6.1
6	–	SE 9810 9220	–	SE 9805 9208	SE 9819 9209	0.6
Total						31.6

Analysis

The collection was passed by the author to Bob and John Richardson, two brothers who have followed their amateur interest in prehistory for many years, responsible themselves for a large fully archived lithics collection deposited at the Craven Museum in Skipton, and who have a proven published track record in the identification of lithic tools from the Yorkshire Dales (Richardson *et al.* 2002), Pennines (Boughey 2009) and North York Moors, in particular the area around Malham (Williams *et al.* 1987), and most recently (2010) from the Hole of Horcum N of Pickering. Their results are presented in Table 2 and summarised in Table 3 below:

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Table 2: Analysis of Appleyard collection

Type	No. of pieces
arrowheads ¹	101
<i>petit tranchet A</i> ²	2
leaf	26
3A	10
3B	6
3C	4
4A	2
4B	2
4C	2
British oblique	7
chisel	17
barbed & tanged	21
Sutton B	20
Conygar Hill B	1
kite	1
fragments ³	27
awls/borers	85
axes	5
flint	3
other lithic	2
fragments	8
blades	20
simple	5
retouched	4
retouched and notched	9
segment	2
burins	1
chopping tools ⁴	26
cores ⁵	101
fabricators	14
flakes	1666
notched	47
retouched	1171
retouched (knife)	42
retouched and notched	405
serrated and notched	1
fossils ⁶	1
hammerstones	5
maceheads	1
microliths	25
obliquely blunted point – LHS blunted	2
straight-backed bladelet – ‘Narrow Blade’ type	2
scalene triangle – 2 sides retouched	1
scalene triangle – 3 sides retouched	3
fragmentary/unclassified – ‘Broad Blade’ type	3
fragmentary/unclassified – ‘Narrow Blade’ type	14
pottery sherds ⁷	2
saws	129
blades	13
flakes	103
flakes, notched	13
scrapers ⁸	702
‘unidentified’ ⁹ (see axe fragments)	12
waste ¹⁰	777

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Notes:

¹: arrowheads have been classified according to the typologies described in Clark (Clark 1934) and Green (Green 1980; 1984)

²: according to the typology described in Clark (Clark 1934)

³: fragments of arrowheads insufficiently large to identify the type of arrowhead, except for one which is almost certainly part of a leaf-shaped arrowhead

⁴: ‘chopping tools’ – a term coined by the Richardsons to refer to lumps of flint, several with sizeable areas of cortex still adhering, ostensibly resembling cores, but from both sides of which several flakes have apparently been removed to produce a sharp cutting ‘edge’. Remarkably, they call to mind some of the earliest lithic artefacts known in hominid culture – the Oldovan of East Africa, and in the UK, look for all the world like Clactonian choppers from the Lower Palaeolithic! (Waddington 2004, 19). Artefacts resembling late Palaeolithic chopping tools have been recovered from Neolithic contexts around the world and are more generally regarded as cores from which flakes have been removed on alternate sides.

⁵: no attempt was made by the Richardsons to identify the various types of core

⁶: one fossil was recovered: a tiny cockle-like shell embedded in a piece of waste flint

⁷: the two pottery sherds were a piece of a green-glazed medieval jug and a fragment of a clay pipe bowl

⁸: includes fragments – no attempt was made by the Richardsons to identify the various types of scraper

⁹: includes what may well be axe and hammerstone fragments and a possible core

¹⁰: the true data for waste would be much higher except that so much of it was discarded by the collectors

Table 3: Summary of collection

		% of total
total (including waste)	3671	–
waste ¹¹	777	21.2
worked ¹¹	2894	78.8
		% of worked
arrowheads	101	3.5
awls/borers/burins	86	3.0
blades ¹²	33	1.1
cores ¹³	102	3.5
saws ¹⁴	130	4.5
scrapers	702	24.3
flakes ¹²	1782	61.6
microliths	25	0.9
Mesolithic ¹⁵	27	0.9

Notes:

¹¹: unreliable figures as so much of the waste was discarded

¹²: the data for blades and flakes includes pieces worked as saws

¹³: includes one ‘unidentified stone object’, which is most probably a core

¹⁴: includes a single flake with coarse and irregular serration

¹⁵: the most optimistic figure representing all of the microliths and the two *petit tranchet* arrowheads, although according to Clark, there is evidence of their use right into what he termed the ‘Early Metal [i.e. Bronze] Age’ (Clark 1934, 39) – equally, some of the cores and scrapers may be Mesolithic in origin as well though this has not been determined.

Discussion

What follows can only be at best a partial picture of the true and complete distribution of prehistoric lithics in the area under investigation, but then that will always be true of archaeology based heavily if not solely on the personal lithic collecting habits of individuals. Even the lengthy period of collection is no more than a snapshot when viewed against the stretch of prehistoric time that the collection covers. Neither can this of course preclude the possibility of there being further undiscovered yet significant amounts of lithic material out there, be they chance losses during a hunt or the more

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concentrated remains of a workshop or settlement. These problems and provisions must be borne in mind in any assessment of the data which follows. However, the collection is sufficiently large, involving repeated visits to the same area over many years, for clear patterns of distribution and concentration to emerge and for a number of conclusions to be drawn concerning a prehistoric human presence on the land S of Silpho Brow.

Mesolithic



The earliest pieces in the collection potentially are the two *petit tranchet* Type A arrowheads (Fig 9). These were arrowheads produced by the characteristic removal of one or more primary flakes at right angles to the cutting edge and the main axis of the tool, a technology diagnostic of the Mesolithic and used for tranchet axes as well at sites such as Star Carr (Boughey 2008). According to Clark these represent the parent form and were in common use throughout the later half of the

Fig 9: *petit tranchet* Type A arrowheads, Thirlsey Farm

Mesolithic (Clark 1934, 35-6), though Green regarded a seventh millennium date as appropriate (Green 1980, 68), albeit for examples much further south in what is now Essex. However, their presence is not necessarily diagnostic of the Mesolithic as their use continued well into the Early Bronze Age (Clark 1934; Smith 1974, 120-1). But Mesolithic activity in the area is confirmed by a small set of microliths (0.4% of worked pieces), which includes both earlier 'Broad Blade' and later 'Narrow Blade' and geometric examples, such as 'Deepcar' style slender obliquely-blunted points and scalene triangles (Fig 10), as well as associated scrapers and cores. Small though this proportion is, it is highly significant as it is the first clear evidence of a scant (given the time scale involved) Mesolithic presence in the area.



Fig 10: microliths, Thirlsey Farm

- Row 1: 1-2 left-hand side obliquely blunted points
3-4 straight-backed 'Narrow Blade' bladelets
5 scalene triangle – two sides retouched
- Row 2: 6-8 scalene triangles – three sides retouched
9-11 'Broad Blade' fragments
- Rows 3-4: 12-25 'Narrow Blade' fragments

Neolithic/Early Bronze Age

But by far the bulk of the assemblage (99.1%) dates from the Neolithic and the early part of the Bronze Age, for which there is considerable other evidence in the district (see 'Context' below). This puts a date band on the collection of some 5,000 years or more, from c. 7,000-2,000 BC. They are discussed in alphabetical order of the main types below.

Arrowheads

101 arrowheads were recovered, of which twenty-six were familiar Neolithic leaf-shaped forms (Figs 11 and 12) and twenty-one Late Neolithic/Early Bronze Age barbed-and-tanged forms (Figs 13 and 14) (Sutton B) and an example of square-tanged Conygar Hill B, all frequently found in contexts throughout Britain (Green 1980, 117); the single kite-shaped arrowhead on the other hand is much less common, with a frequency according to Green of only 5% in arrowhead assemblages of the period. Green also advised against reading too much into the various leaf-shaped forms, arguing that they were related more to properties of the available raw flint than to anything cultural or related to technological improvement (Green 1980, 67).



Fig 11: leaf-shaped arrowheads (Green Type 3), Thirlsey Farm

Rows 1-2: 1-10 Type 3A
Rows 3-4: 11-16 Type 3B
Row 4: 17-20 Type 3C

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Fig 12: leaf-shaped arrowheads (Green Type 4), Thirlsey Farm (1-2 Type 4A; 3-4 Type 4B; 5-6 Type 4C; 7 fragment)

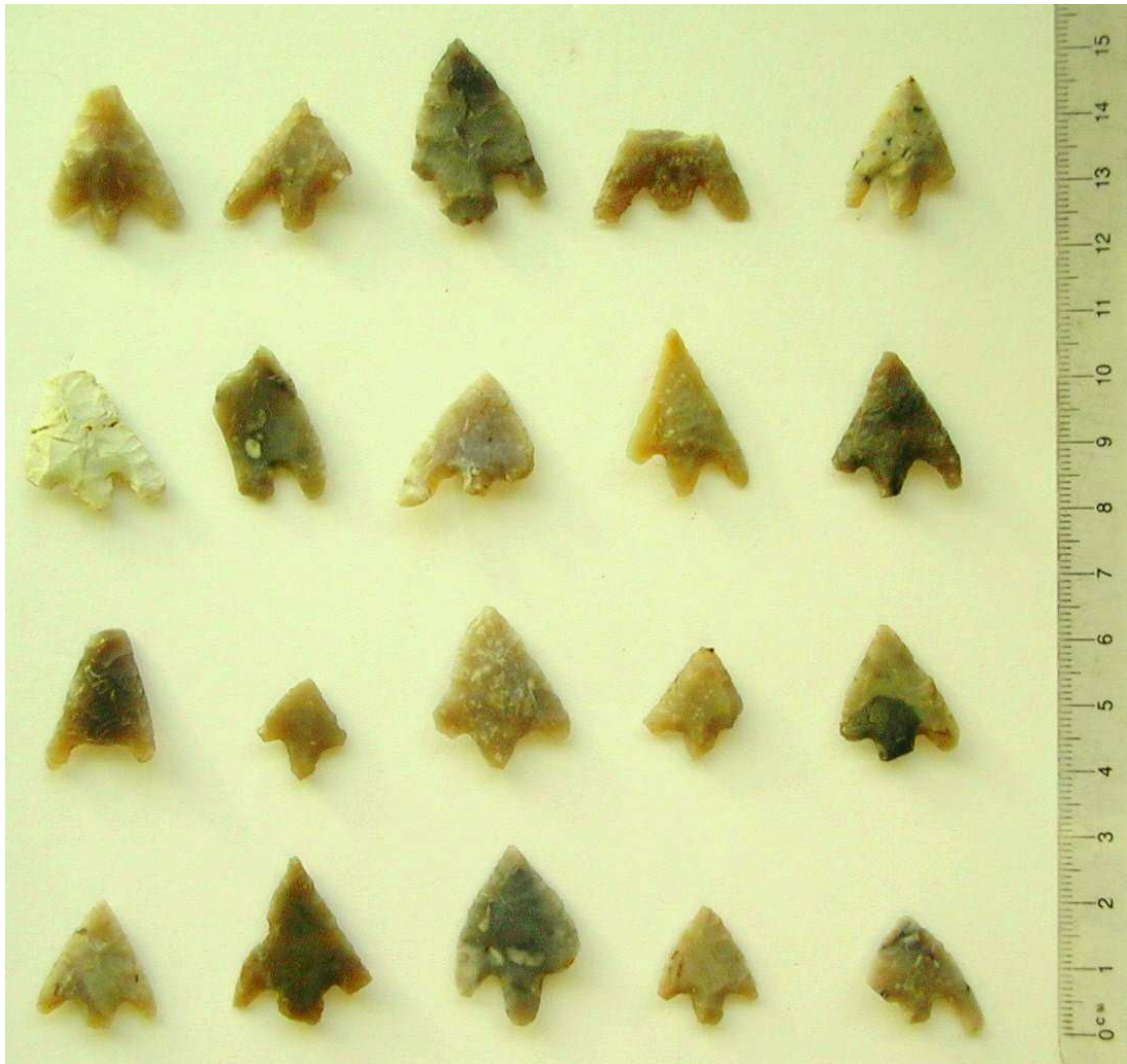


Fig 13: barbed-and-tanged Sutton B arrowheads, Thirlsey Farm



Fig 14: kite-shaped and Conygar Hill Type B arrowheads, Thirlsey Farm

The remaining arrowheads in the collection date from no earlier than the late Neolithic (Smith 1974, 120-1) and have all been created by transverse flaking, consisting of seven examples of British oblique type (Fig 15) and seventeen chisel specimens (Fig 16), both of which according to Green occur in high density concentrations that broadly parallel each other in cultural and geographical contexts – for example, associated with different forms of Beaker pottery c. 2500-2000 BC and in the

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Yorkshire Wolds (Green 1980, 100, 119), though Parker-Pearson asserts an earlier range of dates, though admittedly from sites in Wessex, for both types of before 2500 BC for chisel arrowheads and c. 2500-2300 BC for obliques (Parker-Pearson 2009).

As far as Yorkshire is concerned, the earliest leaf-shaped arrowheads cover virtually the entire Neolithic period from c. 4000-2500 BC, followed by later chisel types c. 3500-2500 BC, obliques, and finally characteristic EBA barbed-and-tanged arrowheads c. 2300-1500 BC (Laurie 2003, 233; Manby, King and Vyner 2003, 36; Parker-Pearson 2009), though these dates vary slightly from site to site, and from region to region. But whatever the specifics in terms of date and location, the arrowheads in the collection potentially span the period from the beginning of the Neolithic well into the Bronze Age, from 4000-1500 BC, with most characteristic forms represented.



Fig 15: British oblique arrowheads (1-7), Thirlsey Farm



Fig 16: chisel arrowheads (1-17), Thirlsey Farm

Awls, borers and burins

Collectively, these three types of tool – awl, borer and burin – represent implements designed to act as much as drills or chisels to work a range of materials, such as bone, antler, wood, leather and other fabrics. Burins are defined by the removal of one or more narrow flakes longitudinally along the thickness of the blank forming a trihedral corner or chisel-like edge (Barton *et al.* 1996; Tomaskova

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2005). What is immediately striking and unusual is that, in spite of the size of the collection and the presence of no less than eighty-six boring tools of one kind or another (3% of the worked total) (Figs 18-21), according to the Richardsons it contains only a single certified burin (Fig 17). This could of course be a spurious datum thrown up by the fact that the Appleyards discarded much if not most of the waste and that there was possibly a systematic reason for their failure to recognise burins for what they were, but given their amateur skill and success at preliminary identification of most of the tool types, this seems unlikely and in need of some other explanation.



Fig 17: burin, Thirlsey Farm



Fig 18: awls/borers (1-16), Thirlsey Farm

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Fig 19: awls/borers (17-32), Thirlsey Farm



Fig 20: awls/borers (33-57), Thirlsey Farm



Fig 21: awls/borers (58-85), Thirlsey Farm

Axes, axe fragments, hammerstones and maceheads

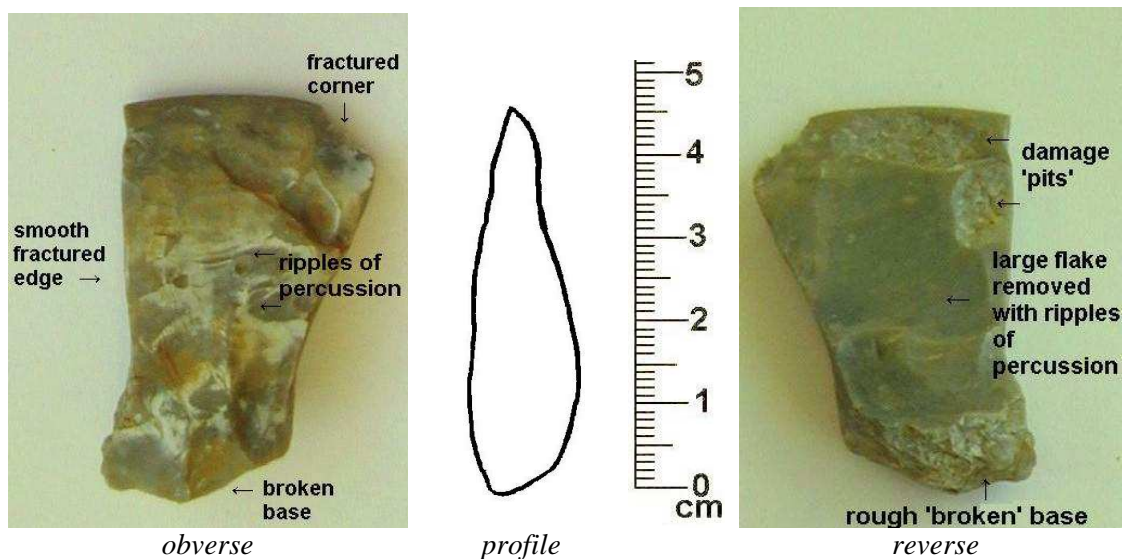


Fig 22: flint axe (1), Thirlsey Farm

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A close examination of each of the axes reveals both their method of production as well as their working history. Axe 1 (Fig 22) is of a homogeneous light grey flint, exquisitely worked and polished with a gently convex cutting edge worn smooth with use. It has clear fractures along both long sides, whose smooth edges suggest breaks in antiquity, so these probably represent the intended sides of the finished axe. It also has a break at the base, but with a much rougher profile suggesting this was accidental. Two rough 'pits' on the 'reverse' side cut into large primary flake profiles suggesting again unintended loss of material after the axe was produced. A number of small sharp 'accidental' fractures across one corner have damaged the cutting edge. Clear concentric ripples of percussion in primary flake scars across the 'reverse' of the axe indicate by their centre of radiation a striking platform at the top of the implement as does a succession of smaller flake scars on the 'obverse' side. If correct, this evidence suggests that the original axe can never have been all that large: the existing fragment weighs just 14g with a maximum length of 45mm, a maximum width of 29mm, a maximum thickness of 16mm and would originally have had a cutting edge up to 32mm long.

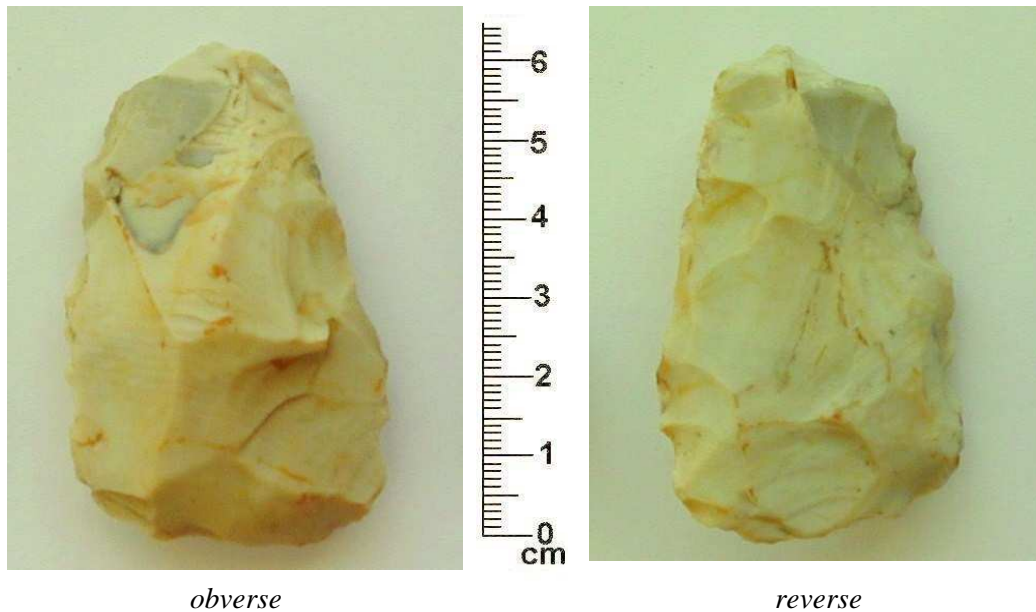


Fig 23: flint axe (2), Thirlsey Farm

Axe 2 (Fig 23) is composed of an opaque creamy-white flint with orange-brown (ferruginous) staining. A well-worked bifacial axe, it weighs 39g, has a length of 62mm, a width of 38mm and a maximum thickness of 15mm.

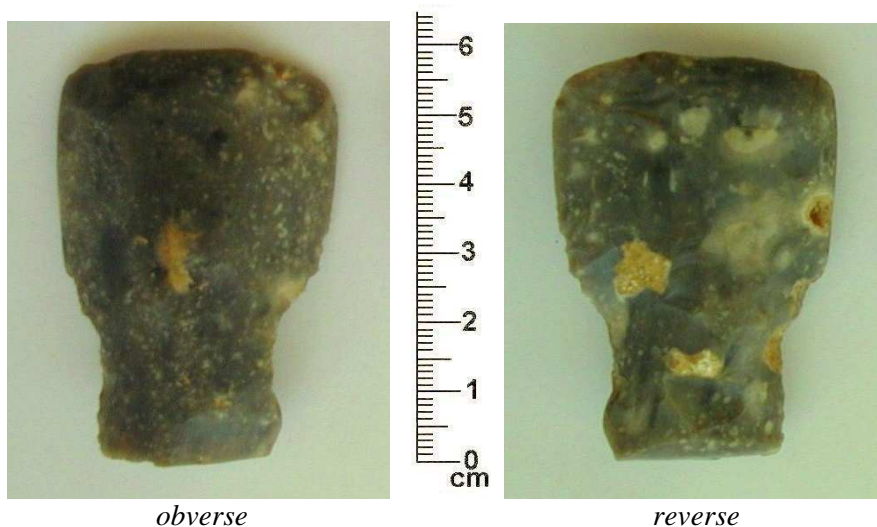


Fig 24: flint axe (3), Thirlsey Farm

Axe 3 (Fig 24) is made from a high quality dark grey flint with creamy-white mottling. Worked to a fine polish, it has a convex 'obverse' face and a relatively flat 'reverse' side with a distinctive waisted shape which flaking scars suggest was part of the intended tool and not the result of subsequent

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damage. Hafted across the waist, the tool would have resembled a Native American tomahawk. The bi-convex cutting edge is virtually undamaged and runs around the top of the axe and down both sides of its wider flange. The flat base is also worn smooth and further flaking scars suggest may well have been the original striking platform. The axe weighs 41g, has a length of 60mm, a width across the blade of 39mm, tapering to 24mm across the narrowest part of the waist and 26mm at the base, and a maximum thickness of 15mm.



Fig 25: axes (non-flint) (4-5), macehead , Thirlsey Farm

Damaged on both sides by plough marks, axe 4 (Figs 25 and 26) is a small Neolithic axe in local buff sandstone with a clearly bevelled and polished cutting edge carrying slight fractures on both sides. The axe is 77mm long, 49mm wide across the blade, up to 21mm thick and weighs 98g.

Axe 5 (Figs 25 and 27) is part of a finely polished and bevelled Neolithic Group VI Langdale axe broken at both ends. Weighing 191g, the fragment is 80mm long, 54mm wide across the blade and up to 30mm thick.

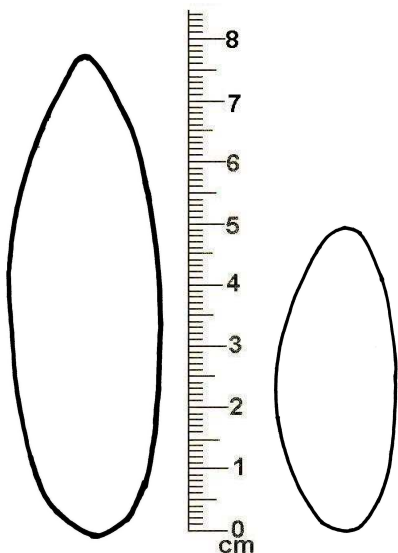


Fig 26: Axe 4, side and cross-sectional views

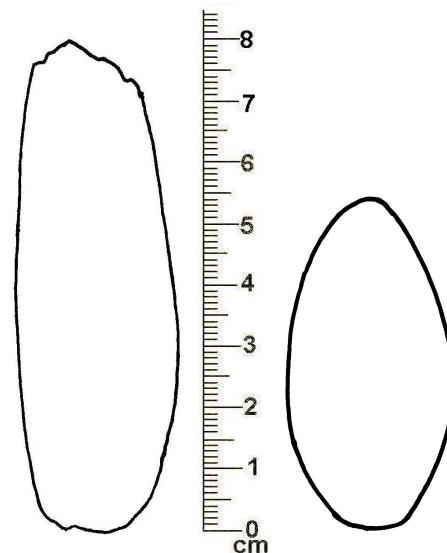
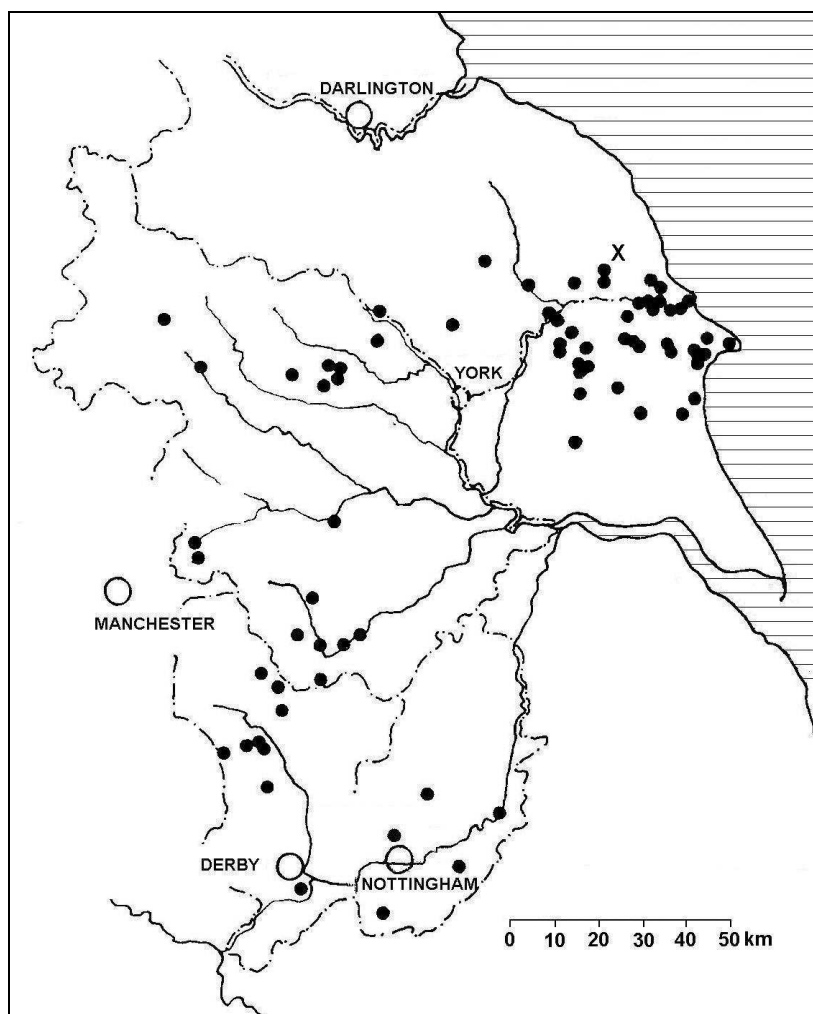


Fig 27: Axe 5, side and cross-sectional views

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Also plough marked on both sides and made of the same buff sandstone as axe 4, the elliptical macehead (Fig 25) is 81mm long, 49mm at its widest, 24mm thick with a 15mm diameter hole and weighs 115g. Damaged at one end, it has a smooth circular hourglass perforation in what would have been the complete tool's centre. Maceheads are not unknown from the area. Fifty-seven assorted examples from Yorkshire were reported by Roe and Radley in 1968 (Roe and Radley 1968), a third of which (19) were found within 15 km of the collection site, eight of which were found at locations on the fringes of the N. York Moors between the River Derwent and the coast (Fig 28). Though found in a variety of contexts, they are generally believed to date from the Neolithic and early Bronze Age, before they were replaced by superior metal equivalents (Roe and Radley 1968, 175). It is also considered that the examples such as this one were most probably hafted and used as small hammerstones, possibly to assist with flint knapping, much as antler did in the earlier Neolithic (Coghlan 1955). The clean-cut near perfect circularity of the hole in the macehead strongly suggests it was done with a bow-driven metal drill (Roe and Radley 1968, 171) and is so more likely to be one of the later Bronze Age examples.



*Fig 28: Distribution of pebble maceheads across Yorkshire, Nottinghamshire and Derbyshire
(after Roe and Radley 1968)
(Thirlsey Farm collecting area marked with an X)*

The collection includes three hammerstones (Fig 29), one of local sandstone, all based on smooth fist-sized pebbles, the largest of which (No. 3) clearly shows on both sides the characteristic depressions designed to aid grip between finger and thumb (Roe and Radley 1968, 169). The working areas are clearly indicated by signs of percussive damage in the form of a multitude of tiny scars on the striking edges of each stone, resembling the lunar surface. This indicates their use as a 'primary percussor' (i.e. without an intermediate or 'secondary percussor' or chisel in the style used by both historic and modern stone masons) in the knapping of flint tools, rather than as some kind of prehistoric mortar for simple pounding or mashing. These scars are clearly visible on the egg-shaped No. 1 at each end of the 'egg' A (Fig 30) and B (Fig 31); on No. 2 along over half its perimeter along CD (Figs 32 and 33),

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with no damage at E suggesting this was the 'base' of the tool and where it was held; and on No. 3 along edge F only (Fig 34) in spite of its apparent symmetry, as the opposite end carries a natural fracture which its users considered might not have withstood the shock of percussion.

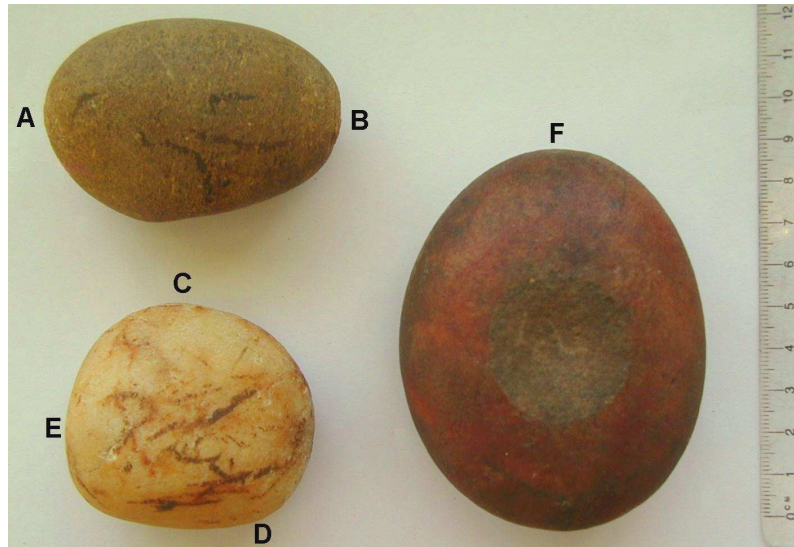


Fig 29: hammerstones (1-3), Thirlsey Farm



Fig 30: hammerstone 1 – close-up of edge A



Fig 31: hammerstone 1 – close-up of edge B

(note scarred surface to the left – more prominent scars marked by arrows)

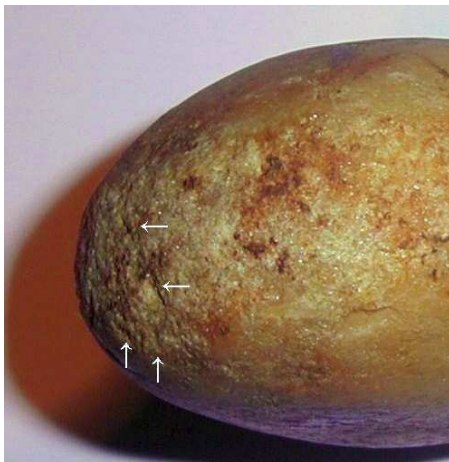


Fig 32: hammerstone 2 – close-up of edge C



Fig 33: hammerstone 1 – close-up of edge D

(note scarred surface to the left – more prominent scars marked by arrows)

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Fig 34: hammerstone 3 – close-up of edge F (note scarred surface)

The analysis by the Richardsons also includes an entry for twelve ‘unidentified tool fragments’, pieces which they suggest are mostly axe fragments of one sort or another, dating from the Neolithic *c.* 3500-3000 BC.

The first four pieces (Fig 35) are all of local sandstone. Fragments 1 and 3 would both seem to be axe fragments: fragment 1 has a clean break down one side which from the remaining curvature seems to have split it in half longitudinally, a sharp longitudinal plough scar and an irregular break across the top; fragment 3 is the plough-damaged butt end of a small axe broken across its entire width. The other two pieces are most probably hammerstones, one of which is fractured and carries a deep scar from the plough.



Fig 35: Axe and hammerstone fragments (1-4), Thirlsey Farm

Of the remaining eight pieces (Fig 36), 5-7 are further sandstone axe fragments, No. 6 carrying a deep (plough?) scar running all the way round the fragment. No. 8 is a curious small piece of sandstone flaked like a flint blade, while No. 9 is most probably a flint core. Nos. 10-12 are fragments of Langdale Group VI ‘Borrowdale tuff’ polished axes, one of which (No. 12) is worked to an exceptionally smooth finish.

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Fig 36: Further axe and other fragments (5-12), Thirlsey Farm

Blades



Fig 37: simple blades (1-5), Thirlsey Farm

One of the more characteristic implements of the late Neolithic period, showing some degrees of refinement and diversification as it passed into the early part of the Bronze Age, was the 'blade': a relatively straight parallel-sided rectangular flake of flint usually defined (as by the Richardsons in their analysis) as being at least twice as long as it is broad, and showing secondary working along one or both of its parallel sides – not to be confused with the much smaller microlithic broad and narrow blades of the earlier Mesolithic. Twenty examples are represented in the Appleyard collection: five simple (Fig 37), thirteen retouched of which nine are notched (Fig 38) (for further discussion and illustration, see the section on 'Notched' below), thirteen serrated (saws) (for further discussion and illustration, see the section on 'Saws' below) and two fragments.



Fig 38: retouched blades (1-4), Thirlsey Farm

Chopping tools

The worked pieces designated as ‘chopping tools’ (Figs 39-42), while superficially resembling characteristic Late Palaeolithic implements, may well be no more than Neolithic working cores from which a small number of flakes have been removed and for which the primary if not the sole purpose was the production of suitable flakes (<http://www.scribd.com>). However, they are all of a remarkably similar size (i.e. relatively large), shape and typology – often with sizeable areas of cortex still adhering – and show no signs of secondary working in the form of pressure flaking along their edge which discounts the possibility of their being large scrapers. It is perfectly reasonable therefore to suggest that as well as producing flakes, the residual core might also have been put to a chopping or similar use, giving the original unworked piece of flint a potentially dual function. Indeed, several examples show a remarkably good fit with the contours of the clenched right hand, if they were intended to be held in a chopping position (Fig 42). Such chopping tools in non-Palaeolithic contexts are known: for example, one was reported in 2008 from Conisborough, S. Yorks. on the S bank of the Don close to a scatter of Mesolithic flints which suggested to the authors a possible flintworking site (Arcus 2008).



Fig 39: ‘chopping tools’ (3-14), Thirlsey Farm

Fig 40: ‘chopping tools’ (15-26), Thirlsey Farm



Fig 41: ‘chopping tools’ (1-2), Thirlsey Farm



Fig 42: ‘chopping tool’ 2 (demonstrating right-hand grip)

Cores and waste

Cores and waste may not seem at first sight to be as significant or as impressive as worked tools such as arrowheads and scrapers, but in their own way they are every bit as important in any localised lithics collection, if not more so. The reason for this is that whereas worked tools, especially arrowheads, could easily be due to chance losses, e.g. during hunting well away from the 'home' area or settlement, the presence of cores and waste incontrovertibly proves that flint was worked locally, indeed to what amounts to a flint 'industry', and that a contemporary settlement of some sort, whether a temporary 'hunting camp' or something more permanent including round houses and enclosures for crops and animals, was not very far away. Unfortunately, centuries of ploughing and other agricultural activities have scattered the flints far and wide but the fact is that with 102 cores and at least 777 pieces of waste (much more of which the Appleyards sadly discarded) representing almost a quarter (23.9%) of the total lithics, flint knapping and tool production must have taken place in the local area somewhere and over a considerable period of time, even if all identifiable traces of any tool production site have long since been disappeared. No complete attempt has been made to 'classify' the various cores in any way, a difficult and doubtful enough task in itself, still less in the absence of exact provenance any attempt to 'reconstruct' or 'refit' any of them from the hundreds of discarded flakes, except to say that there are enough in the collection to cover a range of periods, sizes, styles and flint types. Illustrated below (Fig 43) is a selection of these: No. 1 is an example of a bi-polar core, where flakes have been struck from opposite ends of the core, while the rest (Nos. 2-20) are simple platform cores, with the flakes all detached by a downwards blow from the prepared platform at the top. Platform cores and bi-polar cores are regarded as more characteristic of the Mesolithic-Neolithic period than the Bronze Age, when less regular multi-directional cores were more widely used (Waddington 2004). These too are plentiful in the collection. Given the relatively small proportion of genuinely Mesolithic tools in the collection it is much more likely that the platform and bi-polar cores at least come predominantly if not entirely from the Neolithic. If the more diverse less specific types of the Bronze Age are added to this analysis, then again as with the other worked lithics, we arrive at a Neolithic/Bronze Age time-scale for the overwhelming bulk of the collection.



*Fig 43: Assorted cores (1-20), Thirlsey Farm
1: bi-polar core; 2-20: platform cores*

Fabricators

A further, less common type of Neolithic/Early Bronze Age tool is the so-called ‘fabricator’, characterised by a rod-like profile with rounded ends and sides (Fig 44). Their precise function is not known for certain, but is believed they may have acted as ‘strike-a-lights’ in association with iron pyrites – a function first suggested by Evans in his seminal 19th century work on flint tools (Evans 1872) and one which has since been demonstrated both experimentally as well as ethnographically (Stapert and Johansen 1999). In other words, they were the nearest thing to prehistoric matches! Although in Europe both late Palaeolithic and Mesolithic examples are known, including from Star Carr (Clark 1954), they are more familiar in the UK in Neolithic to early Bronze Age contexts (Wainwright and Longworth 1971, 255), e.g. in places as far apart as Derbyshire (Barnatt *et al.* 1994) and Sussex (Harding 2000, 42).

Appleyard lithics collection



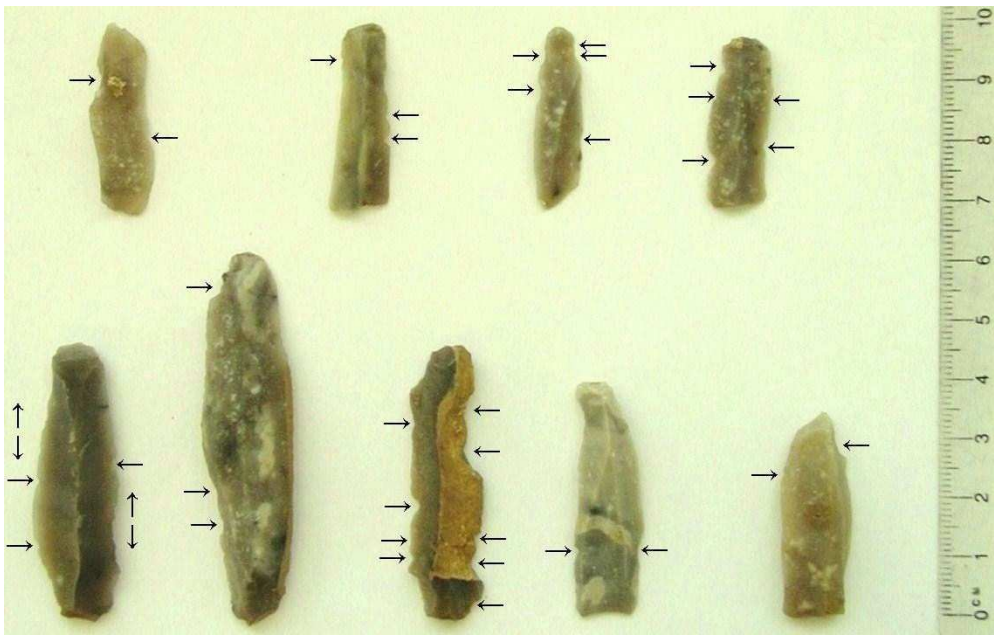
Fig 44: fabricators, Thirlsey Farm

Notched blades and flakes

475 pieces (16.4 % of the collection) are what is referred to as 'notched' pieces: tools of one sort or another which carry one or more distinctive notches cut into the working surface (Figs 45 and 46), some to enhance the cutting/slicing action or provide a hook for the material to be caught and held on (as with Swiss Army knives today), others very possibly to assist hafting onto some sort of handle or shaft. Although this would reduce the pressure that could be applied at the working edge of the tool, it increased leverage and control. Smaller notches can still be detected by the simple device of running a finger along the tool's edge, where they can be felt if not always seen. Some pieces carry a short series of notches along an edge (e.g. Fig 45, No. 5), though not full serrations, which would characterise them as saws: tools identified by the Richardsons as notched saws will be found discussed below in the section headed 'Saws'. The detailed breakdown of notched pieces is:

total	475
blades:	
retouched and notched	9
flakes:	
notched	47
retouched and notched	405
serrated and notched	1
saws, notched	13

Appleyard lithics collection



*Fig 45: Retouched and notched blades (1-9), Thirlsey Farm
(→←: individual notches; ↑↓ notched edge)*



Fig 46: Selection of notched flakes (33-47), Thirlsey Farm

Retouched flakes

By far the largest single group of worked pieces in the collection (1171, 40.5 %) are simple retouched flakes: slices of flint of assorted sizes and shapes struck from a core in the primary phase and subject to only the coarsest degree of secondary working, but not conforming in appearance to any of the other recognised tool types, such as awls, knives, scrapers or saws. In other words, these were less specific tools and it is likely therefore that they would have been put to a variety of non-specific uses as they lack the characteristic finishing touches of a more specific tool. They are too numerous and non-specific to be illustrated here.

Appleyard lithics collection

Saws

Several categories in the Richardson scheme of classification can be described as saws or saw-like implements: these are an assortment of serrated blades and flakes of varying sizes and degrees of serration designed, much as saws today, for cutting through a variety of different materials (Figs 47-55). Another variation is the presence or absence of one, sometimes two, sharp notches cut into one side, perhaps to aid hafting the tool (Figs 54-55). The full breakdown in the Appleyard collection is:

saws (assorted):	130
blades	13
flakes:	117
serrated	103
serrated and notched	14*

(* includes a single serrated and notched flake not classified as a saw by the Richardsons presumably as the serrations are too coarse and irregular)



Fig 47: saws (serrated blades) 1-13, Thirlsey Farm



Fig 48: saws (serrated blades), 6, 10 and 12 (close-up), Thirlsey Farm

Appleyard lithics collection



Fig 49: saws (serrated flakes), 1-20, Thirlsey Farm



Fig 50: saws (serrated flakes), 21-45, Thirlsey Farm

Appleyard lithics collection



Fig 51: saws (serrated flakes), 46-75, Thirlsey Farm



Fig 52: saws (serrated flakes), 76-103, Thirlsey Farm

Appleyard lithics collection



Fig 53: saws (serrated flakes), 23-25 (close-up), Thirlsey Farm



Fig 54: saws (serrated and notched flakes), 1-13, Thirlsey Farm



Fig 55: serrated and notched flake, Thirlsey Farm

Scrapers

The collection also includes a remarkably large number of scrapers with complete and broken examples and fragments (702) making up almost a quarter (24.3%) of the total of worked pieces. Although a detailed analysis has not been attempted – indeed, a definitive and agreed analysis does not really appear possible – the majority of the complete scrapers (Figs 56-61) and scraper fragments (e.g. Fig 66) (over 350 or 50% of the total) appear to be of ‘disc’ type, where the retouched scraping edge extends the entire way around the implement or almost and – as the name implies – the tool is much the same diameter in any direction (Clark *et al.* 1960; Riley 1991). A common variant – if indeed that is what it is – seems to be the production of what would otherwise be a normal disc scraper with retouch all round except for a straight base with no sign of secondary flaking where the flint has either been (deliberately?) fractured or the scraper produced from a worked flake and the flat base is what remains of the striking platform when the flake was detached from the original core. This gives the scraper an apparently ‘truncated’ appearance (Figs 62-65). The scrapers appear in a range of sizes and other types, such as ‘end’ and ‘side’, appear to be represented as well, in short, long (Figs 67-73) and flake or ‘truncated’ forms (Fig 74), all of which points to both a broad period of manufacture and a variety of uses.



Fig 56: ‘disc’ scrapers (1-28), Thirlsey Farm

Appleyard lithics collection



Fig 57: 'disc' scrapers (29-48), Thirlsey Farm



Fig 58: 'disc' scrapers (49-77), Thirlsey Farm

Appleyard lithics collection



Fig 59: 'disc' scrapers (78-107), Thirlsey Farm



Fig 60: 'disc' scrapers (108-142), Thirlsey Farm

Appleyard lithics collection



Fig 61: 'disc' scrapers (143-177), Thirlsey Farm



Fig 62: broken/truncated 'disc' scrapers (178-205), Thirlsey Farm

Appleyard lithics collection



Fig 63: broken/truncated 'disc' scrapers (206--233), Thirlsey Farm



Fig 64: 'broken' or truncated disc' scrapers (234-266), Thirlsey Farm

Appleyard lithics collection



Fig 65: broken/truncated 'disc' scrapers (267-294), Thirlsey Farm



Fig 66: disc? scraper fragments (295-318), Thirlsey Farm

Appleyard lithics collection



Fig 67: 'long(itudinal)' scrapers (319-338), Thirlsey Farm



Fig 68: 'long(itudinal)' scrapers (339-354), Thirlsey Farm

Appleyard lithics collection



Fig 69: 'long(itudinal)' scrapers (355-370), Thirlsey Farm



Fig 70: 'long(itudinal)' scrapers (371-395), Thirlsey Farm

Appleyard lithics collection



Fig 71: 'long(itudinal)' scrapers (396-421), Thirlsey Farm



Fig 72: 'long(itudinal)' scrapers (422-448), Thirlsey Farm

Appleyard lithics collection



Fig 73: 'long(itudinal)' scrapers (449-472), Thirlsey Farm

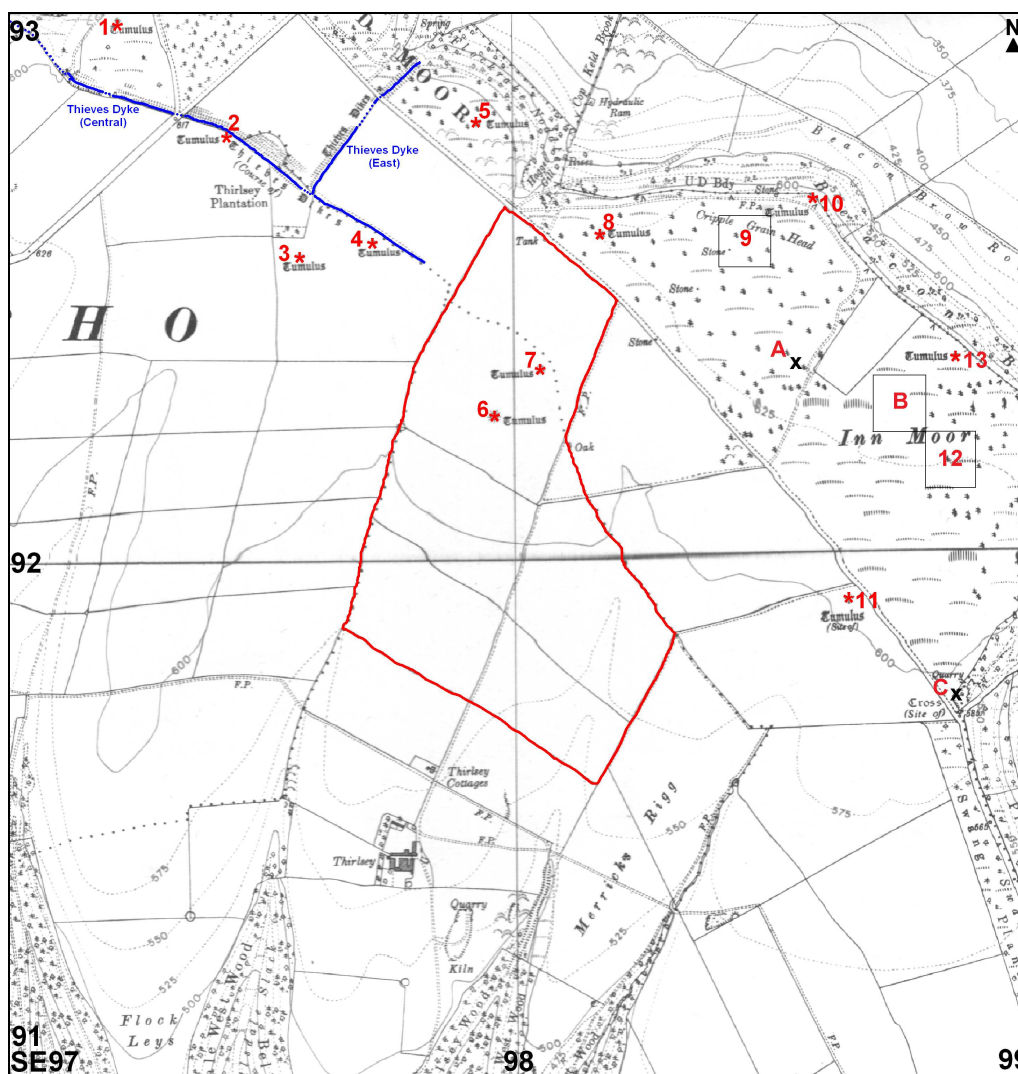


Fig 74: 'truncated long(itudinal)' scrapers (473-496), Thirlsey Farm

Context

In spite of the proximity of the stretch of land N of Thirlsey Farm to the well-known Mesolithic site of the Star Carr barely 10km down the headwaters of the Derwent valley to the south-east and the probability that the immediately adjacent upland areas of the North York Moors such as Suffield and Hackness Moors could have acted as sites for temporary summer hunting camps, there is almost nothing of the Mesolithic period recorded within or close to the collecting area at all (Waughman pers.comm.) – apart from two implements regarded as a ‘site’ by Wymer and Bonsall on Silpho Moor at SE 96 920 (Wymer and Bonsall 1977, Site 46560) a little over 2km from the collecting area and two Mesolithic flint implements each recorded from a location somewhere in grid squares SE 96 94 (NMR NATINV 65817) and SE 96 95 (NMR NATINV 65628) respectively 2.5-3km to the north-west.

However, the immediate area, particularly to the N towards Silpho Brow, is rich in archaeological evidence from the Late Neolithic/Early Bronze Age period (Fig 75). Two Bronze Age barrows are recorded from within Field 6 itself at SE 97960 92234 (NMR NATINV 65742; SMR 4379.04) and SE 98050 92311 (NMR NATINV 65742; SMR 4379.05) (Fig 75: Sites 6 and 7), although both are now almost ploughed out. A further eleven plough-damaged barrows lie within a kilometre or so of the collecting area along the NW-SE skyline edge of Silpho Brow (Fig 75: Sites 1-5, 8-13) and beyond in sufficient numbers to constitute an effective Bronze Age linear cemetery (Elgee 1930, 128). Many of these have produced Collared Urns together with a few Food Vessels (Varley 1989, 9), ceramics typical of the Early Bronze Age c.2000-1500 cal BC (Burgess 1974, 168; Manby *et al* 2003, 37).



*Fig 75: Location of nearest prehistoric sites, Thirlsey Farm
(flint collecting area outlined in red)*

(Sites 9, 12 and B indicated by squares as their location is known only to within 100m)

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Within a kilometre of the collecting area are no less than possibly thirteen Bronze Age round barrows, most if not all of which have been excavated – many sadly without record (except for those excavated by W.H. Lamplough and J.R. Lidster between 1949-51) and damaged either by the plough or by forestry activity.

Working from west to east and from south to north, the first of these (Fig 75: 1) at SE 97234 92984 (NMR NATINV 65781) is believed to be either a Bronze Age round barrow or an Iron Age square barrow, still standing up 0.5m high. Lying immediately south of Thieves Dikes at SE 97444 92759 KB53 (NMR NATINV 65784) are the remains of a second Bronze Age round barrow (Fig 75: 2). The barrow originally had an earth and stone mound 13m in diameter, but this has been levelled by ploughing and is now only visible as a cropmark in aerial photographs. A third round barrow at SE 97585 92522 (NMR NATINV 65787) (Fig 75: 3) can still be made out as an earthen mound 23m in diameter and 0.3m high and is believed to be the only survivor of what was originally a close group of four, now all completely ploughed out (e.g. at SE 97726 92549 (Fig 75: 4) (NMR NATINV 65787). A fifth round barrow at SE 97930 92782 (NMR NATINV 65745) (Fig 75: 5) is marked by an earth and stone mound in a Forestry Commission plantation which has at least protected it from the plough. It still stands up to 1.7m high with a maximum diameter of 13m and has traces of a possible ditch to the N and S. There are two further ploughed-out barrows at SE 97960 92234 and SE 98050 92311 (NMR NATINV 65742) (Fig 75: 6 and 7) with vague traces still remaining. An eighth barrow at SE 98169 92564 (NMR NATINV 65790) (Fig 75: 8) is an earth and stone mound up to 1.6m high and a maximum diameter of 16m with a possible ditch on the E side. A possible ninth round barrow of uncertain age (Fig 75: 9) is marked on the excavator, W.H. Lamplough's, map at SE 984 925 (NMR NATINV 65828). The northernmost of three mounds, barrow 10 at SE 98582 92629 (NMR NATINV 65793 SMR 4379.09) (Fig 75: 10), is an earth and stone mound 10m in diameter and 0.8m high sitting on a slight promontory on Cripple Grain Head giving good views over the valley to the east. Barrow 11 at SE 98646 91931 (NMR NATINV 65799) (Fig 75: 11) was originally marked by an earth and stone mound up to 13m in diameter, but is now completely levelled by the plough. A twelfth barrow investigated by Lamplough and Lidster (Lamplough 28; RCHM Excavation Index PRN 11286) is recorded at SE 988 921 (Fig 75: 12) (NMR NATINV 65827). Finally, a small round cairn/barrow (Fig 75: 13) at SE 98858 92337 (NMR NATINV 65796) again in a prominent position on Inn Moor, which still survives as a 6m diameter sub-circular mound 0.6m high, excavated by Lamplough and Lidster (Lamplough 23; RCHM Excavation Index PRN 11287), produced a Collared Urn of Longworth's Unclassified Series, South Eastern Style (Longworth 1984, 245) along with a cremation and two flint fragments.

Although beyond the strict kilometre limit, mention perhaps should also be made of the only barrow excavation that Lamplough and Lidster ever published, that at Kirkless Farm at SE 98504 93924 (Lamplough 35; SMR 4362), less than 1.5km from the NW most corner of the collecting area. However, it does lie in a topographically and sepulchrally distinct area below Silpho Brow at a much lower altitude of 75m O.D. Excavation up to 1m around the centre recovered items strongly suggestive of the Bronze Age: a block and a pendant of jet, a fragment of calcined bone, fragments of unidentified pottery, a few worked flints and traces of charcoal (Lamplough and Lidster 1960; Smith 1994, 150 and Fig 120).

Whitby Museum holds a large rim fragment labelled 'Part of a British urn from Silphou Nr. Whitby', (Whitby Museum U2) recovered from an unidentified round barrow in the Silpho area at SE 965 920 approx. (NAT INV NMR 65820) and presented to the museum in 1830; the fragment has been identified by Varley (Varley 1989) as a Middle Bronze Age Collared Urn of Longworth's Secondary Series, North Western Style and was dated by him to c. 1400 BC (Longworth 1984, 253).

In Scarborough Museum, there is a Bronze Age urn and an accessory cup, both recorded as from the small village of Coomboats at SE 995 920 a little over a kilometre to the east. During quarrying operations at the SW corner of Inn Moor at SE 98860 91770 c. 1900, an urn was uncovered but smashed by workmen and lost before a proper record could be made: presumably unrecognised Bronze Age barrows must have lain close to both sites (Fig 75: Site C). If so, then there would have been no fewer than eighteen barrows within 1km of the collecting area: if the scope is increased to 5km, the number rises to at least fifty-seven, marking the slopes of Silpho Brow and Suffield Moor to the north as a significant area for burial in the Early-Middle Bronze Age. To provide further context for the area, the Table 5 (below) gives a selection of radiocarbon dates for Bronze Age cairns and

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barrows from the North York Moors incorporating Collared Urns: the urns from Wilton and Wykeham Moors were both of Longworth's Secondary Series, North Western style, i.e. of the same type as the fragment from Silpho. With the exception of the much earlier date from Wilton Moor, these collectively give dates through the Early and Middle Bronze Ages, c. 2000-1700 cal. BC, somewhat earlier than Varley's estimate. These at least provide an appropriate time scale for the barrow cemetery on Silpho Brow and by association help to give something of a focus for the lithics in the Appleyard collection.

Table 5: Dates from cairns/barrows from the N. York Moors including Collared urns

	Lab.Ref.	Uncalibrated BP	2σ calibrated BC	estd. cal BC
Wilton Moor ¹	HAR-9763	4030±90	2880-2420	2650
Boltby Moor ²	Beta-112235	3520±50	1955-1705	1830
Wykeham Moor ^{3,4}	NPL-236	3485±90	1950-1600	1775
Gnipe Howe ⁵	HAR-8773	3440±90	2020-1520	1770
Sawdon Moor I ⁶	NPL-197	3330±90	1910-1410	1660
Great Ayton ^{4,7}	HAR 2091	2940±80	-	1225

Sources

¹: Vyner 1991, 34

²: Heys and Taylor 1998

³: Brewster 1973, 92

⁴: Manby & Turnbull 1986

⁵: Brewster and Finney 1995, 3, 66

⁶: Brewster and Finney 1995, 13, 66

⁷: Longworth 1984

Two assemblages of typical Late Neolithic/Early Bronze Age lithics are also recorded both half a kilometre or so to the east. The first and larger, from Suffield Moor at SE 98551 92318 (SMR 4858) (Fig 75: Site A), includes leaf-shaped and barbed-and-tanged arrowheads, fabricators, scrapers and awls (*Trans. Scarb. and Dist. Arch. Soc.* 1963). The other, from Inn Moor Nursery centred on SE 987 922 (SMR 4876) (Fig 75: Site B), collected at various times by forestry workers, exactly matches types found in the Appleyard collection: two (*petit?*) *tranchet*, eight leaf-shaped, a kite and three barbed-and-tanged arrowheads, thirty-seven 'convex' (i.e. disc-shaped) scrapers, a flint knife, borer, fabricator, three 'lanceheads' and several worked flakes, all of which were deposited at Scarborough Museum (*Trans. Scarb. and Dist. Arch. Soc.* 1967). Finally, again from Coomboots though no more precise location was given, an imported gold spiral twisted torc dating from the Middle Bronze Age Taunton/Penard metalworking phase (1500-1150 cal BC) was found in the 19th century (Knox 1855; Roberts 2007).

Believed to date from the Middle Bronze Age (c. 1500 BC) or possibly later is a complex of linear earthworks much damaged by the plough and afforestation known collectively as Thieves Dikes (NMR NATINV 65769; SMR 4371) which at their closest visible extent at SE 9783 9251 lie just 80m W of the collecting area (Fig 75). Running S of Silpho Brow for over 700m, the complex can be traced both on the ground and by aerial photographs (NMR SE 9792/1: 17516/35) as a series of multiple ditches in places up to 5m wide and banks still up to 1.4m high, which on their eastern limb form a possible enclosure some 30ha in size, whose axis is surprisingly close to that of the modern fields N. of Thirlsey Farm (Knox 1855, 133, 152, 159, 161; Spratt 1993, 175, 291). Significantly, the entire system snakes across Silpho Brow without crossing the line of a single one of the many barrows in the vicinity, and yet also occupies similar ground, with several barrows approaching to within 10m of the dike – suggesting, as Spratt has done for the Cleave Dyke system further west (Spratt 1982, 47-8), that the two were closely contemporary. Though currently lacking any independent dating evidence from excavation or otherwise for the dikes, it seems highly unlikely that burials would have been inserted on both sides of the dike in several places, unless the dike system was already obsolete by the Early Bronze Age. It is much more probable that the dikes were dug after the barrows had been constructed (on ceramic evidence from as late as c. 1400 BC) and that its line was carefully laid out to avoid interfering with them. It seems equally improbable that a dike would have been cut straight through an active Bronze Age cemetery when the surrounding space was still given over to the 'ancestors': one only has to think of the deep cultural revulsion there would be today to the idea of

driving a road through a graveyard. The dike would therefore have been constructed once the cemetery fell into disuse and the land had lost its 'sacred' or sepulchral character – in modern planning parlance, what would be termed a 'change of use'. This gives a Middle Bronze Age date at the earliest for the system, somewhat after the period represented by both the barrows and the Appleyard lithics. Similar to other such systems on the North York Moors, it is thought that these dikes were either territorial or agricultural, marking out viable farming territories, rather than defensive or military boundaries (Spratt 1982, 50; Spratt 1993, 140; English Heritage 'Pastscape' website: <http://www.pastscape.org.uk>), and may have been marked by a stockade. However, it is difficult in this case to account for the fact that for a good part of its length it consists of triple banks and ditches, and one particular stretch (from SE 97472 92747 to SE 97548 92697) consists of six ditches and banks spanning over thirty-five metres, suggesting a defensive function right on the scarp edge (Spratt 1993, 128), when for purely agricultural purposes a simple bank-and-ditch boundary would have sufficed.

Conclusion

The Appleyard collection represents by far the largest single collection of lithics in this key area, a gently sloping plateau of well-drained south-facing land leading up from the edge of the Hackness Basin towards the north-eastern edge of the North York Moors with clear views of the coastal lowland and sea beyond. The worked flint tools and waste in the collection demonstrate by both their number and diversity a strong presence from early in the Mesolithic (indicated by the broad and narrow blade fragments and other microliths as well as possibly the two *petit tranchet* arrowheads and some of the platform cores) where virtually none has hitherto been recorded, with possible links as an upland summertime hunting area to Star Carr directly to the south, through the Neolithic and well into the Bronze Age – a total potential span of at least five thousand years. Although the precise nature of mobility and seasonality in the Mesolithic period are still a subject of debate and the simple 'classic' interpretation of Star Carr as a winter base-camp by Clark (Clark 1954; 1972) has since been called into question (Mellars 1976; Jacobi 1978; Spikins 1999; Mellars and Dark 1998; Gaffney 2009, 49-50), its closeness to the lithics collecting area simply cannot be overlooked. The suggestion is that at different times of the year the inhabitants of Star Carr exploited a much wider landscape than the immediate fringes of the former lakeside, particularly as climate, water levels and patterns of vegetation changed during the course of the Mesolithic. The much smaller number of Mesolithic implements and their more limited range, given the proximity to Star Carr and larger time period, points not so much to a scant Mesolithic presence as a reflection of the much smaller population and nomadic life-style and that this upland area was most probably seasonal territory occupied by occasional bands of Mesolithic hunters. It therefore seems highly likely that the upland plateau would have been a key element in the economy of the hunter-gatherer community at Star Carr, as suggested by the Mesolithic components of the Appleyard collection.

Conversely, the much greater numbers of Neolithic and Bronze Age material in the collection and its diversity point to both a vastly increased population and a more settled, even static, way of life tied to agricultural food production where much of the tool-making and use would be confined to a small highly localised area. The fact that a large concentration of Bronze Age burials occurs on the skyline edge of Silpho Brow directly to the north-east, two of which actually occur within the collecting area, is itself of significance and shows that there must have been a close and long-standing geographical link between both sepulchral and technological activity – at least in the Early Bronze Age. The range of tool types represented in the collection covering almost every conceivable activity and the concentration of roughly contemporary burials in the same area amply demonstrate that throughout this period people both lived and died on this broad moorland fringe. As far as the term can be applied in the Late Neolithic/Early Bronze Age period, it was 'home'. It is all the more pity therefore that, as is so often the case, the flints were recovered from the surface of ploughland, where any stratigraphic or localised evidence of a possible workshop, camp or more permanent form of settlement has long since been lost. But we must be grateful to the Appleyards for their efforts in amassing such an impressive and important collection in the first place and adding valuable rich evidence to the archaeological picture of the area.

Acknowledgements

Thanks are due above all to Margaret Appleyard, who on behalf of herself and her late husband, kindly donated the entire flint collection to the author and to Bob and John Richardson for carrying out the analysis. (Photographs of *all* of the worked flints – not just those illustrated here - remain with the collection archive, currently with the author.) Information from the regional HER and elsewhere on prehistoric sites and finds within the vicinity of Thirlsey Farm was kindly supplied by Mags Waughman, Archaeological Conservation Officer with the North York Moors National Park Authority. I am also grateful to Karen Snowden, Curator of Museums and Archaeology (Scarborough), for her help with a number of queries relating to lithics deposited at Scarborough; to Paula Gentil, Keeper of Archaeology, Hull Museum, for agreeing to accept the collection; to Terry Manby for help with sources; to Chantal Conneller of the University of Manchester and Vale of Pickering Project, for comments on the Mesolithic components of the collection and its possible links with the economy of Star Carr; to Chris Hall of the Scarborough and District Archaeological and Historical Society for information leading to the location of the unpublished Lamplough excavation archive; and finally to David Lamplough, son of the late W.H. Lamplough, for access to the same.

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K. Boughey
February 2011