WALKING THE FURROWS: A LITHICS TRANSECT ACROSS THE PEAK

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SUMMARY

This paper describes an exercise in fieldwalking to collect prehistoric lithics, undertaken in 1983-85 and 1997-2003 within a Transect designed to sample three of the main topographic zones of the Peak District. Walking was designed for systematic coverage of ploughed surfaces, with individual find spots normally recorded, so that assemblages from field to field could be compared while keeping biases in results to a minimum. In total 136 fields were walked within the Transect, including seven in 1983-84 undertaken as part of parish surveys. Altogether just over 400 hectares of ground was walked (with an additional c. 25 hectares where fields were walked more than once).

Within individual fields the lithics usually comprised a mixture of flint and chert, with small quantities of burnt material. Debitage in assemblages is normally flake dominated, but blades and blade cores are also present. Cores generally tend to be small and exhausted, and flakes and blades are again small, both reflecting the relative scarcity of good raw materials, with all flint imported into the region, coming from several sources and directions. The tool range is broad. Lithic scatters tend to be palimpsests, with material of different dates, and rarely are confined spreads identifiable as discrete entities.

The limestone plateau has generally higher densities of flintwork than the shale valleys and eastern gritstone upland. However, the density of material present in each field is very variable for all three regions. Material of Mesolithic through to Bronze Age date is found in all three regions, with few clear trends that change through time. This is consistent with current interpretation of prehistoric land use, which populates all three main zones within the Transect with people from the Mesolithic onwards. This contrasts with a model current in the early 1980s which the Transect project was initially designed to test, which saw the occupation of the gritstone upland as a Bronze Age phenomenon.

Identifiable Earlier Mesolithic material is rare within the Transect and confined to the high western part of the limestone plateau. In the Later Mesolithic and the Later Neolithic this same area is also strongly represented by dateable material, while the gritstone upland has few items dateable to the Earlier Neolithic and Earlier Bronze Age compared with other parts of the Transect. None of these patterns are clear-cut and may have little meaning, but other much stronger patterns have emerged. Despite all Neolithic ritual monuments and many Later Neolithic and Bronze Age round barrows being found on the limestone plateau, the lithics tell of 'settlement' that was broader ranging, found in all three main zones sampled,

although with something of a bias that favours the limestone. The lithics within c. 1km of Arbor Low have a particularly high density, showing the importance of the place. The high limestone plateau around the henge had been a regional focal area since the Mesolithic. Also, transverse arrowheads that presumably date to when the monument was in use occur in unusually high numbers around the henge itself.

INTRODUCTION

Aims of the Transect Survey

The Peak District lithics transect was designed early in 1985 to sample different topographic zones in the Peak District, to explore in a systematic way the character of prehistoric lithic scatters across the region. The principal aim of the project was to shed some much needed light on patterns of landscape occupation from the Mesolithic through to the Bronze Age. Lithics were collected in the transect intermittently over 20 years, with the basic aims remaining the same, although our understanding of their context has evolved.

Lithic scatters form a resource of major potential for understanding the Peak District in prehistory, often the only available source of widespread data on Mesolithic to Bronze Age settlement that can be traced across the region as a whole. Material has, of course, been collected across the region for the best part of two centuries. However, many of the assemblages currently residing in museum archives and private collections are difficult to take at face value. Methods of recovery in the past have often been haphazard or otherwise unrecorded. There are also potential biases in the data created by the local focus of collectors such as Clarence Daniels, whose work around Eyam distorts our picture in the sense that the same level of collecting has not happened in all places. Similarly, the known distribution of lithics has sometimes been governed by chance events, as for example on the Eastern Moors, where artefacts have been recovered from erosion scars after intense peat fires. Such samples often provide only a restricted basis for systematic comparison, a limitation that also applies to many collections from the Dark Peak (of predominantly Mesolithic material), which tend to come from the edges of eroding thick peat deposits. To these problems can be added the biases caused by the cherry-picking of only the most attractive and more obvious tools from scatters, at the expense of systematic sampling of assemblages as a whole.

We were certainly not the first to identify and act upon these problems in the region. A few systematic collections from ploughed fields have been published, as at Elton Common (Radley and Cooper 1968; Gerrish 1982), Middle Hill, Wormhill (Hart 1981), and at Aleck Low and Mount Pleasant near Middleton by Youlgreave (Hart 1981; Garton and Beswick 1983). However, even here there are perhaps biases created by different collection and recording methods, as for example differences in the intervals at which walkers were placed in the field, which will affect the apparent density of material recovered, making comparison of one place with another problematic. Also, the well-recorded data are spread thinly across the region.

At the time the Transect was first devised it was designed to test models of Peak District prehistoric land use, which proposed radical differences between the limestone plateau, which was seen as a Neolithic core area, and the gritstone eastern moors, which were regarded as marginal and not intensively used until much later (Hawke-Smith 1979; Bradley and Hart 1983). Though these models have been largely superseded and there are now more nuanced understandings of how different parts of the region were used in prehistory (Barnatt 1996a;

1999; 2000; 2008; Edmonds & Seaborne 2001; Hind 2000; 2004; Kitchen 2000; 2001), the basic premise of the Transect project remains as relevant now as it was then. It has collected lithics from ploughed fields in a systematic way, where results from field to field can be legitimately compared by minimising differences in the character of recovery. The aim of the assessment presented here is to give an overview of the material collected, and to identify key trends.

The basic aim of the transect was to provide a systematic collection of lithic artefacts from ploughed fields, to be used as a baseline, that would allow this category of information to play a more significant role in interpreting the prehistory of the Peak District. These data provide a complement to the many Neolithic and Bronze Age ritual monuments throughout the region (Barnatt 1990; 1996b) and the exceptional survival of prehistoric settlements and farming remains on the eastern gritstone moors, much of which is currently thought to date to the Bronze Age and/or Iron Age (Barnatt 1999; 2000; 2008; Heath 2003; Kitchen 2000; 2001), but with some agricultural use from at least as early as the Later Neolithic (Ashmore *et al.* 2010; Wilson and Barnatt 2004).

In interpreting the lithic evidence, it is important to question what we mean by 'settlement' and thus the context in which flintwork was discarded or deposited in particular places. From the Mesolithic to the Iron Age, there is likely to have been an almost bewildering variety in forms of landscape occupation, from short-term visits and seasonal sites, some of them used repeatedly, to more persistent places of residence (Barnatt 1996a; 1999; 2008; Edmonds and Seaborne 2001). Though surface-collected flintwork may not, in isolation, provide an immediate reflection of the nature, scale and duration of activities in the past, lithic scatters are a crucial 'way in' to thinking about the structure of those activities at a landscape scale.

THE TRANSECT

Location and extent

The Transect runs from the River Dove at its southwest end to Baslow in the Derwent Valley, from where it turns eastwards across the eastern gritstone moors to enclosed land beyond (Fig. 1). It was designed not only to sample the main topographical zones of limestone plateau, the valleys of the Wye and Derwent and the gritstone uplands, but also to take in Arbor Low, as it had been suggested that lithics here may be different from the norm (Bradley and Hart 1983). It also purposefully included a broad area of lower-lying land than is usual in the Peak District located north of the confluence of the two main rivers. A change in direction to the north-east was designed to take in the maximum amounts of enclosed land on the fringes of the gritstone moorland that had the potential for being ploughed during the life of the Transect Project. The transect is 24km long and 5.9km wide (but 6.4km wide at the north-east end).

The physically distinct topographical zones and their subdivisions that were sampled (Fig. 2) are:

The Limestone Plateau

Geologically this zone comprises Lower Carboniferous limestone, which forms a broad plateau, at mostly between 200 and 400m OD, with a landscape of rolling ridges, the upper basin of the River Lathkill, with both parts dissected by steep dry valleys and gorges, and with lower shelves of flatter ground above the Lathkill gorge and above the Wye Valley at the eastern edge of the plateau.

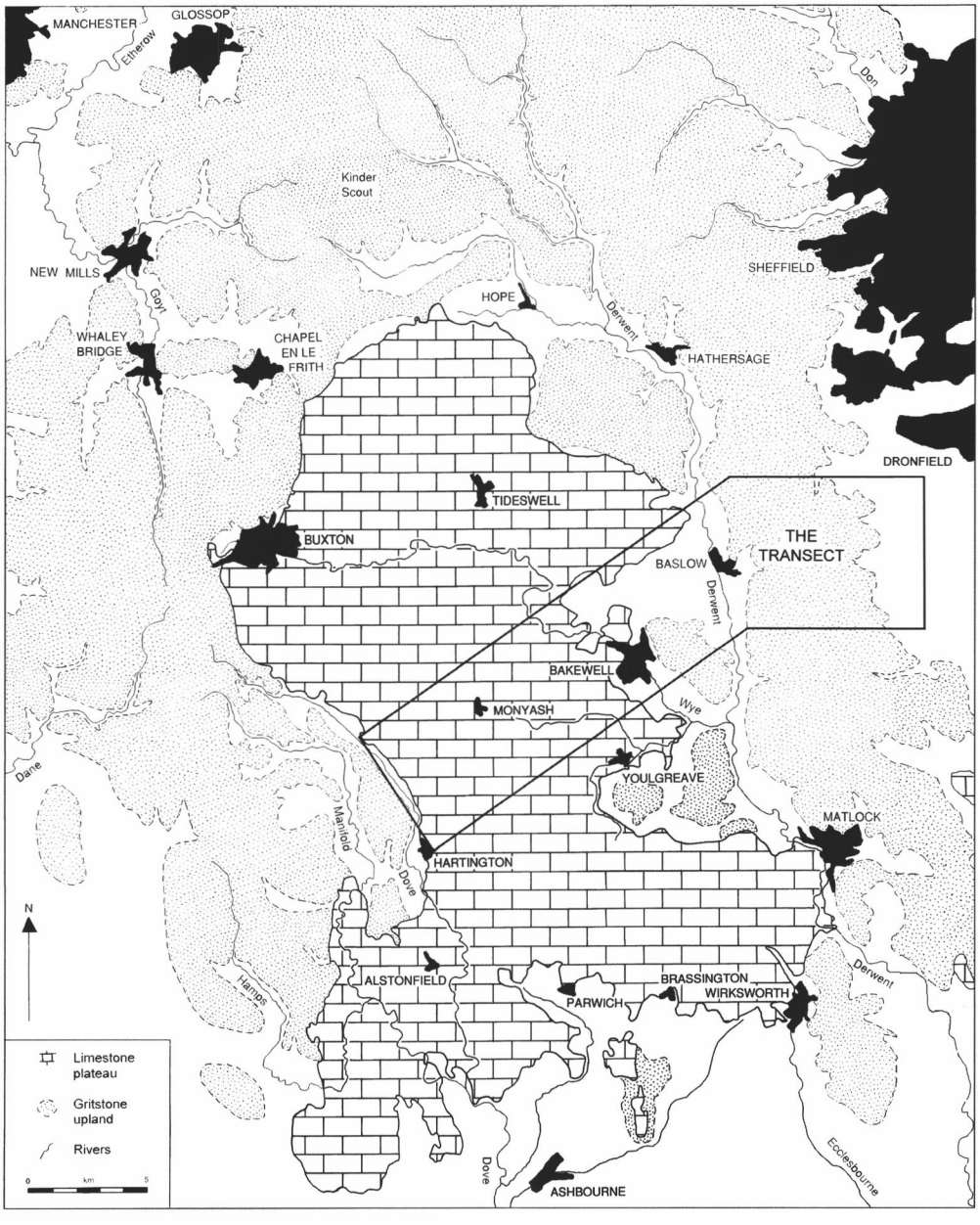

Fig. 1: The Peak Lithics Transect: Location.

The plateau is divided for analysis into the following areas:

- *A: High Western Ridges*: Within the Transect this western part of the limestone plateau comprises a series of north-west/south-east ridges, all enclosed into walled fields, with the dry valley of Long Dale and its upper tributaries separating one ridge from the next. Ridges and valleys together have a mean altitude of *c.* 330m OD. The southern part of Long Dale is a very steep-sided and narrow feature, whereas in the upper reaches there are broader but shallow areas. At the southwestern end of the Transect the land falls away steeply to the River Dove but, not surprisingly, no fields came available for walking on these slopes.
- *B: Arbor Low Environs*: Topographically this area is comparable with the last, with a mean altitude of *c.* 350m OD. It is treated separately purely because of the proximity of the Later Neolithic henge of Arbor Low and the earlier barrow nearby at Gib Hill.
- *C: Monyash Basin and Lathkill Shelves*: A broad central area of the limestone plateau within the Transect comprises a wide but shallow upland basin rising to surrounding ridges on three sides. However, to the east, land at the same altitude as the basin bottom continues as shelves above the precipitous gorge of Lathkill Dale. The mean altitude is *c.* 290m OD. Lathkill Dale itself forms a deep but narrow gash cut into today's enclosed farmland found above, with a largely seasonal river following its base; no land is suitable for ploughing here.
- *D: Northeastern Ridges*: Within the Transect there are relatively high, rounded and broad topped ridges between areas C and E, with a mean altitude *c.* 300m OD.
- *E: Wye Shelves*: At the eastern edge of the limestone plateau, on the side of the River Wye valley, there is a broad but somewhat dissected shelf of limestone ground, with a mean altitude *c.* 200m OD, and steep slopes above and below.

The Shale Valleys and Ridges

This zone has the narrow valley bottom land of the Rivers Wye and Derwent at roughly 100-150m OD, cut into shale dominated geology. Between them there is a dissected landscape comprising ridges, shelves and tributary steam valleys, which are mostly no higher than 250m OD.

The zone is divided for analysis into the following areas:

- *F: Wye Valley*: This small area of valley bottom comprises a narrow terrace to either side of the River Wye with a mean altitude *c.* 120m OD.
- *G: Low Ridges*: Between the two main valleys a series of streams divide the landscape into several discrete sloping shelves and ridges formed by beds of coarse sandstone, often with steep slopes at their edges. There are also small areas of limestone, as a Cracknowl Pasture. Taken together this area has a mean altitude *c.* 200m OD.
- *H: Derwent Valley*: The valley bottom comprises a narrow terrace to either side of the River Derwent, together with gentle lower valley side slopes above, with a mean altitude *c.* 120m OD.

The Eastern Gritstone Upland

An area comprising a continuous block of gritstone upland running north/south, mostly between 200 and 350m OD, along the full length of the southern half of the Peak District. Geologically this zone is a south-eastern branch of the region's sandstones and gritstones,

interspersed with shales, of the Millstone Grit and Lower Coal Measure rock of Carboniferous age. Higher parts have mostly been moorland/unenclosed grazing since prehistory, while peripheral areas are sometimes enclosed, a pattern that has fluctuated through time as much of the land is close to ecological and cultural thresholds of what was seen as viable/desirable upper limits of mixed farming within enclosed fields.

The gritstone upland is divided for analysis into the following areas:

- *I: Main Western Shelves*: High above the steep eastern side of the Derwent valley, which forms a scarp, the gritstone upland has a broad shelf of land. This was formed because coarse sandstone beds outcrop here. There are clay soils over shale on land downdip, and head deposits with boulders on the slopes rising eastwards to an upper scarp. The overall mean altitude is *c.* 240m OD. Only one part of the shelf had any ploughed land that became available.
- *J: High Upland*: The central spine of this upland above the upper western scarp has a mean altitude of *c.* 290m OD. Most is moorland and today never ploughed. The main exception is an area at the head of streams flowing westwards where post-medieval enclosure has taken place.
- *K: Eastern Ridges*: At the eastern fringe of this upland, most land is enclosed and comprises ridges that run towards the lowlands, with steep sided valleys between each, and land within the Transect having a mean altitude of *c.* 230m OD.

History of the Transect Project

The Transect was first devised during the life of an 1983-85 archaeological scheme which looked at various aspects of Peak District archaeology using a Manpower Services Commission labour force. The idea evolved gradually, growing out of fieldwalking at five fields that was part of a parish survey of Monyash, undertaken to complement earthwork and building recording there. A single field in Baslow-Bubnell was walked for a second parish survey. Soon after, the idea of the Transect was born and in Spring 1985 fieldwalking expanded into the rest of the newly defined Transect and a further 29 fields were walked. After the 1985 season, archive and publication reports were prepared, incorporating fieldwalking data from Mount Pleasant and the Weaver Hills. However, unforeseen pressures of work meant that this was never brought to a conclusion (Myers 1989; Barnatt, Garton and Myers 1996).

Valuable data was provided by the 35 fields within the Transect walked in the mid 1980s, but, because it was such a small sample, a new programme of working was established. This was undertaken as a partnership between Arteamus, a local archaeological group of independent practitioners, and Mark Edmonds of Sheffield University with John Barnatt of the Peak District National Park Authority. It was the intention from the outset that this new collecting would complement that done in the 1980s and that analysis would eventually combine both datasets. Arteamus took the lead with the fieldwork, sometimes with assistance from research students from Sheffield University. A total of 101 fields in the Transect were walked between 1997 and 2003. Once the project was about half way through and a significant amount of data had been amassed, systematic artefact categorisation was started by Mark Edmonds and John Barnatt working with a team of Arteamus volunteers. A digital archive of the data collected was made, including a master spread sheet and field plots.

The 1980s fields have now been renumbered from 1-37 to 1001-1037 for the present report, to save confusion with the first 37 fields walked later by Arteamus. It should also be noted that

while the field numbering sequences used throughout the Transect come to 139 fields, only 136 fields in the Transect were actually walked, as two were elsewhere and not considered in this report (83, 1006) and one field (1024) had paperwork prepared but was not walked at the last minute as it was limed by the farmer.

Much to the frustration of some Arteamus members, who could have tramped the furrows for ever, a stop was called to field walking at the end of 2003. It was felt that enough flintwork had been collected and, more importantly, that so much data had been amassed that the analytical process would become increasingly unwieldy if the collection grew any further. Analysis was completed in 2012.

Taking both sets of data together, 136 fields were walked, which came to a total of just over 400 hectares, which is just over a 2.5% sample of the Transect area.

Fieldwork

The idea of a Peak District fieldwalking transect was an expression of disciplinary interests in surface collection and sampling that emerged in Britain in the 1980s. A wide range of projects was undertaken at around this time, many of them concerned with the design of sampling strategies for lowland arable landscapes, where modern fields are often large and ploughing is a regular occurrence (e.g. Hazelgrove *et al.* 1985; Brown and Edmonds 1987; Richards 1990). Conditions in the Peak District were, and remain, very different. Fields are diminutive and ploughed infrequently, and the quantities of lithics present are often relatively small. Some fields are only ploughed for re-seeding and the opportunity to recover data does not present itself again for a minimum of a decade or two. In any given season, although the designed transect was large, only a very small proportion of the land was likely to be ploughed (estimated as significantly less that 5% and normally under 1%). For all these reasons, a very specific walking strategy was adopted. This sought to recover the 'total' number of lithics that were visible at surface on the day of fieldwalking.

In a few instances the same fields were walked more than once, in every case in different years after fresh ploughing. These repeat walks were always treated as separate events and given different field numbers in the catalogue; thus, at analysis, the repeat walking does not distort results by increasing the apparent numbers of finds made at particular fields.

Care was taken to target as many different parts of the Transect as was possible, with particular emphasis placed on filling topographical gaps towards the end. This said, there were topographical areas of the Transect where only a few fields were walked. Parts of the very western edge of the Transect and much of the valley bottom lands of the Wye and Derwent were never ploughed or were otherwise unavailable during the lifespan of the project, despite regular scouting trips and extensive personal contacts made with farmers. Similarly, most of the western shelf and high upland parts of the eastern gritstone upland are moorland or permanent pasture and only limited specific locations came under the plough. Coverage within the different topographic zones and areas is shown in Figure 2.

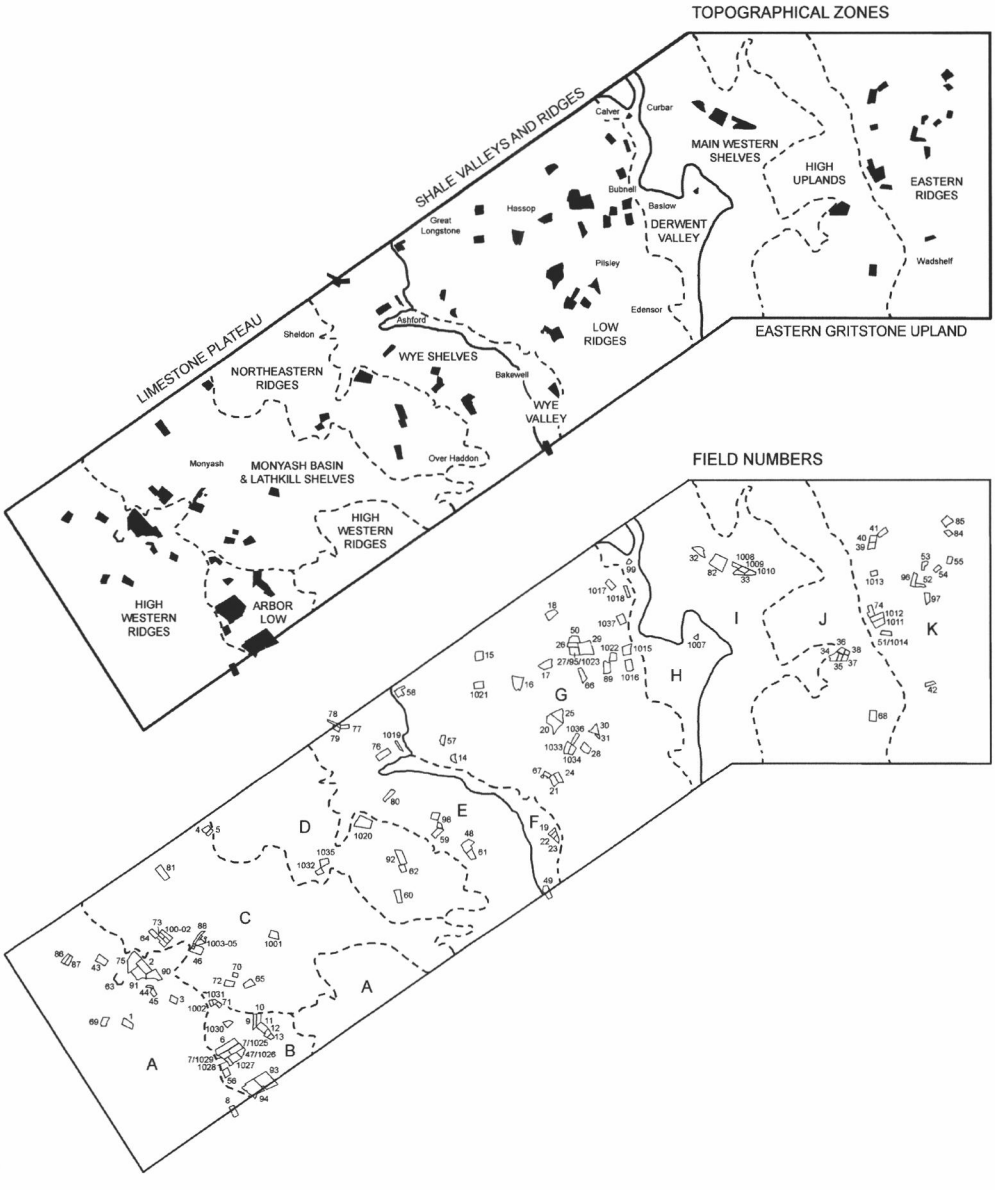

Fig. 2: The Peak Lithics Transect: This distribution of fields walked, topographical zones/areas and modern settlement (above), together with field numbers and topographical area letters (below).

The Limestone Plateau

Area	*Percentage of the full Transect*	*Number of Fields Walked*	*Hectarage Walked*	*Percentage of Total Hectarage Walked*
A: High Western Ridges	16%	14	49.37	12%
B: Arbor Low Environs	3%	20	66.99	16%
C: Monyash Basin and Lathkill Shelves	11%	17	38.81	10%
D: Northeastern Ridges	7%	6	24.11	6%
E: Wye Shelves	8%	10	28.06	7%
TOTAL	45%	67	207.34	51%

The Shale Valleys and Ridges

Area	*Percentage of the full Transect*	*Number of Fields Walked*	*Hectarage Walked*	*Percentage of Total Hectarage Walked*
F: Wye Valley	2%	4	7.09	2%
G: Low Ridges	17%	33	108.61	27%
H: Derwent Valley	3%	2	1.67	1%
TOTAL	22%	39	117.37	30%

The Eastern Gritstone Upland

Area	*Percentage of the full Transect*	*Number of Fields Walked*	*Hectarage Walked*	*Percentage of Total Hectarage Walked*
I: Main Western Shelves	10%	6	21.88	5%
J: High Upland	9%	6	13.33	3%
K: Eastern Ridges	14%	18	42.72	11%
TOTAL	33%	30	77.93	19%

Table 1: The amount of land fieldwalked in different topographic zones of the Transect

Table 1 (which has percentages rounded to the nearest 1%) shows that while certain areas presented few opportunities for collection, there are sometimes explanatory factors. In the case of the Wye and Derwent Valleys, the amount of land is small and thus the number of fields walked as a percentage is both meaningful and comparable. The main problem was on the gritstone upland where the figures are biased by a large amount of moorland. In contrast, we walked proportionally more land around Arbor Low.

The location of all fields walked is shown on Figure 2. Further details of the transect location, fieldwork and data analysis methodologies are given in Appendix A.

DATA ANALYSIS

Raw Materials, Tools and Debitage: Defining Stone and Artefact Types

There are various ways that raw materials and artefact types can be categorised and analysed, and different specialists tend to adopt different variations on a theme. Categorisations made for the Peak Transect work are relatively simple but hopefully robust, an approach thought to be appropriate for material collected from ploughed fields rather than in discrete excavation contexts.

The raw materials found were categorised as:

1. ***Translucent Flint***: While much flint is translucent (with the notable exceptions of 'Wolds' Flint and that which is heavily corticated), this category was applied only to good quality brown and grey-brown unmottled translucent flint (pieces that did not fit these characteristics unambiguously were placed in Category 3).
2. ***Wolds Flint***: One distinctive flint type that can be identified is pale-grey to white in colour, usually opaque, and often mottled with visible inclusions (pieces that did not fit all these characteristics unambiguously were again placed in Category 3). Following earlier work, we used the term 'Wolds' on the understanding that much of this material is likely to have ultimately come from the Yorkshire and Lincolnshire Wolds. However, this term is a shorthand and probably misleading; flint with the same characteristics can also be derived from other sources. The key issue here was to differentiate material in terms of its observed characteristics, and not necessarily to assume that we could determine its point of origin.
3. ***Other Flint***: This 'catch all' covers a wide range of flint, in terms of colour and potential sources, including material derived from river and glacial cobbles, and potentially other geological contexts.
4. ***Black Chert***: Commonly the best quality chert found naturally in the Peak District is dark coloured and has a regular texture. Usually it is black to dark grey in colour and sometimes banded.
5. ***Grey Shiny Chert***: A rarer high quality chert with a mid-tone grey colour and has a lustrous appearance and fine texture.
6. ***Other Chert***: Poorer grade chert, very commonly grey to yellow-brown in colour, often mid-tone to near-white, and not as easy as the better cherts to make good tools from. This term is effectively used as a 'catch all' for all chert that didn't fit neatly in Categories 4 and 5.
7. ***Other Stone***: Artefacts in other types of stone collected during the Transect fieldwork are so rare that it was not worth subdividing this category for analysis; it includes igneous and sedimentary rock types.

While flint does not occur naturally in the Peak District and was imported into the region from primary chalk sources and from secondary glacial or river gravel deposits, chert *is* found *in situ* on the Limestone plateau. While chert also outcrops in the Northern Pennines, it is assumed that most or all chert artefacts found in the Transect are of local origin. It occurs commonly in the Monsal Dale Limestones and sporadically through the later Eyam Limestone beds (Stevenson and Gaunt 1971; Cox and Bridges 1977; Harrison and Adlam 1985; Aitkenhead *et al.* 1985). These beds outcrop commonly in and around the Transect from the upper Monyash Basin, close to Arbor Low, to the eastern edge of the limestone plateau above the River Wye. Black Chert appears to have a more restricted distribution, and is known to occur in rock outcrops in Kirk Dale and elsewhere near Ashford and in Lathkill Dale, both within the Transect; a systematic search for other potential places where prehistoric peoples could have acquired this raw material has never been made.

A series of standardised artefact type terms were employed, with each given a unique number to facilitate computerised recording and analysis. These types are as follows:

Debitage

- Chunk/chip, bashed lump, flake, blade.
- Core/core fragment, core rejuvenation flake, scraper, resharpening flake, microburin, crested blade, polished flake.

Tools

- Disc scraper, horseshoe scraper, thumbnail scraper, side scraper, end scraper, end-and-side scraper, hollow scraper, side-and-hollow scraper, miscellaneous scraper (Plate 1).
- Microlith, backed bladelet (Plate 2).
- Leaf-shaped arrowhead, transverse arrowhead, barbed and tanged arrowhead, other arrowhead (Plate 2).
- Flake knife, bifacially flaked knife, plano-convex knife (Plates 3, 4).
- Awl or piercer, wedge, burin, fabricator.
- Miscellaneous retouched flakes and blades, truncated flakes and blades, notched flakes and blades, notched and retouched flakes and blades, edge-used and/or edge glossed flakes and blades, worn-edge flakes and blades, denticulates.
- Stone axe fragment, bifacially flaked fragment, fragment from a bifacially flaked implement, thinning flake from bifacial flaked implement, flake from a polished implement with retouch, trimming flake with retouch, core rejuvenation flake with retouch, flake from polished implement, polished flint fragment, fragment from a tool.
- Hammerstone/anvil, fire cracked river cobble, whetstone.

In addition a small number of artefacts were found to be composites which combined types, these again were numbered and are as follows:

Composite Tools

- Core and retouched tool, core and scraper, core rejuvenation flake retouched as a scraper.

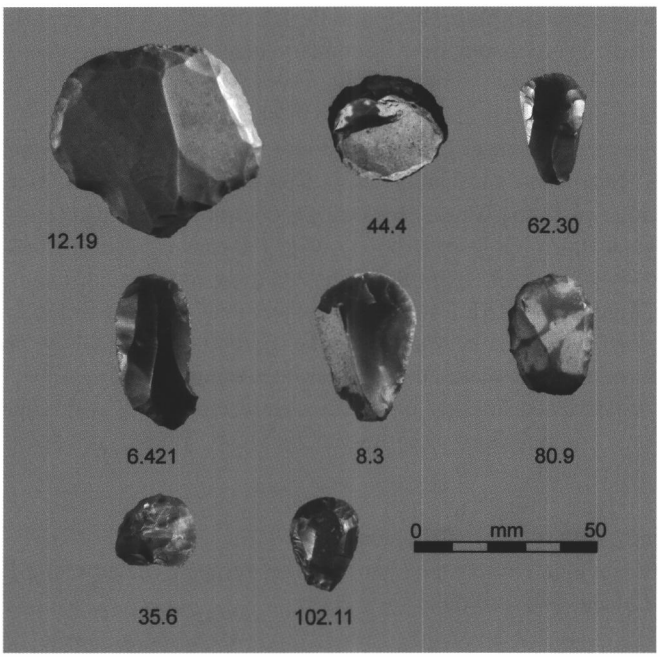

Plate 1: The Peak Lithics Transect: A representative selection of scrapers (disc 12.19, 44.4; end 62.30; end-and-side 6.421, 8.3, 80.9; thumbnail 35.6, 102.11).

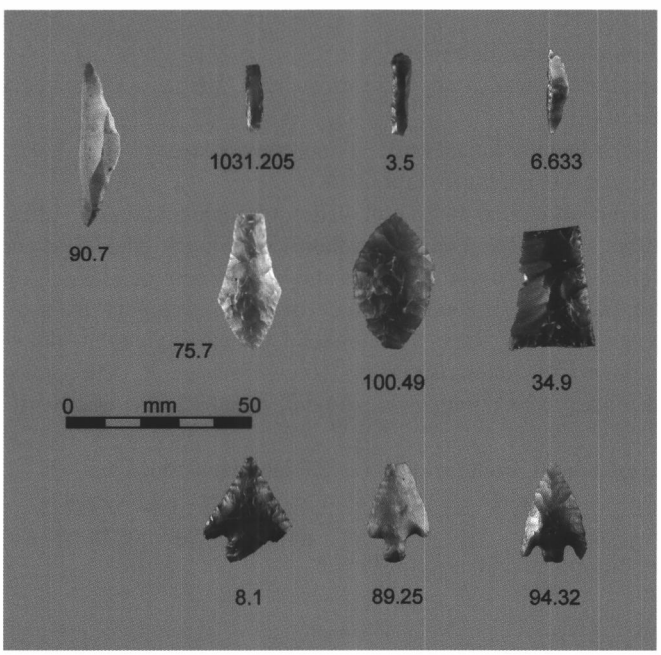

Plate 2: The Peak Lithics Transect: A representative selection of arrowheads (microliths 90.7, 1031.205; backed blades 3.5, 6.633; leaf 75.7, 100.49; transverse 34.9; barbed and tanged 8.1, 89.25, 94.32). For further examples see Plate 5.

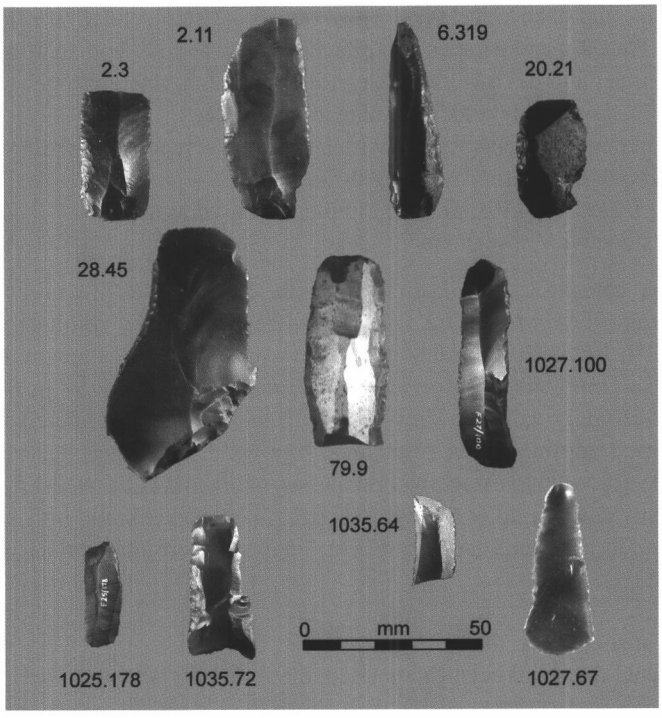

Plate 3: The Peak Lithics Transect: A representative selection of knives (Flake knives 2.3, 2.11. 6.319, 20.21, 28.45, 79.9, 1025.178, 1027.100, 1035.72; flake knife with serrated edge 1035.64; blade with serrated edge 1027.67).

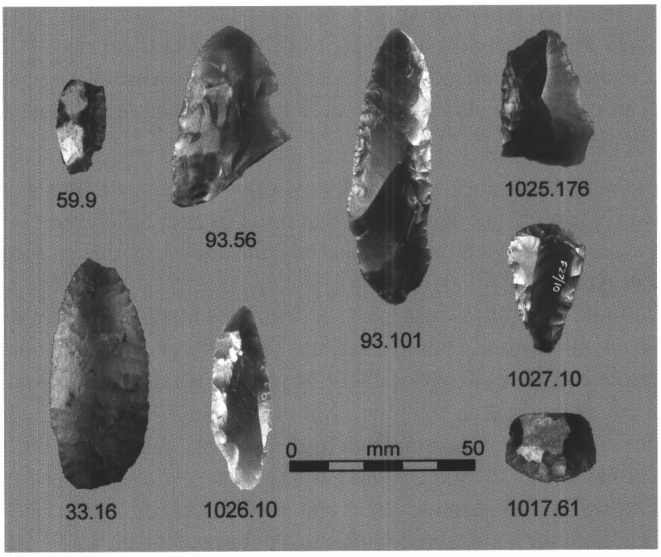

Plate 4: The Peak Lithics Transect: A representative selection of knives (bifacially flaked knives 59.9, 93.56, 93.101, 1025.176; plano-convex knife 33.16, 1026.10; plano-convex knife with end scraper 1027.10; piece from large tool 1017.61).

- Denticulate and flake knife (Plate 3), awl and flake knife, end scraper and plano-convex knife (Plate 4), end scraper and bifacially flaked knife, end scraper and flake knife, side scraper and flake knife, flake knife with notch, finely retouched piece from tool (Plate 4), denticulate with miscellaneous retouch.
- End scraper and awl, end scraper with notch, end scraper with shallow retouched side, side scraper on polished implement fragment.
- Thinning flake from bifacial flaked implement used as an awl.
- Hammerstone with miscellaneous wear.

Although the categorisation of flintwork is a common feature of prehistoric studies throughout Britain, there are only a few general reviews of the resource (Edmonds 1995; Waddington 2004; Butler 2005). Most academic works offer guidance on the categorisation of specific types of artefact and/or period (e.g. Green 1980; Manby 1974; Saville 2011), and while these are certainly valuable, they do not, in themselves, provide a sufficient basis for categorising lithic traditions in the study area. Against that background, we believe that the relatively simple approach to categorisation that we adopted was the safest given the character of the data. In any case, samples from the ploughzone provide broad brush impressions that are best understood at a landscape scale. Our analyses were undertaken with this scale of enquiry in mind.

Analyses of Transect Data

Once all individual finds had been categorised, the following analyses were undertaken:

Inter-Field Comparisons

In order to quantify perceived potential differences between individual assemblages it was necessary to analyse the collection in various ways to provide cross-checks and the weeding out of 'differences' that turned out to be within normal parameters and therefore of no significance. This included quantifying:

- The numbers of finds of all specific types from each field.
- The percentage of the collection per field each type represents (Appendix D).
- The percentage of the collection for each type per hectare to allow for different field sizes (Appendix E).

The second of these approaches was usually a sounder basis for analysis compared with the first. The third was of limited use except for examining overall differences in densities of finds between fields, while differences in raw materials and tool densities at each were subsumed within the broader pattern.

In order to facilitate different assessments, a detailed spreadsheet of all data was compiled that formed the basis for digitally based analyses. Digitally generated histograms of different data sets were produced to allow assessment of trends; what was 'normal for the Transect could thus be seen, as could data that were noticeably 'high', 'low' or 'abnormal'. Exactly where boundaries to what was 'normal' were drawn was subjective, but this is irrelevant in determining broad trends. Similarly, spatial analyses of trends across the Transect were facilitated by dividing the data into the zones and areas discussed above, and by the consistent mapping of data to help with visual recognition of patterns.

Preliminary Assessment

- *Field Size*: Sizes of each transect field walked (Appendix B) were collated and a histogram of these was used as an aid to dividing them for descriptive purposes between, 'small' at under 1.5 hectares, 'moderate' at 1.5 to less than 4.0 hectares, and 'large' at 4.0 or more hectares.
- *Walking Conditions:* The state of the weather and if a field was ploughed or harrowed/rolled was normally documented (Appendix B). Analysis of these set against the number of finds made in each case suggests that the best walking conditions were dry but overcast, with strong sunlight and rain/fog affecting recovery adversely but not it is believed to the extent where inter-comparisons are invalid. Similarly, to our surprise, fields that were harrowed/rolled often produced a higher density of finds than those that were ploughed.
- *Topography and Altitude*: The general direction each field was facing was determined (Appendix B), with approximate steepness of slope considered, and when these could have adversely affected finds numbers this was noted. For descriptive purposes the general extent and altitude range of each zone and sub-area were assessed so they could be compared with data for specific fields here (Appendix B), to check if these were normal for their area or were atypical.

Artefact Analysis

In what follows that data are often divided in high, normal and low or absent categories; how these are determined is given in Appendix A.

- *Finds Density*: Each field was assessed separately to give a density of finds per hectare. After comparing all fields, three divisions were made on the basis of a percentage of the total finds within each assemblage: 'low' at 0 to 3 finds; 'normal' at over 3 to 10 finds, and 'high' at over 10 finds per hectare.
- *Raw Materials*: Two levels of analysis were used. The first simply distinguished between flint and chert. Looking at the percentage of collection per field, three divisions were made for flint as a percentage of the total finds within each assemblage: 'low' at 44% to 58%; 'normal' at over 58% to 80%, and 'high' at over 80%.

  More detailed assessments were also made, treating each of the six main raw material types separately. Using the percentage of collection per field, the defined parameters for each were:

  Translucent flint:
  'low' below 14%, 'normal' 14%-34%, 'high' over 34%.
  Wolds flint:
  'absent', 'normal at over 0% to 20%, 'high at over 20%.
  Other flint:
  'low' below 32%, 'normal' 32%-68%, 'high' over 68%.
  Black chert:
  'absent', 'normal at over 0% to 20%, 'high at over 20%.
  Grey-shiny chert:
  'absent', 'normal at over 0% to 10%, 'high at over 10%.
  Other chert:
  'absent', 'normal at over 0% to 6%, 'high at over 6%.

In all cases a distinction was drawn between those fields with more than 10 finds per hectare, and others with less that gave less reliable results (i.e. random differences in low numbers of finds give percentages that are more variable).

- *Tools vs Debitage*: Retouched tools were considered separately from all other finds. Three divisions were made as a percentage of the total finds within each assemblage: 'low' at 0% to 16%; 'normal' at over 16% to 50%, and 'high' at over 50%. In all cases a distinction was again drawn between those fields with more than 10 finds per hectare, and others with less.
- *Burning*: All burnt finds were considered together. Three divisions were made as a percentage of the total finds within each assemblage: absent; 'normal' at over 0% to 10%; and 'high' at over 10%. In all cases a distinction was again drawn between those fields that had more than 10 finds per hectare, and others with less.
- *Cores*: All cores were considered together. Three divisions were made as a percentage of the total finds within each assemblage: absent; 'normal' at over 0% to 8%; and 'high' at over 8%. In all cases a distinction was again drawn between those fields with more than 10 finds per hectare, and others with less.
- *Core Weight*: Again all cores were considered together. The majority were of *c.* 30 grams or less, while a small minority weighed up to 90 grams and two were exceptional in the 140-150 grams range.
- *Length/Breadth Ratios*: These ratios were only assessed for complete flakes and blades using the method recommended by Saville, where the flake length is divided by its width (Saville 1980). Ratios for each field were drawn as a histogram, with ratios plotted to the nearest 0.5 over a range of 0.5 to 6.5. In a majority of cases the numbers were too small for the plots to show any strong trends with clear peaks. When blocks of adjacent fields are combined this sometimes helps and these are commented upon in the field biographies given here and/or in archive. A selection is illustrated here in Figure 3.
- *Tool Types*: The numbers of one particularly common tool type, scrapers, were quantified and grouped. Three divisions were made as a percentage of the total finds within each assemblage: absent; 'normal' at over 0% to 14%; and 'high' at over 14%. Other tool types were not common enough for this treatment, but in all cases they are individually listed in the field biographies. In all cases a distinction was again drawn between those fields that had more than 10 finds per hectare, and others with less.

When much of the analysis was completed, two further aspects of interpretation were considered:

- *'Elaborate Artefacts'*: Prior research in the region had postulated that the henge at Arbor Low was the focus for activities that involved the deposition of a suite of elaborate objects, many of them commonly known as 'macehead complex' artefacts (Bradley 1984; Bradley and Hart 1983). These are best known in an East Yorkshire context and include maceheads, edge-ground flint axes, edge-polished knives and ripple-flaked oblique arrowheads, all commonly associated with Grooved Ware (Manby 1974; Pierpoint 1980, 271-75). The evidence for Arbor Low was not clearly stated, but 'elaborate' items found as stray finds in the environs include a flint dagger, an edge-polished knife, a pebble macehead, a ripple-flaked arrowhead and at least one other transverse arrowhead (Howarth 1899, 26-52; Vine 1982, 154-56; Manby 1974, fig. 34). There is no evidence that the barrows near the henge contained such objects (Barnatt 1996c).

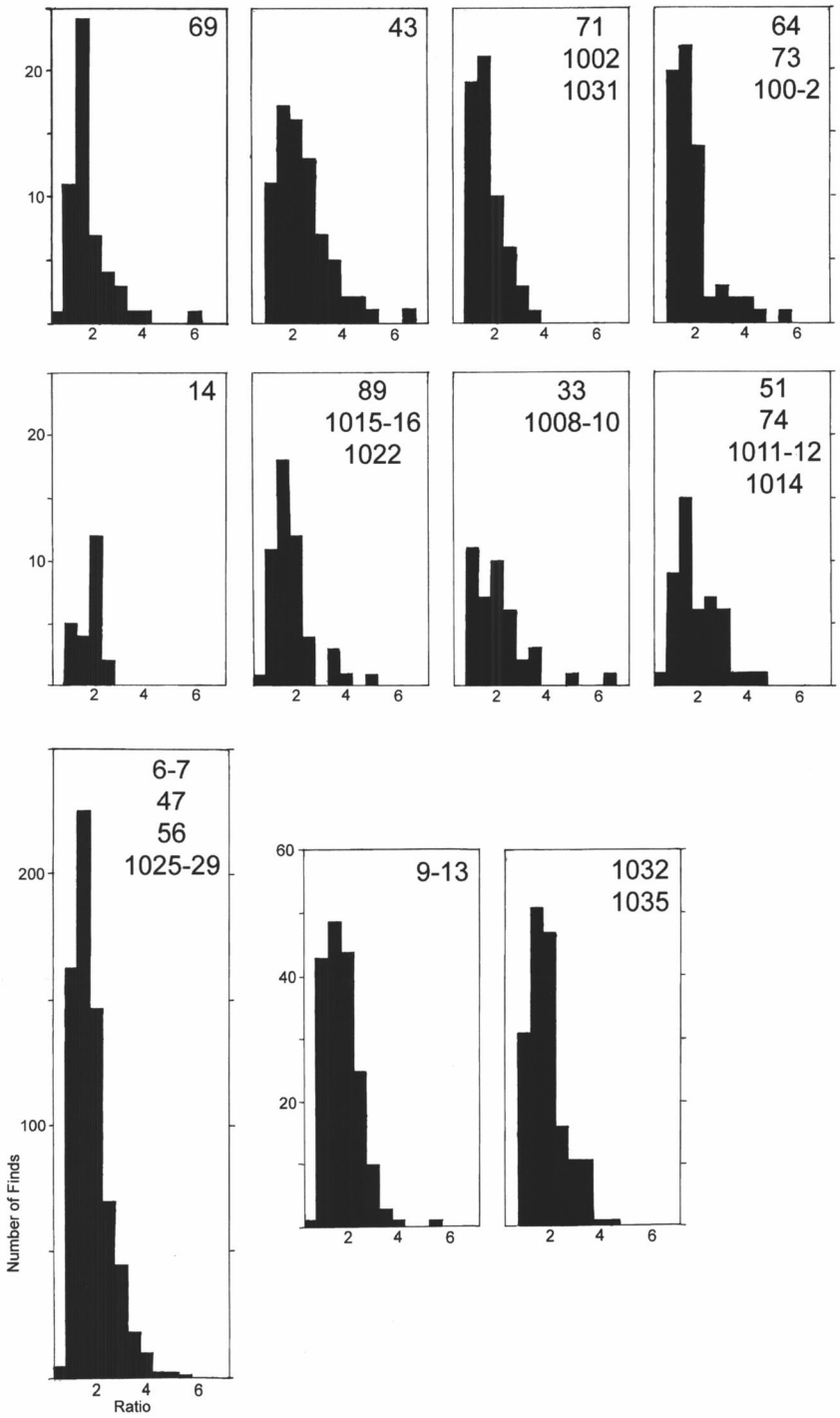

Fig. 3: The Peak Lithics Transect: length/breadth ratios for flake and blades from selected field groups.

Definitions of what constitutes an 'elaborate' artefact are inevitably very subjective. Moreover, many artefacts that were simpler in form and of humbler origins were themselves caught up in the reproduction of social identities (Edmonds 1998). That said, prior observations about the concentration of distinctive items have become so firmly entrenched in the literature that we felt it important to assess directly what the Transect data told us about the patterning of such artefacts. Assessments of the relative quality or distinctiveness of individual artefacts made during the writing of the field biographies were brought together (Appendices F, G). Actual numbers of identified items were compared with numbers per hectare, and the percentage of examples per assemblage. With the former, three divisions were made as a percentage of the total finds within each assemblage: absent; 'normal' at over 0 to 0.4 pieces per hectare; and 'high' at over 0.4.

All retouched tool types were considered and items identified include specific arrowheads, knives and scrapers; examples are shown in Plates 1-5 and identified in the field biographies. 'Elaborate' characteristics are judged to include the relatively large size or delicacy of an object within the range for the particular artefact type, the use of ripple flaking and other careful retouching, and the care taken to achieve a symmetrical appearance.

- *Datable material*: The assessments made during compilation of the field biographies were also assimilated into Earlier and Later Mesolithic, Earlier and Later Neolithic and Earlier Bronze Age categories. Where finds could not be dated so precisely, those spanning two periods were each given a 'possible' presence for both. Similarly, when the date ascription for finds had a significant element of doubt, again 'possible' presence was used. In some cases dating particular artefact types is relatively subjective, as for example with thumbnail scrapers, and here our ascriptions are open to debate.

Grouping of Fields

In those instances where fields are conjoined, or close-by each other and on similar topographic ground, they are brought together for analysis (Table 2). This is partly for expediency but, more importantly, this gives larger units with higher total numbers of finds. A basic problem with the Transect data as a whole is that individual areas walked are so small and number of finds recovered thus relatively low, that the amalgamation of data helps towards creating viable units to study.

In four cases, after initial analysis, the grouped units were partially separated out again as spatial clusters of activity were identified that may include meaningful differences between parts of the assemblages (Table 3).

Patterning within Fields

In compiling the individual field biographies a variety of factors were routinely considered:

- The topography of the location.
- The presence or otherwise of other field groups nearby (Appendix B).
- Finds numbers and density (Appendices C and D).
- The degree of clustering or evenness of spread of finds within the area walked.

Zone	*Area*	*Field Groups with biographies given below*	*Field Groups with biographies given in archive*
Limestone Plateau	A: High Western Ridges	2, 75, 90-91 43	69 1 3 44-45 63 86-87 8
	B: Arbor Low Environs	93-94 6-7, 47, 56, 1025-29 9-13	1030 71, 1002, 1031
	C: Monyash Basin and Lathkill Shelves	64, 73. 100-02 65, 70, 72	46, 88, 1003-05 1001 81 4-5
	D: North-eastern Ridges	1032, 1035	1020 62, 92 60
	E: Wye Shelves	77-79	48, 61 59, 98 80 76, 1019
Shale Valleys and Ridges	F: Wye Valley	-	19, 22, 23 49
	G: Low Ridges	14 17 26-27, 29, 50, 95, 1023 89, 1015-16, 1022	58 57 21, 24, 67 28, 1033-34, 1036 20, 25 30-31 1021 15 16 18 66 1037 1017-18
	H: Derwent Valley	-	99 1007
Eastern Gritstone Upland	I: Main Western Shelves	32, 33, 82, 1008-10	-
	J: High Upland	34-38	68
	K: Eastern Ridges	51, 74, 1001-12, 1014	42 52-55, 96, 97 1013 39-41 84, 85

Table 2: The grouping of walked fields into analytical units based on fields that are conjoined or close to each other.

Zone	*Area*	*Fields with high density spreads*	*Field with low density spreads*
Limestone Plateau	A: High Western Ridges	75	2, 90-91
Shale Valleys and Ridges	G: Low Ridges	28 26-27, 29, 95, 1023	1033-34, 1036 50
Eastern Gritstone Upland	I: Main Western Shelves	33, 1008-10	32, 82

Table 3: The subdivisions made to analytical units as a result of identified difference between individual fields.

A quantitive appraisal was made, highlighting wherever specific fields were atypical, for:

- Types of raw material and the presence of burnt material (Appendices C and E).
- A brief summary of the debitage, including comment on cores, flakes and blades, flake/blade ratios and stages of reduction (Appendices D and E).
- A review of the tools present (Appendices D and E).

These are complemented by a more subjective assessment, with a variety of observations made. These routinely include:

- Comment on the quality of objects, identifying particularly fine pieces that could be considered in a debate on what constitutes 'elaborate artefacts' (Appendices F and G).
- A review of pieces that can be dated.

Legitimate Questions and Limiting Factors

Assemblages can be biased by previous intensive collection by lithic enthusiasts when they have cherry-picked the more obvious tool types (e.g. Chan 2011). However, there is no evidence that collecting in the Transect has been intensive or sustained in the past. Some fields in the Transect were walked more than once during the Project, and while there was no depletion of density of material recovered over the two to three times they were walked, there were differences in what types of artefacts were found, as may be expected as what is visible at surface at any one time is only a relatively small sample of what lies in the ploughsoil. This demonstrates an important point; only broad-brush characteristics of lithic assemblages at a particular place should be given meaning with material collected from surface.

One meaningful constraint on interpretation is that lithic assemblages in the Transect are normally palimpsests as the same places were used over and over again. Individual fields contain flintwork of widely different dates, presumably including activity of different types from casual use and temporary occupation to more sustained activities over time. Often the edges to dense spreads lie beyond the areas walked, palimpsests occurring in a 'patchwork' across whole swathes of the landscape. It is axiomatic that discrete spreads must occur but these overlap with others to such an extent that for much of the landscape it is far from easy (or impossible) to unravel the components. This is made particularly difficult because the majority of individual pieces recovered are not dateable except in the broadest of terms (i.e.

they are prehistoric) rather than being diagnostic of specific periods. This mixing of material results in obscuration of patterns and again necessitates a broad-brush approach.

There are two legitimate scales of enquiry for the Transect data and we present comparative analyses of material from different landscapes together with individual field biographies. Despite the problems with palimpsests, it is nonetheless possible to use even the most complex of the lithic spreads to gauge something of the nature of people's engagements with particular places. By its nature, such study tells us something valuable about the date, frequency, character and scale of occupation of particular locales. However, an alternative and in some ways more constructive way forward is to study the differences between places at a landscape scale. Legitimate questions can be asked of changes in patterning that occur in different topographic zones or in proximity to monuments such as Arbor Low in terms of the character of assemblages, numbers of finds, and how the presence of lithics in different zones changes through time.

RESULTS

Variations across Topographical Zones

The General Character of Peak District Lithics

Lithic density within the Transect fields is very variable (Fig. 4). While fields with a high density of finds are found in all three topographic/geological zones, they are most common on the limestone plateau. Fields with particularly low densities occur commonly in all three zones. The finds density does not seem unduly influenced by variations in altitude and aspect. Peaks for walked fields at relatively high altitude for the limestone plateau roughly match the percentage of land present here at this height. Similarly, no strong correlation exists for fields with high densities of lithics matching those of favourable aspect.

On an individual field by field basis within the Transect density varies from 0.0 to 156.4 finds per hectare over the 400.6 hectares walked (with an additional 24.7 hectares in fields walked for a second and third time), with an average of 3.1 finds per hectare (derived from dividing the total number of finds made in the Transect by the total hectarage walked). Individual densities plotted as a histogram shows that the 'normal' density is between 3 and 10 finds per hectare. If the figures are recalculated on the basis of the field groupings used in the field biographies, where some fields are taken together as larger units, the density range reduces to 0.0-60.8 finds per hectare. This can be compared with recently published data from field collecting projects in Wessex (Chan 2011, p. 132). At Windmill Hill and Avebury the range is 0.3-68.3 finds per hectare, over 332.1 hectares walked, with an average of 7.9 finds per hectare. However, figures were higher for the Stonehenge Environs Project at 17.4-449.3 finds per hectare, over 754.5 hectares walked, with an average of 135.4 finds per hectare. At the Peak Transect there are strong differences in the density of finds for different areas/zones. If the Arbor Low area is looked at independently, then the densities are atypically high, ranging from 5.4 to 60.8 for the five field groups (with Fields 93-94 at a density of 5.4 and the other four at 21.5 to 60.8); the average is 35.1. In contrast, elsewhere in the Transect the only fields with atypically high densities are Field 69 located high on the western part of the limestone plateau, and fields 1032/1035 on the north-eastern ridges of the plateau. Elsewhere even those fields with high densities are all below 40 finds per hectare and commonly this is 10 or below (Appendix E).

The majority of cores recovered from the Transect, irrespective of whether they were used to produce flakes or blades, are small to very small in size. Over 300 cores weigh under *c.* 30

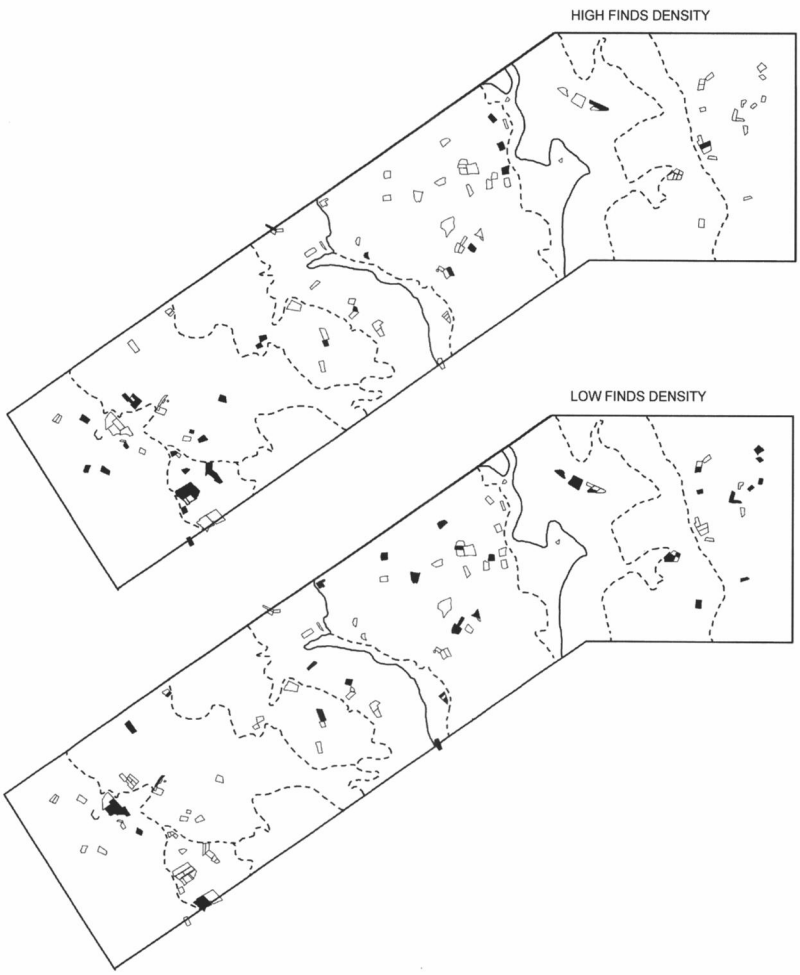

Fig. 4: The Peak Lithics Transect: Fields with high and low densities of finds (in black).

grams, while only roughly 10% of the total is heavier. Irrespective of period, this no doubt reflects the difficulty of procuring suitable stone for tool making. All flint had to be imported from primary sources in the Lincolnshire and Yorkshire Wolds, or from south-east England, or from secondary sources such as the river gravels of the Trent Valley or the glacial deposits west of the Peak District. While chert was available locally, much was low grade material that was hard to work into anything other than the crudest of cutting and scraping edges. Higher quality 'black' and 'shiny-grey' cherts were better for tool making, but had the limitation that only relatively small tools could be made. As a general rule, our material gives the impression that every last flake and blade was removed from cores before discard; the majority of those recovered in the Transect are exhausted. Some are so small that one wonders to what use the last removals could have been put. Only in fields immediately north of Arbor Low was there any evidence found for a more profligate use of raw materials. There are two atypically large cores from the limestone plateau, both in the 140-150 gram range. That from Field 1035 is perhaps only an accidental loss, while that from Field 43 has serious flaws in the flint.

One pattern that stands out for the collected artefacts as a whole is that flint is normally used much more frequently than chert (Fig. 5). With fields with more than 10 finds per hectare, there is always more than 50% flint, with this at over 80% flint in 32 out of 43 cases. While some chert may have not been recovered because of the difficulty of recognising worked pieces when the field also contains naturally occurring material, it is believed the trend of favouring flint is genuine.

For most of the analyses of the distribution of specific raw materials and tool types the results are disappointing in the sense that differences in percentages through the Transect appear to be indistinct or random. Examples of high occurrence sit cheek by jowl with those of low occurrence rather than changing in any consistent manner from zone to zone. The exceptions are commented on below; these include the relative distributions of flint and chert, and those for black chert, cores and arrowheads. As low numbers of finds can give significantly atypical percentage figures, those fields with a density of three per hectare or less are excluded altogether from analyses.

The Limestone Plateau

Taken as a whole, the overall density of finds is much higher from the Limestone Plateau when compared with the densities for the Low Ridges and Eastern Gritstone Upland (Appendix G). This is particularly pronounced to the west, in the high ridges, including those around Arbor Low, and also in the Monyash basin (Areas A-C). This same part of the Transect (A-C) has a higher percentage of flint to chert when compared with areas further east (D-I, but perhaps not J-K). However, when looking at the flint types present, while 'translucent flint' and 'Wolds flint' are highly represented in individual fields on the limestone plateau, there is no strong overall trend to favour the Limestone Plateau or particular parts of this for the use of these good quality raw materials.

The percentages of cores and scrapers compared with assemblages as a whole is very variable within the Limestone Plateau, while the percentage of tools compared to debitage is mostly 'normal' but in a few cases 'low'. Although arrowheads generally only make up a very small percentage of the total lithics collection for the Transect, they show interesting variations from zone to zone (Figs 6 and 7). Microliths and backed bladelets are found in higher numbers on the Limestone Plateau when compared with the Low Ridges and Eastern Gritstone Upland (Appendices F, G). This is particularly the case in the higher western parts (Areas A, B). This is similar with leaf-shaped and transverse arrowheads. The former are only common around Arbor Low, while the latter are more common on the plateau generally, but with a particularly high concentration around Arbor Low. In contrast, few barbed and tanged arrowheads were found anywhere in the Transect and there are no obvious biases in their distribution.

Arbor Low Environs

The much higher density of finds around Arbor Low compared with elsewhere is one of the strongest trends observed in the Transect data (Appendix G). To what extent this reflects the general popularity of the locale over a long period, specific episodes of larger scale gatherings, or the special use of the place leading to more conspicuous consumption of raw materials is a matter for debate.

As noted above, it has been suggested that Arbor Low is the focus for elaborate 'macehead complex' artefacts (Bradley and Hart 1983). Little was found during the Transect fieldwork to support this. There are 58 artefacts found across the transect which can be considered to be

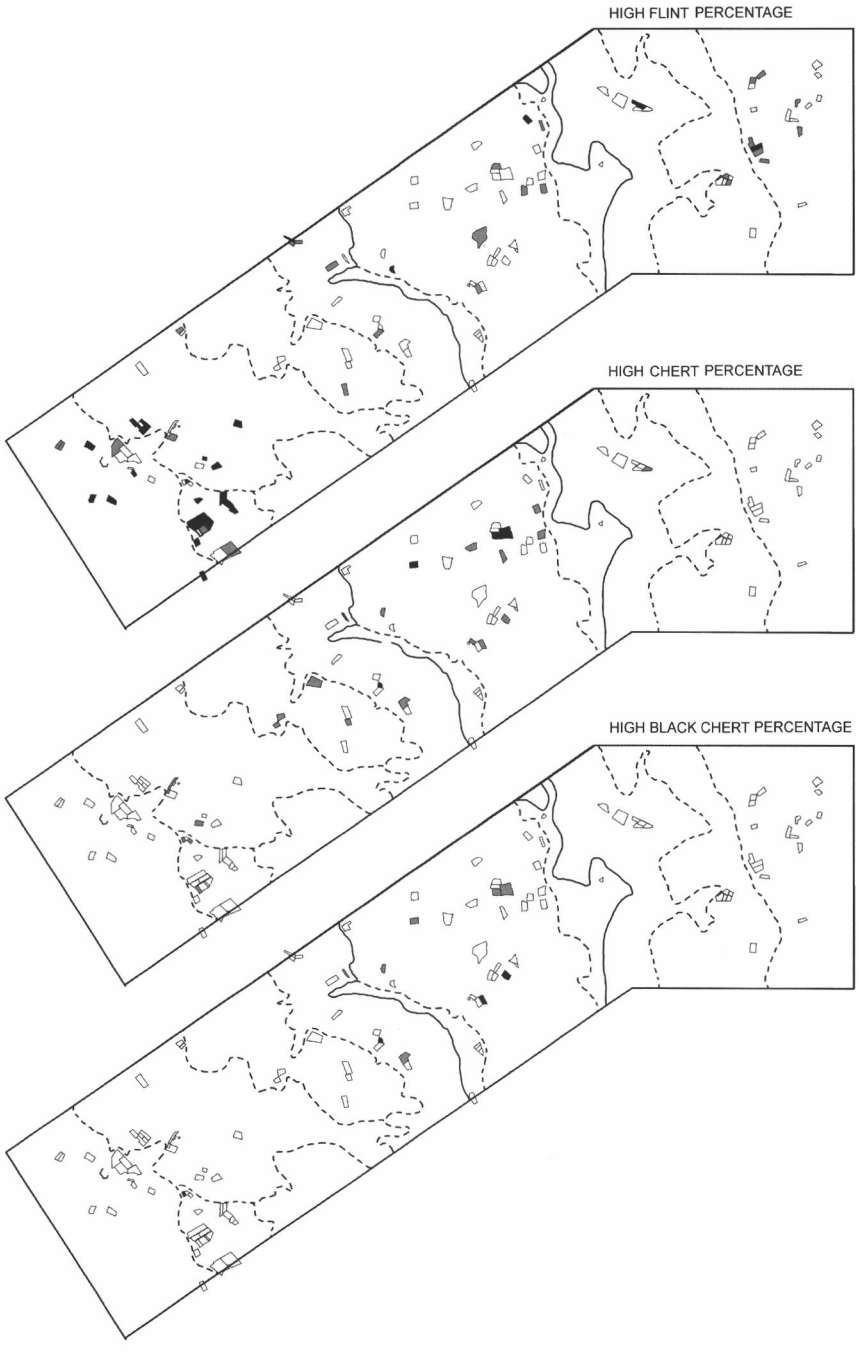

Fig. 5: The Peak Lithics Transect: Fields with high percentages of flint, chert and black chert (for flint and black chert - black for more than 10 finds in field and grey for 10 finds or less in field; for chert - black for high percentage in the field and grey for normal percentage in the field)

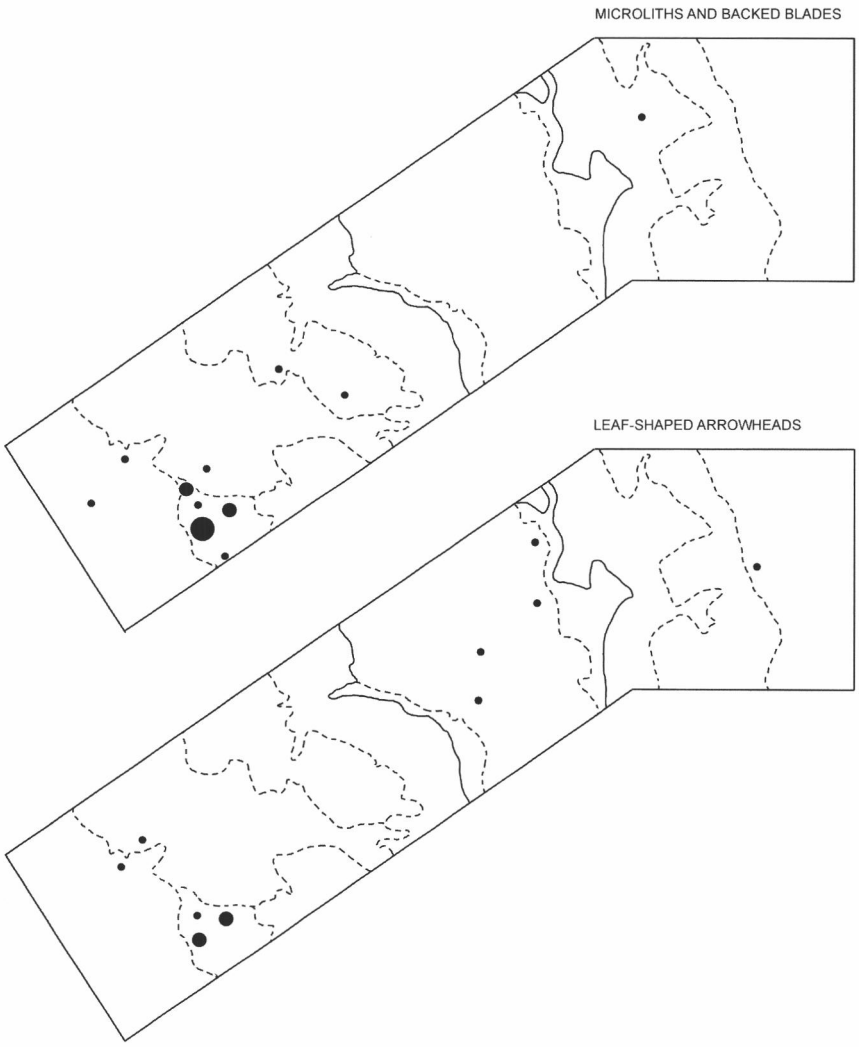

Fig. 6: The Peak Lithics Transect: The distribution of arrowheads, showing microliths and backed blades, and leaf-shaped types (small dots = 1 example, medium dots = 2-4 examples, large dots 5 or more examples).

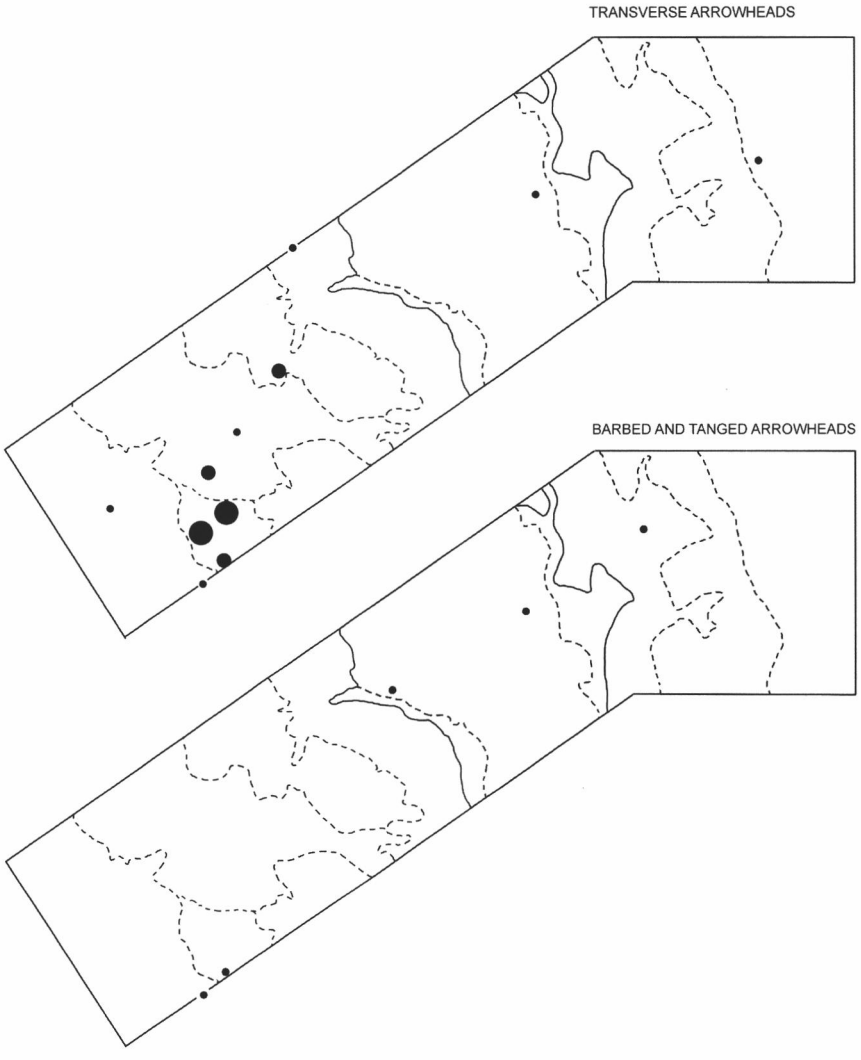

Fig. 7: The Peak Lithics Transect: The distribution of arrowheads, showing transverse and barbed-and-tanged types (small dots = 1 example, medium dots = 2-4 examples, large dots 5 or more examples).

'elaborate' pieces (Appendices F, G). These occur more commonly on the limestone plateau (46 pieces) when compared with the shale and sandstone landscapes further northeast (12 pieces). These are not found in higher numbers at Arbor Low when compared with the rest of the Limestone Plateau; if looked at as percentages of the numbers of finds. Relatively high levels of 'elaborate' pieces are confined to two fields here, while higher levels are found in specific fields away from the henge.

However, two particular types of artefact stand out as being found more commonly around Arbor Low compared with elsewhere in the Transect; these are leaf-shaped and transverse arrowheads (Plate 5). This is particularly the case with the latter, with 23 of the 35 examples from the Transect as whole found in this area. These include the only examples of finely made transverse arrowheads of oblique-type with long tangs. Thus, it may be transverse arrowheads in particular rather than a broader suite of artefacts that make the flint tools of Arbor Low stand out as atypical. Similar associations with henges in other areas have been identified (Edmonds 1995, 127) and particular note has been made of the common occurrence of transverse arrowheads around Stonehenge (Richards 1990, 267-71).

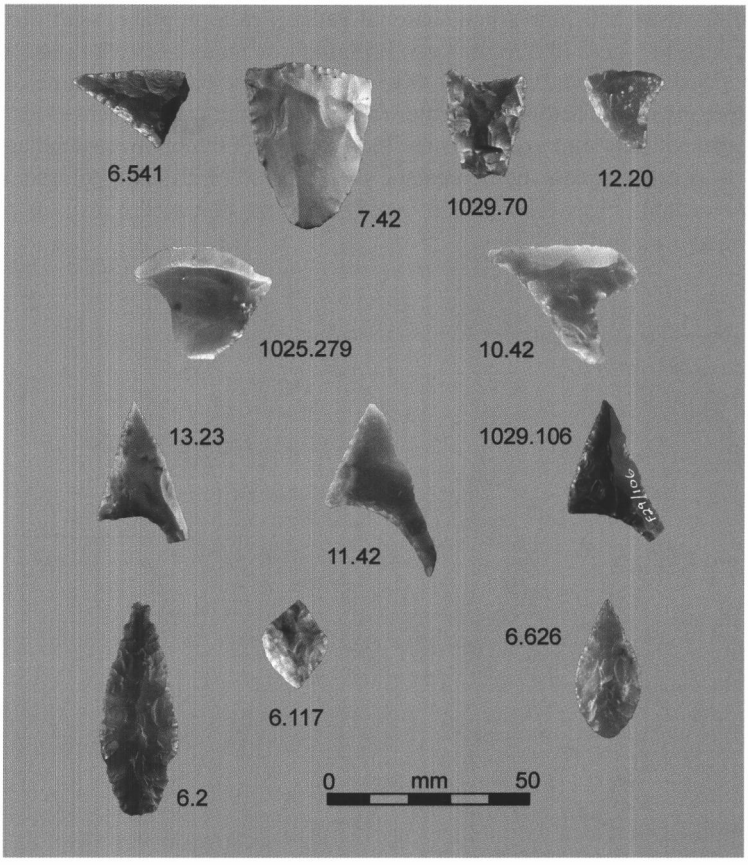

Plate 5: The Peak Lithics Transect: A selection of representative transverse and leaf arrowheads from the Arbor Low area (transverse 6.541, 7.42, 10.42, 11.42, 12.20, 13.23, 1025.279, 1029.70, 1029.106; leaf 6.2, 6.117. 6.626).

The Wye and Derwent Valleys with Low Ridges inbetween

The density of finds here and on the Eastern Gritstone Upland is very variable but on average lower than that for the Limestone Plateau (Appendix G). While flint rather than chert dominates the assemblages in this zone, as in the norm, the latter is more common both here (areas F-H) and on the adjacent Wye shelves of the limestone plateau (area E) when compared with elsewhere. These same areas have more 'black chert' than elsewhere, and there is also a slight trend for more 'grey-shiny chert'. It is expected that 'black chert' would be commonly used in the vicinity of the Wye Valley as this is close to one of its known sources in the beds of Monsal Dale Limestone at Kirk Dale and on the opposite side of the Wye at Rookery Plantation (John Hunter *pers. comm.*). However, the trend for its use extending north-eastwards across the shale and gritstone Low Ridges as a whole but not in the opposite direction onto the higher parts of the limestone plateau is skewed and thus interesting. While no one explanation is clear, one possibility is that redistribution networks of raw materials were different on the high limestone plateau when compared with the more low-lying grounds between the Wye and Derwent. For the Neolithic at least, a landuse model may be applicable (Barnatt 1996a), that contrasts the use of the limestone plateau in summer and winter. Here there is extensive summer grazing, used at a time when seasonal gatherings took place, with people coming from far and wide to places like Arbor Low, bringing raw materials with them. In the winter people are suggested to have been using lower lying 'home bases', at a time of year when travel was more restricted, leading to greater reliance on what was available locally.

This zone has slightly more cases where the incidence of cores in assemblages is 'high' (Fig. 8). As with other zones, the percentage of scrapers compared with assemblages as a whole is very variable in the Low Ridges zone, while the percentage of tools compared to debitage is mostly 'normal'.

Fig. 8: The Peak Lithics Transect: Fields with high percentages of cores (black for more than 10 finds in field and grey for 10 finds or less in field).

The Eastern Gritstone Upland

As with the last zone, the density of finds is very variable but on average lower than that for the Limestone Plateau (Appendix G). Only two locations have high densities of finds, but the relatively small hectarage of fields walked in the zone, together with the fact that very few of the prime agricultural areas have been available for walking, means this may reflect the patchy nature of hot spots rather than a broader trend. While the amount of flint as opposed to chert is high in this zone, this needs treating with some caution, for with two exceptions this observation is based on fields where finds per hectare are relatively low and therefore perhaps not reliable. However, if real, it may reflect the relatively long distance that needed to be travelled to chert sources when flint, which is a more desirable raw material, was also available.

As with other zones, the percentages of cores and scrapers compared with assemblages as a whole are very variable within the gritstone upland zone, while the percentage of tools compared to debitage is mostly 'normal' but in a few cases 'low'.

In Field group 34/38, located high on eastern moors, one of the artefacts is a transverse oblique arrowhead of 'elaborate' type (Plate 2), which illustrates that it was not just Arbor Low where this type of particularly finely made tool is found.

SELECTED FIELD BIOGRAPHIES

Introduction

This section takes a change in scale, looking at patterning within fields rather than between them. The field descriptions are vital for understanding the places described and those given here are a sample of the whole. Those chosen concentrate on fields where more substantive lithic collections have been made, and were selected to illustrate the range of variability from place to place, characterising the structure of field assemblages in different settings along the transect. The texts are written in a formulaic way to allow ease of comparison from field to field.

Those fields with large assemblages not described in detail below, and all those with fewer finds, are given in a fuller version of the field biographies held in the Project archive.

Conventions

Where walked fields were in isolation these are treated on a field by field basis. However, where walked fields are conjoined, or sometimes when close by each other, they are treated together (although in a minority of cases separated again because adjacent fields had different characteristics). Data are combined to give greater (and thus in some cases more meaningful) numbers of finds. The biographies are ordered by topographic zone and area, starting at the south-western end of the Transect and ending at the north-east. Fields around Arbor Low are distinguished as a separate area because finds densities here are sometimes much greater than elsewhere in the Transect.

As well as each field being given a unique number, a name is used that relates to the 1:25000 OS map for ease of location, and the map references quoted are similarly for quick identification; for more precision see Appendix B. The number of analysed finds and hectares walked for each unit is given at the top of each entry to contextualise the descriptions.

All assemblages have far more flakes than blades and this is not detailed further in the published field biographies. Comment on length/breadth ratios for flakes and blades is only given when numbers are relatively high. The amount of debitage with tertiary reduction is

normally higher than secondary and primary removals; these data are given in archive but not here, unless the assemblage is atypical. Again, density of tools to debitage is only commented upon when atypical. A significant number of tools comprise miscellaneously used/retouched flakes and blades; these are not listed in the abbreviated descriptions given below.

All of the arrowheads could be stray finds rather than being associated with the rest of the assemblage they are found within; lost during hunting, or indeed moved by wounded animals.

The Limestone Plateau: High Western Ridges

This area, which lies at the south-western end of the Transect, has two groups of fields described here and seven groups are in archive. The topography is the same as for those fields described below under Arbor Low Environs, but the latter are separated to better emphasise the differences in lithics between the two areas.

FIELDS 2/75/90-91 (Cotesfield Farm; centred SK 133650; 71 finds; 26.87 hectatres walked)

This group of four large fields covers a relatively large area on the crest and upper western and north-western slopes of a high north-west/south-east ridge on the western spine of the limestone plateau. There is a relatively steep small area of dry valley side at the north-west end of the block.

In Field 75 the finds density is normal, but most finds are on a dry valley side to the north-west, while the finds density through all four fields is low (Fig. 9). These sparse finds tend to concentrate on the higher ground to the south-east. The two spreads may well represent different episodes of activity. Flint density compared to chert is high throughout, although all the usual raw material types are present.

Field 75: This area has 44 finds. The density of translucent and Wolds flint is high and the quality of these materials is good. There are two cores, one a blade core the other for flakes-and-blades, both small and exhausted. Also, there are four good blades which may well be early in date. One is retouched and another is a long blade with a worn edge. Debitage includes a higher number than usual of large pieces.

The ratio of tools to debitage is high and there is a high incidence of scrapers. Ten scrapers comprise the following types: three end, one of which is long and symmetrical; three side; one side with the opposite edge having shallow retouch indicating it was also used as a flake knife; one well-made horseshoe; and two miscellaneous with one of these categorised thus because it is broken. The other noteworthy tool is an ogival-type leaf-shaped arrowhead, nearly trapezoidal in outline and with an exceptionally elongated but broken point (Plate 2, find 75.7).

For the most part the scrapers are workaday, with the exception of one end scraper and one horseshoe scraper which are carefully made. The leaf-arrowhead is finely shaped and would presumably have been prized. Tools diagnostic of date suggest a palimpsest of material of different periods, with Mesolithic/Earlier Neolithic and possibly Later Neolithic/Earlier Bronze Age activity.

Fields 2/90/91: The thin spread of 27 finds in this area includes three cores, comprising two flake cores, one of which is large and not exhausted, and a third used for flakes and blades. Although the debitage includes six flakes, four blades may well all be early in date. These include one good blade, two others that are similar but which have been retouched as knives, and a fourth that seems to have been re-used as a point.

Noteworthy tools are a large microlith of isosceles triangle shape which may be Earlier Mesolithic in date (Plate 2, find 90.7), and a tiny backed bladelet of Later Mesolithic type. There are also two knives, one a large but broken symmetrical blade that had been pressure-flaked to make a carefully shaped tool (Plate 3, find 2.3). The other utilises a large and symmetrical flaked-blade (Plate 3, find 2.11). There is also a long blade possibly utilised as a piercer. In addition there is a very large but irregular thinning flake from a bifacially-flaked implement.

While most of the tools are workaday, the pressure-flaked knife is an 'elaborate' piece. Little is diagnostic of date but what there is hints at a palimpsest of Mesolithic and Neolithic activity represented. The small overall number of finds suggests a background scatter rather than a focus for habitation activities.

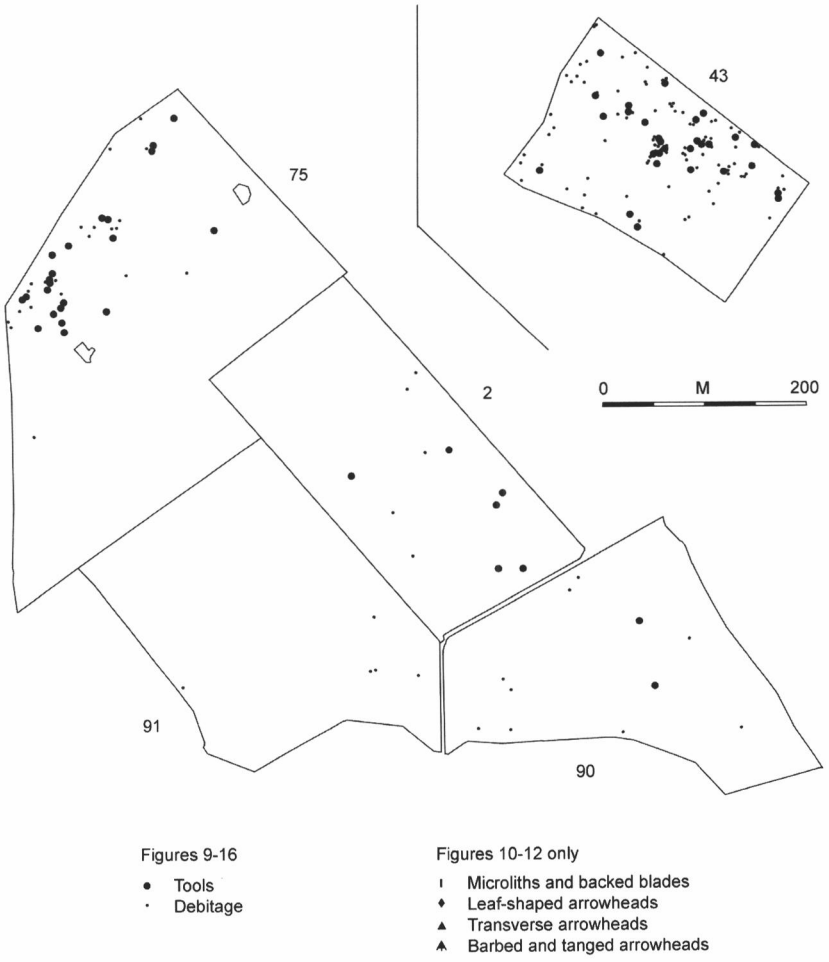

Fig. 9: The Peak Lithics Transect: Tool and debitage distributions at selected fields on High Western Ridges.

FIELD 43 (Clemonseats; SK 124651; 149 finds; 3.97 hectares walked)

A moderate sized field lying within a gently sloping dry valley running north-west to south-east, in the heart of the high western spine of the limestone plateau. Ploughing was confined to the valley bottom, while beyond the area depicted in Figure 9 are narrow partially rocky strips to either side, which together with both ends of the field, were uncultivated.

Finds density is very high and tends to cluster to the gentle lower sides of the valley, particularly on the south-west facing slope to the north-east side of the field. A lessening of finds along the bottom of the valley could be interpreted as being the result of a narrow band of colluvium/head, which here is deep enough to partially mask prehistoric soils. Here there were also three small infilled hollows which were unploughed. The ratio of flint to chert is normal and all the basic raw material types are present.

The assemblage contains a large number of cores. Of the 22 examples found, eight were classified as flake cores, five as blade cores and nine had scars of both. The majority were found on the south-west facing slope. Three of the blade cores have opposed platforms and may be Later Mesolithic in date, as may a small blade core. Fifteen were small to very small in size and exhausted. Of four larger cores, three were of poor quality or in one case made using an exceptionally large piece of flawed material that was soon abandoned. Length/breadth ratios for flakes and blades for 75 complete pieces have a broad unimodal curve with many flakes present but also a higher bladed component than usual. Two of the four long blades are possibly Earlier Mesolithic and several other blades look Later Mesolithic.

There are only three scrapers, all of irregularly made miscellaneous type, two small awls and a broken flake knife. A fragment from a large bifacially-flaked implement, possibly an axe, was found on the north-east facing slope away from the main concentration of finds.

The number of tools other than simple utilised flakes and blades is low. This, and the character of some cores and blades, suggests a strong Mesolithic element, even though there are no tools diagnostic of date.

The Limestone Plateau: Arbor Low Environs

Like the previous area, this lies at the south-western end of the Transect. The topography is the same, but the fields around Arbor Low were treated separately to better investigate if the lithics are different when compared with elsewhere. Arbor Low lies high on the spinal ridges of the limestone plateau, with the Monyash Basin to the north and north-east and Lathkill Dale at its heart. In contrast there are dry valleys, broad upper valleys and high ridges to the south and south-west. Three Arbor Low field groups are described here, and two more are in archive.

FIELDS 93-94 (Arbor Low South; centred SK 161623; 126 finds; 23.35 hectares walked)

Two conjoined fields covering a large area, on the relatively flat part of a broad but shallow basin at the head of dry valleys running south-east. Higher ridges of the western spine of the limestone plateau to either side include that on which Arbor Low sits to the north-east. Field 94 lies at the head of one of these valleys and there are gentle slopes down to a central north-west/south-east line. Field 93 lies between here and another valley head to the north-east.

In contrast with fields nearer Arbor Low, described below, in Field 93 the finds density is normal, whereas in most of Field 94 it is low (Fig. 10). This may well be a real difference, but it may be exaggerated because it is possible that some material in the shallow dry valley bottom is covered by colluvium. During fieldwork it was also noted that clay was dominant

in this area rather than the free-draining soils with pebbles found elsewhere in the field, which made locating finds more difficult because of clay coating them. Flint density compared to chert is high throughout, although all the usual raw material types are present. One retouched flake, unusually, may be a coarse-grained translucent volcanic glass. A small amount of burnt flint is found in both fields, and patina variation on other material ranges from absent to a heavily corticated minority.

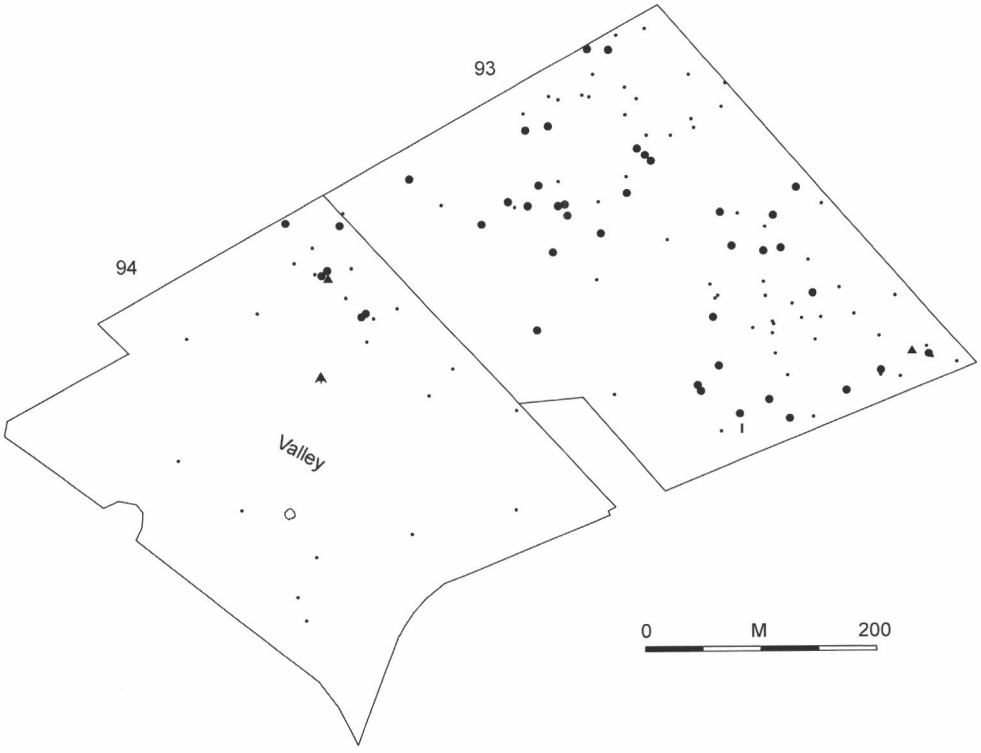

Fig. 10: The Peak Lithics Transect: Tool and debitage distributions at fields south of Arbor Low.

There are only two cores; one a discoidal flake core, while the other is a small, narrow, blade core retouched to form a point. Debitage is dominated by flakes but there are two good blades in Field 93 and a further two in Field 94 that may well be early in date.

Tools are scattered through the main concentration of material. Thirteen are scrapers, comprising one end-and-side which is large and well made; three end, one of which is chunky and only small, while another has a cutting edge to one side; one irregular or unfinished thumbnail; two horseshoe; and six miscellaneous, four of which are *ad hoc* implements, with a fifth possible example made on a large core rejuvenation flake. There is also a collection of bifacially-flaked tools, including three knives. One of these is a plano-convex knife with carefully made sides except at one end, which suggests it is either unfinished or was hafted here (Plate 4, find 93.101). Another is glossed and made on a large irregular flake, while the

third is broken and may well be the tip of a laurel leaf knife or dagger (Plate 4, find 93.56). In addition there are two fragments from bifacially-flaked implements, a large thinning flake from another bifacially-flaked implement, and two bifacially-flaked fragments. Other noteworthy tools are a microlith/backed blade; two transverse arrowheads, one of which is a large well-made oblique, the other a small tranchet; a well-made barbed and tanged arrowhead (Plate 2, find 94.32); a workaday but quite large flake knife; a coarse denticulate; and an awl/piercer on a blade.

Many tools show a lot of use, having being 'bashed-about' with detached flakes etc., but there are some high quality raw materials, tools and atypically-large discarded pieces of debitage. Special 'elaborate' tools comprise the one end-and-side scraper, the plano-convex knife, the tip of the laurel leaf knife or dagger, the large transverse arrowhead of oblique type, and the barbed and tanged arrowhead.

Several pieces are diagnostic of date, indicating a palimpsest of material of different periods, with Mesolithic, Neolithic and Bronze Age activity represented. The backed blade is probably Earlier Mesolithic in date; the tranchet arrowhead probably of Later Mesolithic or possibly Neolithic date; the three end scrapers of Mesolithic or Earlier Neolithic date; one of the transverse arrowheads and the laurel leaf bifacially-flaked knife Later Neolithic; while the barbed and tanged arrowhead and plano-convex knife are Earlier Bronze Age. One end-and-side scraper and another horseshoe, both chunky, are Later Neolithic or Earlier Bronze Age. The thumbnail scraper is undateable. The flake dominated debitage also suggests a Later Neolithic and/or Earlier Bronze Age component, but the earlier tools do not fit comfortably with this.

FIELDS 6-7/47/56/1025-29 (Arbor Low Southwest; centred SK 154631; 1645 finds; 24.55 hectares walked)

This mostly conjoined group of fields, located a short distance south-west of Arbor Low henge, forms a large land parcel parts of which have been walked twice. They lie in a shallow basin at the head of dry valleys running south-east, with the henge out of view on one of the higher ridges of the limestone plateau spine. The fields are mostly very gently sloping on south-west facing ground, which becomes steeper below Gib Hill barrow on the ridge above. While Gib Hill is visible from further away, it disappears from sight towards the top of these fields.

Finds density is exceptionally high, except on the flat and perhaps poorer drained ground to the south-east (Fig. 11). Even when parts of the area having been walked twice is accounted for, the main cluster runs diagonally in relation to the topography. At Fields 47/1025-26 there are many finds on the slope up to Gib Hill but relatively few on the flatter ground to the south-west. North-westwards to Field 6, there are fewer finds on the eastern slope, whereas on the flatter ground to the west there are many. The flint to chert ratio is atypical in that there is more flint than is usual. All basic raw material types are present, but with Wolds flint higher than normal where the finds density is at its highest; and translucent flint is high in Fields 1026 and 1029. Burnt flintwork is present in the usual small amounts and in a broad scatter; but also in small tight clusters of uncertain interpretation, each with a few pieces.

Length/breadth ratios for flakes and blades for 672 complete pieces have a unimodal curve with a peak relatively close to the flake end of the spectrum, but covering a wide range and including a minority of pieces markedly bladed. The 138 cores are widely scattered across the main spread, although only one comes from the scatter in Field 54. Together they include 74 flake cores, 32 blade cores and 32 flake-and-blade cores. The majority are small but less than

Fig. 11: The Peak Lithics Transect: Tool and debitage distributions at fields southwest of Arbor Low.

half are clearly exhausted. There is a mixture of well-shaped and irregular examples and many utilise flint pebbles. Opposed platform and single platform blade cores, include some well-shaped Later Mesolithic examples with scars from carefully removed symmetrical blades. In contrast, some flake cores are likely to be Later Neolithic and/or Bronze Age in date. Debitage includes blades of various sizes, including two exceptionally large examples from Field 6 and a further *c.* 70 large/medium-sized and well-shaped examples, a meaningful proportion of which could be early in date.

Tools are found widely across the area walked; interestingly in the lowlying area where finds are sparse the tool percentage is high. There are 51 scrapers of a wide variety of types,

comprising one disc, four horseshoe, one thumbnail, nine end-and-side (e.g. Plate 1, find 6.421), eight side, fifteen end, and 23 miscellaneous. While some would fit comfortably in a Later Neolithic/Bronze Age context, others are typical of the Later Mesolithic or the Earlier Neolithic. Curiously, given the proximity of the henge and associated round barrows, only one horseshoe scraper was found. The majority of the scrapers are relatively squat forms, often rounded in shape, and sometimes made on thin flakes. The 'miscellaneous' category includes sixteen atypical and often crude examples, while a further seven are broken. One scraper categorised as miscellaneous was an unusual small well-shaped double-ended example. Others worthy of comment include a very large and sub-rectangular discoidal scraper and a knife with three retouched edges, two on opposite sides to each other and one on both. Three further scrapers were also retouched as knives while another also had miscellaneous retouch. Two cores had been modified to form *ad hoc* scrapers. Another had been made on a flake from a polished implement, possibly an axe. Nearly all were workaday implements. However, one was a finely made, squat, plano-convex knife with broad scraper-like end (Plate 4, find 1027.10).

A broad range of arrowheads includes seven microliths and backed bladelets mostly of Later Mesolithic type with a variety of forms including three backed examples (e.g. Plate 2, find 6.633), one obliquely blunted piece, a scalene triangle, and a rod. There is also a rather irregular backed example which may be Earlier Mesolithic in date. Of the four leaf-shaped arrowheads, two are well-made elongated Earlier Neolithic forms, one very symmetrical (Plate 5, find 6.623), another not quite finished (Plate 5, find 6.2), while a third well-made example is broken. The fourth is a squat later Neolithic lozenge-shaped example which is asymmetric and rather poorly made (Plate 5, find 6.117). There are eleven transverse arrowheads, three of which are chisel/tranchet forms (e.g. Plate 5, finds 7.42, 1029.70), while eight are oblique, mostly workaday (e.g. Plate 5, find 1025.279), but one is a finely made oblique with ripple flaking and a long but broken tang (Plate 5, find 1029.106), and another is a small but well-shaped oblique (Plate 5, find 6.541).

Other tools include the squat plano-convex knife and scraper described above, and another small but well-shaped plano-convex knife (Plate 4, find 1026.10). There are 28 flake knives, some with elements of bifacial flaking. Most are small and workaday, although there is one very large but broken knife and the broken butts of two that were relatively large. Another is complete, made on a very long well-shaped blade with asymmetric end (Plate 3, find 1027.100). There are two small but elongated flake knives, carefully shaped and both with fine retouch and gloss (e.g. Plate 3, find 6.319). Another irregularly shaped flake, with unmodified but use-damaged cutting edge, is carefully bifacially-backed and has ripple flaking on part of one side (Plate 4, find 1025.176). One is very small and of fine quality chert (Plate 3, find 1025.178). Further items include the three scrapers with cutting edges noted above, one or two Mesolithic burins, seven or eight awls, piercers and borers, including one large heavy-duty borer, and seven flakes and blades with denticulation/serration, often crudely done, but one blade has very regular denticulation on its two long edges (Plate 3, find 1027.67). Three examples of pieces from bifacially-flaked implements are all from relatively large tools.

Unlike the fields walked immediately north of Arbor Low, those to the south-west have relatively few 'elaborate' pieces, a noticeable trend given the high number of finds. The exceptions are three out of four of the leaf-shaped arrowheads, two of the transverse arrowheads and the two plano-convex knives. The artefacts commonly present suggest 'normal' habitation activities, although in part this would have been in the context of gathering around the monuments at Arbor Low.

A high number of pieces are diagnostic of date. Many are Later Neolithic, including the transverse arrowheads and a lozenge-shaped arrowhead together with scrapers and plano-convex knives of Neolithic or Earlier Bronze Age date. However, others are earlier, including the microliths and burins, three Neolithic leaf-shaped arrowheads and a proportion of the blades.

FIELDS 9-13 (Arbor Low North and East; centred SK 162637; 343 finds; 11.54 hectares walked)

This group of fields forms a linear band a short distance north and east from Arbor Low henge, on the north facing slope and crest of a high ridge. The fields mostly lie on gentle to moderate sloping ground facing north and north-east, but with two fields to the south-east, close to the ridge crest, on gentle sloping ground facing north-east.

Finds density is high throughout except for a small area in the immediate vicinity of the henge's northern side, where a low density could be meaningful (Fig. 12). The densest clusters are on the lower more gentle slopes north of the henge and on the ridgetop east of the henge. Perhaps these areas would have been more suitable for encampments than the steeper slope below the monument; the henge is a skyline feature from much of the slope and people may well have processed up it to the wider of the two entrances to the monument (Barnatt 1990). The flint to chert ratio is atypical in that there is more flint than is usual. All basic raw material types are present, but with Wolds flint intermittently higher than normal, while translucent flint is particularly common in the south-east cluster.

Fig. 12: The Peak Lithics Transect: Tool and debitage distributions, at fields north and east of Arbor Low.

Length/breadth ratios for flakes and blades for 162 complete pieces show a relatively broad unimodal curve that is neither bladed or flake dominated. Most of the good blades amongst the assemblage are not closely dateable. However, three found to the north are relatively large, with one carefully prepared and utilised as a knife, and at least five found to the south-east, are all likely to be Mesolithic. There are only five cores, all for flakes, perhaps suggesting that activity here was often not of 'normal' type, and is in strong contrast to the 138 cores from fields south-west of the henge. One is keeled and has heavy edge damage as if from use, while another has been retouched as a workaday knife. Of the others, one is small and exhausted; another is a small corticated pebble with only a few removal scars; and the last a large poor quality Wolds flint 'chunk' with crude flake removals. The fields, unusually, have ten atypically large pieces of Wolds flint, some best described as 'chunk-like'. Assuming that these had good potential for flake/blade removal for tool production which was not realised, this suggests conspicuous consumption or purposeful discard of raw materials.

The 22 scrapers are a wide variety of types. One disc scraper is a particularly large, well-made and chunky tool in a distinctive high-grade grey flint (Plate 1, find 12.19), while another disc scraper is smaller, well-shaped but broken. Six are end scrapers, one of which has shallow retouch. They display a variety of forms; three are long, with a delicate example from the south-east with a small working end that may be Mesolithic in date; the other two are crudely made. Two other end scrapers are broken, while the last is a short wedge shape with a carefully shaped working edge. Five are end-and-side scrapers similar in form to the crude end scrapers but with retouch extending partially down one side, or in one case both sides, and some are squatter in form. One scraper categorised as a horseshoe is again rather similar in form, as is one thin thumbnail made on a thin flake. There are two small and irregular side scrapers, and two miscellaneous forms which are similar, but crudely shaped examples, of the end-and-side scrapers in the assemblage. One of these stands out as having retouch at both ends, being much used, and possibly re-sharpened. In contrast to the differences in cores described above, the scrapers are similar in both character and range to those from the fields walked to the south-west of the henge.

Arrowheads include three Mesolithic pieces: one a moderate sized trapezoidal microlith; another a long, thin, straight backed blade; and the third a broken microlith with two retouched edges. Two Neolithic leaf-shaped arrowheads are both finely made, one a small, thin ogival example in a pale translucent flint, the other a kite-shaped example with missing point. Ten are transverse arrowheads, including eight obliques with single tangs. Four are workaday (e.g. Plate 5, find 10.42), one of which is small but in a distinctive red-brown flint (Plate 5, find 12.20), and four are carefully made pieces, two of which have short tangs, one has a long tang (Plate 5, find 11.42) and the tang is broken on the other but may have been long (Plate 5, find 13.23). Other forms include a chisel shaped example with strongly curved cutting edge, and the broken tip from one of uncertain form. There is also a beautifully made tip with ripple flaking, presumably from an oblique arrowhead.

Other tools include a small, delicately made plano-convex knife, a workaday flake knife, a small flake from a large polished tool, a truncated blade, three awl/piercers and an awl/flake knife.

Well-made pieces are the 'elaborate' arrowheads, including the two leaf-shaped arrowheads, and four of the obliques, together with the ripple-flaked tip. Two of the scrapers are carefully made disc scrapers but, in contrast, twenty are workaday 'domestic' in type.

A number of pieces are diagnostic of date. Most are Neolithic, such as the nine Later

Neolithic transverse arrowheads and the two Neolithic leaf arrowheads. Neolithic and/or Earlier Bronze Age items include the disc scrapers, the polished flake from a tool, perhaps an axe or chisel, and the plano-convex knife. However some pieces are Mesolithic and/or Earlier Neolithic, including the three microliths, some blades, and possibly one of the end scrapers.

Both of the two main clusters of finds contain Mesolithic microliths and most of the Neolithic leaf and transverse arrowheads. The north cluster also has seven scrapers which, although not strongly diagnostic of date, would be at home in the Neolithic. The south-east cluster has the two disc scrapers, and others including a thumbnail, mostly of Later Neolithic or Earlier Bronze date. From the steeper slope below the henge there are two transverse arrowheads and a polished flake, in the same area as the Earlier Bronze Age plano-convex knife and conspicuous consumption/disposal of Wolds flint.

The Limestone Plateau: Monyash Basin and Lathkill Shelves

This area, at the heart of the limestone plateau, has two groups of fields described here and four more are in archive. The land is all within a shallow upland basin and on shelves running downriver above the gorge of the River Lathkill.

FIELDS 64/73/100-102 (Tagg Lane; centred SK 138658; 203 finds; 10.91 hectares walked)

This group of five fields lies on the upper slopes of the Monyash Basin, with the shallow upper part of a dry valley running through them, on the north-eastern side of a high ridge that forms part of the western spine of the limestone plateau.

Finds density is intermittently high, with three 'hot spots' (Fig. 13). Flint density compared to chert is relatively high throughout, as is usual in the Transect, and all the usual raw material types are present, but not in all fields. A small amount of burnt flint occurs over much of the walked area, but in Field 102 there is an unusually high amount, with six out of seven pieces found in a tight concentration.

Four flake cores are all small to very small in size and exhausted; another flake core has been retouched along one edge as a crude flake knife; while a sixth is a poor example. Two blade cores include a well-made example with parallel scars and onewhich is small and exhausted. There are three flake-and-blade cores, one of which is small and exhausted, while another has been converted to a hollow scraper. Length/breadth ratios for flakes and blades for 68 complete pieces have a broad range, with flakes dominating. However, 24 well-shaped blades, four of which are relatively large, may well be early in date.

There are only five scrapers. Of the two end scrapers, one is well shaped with a symmetrical curved retouched end, while the other is small and workaday. A thumbnail scraper is small but well-made (Plate 1, find 102.11). A horseshoe scraper is large and symmetrical, while a scraper of miscellaneous type in black chert is irregular in shape. Other noteworthy tools include a well-made leaf-shaped arrowhead (Plate 2, find 100.49); three flake knifes, one of which is large and well- made, the other two are workmanlike but one is well-shaped but broken; and three flakes/blades with well-made denticulate edges, two of which are finely serrated. A burnt fragment is from workaday bifacially-flaked implement.

The leaf-shaped arrowhead, one end scraper, the horseshoe scraper, one flake knife and possibly the thumbnail scraper, are all well-made 'elaborate' pieces.

Artefacts diagnostic of date indicate a palimpsest of material of different periods, ranging from Mesolithic to Bronze Age activity. These include the leaf-shaped arrowhead of Neolithic date, a horseshoe scraper of probable Neolithic date, and a thumbnail scraper of Bronze Age

type. The blade cores and blades suggest a Mesolithic and/or Earlier Neolithic component, while the flake cores and flake-dominated assemblage indicate later material.

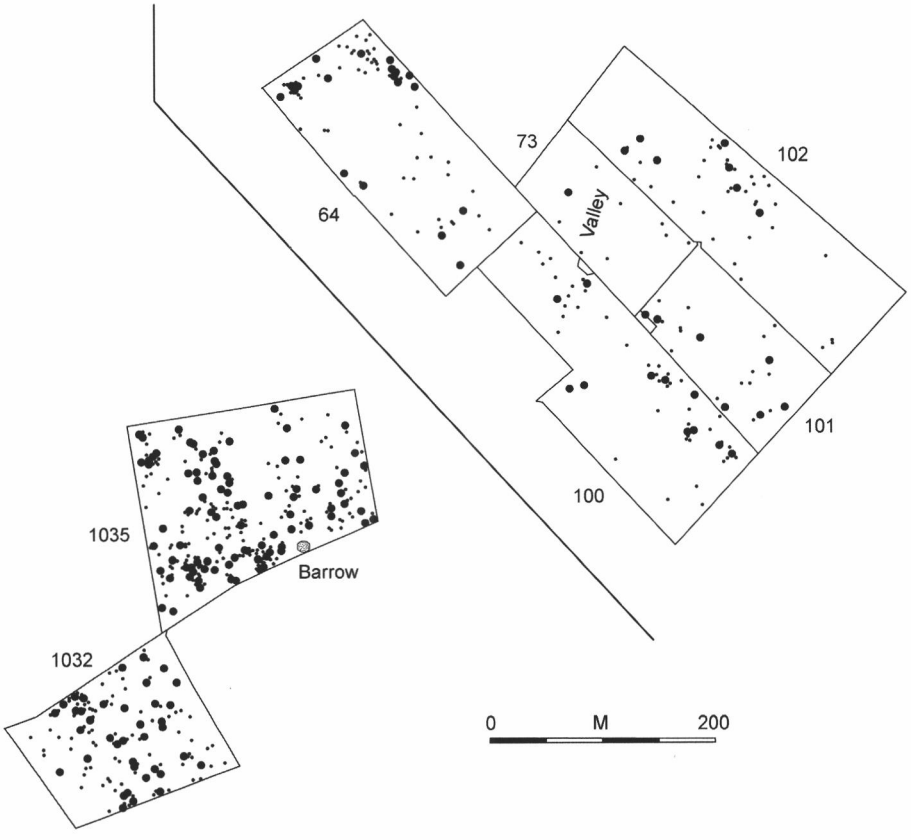

Fig. 13: The Peak Lithics Transect: Tool and debitage distributions at selected fields in the Monyash Basin and on the Northeastern Ridges.

FIELDS 65/70/72 (Derby Lane, Monyash; centred SK 156647; 114 finds; 7.26 hectares walked)

This group of three loosely clustered and small to moderate sized fields, none conjoined, lies on the gentle north and north-east facing upper slopes of the Monyash basin, below higher ridges to the south, with Arbor Low about 1km away.

In Fields 65 and 70 finds densities were high, with 82 artefacts recovered from the former despite relatively poor walking conditions. A small number of prehistoric pot sherds were also found at surface here and later investigated by excavation; a total of 50 sherds included fabrics with diagnostic similarities to Early Neolithic plain bowls, Peterborough and Grooved Wares, and to the Late Bronze Age/Early Iron Age pottery from Gardom's Edge, near Baslow, indicating repeated visits by people over a long period (Pauline Beswick *pers. comm.*; Frank Robinson *in prep.*). In Field 65 the majority of finds cluster in the western half of the field, with a particularly dense concentration where the pottery was found, and may be part of a

spread extending to the north, south and west, beyond the area walked. Not all the usual lithic raw material types are present, but abnormal percentages in specific fields may well be fortuitous given the low find totals. What may be more important, if not understood, is the number of artefacts made from flint as opposed to chert, which is very high in Fields 65 and 70, with translucent flint dominant in the southern half of the western cluster in Field 65. The flint varies in colour and one flake is an unusual opaque red-brown flint. Small numbers of burnt pieces were found, but their distribution seems random.

There are only three flake cores. Debitage is dominated by flakes. However, there are two to five well-shaped blades (two broken) that may be early in date.

Nine scrapers include two sub-circular horseshoe scrapers; another which is retouched at both ends and one side; one small end-and-side scraper; one end scraper with a carefully-made awl at the opposite end; an *ad hoc* miscellaneous scraper; and three broken scrapers classed as miscellaneous. Two of the scrapers and a flake from a polished implement were found in the same dense concentration as the pottery. Elsewhere in the fields walked, projectiles comprise a very small microlith of Later Mesolithic type, a large chisel-shaped transverse arrowhead, a small but well-made oblique transverse arrowhead, and the finely retouched tip of an arrowhead, perhaps of trapezoidal type. Other tools include a polished flint fragment which has been retouched into a carefully made flake knife, a small but well-made plano-convex knife, and a large awl/piercer.

Four artefacts are carefully made 'elaborate' objects: the retouched knife on a polished fragment, the plano-convex knife, the arrow tip, and the transverse arrowhead. Likely to be Later Neolithic/Earlier Bronze Age are the polished pieces, the plano-convex knife, two of the arrowheads and two of the scrapers. In contrast there is one Later Mesolithic arrowhead.

The Limestone Plateau: North-eastern Ridges

This area lies towards the eastern side the limestone plateau and the fields are all on higher land above and to the north of the shelves flanking Lathkill Dale described above. One group of fields is described here and three more are in archive.

FIELDS 1032/1035 (Blores Barn Farm; centred SK 175674; 376 finds; 4.89 hectares walked)

Two fields sited on the watershed ridgetop separating the Rivers Lathkill and Wye, containing relatively flat land east and south-east of local higher spots. In both the finds density is very high (Fig. 13) and the finds are clearly part of a larger spread, possibly tailing away to the north-east. Chert density compared to flint is relatively high and all the usual raw material types are present.

A high density of cores in Field 1035 (23 cores) tends to concentrate in the south-west quadrant of the field, while in Field 1032 the core density is 'normal' (4 cores). They comprise six flake, nine blade, nine flake-and-blade, and three keeled flake cores. Thirteen are small to very small in size and are exhausted. Two medium sized cores are keeled and one atypically large flake-and-blade core was presumably lost accidentally. Length/breadth ratios for flakes and blades of 174 complete pieces have a broad range with a bias towards flakes. However, there are several good blades that may well be early in date.

The ten scrapers comprise one end-and-side; two end; two end with retouched sides, one as a knife the other with only possible retouch; two thumbnail, one of which is small and possibly of Mesolithic date; one horseshoe; and one small disc. Other noteworthy tools are a

small obliquely truncated microlith; three transverse arrowheads, one an irregular chisel type, two petit-tranchet; an awl and flake knife; and a chunky awl/piercer. Fourteen flake knives include one which is a regularly shaped example with careful flaking (Plate 3, find 1035.72); two others are symmetrical and carefully made, one a broken and burnt end of a knife possibly originally finely made, and another a broken flake knife with regular serration (Plate 3, find 1035.64); and a flake with crude and uncertainly identified denticulation. There were also two flakes from polished implements in Wolds flint, and a fragment from a tool with steep retouch.

Whilst most of the tools are 'everyday' in appearance, the two petit-tranchet transverse arrowheads and three or possibly four of the knives are carefully made 'elaborate' artefacts.

Dateable artefacts indicate a palimpsest of material of different periods, ranging from Mesolithic to Bronze Age. These include the Later Mesolithic microlith; thumbnail scrapers of Mesolithic and Bronze Age type; and three transverse arrowheads, a flake knife with ripple flaking and the two fragments from polished tools, all of probable Neolithic date. The high incidence of blade cores together with truncated and notched blades, suggests a Mesolithic and/or Earlier Neolithic component, while the flake cores and flake dominated assemblage indicate later debitage is also present.

The Limestone Plateau: Wye Shelves

One of five groups of fields on limestone shelves flanking the River Wye is described here, while four are described in archive.

FIELDS 77-79 (Fin Cop; centred SK 180705; 49 finds; 4.97 hectares walked)

Three relatively small adjoining fields downslope from Fin Cop hillfort lie on a moderately gentle, east facing sloping shelf, not far from the crest of the steep sided dale of the River Wye to the south.

Finds density is high in Fields 78 and 79 and finds are evenly spread throughout the two fields. In contrast, in Field 77 the finds density is low. Within the three fields all raw material types except 'grey shiny' chert are represented, but the majority of finds are of flint. There are no cores but one core rejuvenation flake. Whilst flakes are in the majority, there are four well-shaped blades, possibly suggesting Mesolithic/Earlier Neolithic activity.

All seven scrapers were found within 150m of each other in Field 79. These comprise two thumbnail scrapers, one chunky and one very small; one end-and-side scraper; and four miscellaneous scrapers, one a neat thin scraper with semi-circular end, two irregularly shaped and one broken. This field also contains a well-made transverse arrowhead of petit-tranchet type; a carefully made bifacially-flaked fragment with invasive retouch, probably from a long but broken tang, possibly from a dagger; three knives one of which was a large but now broken well-shaped rectangular flake knife (Plate 3, find 79.9), another a workaday bifacially-flaked knife, and the third a workaday flake knife also used as an awl. Interestingly, this field is the one closest to the dale edge and elsewhere the only noteworthy tool is a neat bifacially-flaked knife.

The transverse arrowhead, rectangular flake knife and broken tang are all 'elaborate' artefacts. The assemblage includes material that suggests a multi-period palimpsest, with relatively early blades, a Later-Neolithic transverse arrowhead, and thumbnail scrapers that may well be Bronze Age in date.

The Shale Valleys and Ridges: Wye Valley

None of the two groups of fields in the River Wye valley bottom contained many finds. Both cover only small areas and are uncertainly representative of the sub-zone; both are described in archive.

The Shale Valleys and Ridges: Low Ridges

This area, which lies between the Wye and Derwent valleys and comprises a dissected area of ridges, shelves and small side valleys, has four groups of fields described here and thirteen more in archive, the majority of which have only small numbers of finds.

FIELD 14 (Ashford Hall; SK 205698; 47 finds; 1.75 hectares walked)

This nearly flat field, lies on top of a steep sided shelf, near to its southern end and just north of the River Wye. The shelf is a part of the lower shelves between the Wye and Derwent Valleys and, although most of these have sandstone and shale bedrock, here there is a small outlier of limestone.

Finds density is high and evenly spread across much of the field except to the south (Fig.

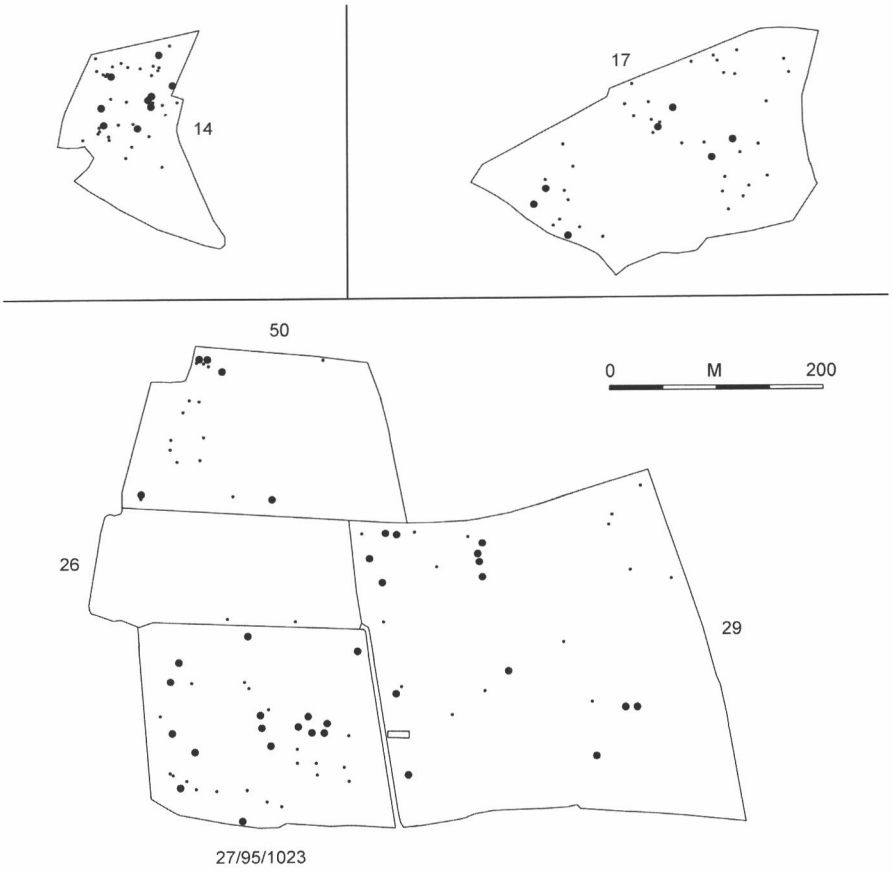

Fig. 14: The Peak Lithics Transect: Tool and debitage distributions at selected fields on the Low Ridges between the Wye and Derwent.

14). This may be explained as a collection bias for in this area a concentration of leaves was noted over some of the ground, although a lack of finds to the south-east may be real. The ratio of flint to chert is normal and most of the basic raw material types are present, although the only chert identified was 'black'; the field was walked early in the Arteamus series and there may have been a bias towards non-collection of other chert types.

Length/breadth ratios for flakes and blades for only 23 complete pieces show a peak for pieces that are twice as long as broad; however, given the small numbers, it could be argued this is not dissimilar from most of the fields analysed rather than having a meaningful bias towards blades (Fig. 3). Cores comprise one flake core of poor quality raw material and one small exhausted blade core. There is one well-shaped but workmanlike side scraper; a small Bronze Age barbed and tanged arrowhead with only one barb; a burin with retouch forming the point cut through a previously patinated piece; and a bifacially-flaked fragment. The only artefact which could be described as an 'elaborate' piece is the barbed and tanged arrowhead, but this is relatively poorly made. Little is diagnostic of date, with the exception of this Earlier Bronze Age arrowhead.

FIELD 17 (Home Farm, Hassop; SK 226720; 42 finds; 4.43 hectares walked)

This relatively large and gently sloping field, faces south-east and south, but with a slight hollow running south-east/north-west through the centre. It lies in a valley just above the Rymas Brook, within the complex series of sandstone shelves and ridges and shale valleys between the Rivers Wye and Derwent.

Finds density is within the 'normal range' for the Transect. Findspots tend to avoid the base of the hollow (Fig. 14); the soil here was noted as significantly darker than above and it may be that deeper deposits overlie prehistoric soils, thus no artefacts were being brought to the surface by the plough. The ratio of flint to chert is 'normal' and all the basic raw material types are present. However, the quantity of translucent flint is low while that for grey shiny chert is high (but both with only a few pieces and perhaps coincidental).

Five cores include two flake cores one of which is small, the other also small and crudely keeled; two blade cores, one in black chert, with bladelet removal scars of later Mesolithic type; and one small and crude flake-and-blade core. There is only one well-shaped blade but this is broken. Four out of five of these lie in a tight group in the north-east corner of the field. There are two scrapers, comprising a crude end scraper and an irregular opportunistic one of miscellaneous type. Other tools include what is interpreted as a broken bifacially-flaked knife, with bifacial retouch along one edge, but another edge retouched on only one side, which alternatively may possibly be interpreted as a transverse arrowhead.

There are no 'elaborate' artefacts and there is little diagnostic of date, with the exception of the two Later Mesolithic bladelet cores, while the other cores could also be Later Mesolithic. However, the cores do not fit comfortably with the debitage, which looks later. One possibility suggested by the close spatial association of four of these cores is that they were cached but never recovered.

FIELDS 26-27/29/50/95/1023 (Bubnell Fields West; centred SK 234724; 89 finds; 19.02 hectares walked)

The south-western part of this group of conjoined fields has been walked three times. To the west there is a shelf-like scarp top with gentle slopes facing west as well as east; further east there are gentle east-south-east slopes on the upper dip slope.

Taken as a whole the finds density is within the 'normal' range for the Transect, but with finds distributed in patches of varying density (Fig. 14). The ratio of flint to chert is relatively high in the north-west cluster but, in contrast, chert is relatively high further south. Taken together all basic raw material types are present, but looking at Field 50 separately the amount of 'translucent flint' is high, while in the south-west cluster the amount of 'black chert' is high. In the light of these differences Field 50 is treated separately from the larger cluster to the south.

Fields 26-27, 29, 95, 1023: Eight cores include: two irregularly shaped flake cores; three blade cores, of which one is a small exhausted bladelet core while the other two are small and poorly shaped; the last very similar to another categorised as a 'flake-and-blade' core; another flake-and-blade core is of Mesolithic type with opposed platforms; and the final core is of 'unknown type'. There are also three well-shaped and relatively large blades, another that is broken, and one that is well-shaped but small. Some of these at least have forms that could be Earlier Neolithic in date.

There are seven scrapers, comprising an end-and-side example in black chert; two end scrapers, one of which is small but well-shaped in flint and the other with only a short section of retouch at one corner of an oval piece; and four miscellaneous scrapers, two of which are irregular, one a broken fragment of unknown original form, while the last is small and retouched on three sides. There are also; a flake knife with retouch at the back to make it holdable (making it look scraper-like); and three awl/piercers, one in black chert with a finely made point, another on a blade with a very sharp delicate point, and the third which in contrast is chunky. It is noticeable that the black chert present is often worked.

Nothing could be described as an 'elaborate' piece and there is little that is diagnostic of date. What data there are, albeit ambiguous, hint at a mixture of material of different dates.

Field 50: Here there is part of a broken flake core and four small but well-shaped blades. Debitage is mostly quite small. Three workaday scrapers, comprise an end-and-side, a hollow, and a small thumbnail. Little is diagnostic of date, with the exception of the thumbnail scraper that may belong to the Earlier Bronze Age.

FIELDS 89/1015-16/1022 (Bubnell Fields East; centred SK 244721; 143 finds; 14.86 hectares walked)

Four fields all lying on the same east sloping ground but separated from each other by unwalked fields. They are all on relatively gently slopes located on a dip slope which shelves down towards Bubnell and the Derwent Valley.

Finds density in Field 1015 is high, while in contrast it is lower elsewhere, particularly on parts of the higher ground to the west (Fig. 15). To the east the finds spreads almost certainly go beyond the field edges. Taking the fields together, the ratio of flint to chert is higher than normal but all the basic raw material types are present, with burnt flintwork present in higher percentages than usual, particularly in Field 1016, but not in Field 1015.

Length/breadth ratios for flakes and blades for the 52 complete pieces have a unimodal curve with a peak that is neither particularly blade nor flake dominated. Thirteen cores include nine flake cores, all but one of which are small, and the larger one utilises poor quality material; three blade cores, one in black chert, another crude with bladelet removal and a third with poor quality scars; and one flake-and-blade core which is burnt but regular in shape. Debitage includes six well-shaped and relatively large blades, and a piece from what may be another.

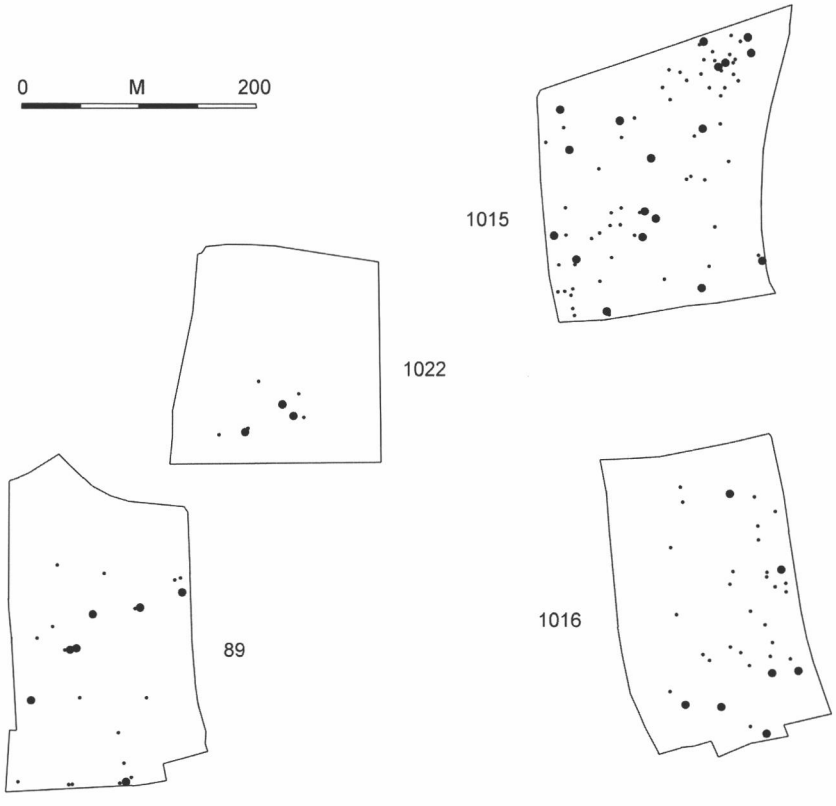

Fig. 15: The Peak Lithics Transect: Tool and debitage distributions at fields near Bubnell on the Low Ridges between the Wye and Derwent.

Nine scrapers comprise three horseshoe, of which two are small and thumbnail-like, while the third is larger but workaday; three end scrapers, of which two are irregular in shape and the third has only a small amount of retouch at the end; two thumbnails, one of which is very thin and horseshoe-like, and the other with steep retouch and possibly of Mesolithic date; and one scraper of miscellaneous type of irregular shape. There was also an irregularly shaped microburin; a small but well-made butt end of a leaf-shaped arrowhead; a workaday transverse arrowhead; a small, narrow barbed and tanged arrowhead with missing tip (Plate 2, find 89.25); the broken point from a workaday bifacial flaked knife; three flaked knifes, one of which is workaday and blunted along one edge, the other two small, with one in a distinctive pink flint; a very worn and well used awl or piercer; and a burnt piece from a relatively large bifacially-flaked implement.

Much of the material is workaday but two pieces stand out as being carefully made 'elaborate' pieces; the leaf-shaped arrowhead, and the barbed and tanged arrowhead.

Items diagnostic of date indicate material from different periods. The microburin and possibly a thumbnail scraper and some of the blades are Mesolithic, while the small horseshoe and thumbnail scrapers are likely to be Neolithic/Bronze Age, in keeping with the flake dominated debitage. More closely dated pieces are the Later Neolithic transverse arrowhead and the Bronze Age barbed and tanged arrowhead.

The Shale Valleys and Ridges: Derwent Valley

None of the two groups of fields in the River Derwent valley bottom contained many finds, both were very small and are described in archive.

The Eastern Gritstone Upland: Main Western Shelves

Only one group of fields was walked in this area, which lies high above the Derwent Valley eastern scarp and comprises a broad shelf below an upper scarp.

FIELDS 32-33/82/1008-10 (Eaglestone Flat; centred SK 268743; 164 finds; 21.88 hectares walked)

This group of fields is scattered on the same gritstone shelf, with Field 32 to the west, 82 at the centre and the rest to the east. Field 33 and 1009/1010 are partially on the same ground collected in different years, and Field 33 was walked after the removal of field boundaries which earlier had divided the area into several fields. Field 32 lies on gently sloping ground facing south-east, while the rest are on virtually flat ground. All lie on well-drained land on the dip slope of a broad shelf on the crest of the main scarp of the Eastern Moors, with the Derwent Valley nearby but out of sight to the west. There is a strong contrast between the low finds density in the western/central part of the shelf compared with the eastern end where there was a much greater number of finds; thus the two areas are treated separately.

Fields 32 and 82: With only 23 finds the density is low. In Field 82 most of the finds were in the south-western quadrant where drainage is probably better; this distribution continued westwards into fields not walked as part of the Transect, but assessed in relation to the Eaglestone Flat excavations (Barnatt 1994, fig. 2).

Not enough material was recovered to carry out detailed analysis of the type of material and artefacts recovered. There are no cores but two medium sized well-shaped blades were recovered.

There are six scrapers, a high number given the collection's size, and this trend continues eastwards. One is a very small end scraper of probable Later Mesolithic date; another of well-shaped but thick workaday horseshoe type; one a large and crudely made end-and-side scraper; one an exceptionally tiny thumbnail type of potential Earlier Bronze Age date; another thumbnail of more usual size; and a slightly less regular example is similar but classified as of miscellaneous type, and both of the latter may again be relatively late in date.

Further collection of lithics, done independently of the Transect survey, in the fields immediately to the west of Field 82, comprised 39 pieces, including a horseshoe/disc scraper, a thumbnail scraper and another scraper, all potentially consistent with being contemporary with the nearby excavated Bronze Age period cremation cemetery, and an earlier blade core (Garton 1994).

Fields 33, 1008-1010: In total 141 finds were made. Finds density from material recovered in the 1980s is relatively high throughout, particularly in Field 1008, while for reasons unknown it was much less in the same parts of the area walked in 1998. Finds are distributed through much of the three fields and are part of a spread which presumably extends further north, south and possibly a short distance westwards. The flint to chert ratio is normal, except in Field 1010 where there is more chert than the norm, with this clustering at the eastern end of the field. All basic raw material types are present, with more Wolds flint in Field 1008 compared with the norm, while Field 1010 has relatively little 'translucent flint' and much of the chert is of 'other' type. Burnt flintwork present is at a higher percentage than usual.

Length/breadth ratios for flakes and blades for only 37 complete pieces have a broad and possibly bimodal curve for flakes and blades. There are twelve cores: eight are flake cores, mostly small and crudely shaped, while one flake-and-blade core is also crudely shaped and utilising poor material. Of the three blade cores, one is heavily worked and probably of Later Mesolithic date, another is large with large scar removal but uses poor material and the third is again crudely shaped. Several good blades include 1-2 small bladelets, one of which is well-shaped, and a variety of differently sized larger examples, including a large and well-shaped example in chert.

Six scrapers comprise two crude side scraper forms; a large but crude end scraper in chert; an end-and-side scraper; a small, well-shaped but workaday horseshoe; and an impromptu irregular example of miscellaneous type utilising a core. There is also a small Later Mesolithic microlith of rhomboidal form; a barbed and tanged arrowhead in black chert; a large and finely made plano-convex knife (Plate 4, find 33.16); a very crudely made bifacially-flaked knife and a bifacially-flaked fragment; three small flake knives, all workaday, but one in a very distinctive and attractive red flint which may have meant it was a prized object; and a crude possible awl or piercer.

The plano-convex knife is very carefully made and of classic large 'elaborate' form with extensive invasive retouch, made in Wolds flint. It is tempting to suggest this is from a ploughed/disturbed burial of Earlier Bronze Age date, although this is beyond proof. There is little else diagnostic of date, with the exception of the Later Mesolithic microlith and the Bronze Age arrowhead.

A previous appraisal of material from Fields 1008-1010 (Garton in Barnatt 1994) concluded for Field 1008 that some of the knapping had been for blade production. It was noted that while the use of Wolds flint here may indicate Earlier Mesolithic activity there is nothing else to support this and the microlith is a later Mesolithic form. Fields 1009-10 had chert material that could be Mesolithic, but also pieces that were likely to be Later Neolithic and Bronze Age in date.

The Eastern Gritstone Upland: High Upland

This area, near the north-eastern end of the Transect, comprises the high upland above the western upper scarp. One group of fields is described here and one is in archive.

FIELDS 34-38 (Stonelow Flat; centred SK 295722; 34 finds; 9.47 hectares walked)

These five conjoined fields, in the heart of the Eastern gritstone moors, lie on gently sloping ground, mostly facing west, and on relatively well drained ground on part of an upper shelf above one of the streams that breach the main scarp to the west.

Taking the fields together the finds density is relatively low and only increases in Fields 36 and 37. Finds are spread through all fields as low concentrations with no obvious limits and appear to go beyond the block, and there is a slight clustering near the top of the slope to the east. Allowing for biases in percentages resulting from low finds numbers, the ratio of flint to chert is 'normal' and all basic raw material types are present.

Of the three cores found, one has had well-shaped blades removed and is likely to be of Later Mesolithic date, while a second is broken but may be similar. The third is poorly shaped and has had flakes and blades removed. Debitage also includes three well-shaped, relatively large blades, two of which are broken.

There is a small but chunky thumbnail scraper may be of Mesolithic date (Plate 1, find 35.6); a well-made transverse arrowhead from Field 34, large but thin, with careful retouch along two straight edges, is probably from a rare long oblique type but the point has broken off this example (Plate 2, find 34.9); and a bifacially-flaked fragment from a relatively large artefact, with ripple flaking on one face but retouch indicating secondary use on the other side.

The Later Neolithic transverse arrowhead stands out as an 'elaborate' piece of a type, often ripple-flaked, and previously illustrated by Manby as often associated with Grooved Ware (Daryl Garton *pers. comm.*; Manby 1974). Dating evidence for the Fields 34-38 assemblage includes a Later Mesolithic core and early blades, but the flake dominated debitage may have later material and at least one tool is likely to be Later Neolithic.

A broken piece from an elongated bi-conical jet or cannel coal bead, of a type used in necklaces was found near the stream. Whether this was a casual loss, or from a disturbed funerary context is not clear.

The Eastern Gritstone Upland: Eastern Ridges

These ridges lie at the north-eastern end of the Transect. One group of fields is described here and five with few finds are in archive.

FIELDS 51/74/1011-12/1014 (Freebirch; centred SK 304730; 137 finds; 13.64 hectares walked)

Three fields form a conjoined group, with another nearby to the south-east, a part of which was walked twice. All are on flat to gently sloping ground facing north-east and at the eastern edge of the main block of moorland, above where land nearby drops away steeply in a series of descending ridges between narrow valleys.

Finds density is relatively 'normal' for the Transect, with a spread throughout (Fig. 16). A dearth in Field 74 may be due to the flat ground and thicker peat cover, while there is a specific cluster of finds near the eastern end of Field 1012 at the top of the slope. The ratio of flint to chert is normal throughout and all basic raw material types are present.

Length/breadth ratios for flakes and blades for 54 complete pieces have a broad unimodal curve with both flakes and blades. The six cores found are all small flake cores, one of which is keeled. However, there are also several well-shaped blades which may be early in date, including three long but medium sized pieces and three large but broken examples.

The ratio of tools to debitage is typical for the Transect, except in Field 1012 where it is low. Twelve scrapers comprise three horseshoe, one well-shaped, one similar but small and broken, the third somewhat irregular in shape; four end-and-side, two of which are on long irregular blades with most of the retouch at the ends, one small again with most of the retouch at the end where it is steep, and the third small and 'thumbnail-like'; one or two hollow scrapers, one small classic form, the other possibly alternatively interpreted as a backed knife; one or two end scrapers, one small and crude, the other burnt and possibly with retouch along one side now missing; and one small thumbnail with steep retouch which may be a Mesolithic form. There is also a fragment from a very thin Neolithic leaf-shaped arrowhead with invasive retouch; a carefully made Later Neolithic oblique transverse arrowhead; two plano-convex knives, one a small but very carefully shaped example, the other the butt end of a much larger but broken example with steep retouch; and three small workaday flaked knifes one of which also has a possible notch.

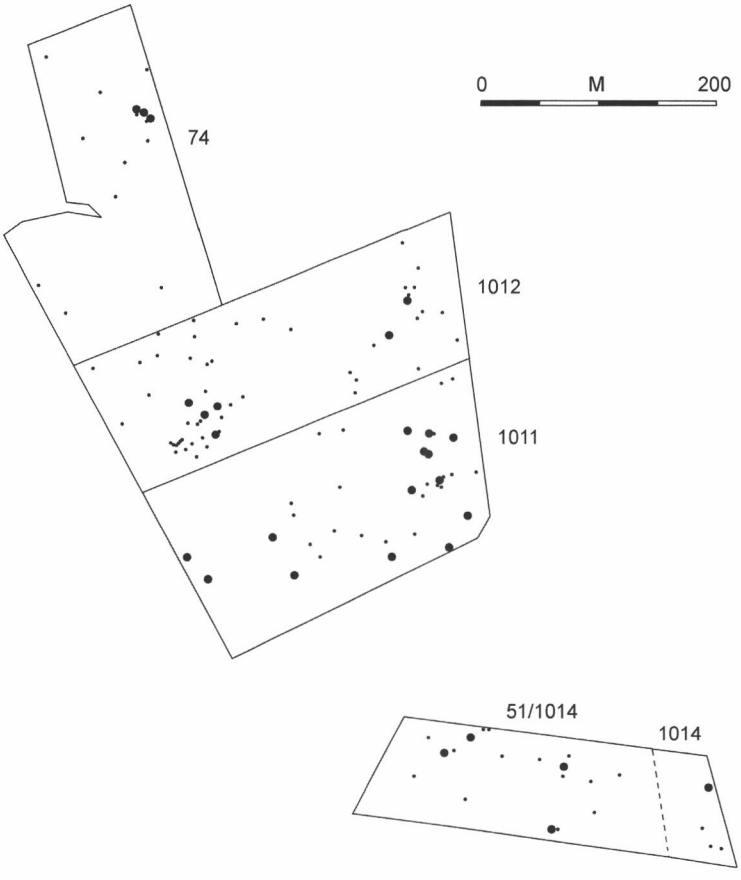

Fig. 16: The Peak Lithics Transect: Tool and debitage distributions at fields near Freebirch on the Eastern Ridges of the Eastern Gritstone Upland.

Objects which could be described as relatively 'elaborate' include the two arrowheads and the two plano-convex knives.

Of the pieces diagnostic of date, the end scrapers and thumbnail scraper may be Mesolithic, the two arrowheads are Neolithic and the horseshoe scrapers are likely to be, while the plano-convex knives are probably Earlier Bronze Age in date.

THE PEAK DISTRICT IN PREHISTORY: THE LITHIC EVIDENCE

Using the Peak Landscapes: Variations through Time

The assemblages from individual field groups, as well as having overall similarities, are very variable in their particular make up and hence have been described individually above. Looking at the inter-field comparisons, the most obvious pattern is that lithics occurs at higher average densities on the Limestone Plateau, particularly in the higher western parts of the limestone

plateau and the adjacent Monyash basin (areas A-C), with a particular 'hot spot' around Arbor Low (area B). Here transverse arrowheads are found much more commonly than elsewhere, and to a lesser extent this is true for leaf-shaped arrowheads. Similarly, microliths are more common on the high western parts of the limestone plateau (areas A-B) when compared with other parts of the Transect. These patterns reinforce the importance for prehistoric peoples of the limestone plateau as a focal place within the region.

An unexpected pattern is that black chert artefacts, while found around one of the known sources, are commonly found to the north-east, in the 'Low Ridge' landscape rather than towards western parts of the Limestone Plateau. This hints at different acquisition strategies for people using these two areas, the 'Low Ridges' perhaps used more commonly in winter when sheltered sites were required, and the western limestone plateau used during summer when there was greater contact with people from far and wide using these high pastures who brought flint into the region.

Looking at raw materials more generally, the many small cores found throughout the Transect show that the resource was carefully husbanded, with cores usually worked until they were exhausted. At all periods imported flint was preferred to local chert; this was a better raw material that could be acquired in larger pieces. Only 'black' and 'grey-shiny' cherts were of comparable quality to flint and capable of being worked into well-shaped tool types, but it may be that easily worked outcrops of these were limited.

Perhaps the most striking feature of the assemblages is that they mostly comprise palimpsests of flintwork deposited intermittently, at indeterminate intervals and frequency, over long periods, often spanning the Mesolithic to the Bronze Age. Only a small minority of the artefacts recovered can be dated and even then not closely. Similarly, 'elaborate' pieces are a small minority of the whole, most tools in contrast being simple and unadorned in character.

The Mesolithic

The Earlier Mesolithic is hard to recognise in mixed assemblages and may well be under-represented in the Transect assessment. Between two and six field groups have material that could be relevant, all in the high western part of the limestone plateau, with the majority around Arbor Low (Fig. 17). However, given the low number of finds little weight can be given to this pattern.

The Later Mesolithic has more recognisable artefacts, largely in the form of microliths, backed bladelets, and distinctive blade cores and blades (although the last can also be Earlier Neolithic in date). Material of Late Mesolithic Date is found throughout all three topographic zones, but with the high western part of the limestone plateau (areas A and B) having more field groups with material compared with elsewhere; this is where microliths are at their most common. While Arbor Low is within this area, it is unclear whether this site was important at such an early date, or whether the more general area was important.

The Neolithic

Transect data show a presence of people across all three topographic zones in the Neolithic (Fig. 18). Earlier Neolithic data is poorly represented on the Eastern Gritstone Upland but this may be a coincidental product of relatively few sample sites; otherwise the lithics show a relatively strong Neolithic occupation everywhere, spreading beyond the distribution of monuments of this date, including chambered tombs, long barrows and henges, all of which are restricted to the limestone plateau (Barnatt 1990; 1996b). A model of landuse has been presented previously which contrasts the plateau with the landscape beyond (Barnatt 1996a).

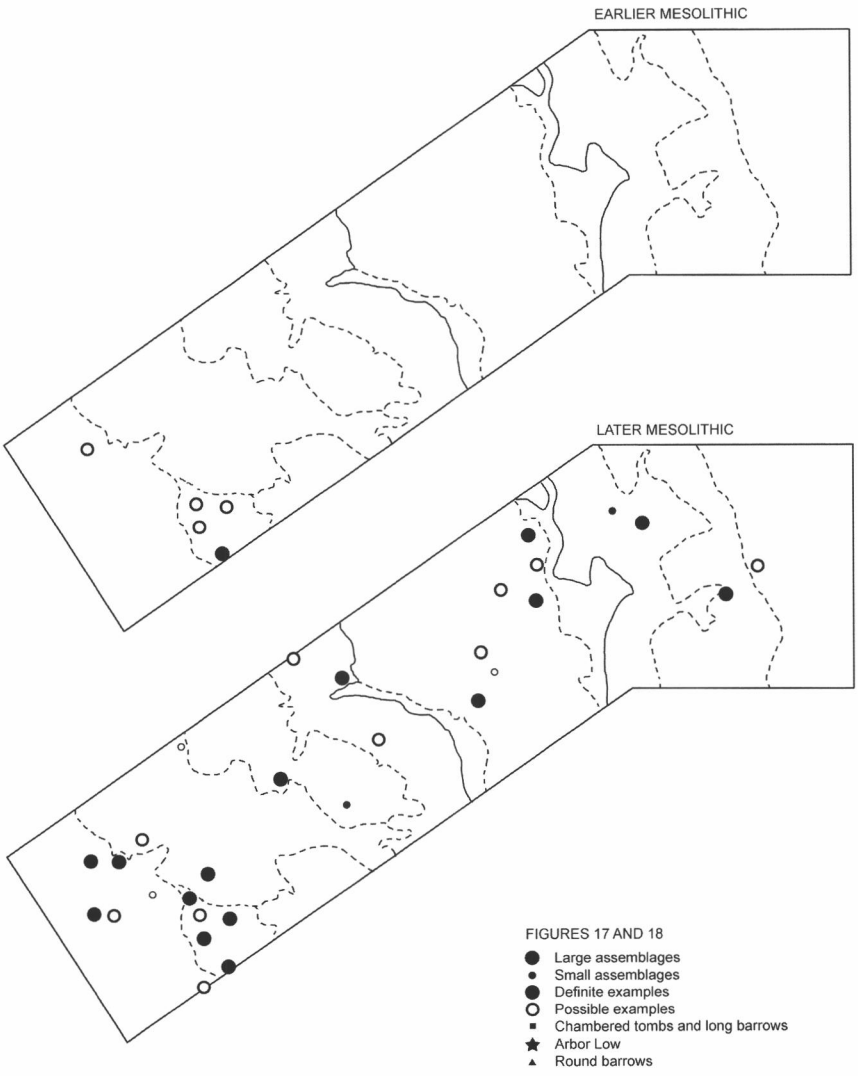

Fig. 17: The Peak Lithics Transect: Dated finds, showing the distribution of Earlier Mesolithic and Later Mesolithic data.

The plateau is seen as a central place within the wider region which acted as a focal area for extensive use by people from far and wide in summer months because of its rich upland pastures and thus would be the obvious place for large monuments. This is contrasted with the region as a whole where 'home bases' for individual small groups would be spread more widely.

The amount of Later Neolithic flintwork is particularly high around Arbor Low, which reflects the generally high density of material here, much of which is un-dateable. Despite past observations, there is no strong evidence from the Transect data to suggest that elaborate artefacts were more common here than elsewhere, except for the presence of a few special pieces, and an atypical number of transverse arrowheads. That leaf-shaped arrowheads are

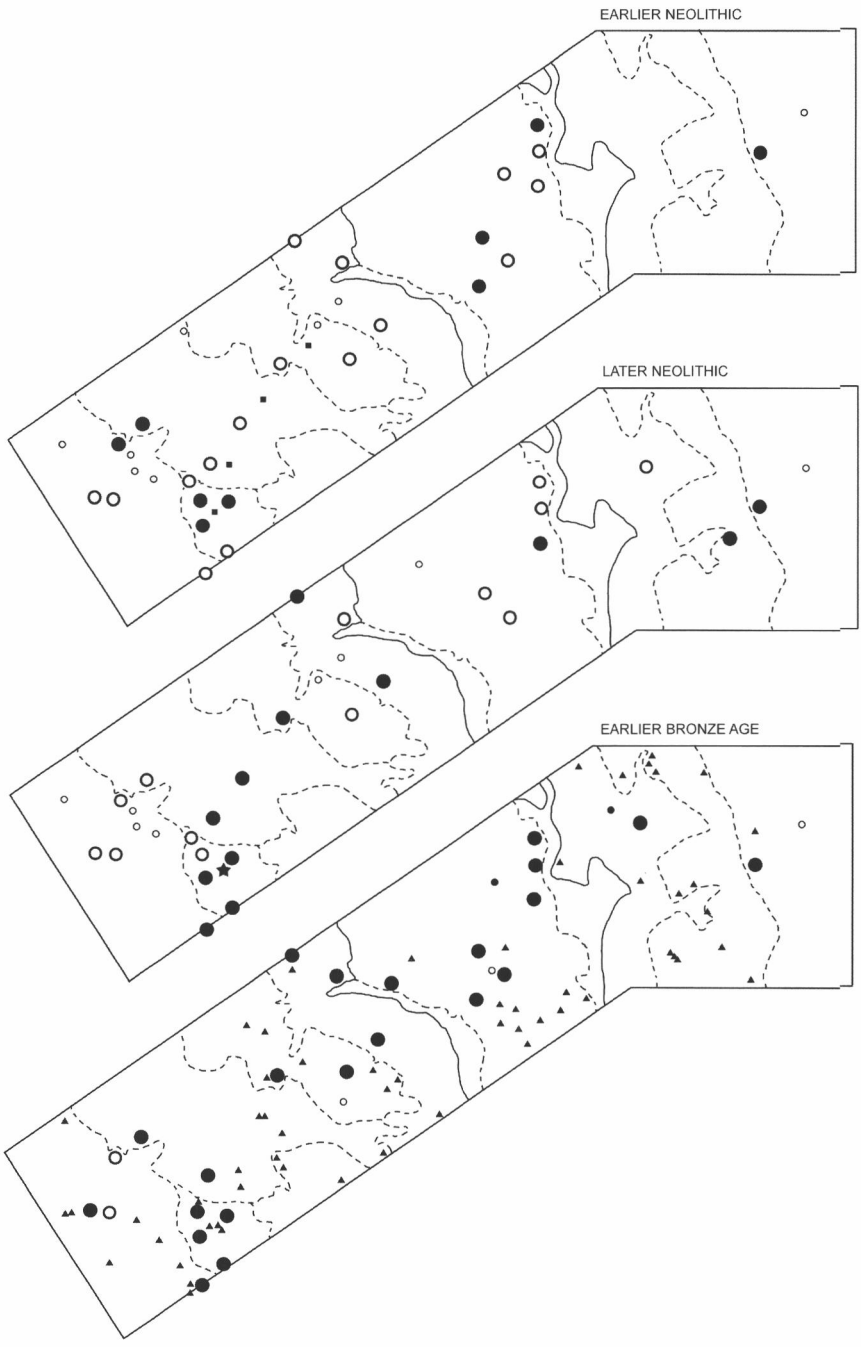

Fig. 18: The Peak Lithics Transect: Dated finds, showing the distribution of Earlier Neolithic, Later Neolithic and Earlier Bronze Age data.

also more common here may indicate the importance of the Arbor Low locale as a gathering place centuries before the henge was built (Edmonds and Seabourne 2011). Similarly, as noted above, this upper western part of the limestone plateau has more microliths and other Mesolithic material than the norm. The same is true of blades, and to a lesser extent blade cores, which are found in large numbers around Arbor Low, but also in similar percentage amounts in individual assemblages in the rest of the high western parts of the plateau. Thus, this part of the Peak may have had special importance as a focal area well before the advent of the Neolithic, perhaps because the high ridges were a more open landscape with all the opportunities that this provided. The nearby Gib Hill long barrow also suggests an early significance, one of several Neolithic monuments found on the plateau (Barnatt 1996b). However, the date at which the Arbor Low locale became a focus of particular importance currently remains unclear.

The Bronze Age

The data again show people used all three zones of the Transect, but now with no special emphasis on the Arbor Low area (Fig. 18). This is consistent with the widespread distribution of round barrows across the Transect. However, Bronze Age lithics are relatively poorly represented on the Eastern Gritstone Upland despite the number of barrows here. This may well be explained by what we know of Bronze and Iron Age settlement here (Barnatt 1999; 2000; 2008). The topography and geology of the upland, with linear bands of fertile sandstone-based soils above scarps and on shelves, interspersed with poorly-drained clay soils, means that specific locations are more favourable for sustained settlement compared with others. Extensive test pitting at Gardom's Edge showed that artefacts were only common in the immediate vicinity of houses rather than out in the fields and open pastures beyond (Barnatt, Bevan and Edmonds 1995-2000; 2002; Barnatt 2008). Thus, it is anticipated that only particular places will have large collections of lithics in the ground. While fields at Eaglestone Flat were included during the Transect fieldwork, for the most part the favourable areas for sustained settlement were not available for walking as they are moorland with good survival of upstanding archaeology.

Future Research

There is much scope for future research into the lithic assemblages present in Peak ploughsoils. This could take several directions.

Further work within the Transect could focus on particular issues and/or places. For example, this might:

- Compare and contrast the fieldwalking results with extensive test pitting to better understand what aspects of the data are reliable.
- Similarly, specific fields could be walked several times if it is found that particular farmers intend to plough on a regular basis.
- Further investigate the character of the large amounts of lithics that exist around Arbor Low by walking further fields should they come available.
- Investigate the extent of the high density scatter sampled at Fields 1032/1035, at Blores Barn Farm east of Monyash, to see if this landscape is comparable to the western ridges of the limestone plateau.
- Walk fields in the Wye and Derwent valley bottom-lands should these ever become available.
- Look for further 'hot spots' on the Eastern Gritstone Upland to complement the few already investigated.

With the first two of these suggestions, work along similar lines has already been undertaken around Mount Pleasant (Garton and Beswick 1983).

Elsewhere in the Peak and beyond, data should be collected to compare and contrast with what was found within the Transect. Places for study where different topographies need investigation include:

- The Hope Valley. Currently little is known, but this broad valley has long been a local population focal point, although whether this was also the case in prehistory is unclear.
- The North-western limestone plateau around the Bull Ring henge. We have no idea whether there are high lithic concentrations that match those at Arbor Low (currently little is ever ploughed – perhaps with global warming this might change?).
- The southern parts of the limestone plateau. It is known that lithics are very plentiful on Bonsall Moor (Radley and Cooper 1968; Gerrish 1982), and recent fieldwalking around Bonsall has been undertaken using comparable methodology to the Transect survey (Pam McInally *pers. comm.*); large numbers of finds have been made in several fields but as yet this work is unpublished. It is not known whether similarly high densities of finds extend westwards to the Minninglow, Parwich and Biggin area.
- The Staffordshire part of the limestone plateau, centred on Alstonefield. Lithics here are currently a complete unknown but there are important monuments such as the Long Low bank barrow, Peal Low and an exceptionally large number of smaller round barrows. Little ploughing takes place in some parts, but some fields in the Weaver Hills to the south have been walked previously (Daryl Garton *pers. comm.*).
- The shale and sandstone landscapes immediately to the west and south of the limestone plateau. These remain largely un-investigated in any kind of systematic way.
- Beyond the Peak comparisons could be usefully made both to the west on the Cheshire Plain and to the east on the coal measure foothills and the Magnesian Limestone ridge beyond. In 1984 Bradley argued that the Peak District was one of the 'core areas' for prehistoric settlement across Britain, with the nearest others being Cumbria, the Yorkshire Wolds and the Fenland inland from the Wash (p. 42). While this may be over-simplistic as other areas exist which, while perhaps of lesser importance, were still population foci, such as the Vale of York and the Trent Valley. The Magnesian Limestone ridge of south Yorkshire and North-East Derbyshire/Nottinghamshire is another such minor example, where preliminary lithic investigations (by JB in the early 1980s) showed that there were high densities of lithics here compared with the Upper Coal Measure landscapes of South Yorkshire.

With any future work involving walking ploughed fields there is one strong caveat; the same or comparable methodologies should be used so that valid cross-comparisons can be made with what is reported here. In our experience it is easy to raise enthusiastic teams of fieldwalkers, but it is harder to achieve the sustained effort needed to bring analysis through to completion. This task involves specialist involvement and lithic collection is a classic case where a partnership between professional and independent team members can be very beneficial, especially if set up at the outset. If future work on Peak lithics is undertaken this will hopefully not take the same length of time as the work presented here took to bring to fruition; 1985 to 2012 was too long and as with many ambitious archaeological projects, on more than one occasion points were reached where there was significant danger of the work never being written up.

One thing we have learned from the Transect survey work reported here is that future projects need to be carefully defined, with clear aims and objectives. Work should be planned in a series of relatively small, achievable stages, with analysis done and completed for each before proceeding further. This will help reach positive outcomes. There is much still to learn.

APPENDICES

Appendix A: Details of Transect Location, Fieldwork Methodology and Analysis of Data

Location: At the time the Transect was planned, one significant constraint was that land walked should fall within Derbyshire, as the team doing the walking was employed through Derbyshire County Council; its exact location was also influenced by parish survey work being undertaken at the time in Monyash and Baslow-Bubnell.

Fieldwork Methodology: To achieve 'total coverage', fieldwalkers were started at 2.5m intervals (rather than the wider spacings that are often used), walking in parallel so that, all things being equal, the whole surface was viewed. In the case of Fields 1008-1037 walked in the 1980s, the walking was identical (although the method of recording of findspots was different – see below). However, with Fields 1001-1007 the walking method was different, but coverage was still 'total', with walkers thoroughly quartering within 10m squares, two people per square. The same concern with 'total' coverage was identified, making these comparable with those collected later. With the fields walked by Arteamus in 1997-2003 the teams were a mixture of experienced and inexperienced people, with these mixed so advice could be given, while a second (if incomplete) look at the ground was provided by the people logging finds using the EDM prism. With the 1983-85 fields, because the walkers were relatively inexperienced they were followed by supervisors who each covered the ground a second time, by zig-zagging across the width on a 12.5m strip covered by six walkers.

Measures were taken during fieldwork to encourage standardisation. For each field walked, a field sheet with pro-forma data boxes encouraged consistency in the logging of information, including data on weather and field conditions. In the 1980s, plough soils had been augured at regular intervals (30m to 75m spacing depending on field size, shape and character). It was found that this was of limited value as topsoils were usually thin and were fully turned by the plough; thus auguring was not undertaken in 1997-2003. Potential exceptions are at dry valleys on the limestone plateau where colluvium exists, at the narrow flood terraces of the Rivers Wye and Derwent, and on high gritstone fields were peat deposits could exist. However, in all cases walking where this could apply has been limited; in all cases this is noted in the field biographies.

Care was taken to try to randomise the differing abilities of walkers to recover artefacts by mixing experienced and inexperienced people. A conscious decision was made to concentrate on recovering lithics, as recovery can be biased if walkers are also trying to identify pottery, etc. Also, the total collection of all artefacts, including post-medieval material was deliberately avoided, not least because it changed the focus of the research and would have generated large quantities of data with which we were simply not equipped to deal.

A problem that we could not fully resolve was that of biases resulting from the character and distribution of raw materials. Flint does not occur naturally within the region and is relatively easy to recognise. However some fields also have large amounts of naturally occurring chert. Recognising which pieces of chert are worked is often difficult even in the

best of circumstances, so we adopted a rule of thumb that 'if in doubt - bag it'. Relatively large amounts of material were rejected during post-fieldwork evaluation. However, when a field had literally thousands of pieces of naturally occurring chert, initial sorting had to be done in the field. Thus, it is assumed that a (hopefully small) proportion of worked chert was not recovered; this may have been higher in the first fields walked, whereas later, as people became more experienced, it is thought to have reduced.

With the exception of Fields 1001-1007, all finds were recorded individually and plotted to the nearest 0.1m. With the 1997-2003 fields this was easily achieved using an EDM. Finds were left in bags by the walking team and flagged for later identification; a small logging team then recorded locations, gave finds unique numbers and recovered the bags. In the rare cases where finds were made in very close proximity, for the sake of expediency when a field was 'busy', more than one item were placed in a bag (but these were treated as separate entities at the analysis stage – e.g. find 23a/23b). Unfortunately, in a few cases during the 1997-2003 fieldwalking, particularly with some of the earlier fields walked, spatial data on the location of individual finds was lost. This was usually because it was found that the EDM was faulty or something else had gone wrong during field recording. Later, a 'belt-and-braces' approach was adopted, with data read from the EDM being hand logged as it was acquired.

In the 1980s, with fields 1008-1037, the finds plotting was undertaken before the ready availability of even EDMs, never mind sub-metre accuracy GPS, and the recording method adopted now seems incredibly cumbersome. Before walking commenced, 50m wide lanes were laid out from a baseline placed at right angles to the furrows, with poles marking the 50m intervals here, and more poles at either end of the field placed using an optical square. Following on from the fieldworkers, a small team plotted the location of bagged and flagged finds on a 1:500 plan, with bags pre-numbered with unique identifiers (hence there are gaps in the sequences of finds eventually catalogued – for example one team of six people was given bags 100-149 but only used bags 100-123). The positions of finds were determined by having 50m tapes along both edges of the walked lane and then running a tape across the lane at right angles from which find positions were logged. When fields were on sloping ground, the measured locations were rectified post-fieldwork. In the case of Fields 1001-1007, these were each divided into 10m squares, with corners marked with ranging poles, and finds only plotted according to the square they came from, with each square given a unique identifier.

During the post-fieldwork stage of analysis, data from all 1983-85 and 1997-2003 fieldwork was converted into digital format. All finds and their attributes were placed on an Excel spreadsheet. The distribution of data, both individual find spots and the shape and position of each walked area, were placed in GIS databases, using Map-Info and Arch-View. These were linked to the spreadsheet data so that each attribute could be analysed independently.

Analysis of Data: Analysis was undertaken in two basic stages. The first was to categorise each artefact recovered and weed-out those pieces of stone for rejection as unworked. The 1980s collection was also re-examined to bring the categorisation of material into line with the 1997-2003 collection. The second assessment stage involved laying collections out on a field by field basis for an initial subjective interpretation of each assemblage. This was then followed by a more systematic review of the collection on an inter-field basis, quantifying the number of finds, different raw materials, tools and debitage. Histograms of all material on a field by field basis allowed assessment of normal parameters against the atypical. Many initial observations on particular assemblages held true, but other factors initially thought worthy of note were rejected as in line with normal trends. This in turn, provided a basis for inter-field

comparisons. For this to have any validity, it was also necessary to characterise individual fields quite closely, to quantify field sizes and areas walked. All of these factors were reviewed in relation to the defined topographic zones and areas within the Transect.

The value of a quantitive approach was well illustrated towards the end of the analyses undertaken. Up until that point the team had thought that there was good evidence for a general use of 'high quality' artefacts around Arbor Low. However, when the relatively large number of such pieces found here was set against general differences in artefact densities this perceived pattern largely disappeared; the number of well-made pieces as a percentage of the total number of finds was no different from elsewhere in the Transect. There were two real patterns. Artefact density as a whole was particularly high around the henge. Specific artefact types were atypically common around the monument, particularly transverse arrowheads and to a lesser extent leaf-shaped arrowheads.

A further task was to complete writing the field biographies, building on the initial subjective approach, by taking a more quantitate look armed with what we knew was typical or unusual. A significant proportion of the tools and cores were photographed as part of production of a permanent archive.

Appendix B: Table of Field Locations, Hectarages, Field-Walking Conditions and Adjacent/Nearby Fields Walked

Key

Area: A: The Limestone Plateau: High Western Ridges
B: The Limestone Plateau: Arbor Low Environs
C: The Limestone Plateau: Monyash Basin and Lathkill Shelves
D: The Limestone Plateau: North-eastern Ridges
E: The Limestone Plateau: Wye Shelves
F: The Shale Valleys and Ridges: Wye Valley
G: The Shale Valleys and Ridges: Low Ridges
H: The Shale Valleys and Ridges: Derwent Valley
I: The Eastern Gritstone Upland: Main Western Shelves
J: The Eastern Gritstone Upland: High Upland
K: The Eastern Gritstone Upland: Eastern Ridges

Weather 1: Sunny
2: Overcast
3: Rain, fog
4: Not recorded

Ploughing 1: Ploughed
2: Harrowed, rolled, seeded, etc.
3: Not recorded

Field	*Area*	*Map Reference*	*Hectarage (area walked)*	*Weather*	*Ploughing*	*Altitude (metres)*	*Aspect*	*Same field as*	*Adjacent Fields*
1	A	SK 13036373	3.66	1	2	345	SE	-	-
2	A	SK 13426504	5.75	4	3	360	NW	-	75, 90, 91
3	A	SK 14106428	2.36	3	2	365	SW	-	-
4	C	SK 14866825	1.97	1	1	290	W	-	5
5	C	SK 14936818	1.16	1	1	295	W	-	4
6	B	SK 15336319	7.92	2	2	355	SW	-	7, 47, 56, 1025, 1026, 1027, 1028, 1029
7	B	SK 15416308	6.09	3	2	350	SW	1025, 1029	6, 47, 56, 1026, 1027, 1028
8	A	SK 15506170	2.97	2	1	362	NW	-	-
9	B	SK 15986376	2.42	2	2	350	N	-	10, 11, 12, 13
10	B	SK 16076380	2.54	1	2	350	N	-	9, 11, 12, 13
11	B	SK 16146362	3.57	1	2	365	N	-	9, 10, 12, 13
12	B	SK 16276350	1.80	1	2	370	NE	-	9, 10, 11, 13
13	B	SK 16356342	1.21	1	2	370	NE	-	9, 10, 11, 12
14	F	SK 20576985	1.75	2	1	170	W	-	-
15	F	SK 21177218	3.78	1	1	220	S	-	-
16	F	SK 22077157	6.01	4	3	175	E	-	-
17	F	SK 22697199	4.43	1	1	140	SE	-	-
18	F	SK 22847311	4.03	4	3	175	SE		
19	G	SK 22866817	1.36	1	1	120	SW	-	22, 23
20	F	SK 22897063	6.68	4	3	175	E	-	25
21	F	SK 22997084	3.10	4	3	280	NW	-	24, 67
22	H	SK 22896811	1.36	1	1	120	SW	-	19, 23
23	G	SK 22956801	1.36	1	1	123	SW	-	19. 22
24	F	SK 23006940	3.00	4	3	280	NW	-	21, 67
25	F	SK 22997083	4.45	1	1	175	E	-	20
26	F	SK 23337243	2.54	4	3	205	S	-	27, 29, 50, 95, 1023
27	F	SK 23377229	4.00	4	3	200	SE	95, 1023	26, 29, 50
28	F	SK 23627008	3.57	4	3	190	NE	-	-
29	F	SK 23637237	9.05	4	3	185	E	-	26, 27, 50, 95, 1023
30	F	SK 23847049	2.79	4	3	193	SW	-	31
31	G	SK 23907034	0.56	4	3	195	NE	-	30
32	I	SK 26277458	3.78	2	1	305	SE	-	-
33	I	SK 27307413	6.65	4	3	265	SE	1009, 1010	1008
34	J	SK 29367216	3.08	2	1	265	W	-	35, 36, 37, 38
35	J	SK 29507215	1.69	2	1	270	W	-	34, 36, 37, 38
36	J	SK 29537229	1.79	1	1	275	W	-	34, 35, 37, 38
37	J	SK 29617214	1.74	3	1	275	W	-	34, 25, 36, 38
38	J	SK 29677225	1.17	3	1	277	W	-	34, 35, 36, 37
39	K	SK 30247469	2.40	4	3	285	S	-	40, 41
40	K	SK 30277485	2.46	4	3	285	S	-	39, 41
41	K	SK 30497497	2.78	4	3	280	NE	-	39, 40
42	K	SK 31607153	1.63	4	3	265	E	-	-
43	A	SK 12466518	3.97	3	2	320	SE	-	-
44	A	SK 13546457	0.75	2	1	350	S	-	45
45	A	SK 13636444	1.61	2	1	342	SW	-	44
46	C	SK 14646543	4.88	1	1	335	E	1004	88, 1003, 1004, 1005

Field	*Area*	*Map Reference*	*Hectarage (area walked)*	*Weather*	*Ploughing*	*Altitude (metres)*	*Aspect*	*Same field as*	*Adjacent Fields*
47	B	SK15656305	3.18	1	2	350	SW	1026, 1027	6, 7, 56, 1025, 1028, 1029
48	E	SK 20906784	5.61	2	1	195	NE	-	61
49	G	SK 22746678	3.81	4	2	113	NE	-	-
50	F	SK 23377256	3.43	3	2	210	E	-	26, 27, 29, 95, 1023
51	K	SK 30597270	2.10	3	1	285	E	1014	-
52	K	SK 31387378	1.66	2	1	295	E	-	96
53	K	SK 31467428	1.81	1	2	250	N	-	-
54	K	SK 31767416	1.58	1	2	250	NE	-	-
55	K	SK 32047436	1.80	1	1	235	NE	-	-
56	B	SK 15326259	2.49	1	2	343	E	-	6, 7, 47, 1025, 1026, 1027, 1028, 1029
57	F	SK 20327026	2.20	1	2	170	W	-	-
58	F	SK 19337138	3.30	3	2	195	S	-	-
59	E	SK 20216815	3.09	2	2	210	NE	-	98a/b
60	C	SK 19296669	3.78	1	2	265	S	-	-
61	E	SK 20986766	3.05	3	2	195	E	-	48
62	D	SK 19396733	2.18	3	2	295	SE	-	92
63	A	SK 12786469	0.86	2	2	315	S	-	-
64	C	SK 13636581	2.58	3	2	342	E	-	73, 100, 101, 102
65	C	SK 15856464	3.36	2	2	275	N	-	-
66	F	SK 23577176	3.39	2	2	165	SE	-	-
67	F	SK 22746947	1.92	1	2	265	SW	-	21, 24
68	J	SK 30267080	3.86	3	1	282	S	-	-
69	A	SK 12516377	2.75	3	1	355	E	-	-
70	C	SK 15536484	1.09	1	1	325	N	-	-
71	C	SK 15146417	1.05	1	2	360	NE	-	1002, 1031
72	C	SK 15396465	2.81	1	2	342	NE	-	-
73	C	SK 13826576	1.24	1	2	335	NE	-	64, 100, 101, 102
74	K	SK 30247315	3.18	2	2	285	SE	-	1011, 1012
75	A	SK 13176515	9.10	1	2	355	NW	-	2, 90, 91
76	E	SK 18956992	4.59	2	1	190	W	-	-
77	E	SK 18067058	1.61	1	2	255	E	-	78, 79
78	E	SK 17827065	1.73	1	2	275	E	-	77, 79
79	E	SK 17807058	1.62	1	2	265	E	-	77, 78
80	E	SK 19086900	2.77	2	2	235	NE	-	-
81	C	SK 13846725	5.55	3	2	315	NE	-	-
82	H	SK 26697430	9.72	3	1	275	SE	-	-
84	K	SK 32027498	1.70	2	1	190	SE	-	85
85	K	SK 31997525	3.74	3	3	180	E	-	-
86	A	SK 11606523	1.90	1	2	353	S	-	87
87	A	SK 11696518	1.94	1	2	355	S	-	86
88	C	SK 14696571	2.04	2	2	325	NE	-	46, 1003, 1004, 1005
89	F	SK 24127192	3.89	2	1	165	E	-	1022
90	A	SK 13636485	5.50	2	2	375	W	-	2, 75, 91
91	A	SK 13286489	6.52	2	2	360	W	-	2, 75, 90
92	D	SK 19356760	5.29	2	2	305	SE	-	62
93	A	SK 16236240	11.94	2	2	340	S	-	94

Field	*Area*	*Map Reference*	*Hectarage (area walked)*	*Weather*	*Ploughing*	*Altitude (metres)*	*Aspect*	*Same field as*	*Adjacent Fields*
94	A	SK 15936221	11.41	1	2	335	SW	-	93
95	F	SK 23377229	4.00	3	2	200	SE	27, 1023	26, 29, 50
96	K	SK 31227391	3.28	2	2	290	N	-	52
97	K	SK 31527347	2.52	1	1	293	S	-	-
98	E	SK 20206840	3.99	1	1 / 2	190	NE	-	59
99	H	SK 24647434	0.92	1	2	115	W	-	-
100	C	SK 13866560	2.73	2	2	340	NW	-	64, 73, 101, 102
101	C	SK 13936565	1.44	2	2	342	NW	-	64, 73, 100, 102
102	C	SK 13936577	2.92	3	2	340	NW	-	64, 73, 100, 101
1001	C	SK 16416578	3.58	1	3	280	NE	-	-
1002	C	SK 15036422	1.05	1	3	360	E	-	71, 1031
1003	C	SK 14726571	0.52	3	3	325	NE	-	46, 88, 1004, 1005
1004	C	SK 14566550	0.73	2	1	340	E	46	46, 88, 1003, 1004
1005	C	SK 14846571	0.21	2	3	315	E	-	46, 88 1003, 1004
1007	H	SK 26187262	0.75	4	3	120	E	-	-
1008	I	SK 27137425	1.73	2	1	268	SE	-	1009, 1010
1009	I	SK 27287415	2.35	2	1	265	SE	33	1008, 1010
1010	I	SK 27427409	2.26	3	1	260	SE	33	1008, 1009
1011	K	SK 30407293	3.96	2	1	285	NE	-	74, 1012
1012	K	SK 30357305	3.92	2	1	285	NE	-	74, 1011
1013	K	SK 30307407	1.73	1	1	282	E	-	-
1014	K	SK 30647269	2.58	1	1	285	E	51	-
1015	F	SK 24597233	4.15	1	1	130	E	-	-
1016	F	SK 24647197	3.83	1	1	145	E	-	-
1017	F	SK 24217380	3.13	1	1	200	SE	-	-
1018	F	SK 24597364	2.05	1	1	150	SE	-	-
1019	E	SK 19317014	1.22	3	1	165	SW	-	-
1020	D	SK 18486842	7.96	2	2	315	NE	-	-
1021	F	SK 21167153	3.35	1	1	198	S	-	-
1022	F	SK 24277215	2.99	3	2	155	E	-	89
1023	F	SK 23377229	4.00	2	2	200	SE	27, 95	26, 29, 50
1025	B	SK 15526315	4.55	1	2	350	SW	7	6, 47, 56, 1026, 1027, 1028, 1029
1026	B	SK 15656306	2.38	1	2	350	SW	47	6, 7, 56, 1025, 1027, 1028, 1029
1027	B	SK 15526294	4.52	3	2	345	SW	47	6, 7, 56, 1025, 1026, 1028, 1029
1028	B	SK 15376285	1.82	3	2	343	S	-	6, 7, 47, 56, 1025, 1026, 1027, 1029
1029	B	SK 15286302	3.36	3	2	348	S	7	6, 47, 56, 1025, 1026, 1027, 1028
1030	B	SK 15386372	2.05	4	3	367	NW	-	-
1031	C	SK 15076422	1.01	2	1	358	NW	-	71, 1002
1032	D	SK 17476727	1.87	2	2	320	SW	-	1035
1033	F	SK 23217009	2.98	1	2	200	NE	-	1034, 1036
1034	F	SK 23327005	2.52	1	2	200	NE	-	1033, 1036
1035	D	SK 17596747	3.02	3	1	320	E	-	1032
1036	G	SK 23387028	2.21	3	2	180	NE	-	28, 1033, 1034
1037	F	SK 24467301	3.54	2	1	142	SE	-	-

Appendix C: Table of Numbers of Artefacts per Field and Raw Materials Used

Field	Finds (total)	Flint (total)	Chert (total)	Flint			Chert			Other Stone	Burnt
				Translucent	Wolds	Other	Black	Grey Shiny	Other		
1	51	48	3	19	6	23	3	0	0	0	6
2	11	9	2	3	1	5	0	0	2	0	0
3	7	5	2	0	1	4	0	1	1	0	0
4	6	5	1	2	0	3	0	0	1	0	0
5	2	2	0	1	0	1	0	0	0	0	0
6	713	655	56	93	235	327	32	5	19	2	25
7	103	95	8	18	48	29	1	2	5	0	5
8	74	70	4	11	12	47	3	0	1	0	9
9	52	43	9	14	10	19	2	2	5	0	2
10	71	66	5	23	17	26	0	2	3	0	3
11	76	70	6	15	9	46	1	3	2	0	3
12	35	32	3	2	10	20	1	0	2	0	1
13	109	105	4	17	25	63	1	1	2	0	7
14	47	42	5	13	12	17	5	0	0	0	1
15	6	4	2	0	3	1	1	0	1	0	0
16	18	17	1	6	3	8	1	0	0	0	1
17	42	29	12	5	8	16	4	6	2	1	0
18	11	5	6	1	0	4	6	0	0	0	1
19	3	3	0	1	0	2	0	0	0	0	2
20	24	19	5	5	2	12	2	3	0	0	0
21	18	15	3	3	1	11	2	1	0	0	2
22	0	0	0	0	0	0	0	0	0	0	0
23	2	1	1	0	1	0	1	0	0	0	0
24	32	21	11	7	2	12	9	1	1	0	2
25	24	20	4	6	5	9	3	1	0	0	2
26	2	2	0	0	2	0	0	0	0	0	1
27	13	7	6	2	1	4	6	0	0	0	0
28	48	30	18	7	7	16	15	2	1	0	3
29	30	14	15	2	9	3	11	1	3	1	0
30	4	1	3	0	0	1	3	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0
32	4	1	3	0	0	1	2	0	1	0	0
33	12	10	2	0	8	2	2	0	0	0	0
34	8	7	1	4	0	3	0	1	0	0	1
35	4	4	0	0	1	3	0	0	0	0	0
36	13	11	2	2	8	1	0	1	1	0	0
37	6	6	0	0	2	4	0	0	0	0	3
38	3	2	1	1	0	1	1	0	0	0	0
39	6	4	2	1	0	3	1	0	1	0	0
40	8	7	1	3	1	3	1	0	0	0	0
41	24	21	3	4	10	7	1	0	2	0	3
42	0	0	0	0	0	0	0	0	0	0	0
43	149	128	21	31	21	76	7	7	7	0	7
44	6	5	1	1	1	3	1	0	0	0	1
45	17	17	0	4	2	11	0	0	0	0	0

Field	*Finds (total)*	*Flint (total)*	*Chert (total)*	*Flint*			*Chert*			*Other Stone*	*Burnt*
				Translucent	*Wolds*	*Other*	*Black*	*Grey Shiny*	*Other*		
46	27	24	2	5	5	14	1	0	1	1	2
47	191	165	26	35	54	76	12	3	11	0	7
48	18	12	6	2	0	10	4	1	1	0	0
49	8	6	2	3	0	3	2	0	0	0	0
50	21	21	0	8	3	10	0	0	0	0	0
51	8	8	0	5	0	3	0	0	0	0	0
52	2	2	0	1	0	1	0	0	0	0	0
53	10	10	0	2	1	7	0	0	0	0	1
54	3	3	0	2	1	0	0	0	0	0	0
55	1	1	0	0	0	1	0	0	0	0	0
56	68	60	8	21	21	18	4	2	2	0	5
57	18	13	5	6	4	3	5	0	0	0	0
58	9	5	4	1	0	4	4	0	0	0	0
59	28	23	5	9	4	10	5	0	0	0	1
60	26	22	4	10	1	11	4	0	0	0	4
61	12	10	2	4	2	4	1	1	0	0	0
62	46	35	11	25	4	6	8	0	3	0	2
63	6	4	2	2	0	2	1	0	1	0	0
64	79	75	4	25	6	44	1	1	2	0	5
65	82	80	2	25	5	50	1	0	1	0	3
66	17	13	4	7	3	3	3	0	1	0	2
67	6	4	2	2	0	2	1	1	0	0	2
68	3	3	0	1	1	1	0	0	0	0	0
69	143	129	12	60	16	53	8	2	2	2	14
70	18	18	0	7	7	4	0	0	0	0	0
71	5	4	1	2	2	0	0	0	1	0	0
72	14	11	3	2	1	8	0	1	2	0	1
73	8	8	0	4	0	4	0	0	0	0	2
74	17	16	1	4	6	6	0	1	0	0	1
75	44	42	2	26	11	5	0	1	1	0	2
76	32	30	2	7	2	21	1	0	1	0	1
77	6	5	1	1	3	1	0	0	1	0	0
78	21	19	2	10	1	8	2	0	0	0	3
79	22	21	1	11	2	8	0	0	1	0	2
80	6	6	0	0	4	2	0	0	0	0	0
81	1	1	0	0	0	1	0	0	0	0	0
82	19	17	1	7	3	7	0	0	1	1	2
84	0	0	0	0	0	0	0	0	0	0	0
85	3	3	0	1	0	2	0	0	0	0	0
86	16	16	0	6	1	9	0	0	0	0	3
87	14	13	1	2	0	11	0	0	1	0	0
88	5	4	1	1	1	2	0	0	1	0	0
89	24	23	1	8	3	12	1	0	0	0	3
90	11	10	1	2	0	8	1	0	0	0	0
91	5	4	0	0	0	4	0	0	0	1	0
92	15	13	2	4	0	9	2	0	0	0	2

Field	*Finds (total)*	*Flint (total)*	*Chert (total)*	*Flint*			*Chert*			*Other Stone*	*Burnt*
				Translucent	*Wolds*	*Other*	*Black*	*Grey Shiny*	*Other*		
93	96	89	6	24	3	62	3	0	3	1	4
94	30	25	5	5	3	17	2	1	2	0	2
95	8	7	0	0	0	7	0	0	0	1	0
96	5	5	0	1	0	4	0	0	0	0	0
97	8	8	0	0	0	8	0	0	0	0	0
98	21	12	9	2	2	8	7	0	2	0	0
99	1	1	0	1	0	0	0	0	0	0	0
100	54	53	1	18	0	35	0	0	1	0	2
101	21	20	1	4	1	15	0	0	1	0	1
102	41	39	2	11	2	26	1	0	1	0	7
1001	45	37	7	10	7	20	3	3	1	1	5
1002	28	20	8	5	0	15	7	0	1	0	0
1003	4	3	1	1	2	0	0	0	1	0	0
1004	10	8	2	2	0	6	1	0	1	0	1
1005	0	0	0	0	0	0	0	0	0	0	0
1007	1	1	0	0	0	1	0	0	0	0	1
1008	64	61	3	15	20	26	3	0	0	0	8
1009	33	30	3	8	2	20	1	0	2	0	7
1010	32	24	8	3	3	18	1	3	4	0	8
1011	35	32	3	11	8	13	2	0	1	0	5
1012	56	47	9	12	11	24	3	3	3	0	6
1013	2	1	1	1	0	0	1	0	0	0	0
1014	21	17	4	3	4	10	3	0	1	0	2
1015	76	60	15	11	7	42	5	1	9	1	5
1016	35	30	5	7	0	23	1	2	2	0	8
1017	61	55	6	18	3	34	3	1	2	0	5
1018	16	13	3	2	2	9	3	0	0	0	1
1019	12	6	6	0	0	6	4	0	2	0	0
1020	31	22	9	10	5	7	4	2	3	0	0
1021	11	5	6	2	0	3	4	0	2	0	0
1022	8	8	0	3	3	2	0	0	0	0	1
1023	15	8	7	1	2	5	2	0	5	0	0
1025	297	267	30	78	16	173	14	2	14	0	17
1026	169	149	19	64	9	76	7	6	6	1	8
1027	32	31	1	8	1	22	0	0	1	0	0
1028	13	9	4	2	0	7	1	0	3	0	3
1029	59	52	7	21	2	29	0	1	6	0	5
1030	43	37	6	12	1	24	1	3	2	0	7
1031	158	142	15	29	6	107	2	5	8	1	8
1032	127	85	42	20	4	61	25	9	8	0	10
1033	2	2	0	0	0	2	0	0	0	0	0
1034	4	3	1	0	0	3	0	1	0	0	1
1035	249	180	68	70	9	101	37	14	17	1	7
1036	0	0	0	0	0	0	0	0	0	0	0
1037	45	31	14	8	2	21	9	1	4	0	3
TOTALS	**5112**	**4406**	**690**	**1197**	**802**	**2407**	**361**	**112**	**217**	**16**	**309**

Appendix D: Tables of Numbers and Percentages of Artefacts per Field, by Category

Field	*Tools*	*Debitage*	*Cores*	*Scrapers*	*% Tools vs Debitage*	*% Cores vs All*	*% Scrapers vs All*
1	20	31	3	4	39.22	5.88	7.84
2	6	5	2	0	54.55	18.18	0.00
3	3	4	0	0	42.86	0.00	0.00
4	2	4	0	0	33.33	0.00	0.00
5	1	1	0	0	50.00	0.00	0.00
6	137	576	70	26	19.21	9.82	3.65
7	19	84	8	5	18.45	7.77	4.85
8	28	46	5	7	37.84	6.76	9.46
9	21	31	1	3	40.38	1.92	5.77
10	32	39	1	5	45.07	1.41	7.04
11	31	45	2	3	40.79	2.63	3.95
12	17	18	1	2	48.57	2.86	5.71
13	38	71	0	9	34.86	0.00	8.26
14	9	38	2	1	19.15	4.26	2.13
15	3	3	0	1	50.00	0.00	16.67
16	7	11	1	3	38.89	5.56	16.67
17	7	35	5	2	16.67	11.90	4.76
18	4	7	0	2	36.36	0.00	18.18
19	1	2	1	0	33.33	33.33	0.00
20	6	18	3	2	25.00	12.50	8.33
21	5	13	2	0	27.78	11.11	0.00
23	2	0	0	0	100.00	0.00	0.00
24	9	23	3	1	28.13	9.38	3.13
25	12	12	1	3	50.00	4.17	12.50
26	0	2	0	0	0.00	0.00	0.00
27	8	5	3	3	61.54	23.08	23.08
28	12	36	2	5	25.00	4.17	10.42
29	14	16	2	2	46.67	6.67	6.67
30	1	3	2	1	25.00	50.00	25.00
32	1	3	0	0	25.00	0.00	0.00
33	4	8	2	0	33.33	16.67	0.00
34	3	5	0	0	37.50	0.00	0.00
35	1	3	0	1	25.00	0.00	25.00
36	1	12	1	0	7.69	7.69	0.00
37	1	5	0	0	16.67	0.00	0.00
38	0	3	2	0	0.00	66.67	0.00
39	2	4	0	0	33.33	0.00	0.00
40	4	4	0	1	50.00	0.00	12.50
41	8	16	2	1	33.33	8.33	4.17
43	30	119	22	3	20.13	14.77	2.01
44	3	3	0	2	50.00	0.00	33.33
45	4	13	1	1	23.53	5.88	5.88
46	10	17	1	1	37.04	3.70	3.70

Field	*Tools*	*Debitage*	*Cores*	*Scrapers*	*% Tools vs Debitage*	*% Cores vs All*	*% Scrapers vs All*
47	38	153	11	5	19.90	5.76	2.62
48	5	13	0	2	27.78	0.00	11.11
49	4	4	0	1	50.00	0.00	12.50
50	4	17	0	3	19.05	0.00	14.29
51	2	6	0	0	25.00	0.00	0.00
52	1	1	0	1	50.00	0.00	50.00
53	3	7	0	1	30.00	0.00	10.00
54	2	1	0	0	66.67	0.00	0.00
55	0	1	0	0	0.00	0.00	0.00
56	10	58	1	0	14.71	1.47	0.00
57	3	15	1	0	16.67	5.56	0.00
58	2	7	1	0	22.22	11.11	0.00
59	11	17	2	2	39.29	7.14	7.14
60	10	16	1	2	38.46	3.85	7.69
61	4	8	1	2	33.33	8.33	16.67
62	16	30	1	6	34.78	2.17	13.04
63	3	3	1	2	50.00	16.67	33.33
64	19	60	7	2	24.05	8.86	2.53
65	21	61	1	5	25.61	1.22	6.10
66	5	12	1	1	29.41	5.88	5.88
67	0	6	1	0	0.00	16.67	0.00
68	2	1	1	1	66.67	33.33	33.33
69	39	104	12	7	27.27	8.39	4.90
70	6	12	0	1	33.33	0.00	5.56
71	2	3	0	0	40.00	0.00	0.00
72	6	8	2	3	42.86	14.29	21.43
73	1	7	2	0	12.50	25.00	0.00
74	4	13	0	2	23.53	0.00	11.76
75	22	22	2	10	50.00	4.55	22.73
76	8	24	1	3	25.00	3.13	9.38
77	3	3	0	0	50.00	0.00	0.00
78	5	16	0	0	23.81	0.00	0.00
79	16	6	0	7	72.73	0.00	31.82
80	6	0	0	3	100.00	0.00	50.00
81	0	1	0	0	0.00	0.00	0.00
82	8	11	0	6	42.11	0.00	31.58
85	0	3	0	0	0.00	0.00	0.00
86	2	14	1	1	12.50	6.25	6.25
87	3	11	1	3	21.43	7.14	21.43
88	4	1	0	0	80.00	0.00	0.00
89	7	17	4	2	29.17	16.67	8.33
90	2	9	0	0	18.18	0.00	0.00
91	0	5	1	0	0.00	20.00	0.00
92	7	8	0	0	46.67	0.00	0.00

Field	*Tools*	*Debitage*	*Cores*	*Scrapers*	*% Tools vs Debitage*	*% Cores vs All*	*% Scrapers vs All*
93	38	58	2	10	39.58	2.08	10.42
94	8	22	0	3	26.67	0.00	10.00
95	2	6	0	1	25.00	0.00	12.50
96	0	5	0	0	0.00	0.00	0.00
97	2	6	1	0	25.00	12.50	0.00
98	11	10	2	6	52.4	9.5	28.6
99	0	1	0	0	0.00	0.00	0.00
100	12	42	1	1	22.22	1.85	1.85
101	6	15	1	2	28.57	4.76	9.52
102	7	34	0	1	17.07	0.00	2.44
1001	17	28	2	3	37.78	4.44	6.67
1002	2	26	4	0	7.14	14.29	0.00
1003	1	3	0	0	25.00	0.00	0.00
1004	3	7	1	0	30.00	10.00	0.00
1007	1	0	0	0	100.00	0.00	0.00
1008	14	50	8	1	21.88	12.50	1.56
1009	11	22	1	2	33.33	3.03	6.06
1010	4	28	1	3	12.50	3.13	9.38
1011	14	21	2	4	40.00	5.71	11.43
1012	6	50	3	5	10.71	5.36	8.93
1013	0	2	0	0	0.00	0.00	0.00
1014	5	16	1	2	23.81	4.76	9.52
1015	18	58	6	4	23.68	7.89	5.26
1016	7	28	2	4	20.00	5.71	11.43
1017	13	48	5	2	21.31	8.20	3.28
1018	4	12	2	4	25.00	12.50	25.00
1019	4	8	1	2	33.33	8.33	16.67
1020	15	16	4	3	48.39	12.90	9.68
1021	1	10	0	0	9.09	0.00	0.00
1022	3	5	1	1	37.50	12.50	12.50
1023	6	9	3	2	40.00	20.00	13.33
1025	57	240	25	10	19.19	8.42	3.37
1026	47	122	13	11	27.22	7.69	6.51
1027	15	17	2	1	46.88	6.25	3.13
1028	5	8	0	1	38.46	0.00	7.69
1029	17	42	7	3	28.81	11.86	5.08
1030	9	34	1	0	20.93	2.33	0.00
1031	29	129	17	1	18.35	10.76	0.63
1032	38	89	6	7	29.92	4.72	5.51
1033	1	1	0	1	50.00	0.00	50.00
1034	2	2	0	1	50.00	0.00	25.00
1035	86	163	23	3	34.54	9.24	1.20
1037	17	28	7	6	37.78	15.56	13.33

Appendix E: Tables of Artefact Densities per Hectare by Raw Material and Artefact Category

Field	*Total*	*Flint (total)*	*Chert (total)*	*Flint*			*Chert*			*Tools*	*Debitage*	*Cores*	*Scrapers*
				Translucent	*Wolds*	*Other*	*Black*	*Grey Shiny*	*Other*				
1	13.93	13.11	0.82	5.19	1.64	6.28	0.82	0.00	0.00	5.46	8.47	0.82	1.09
2	1.91	1.57	0.35	0.52	0.17	0.87	0.00	0.00	0.35	1.04	0.87	0.35	0.00
3	2.97	2.12	0.85	0.00	0.42	1.69	0.00	0.42	0.42	1.27	1.69	0.00	0.00
4	3.05	2.54	0.51	1.02	0.00	1.52	0.00	0.00	0.51	1.02	2.03	0.00	0.00
5	1.72	1.72	0.00	0.86	0.00	0.86	0.00	0.00	0.00	0.86	0.86	0.00	0.00
6	90.03	82.70	7.07	11.74	29.67	41.29	4.04	0.63	2.40	17.30	72.73	8.84	3.28
7	16.91	15.60	1.31	2.96	7.88	4.76	0.16	0.33	0.82	3.12	13.79	1.31	0.82
8	24.92	23.57	1.35	3.70	4.04	15.82	1.01	0.00	0.34	9.43	15.49	1.68	2.36
9	21.49	17.77	3.72	5.79	4.13	7.85	0.83	0.83	2.07	8.68	12.81	0.41	1.24
10	27.95	25.98	1.97	9.06	6.69	10.24	0.00	0.79	1.18	12.60	15.35	0.39	1.97
11	21.29	19.61	1.68	4.20	2.52	12.89	0.28	0.84	0.56	8.68	12.61	0.56	0.84
12	19.44	17.78	1.67	1.11	5.56	11.11	0.56	0.00	1.11	9.44	10.00	0.56	1.11
13	90.08	86.78	3.31	14.05	20.66	52.07	0.83	0.83	1.65	31.40	58.68	0.00	7.44
14	26.86	24.00	2.86	7.43	6.86	9.71	2.86	0.00	0.00	5.14	21.71	1.14	0.57
15	1.59	1.06	0.53	0.00	0.79	0.26	0.26	0.00	0.26	0.79	0.79	0.00	0.26
16	3.00	2.83	0.17	1.00	0.50	1.33	0.17	0.00	0.00	1.16	1.83	0.17	0.50
17	9.48	6.55	2.71	1.13	1.81	3.61	0.90	1.35	0.45	1.58	7.90	1.13	0.45
18	2.73	1.24	1.49	0.25	0.00	0.99	1.49	0.00	0.00	0.99	1.74	0.00	0.50
19	2.21	2.21	0.00	0.74	0.00	1.47	0.00	0.00	0.00	0.74	1.47	0.74	0.00
20	3.59	2.84	0.75	0.75	0.30	1.80	0.30	0.45	0.00	0.90	2.69	0.45	0.30
21	5.81	4.84	0.97	0.97	0.32	3.55	0.65	0.32	0.00	1.61	4.19	0.65	0.00
23	1.47	0.74	0.74	0.00	0.74	0.00	0.74	0.00	0.00	1.47	0.00	0.00	0.00
24	10.67	7.00	3.67	2.33	0.67	4.00	3.00	0.33	0.33	3.00	7.67	1.00	0.33
25	5.39	4.49	0.90	1.35	1.12	2.02	0.67	0.22	0.00	2.70	2.70	0.22	0.67
26	0.79	0.79	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00
27	3.25	1.75	1.50	0.50	0.25	1.00	1.50	0.00	0.00	2.00	1.25	0.75	0.75
28	13.45	8.40	5.04	1.96	1.96	4.48	4.20	0.56	0.28	3.36	10.08	0.56	1.40
29	3.31	1.55	1.66	0.22	0.99	0.33	1.22	0.11	0.33	1.55	1.77	0.22	0.22
30	1.43	0.36	1.08	0.00	0.00	0.36	1.08	0.00	0.00	0.36	1.08	0.72	0.36
32	1.06	0.26	0.79	0.00	0.00	0.26	0.53	0.00	0.26	0.26	0.79	0.00	0.00
33	1.80	1.50	0.30	0.00	1.20	0.30	0.30	0.00	0.00	0.60	1.20	0.30	0.00

Field	Total	Flint (total)	Chert (total)	Flint			Chert			Tools	Debitage	Cores	Scrapers
				Translucent	Wolds	Other	Black	Grey Shiny	Other				
34	2.60	2.27	0.32	1.30	0.00	0.97	0.00	0.32	0.00	0.97	1.62	0.00	0.00
35	2.37	2.37	0.00	0.00	0.59	1.78	0.00	0.00	0.00	0.59	1.78	0.00	0.59
36	7.26	6.15	1.12	1.12	4.47	0.56	0.00	0.56	0.56	0.56	6.70	0.56	0.00
37	3.45	3.45	0.00	0.00	1.15	2.30	0.00	0.00	0.00	0.57	2.87	0.00	0.00
38	2.56	1.71	0.85	0.85	0.00	0.85	0.85	0.00	0.00	0.00	2.56	1.71	0.00
39	2.50	1.67	0.83	0.42	0.00	1.25	0.42	0.00	0.42	0.83	1.67	0.00	0.00
40	3.25	2.85	0.41	1.22	0.41	1.22	0.41	0.00	0.00	1.63	1.63	0.00	0.41
41	8.63	7.55	1.08	1.44	3.60	2.52	0.36	0.00	0.72	2.88	5.76	0.72	0.36
43	37.53	32.24	5.29	7.81	5.29	19.14	1.76	1.76	1.76	7.56	29.97	5.54	0.76
44	8.00	6.67	1.33	1.33	1.33	4.00	1.33	0.00	0.00	4.00	4.00	0.00	2.67
45	10.56	10.56	0.00	2.48	1.24	6.83	0.00	0.00	0.00	2.48	8.07	0.62	0.62
46	5.53	4.92	0.41	1.02	1.02	2.87	0.20	0.00	0.20	2.05	3.48	0.20	0.20
47	60.06	51.89	8.18	11.01	16.98	23.90	3.77	0.94	3.46	11.95	48.11	3.46	1.57
48	3.21	2.14	1.07	0.36	0.00	1.78	0.71	0.18	0.18	0.89	2.32	0.00	0.36
49	2.10	1.57	0.52	0.79	0.00	0.79	0.52	0.00	0.00	1.05	1.05	0.00	0.26
50	6.12	6.12	0.00	2.33	0.87	2.92	0.00	0.00	0.00	1.17	4.96	0.00	0.87
51	3.81	3.81	0.00	2.38	0.00	1.43	0.00	0.00	0.00	0.95	2.86	0.00	0.00
52	1.20	1.20	0.00	0.60	0.00	0.60	0.00	0.00	0.00	0.60	0.60	0.00	0.60
53	5.52	5.52	0.00	1.10	0.55	3.87	0.00	0.00	0.00	1.66	3.87	0.00	0.55
54	1.90	1.90	0.00	1.27	0.63	0.00	0.00	0.00	0.00	1.27	0.63	0.00	0.00
55	0.56	0.56	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.56	0.00	0.00
56	27.31	24.10	3.21	8.43	8.43	7.23	1.61	0.80	0.80	4.02	23.29	0.40	0.00
57	8.18	5.91	2.27	2.73	1.82	1.36	2.27	0.00	0.00	1.36	6.82	0.45	0.00
58	2.73	1.52	1.21	0.30	0.00	1.21	1.21	0.00	0.00	0.61	2.12	0.30	0.00
59	9.06	7.44	1.62	2.91	1.29	3.24	1.62	0.00	0.00	3.56	5.50	0.65	0.65
60	6.88	5.82	1.06	2.65	0.26	2.91	1.06	0.00	0.00	2.65	4.23	0.26	0.53
61	3.93	3.28	0.66	1.31	0.66	1.31	0.33	0.33	0.00	1.31	2.62	0.33	0.66
62	21.10	16.06	5.05	11.47	1.83	2.75	3.67	0.00	1.38	7.34	13.76	0.46	2.75
63	6.98	4.65	2.33	2.33	0.00	2.33	1.16	0.00	1.16	3.49	3.49	1.16	2.33
64	30.62	29.07	1.55	9.69	2.33	17.05	0.39	0.39	0.78	7.36	23.26	2.71	0.78
65	24.40	23.81	0.60	7.44	1.49	14.88	0.30	0.00	0.30	6.25	18.15	0.30	1.49
66	5.01	3.83	1.18	2.06	0.88	0.88	0.88	0.00	0.29	1.47	3.54	0.29	0.29
67	3.13	2.08	1.04	1.04	0.00	1.04	0.52	0.52	0.00	0.00	3.13	0.52	0.00

Field	Total	Flint (total)	Chert (total)	Flint			Chert			Tools	Debitage	Cores	Scrapers
				Translucent	Wolds	Other	Black	Grey Shiny	Other				
68	0.78	0.78	0.00	0.26	0.26	0.26	0.00	0.00	0.00	0.52	0.26	0.26	0.26
69	52.00	46.91	4.36	21.82	5.82	19.27	2.91	0.73	0.73	14.18	37.82	4.36	2.55
70	16.51	16.51	0.00	6.42	6.42	3.67	0.00	0.00	0.00	5.50	11.01	0.00	0.92
71	4.76	3.81	0.95	1.90	1.90	0.00	0.00	0.00	0.95	1.90	2.86	0.00	0.00
72	4.98	3.91	1.07	0.71	0.36	2.85	0.00	0.36	0.71	2.14	2.85	0.71	1.07
73	6.45	6.45	0.00	3.23	0.00	3.23	0.00	0.00	0.00	0.81	5.65	1.61	0.00
74	5.35	5.03	0.31	1.26	1.89	1.89	0.00	0.31	0.00	1.26	4.09	0.00	0.63
75	4.84	4.62	0.22	2.86	1.21	0.55	0.00	0.11	0.11	2.42	2.42	0.22	1.10
76	6.97	6.54	0.44	1.53	0.44	4.58	0.22	0.00	0.22	1.74	5.23	0.22	0.65
77	3.73	3.11	0.62	0.62	1.86	0.62	0.00	0.00	0.62	1.86	1.86	0.00	0.00
78	12.14	10.98	1.16	5.78	0.58	4.62	1.16	0.00	0.00	2.89	9.25	0.00	0.00
79	13.58	12.96	0.62	6.79	1.23	4.94	0.00	0.00	0.62	9.88	3.70	0.00	4.32
80	2.17	2.17	0.00	0.00	1.44	0.72	0.00	0.00	0.00	2.17	0.00	0.00	1.08
81	0.18	0.18	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.18	0.00	0.00
82	1.95	1.75	0.10	0.72	0.31	0.72	0.00	0.00	0.10	0.82	1.13	0.00	0.62
85	0.80	0.80	0.00	0.27	0.00	0.53	0.00	0.00	0.00	0.00	0.80	0.00	0.00
86	8.42	8.42	0.00	3.16	0.53	4.74	0.00	0.00	0.00	1.05	7.37	0.53	0.53
87	7.22	6.70	0.52	1.03	0.00	5.67	0.00	0.00	0.52	1.55	5.67	0.52	1.55
88	2.45	1.96	0.49	0.49	0.49	0.98	0.00	0.00	0.49	1.96	0.49	0.00	0.00
89	6.17	5.91	0.26	2.06	0.77	3.08	0.26	0.00	0.00	1.80	4.37	1.03	0.51
90	2.00	1.82	0.18	0.36	0.00	1.45	0.18	0.00	0.00	0.36	1.64	0.00	0.00
91	0.77	0.61	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.77	0.15	0.00
92	2.84	2.46	0.38	0.76	0.00	1.70	0.38	0.00	0.00	1.32	1.51	0.00	0.00
93	8.04	7.45	0.50	2.01	0.25	5.19	0.25	0.00	0.25	3.18	4.86	0.17	0.84
94	2.63	2.19	0.44	0.44	0.26	1.49	0.18	0.09	0.18	0.70	1.93	0.00	0.26
95	2.00	1.75	0.00	0.00	0.00	1.75	0.00	0.00	0.00	0.50	1.50	0.00	0.25
96	1.52	1.52	0.00	0.30	0.00	1.22	0.00	0.00	0.00	0.00	1.52	0.00	0.00
97	3.17	3.17	0.00	0.00	0.00	3.17	0.00	0.00	0.00	0.79	2.38	0.40	0.00
98	5.26	3.01	2.25	0.50	0.50	2.01	1.75	0.00	0.50	2.76	2.51	0.50	1.50
99	1.09	1.09	0.00	1.09	0.00	0.00	0.00	0.00	0.00	0.00	1.09	0.00	0.00
100	19.78	19.41	0.37	6.59	0.00	12.82	0.00	0.00	0.37	4.40	15.38	0.37	0.37
101	14.58	13.89	0.69	2.78	0.69	10.42	0.00	0.00	0.69	4.17	10.42	0.69	1.39
102	14.04	13.36	0.68	3.77	0.68	8.90	0.34	0.00	0.34	2.40	11.64	0.00	0.34

Field	Total	Flint (total)	Chert (total)	Flint			Chert			Tools	Debitage	Cores	Scrapers
				Translucent	Wolds	Other	Black	Grey Shiny	Other				
1001	12.57	10.34	1.96	2.79	1.96	5.59	0.84	0.84	0.28	4.75	7.82	0.56	0.84
1002	26.67	19.05	7.62	4.76	0.00	14.29	6.67	0.00	0.95	1.90	24.76	3.81	0.00
1003	7.69	5.77	1.92	1.92	3.85	0.00	0.00	0.00	1.92	1.92	5.77	0.00	0.00
1004	13.70	10.96	2.74	2.74	0.00	8.22	1.37	0.00	1.37	4.11	9.59	1.37	0.00
1007	1.33	1.33	0.00	0.00	0.00	1.33	0.00	0.00	0.00	1.33	0.00	0.00	0.00
1008	36.99	35.26	1.73	8.67	11.56	15.03	1.73	0.00	0.00	8.09	28.90	4.62	0.58
1009	14.04	12.77	1.28	3.40	0.85	8.51	0.43	0.00	0.85	4.68	9.36	0.43	0.85
1010	14.16	10.62	3.54	1.33	1.33	7.96	0.44	1.33	1.77	1.77	12.39	0.44	1.33
1011	8.84	8.08	0.76	2.78	2.02	3.28	0.51	0.00	0.25	3.54	5.30	0.51	1.01
1012	14.29	11.99	2.30	3.06	2.81	6.12	0.77	0.77	0.77	1.53	12.76	0.77	1.28
1013	1.16	0.58	0.58	0.58	0.00	0.00	0.58	0.00	0.00	0.00	1.16	0.00	0.00
1014	8.14	6.59	1.55	1.16	1.55	3.88	1.16	0.00	0.39	1.94	6.20	0.39	0.78
1015	18.31	14.46	3.61	2.65	1.69	10.12	1.20	0.24	2.17	4.34	13.98	1.45	0.96
1016	9.14	7.83	1.31	1.83	0.00	6.01	0.26	0.52	0.52	1.83	7.31	0.52	1.04
1017	19.49	17.57	1.92	5.75	0.96	10.86	0.96	0.32	0.64	4.15	15.34	1.60	0.64
1018	7.80	6.34	1.46	0.98	0.98	4.39	1.46	0.00	0.00	1.95	5.85	0.98	1.95
1019	9.84	4.92	4.92	0.00	0.00	4.92	3.28	0.00	1.64	3.28	6.56	0.82	1.64
1020	3.89	2.76	1.13	1.26	0.63	0.88	0.50	0.25	0.38	1.88	2.01	0.50	0.38
1021	3.28	1.49	1.79	0.60	0.00	0.90	1.19	0.00	0.60	0.30	2.99	0.00	0.00
1022	2.68	2.68	0.00	1.00	1.00	0.67	0.00	0.00	0.00	1.00	1.67	0.33	0.33
1023	3.75	2.00	1.75	0.25	0.50	1.25	0.50	0.00	1.25	1.50	2.25	0.75	0.50
1025	65.27	58.68	6.59	17.14	3.52	38.02	3.08	0.44	3.08	12.53	52.75	5.49	2.20
1026	71.01	62.61	7.98	26.89	3.78	31.93	2.94	2.52	2.52	19.75	51.26	5.46	4.62
1027	7.08	6.86	0.22	1.77	0.22	4.87	0.00	0.00	0.22	3.32	3.76	0.44	0.22
1028	7.14	4.95	2.20	1.10	0.00	3.85	0.55	0.00	1.65	2.75	4.40	0.00	0.55
1029	17.56	15.48	2.08	6.25	0.60	8.63	0.00	0.30	1.79	5.06	12.50	2.08	0.89
1030	20.98	18.05	2.93	5.85	0.49	11.71	0.49	1.46	0.98	4.39	16.59	0.49	0.00
1031	156.44	140.59	14.85	28.71	5.94	105.94	1.98	4.95	7.92	28.71	127.72	16.83	0.99
1032	67.91	45.45	22.46	10.70	2.14	32.62	13.37	4.81	4.28	20.32	47.59	3.21	3.74
1033	0.67	0.67	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.34	0.34	0.00	0.34
1034	1.59	1.19	0.40	0.00	0.00	1.19	0.00	0.40	0.00	0.79	0.79	0.00	0.40
1035	82.45	59.60	22.52	23.18	2.98	33.44	12.25	4.64	5.63	28.48	53.97	7.62	0.99
1037	12.71	8.76	3.95	2.26	0.56	5.93	2.54	0.28	1.13	4.80	7.91	1.98	1.69

Appendix F: 'Elaborate' Items and Arrowheads per Field Group (with assemblages of 40 or more pieces)

Area	*Field Group*	*Number of 'Elaborate' Items*	*Number per Hectare*	*% of Finds in Group*	*Number of Transverse Arrowheads*	*Number per Hectare*	*Number of Leaf-shaped Arrowheads*	*Number per Hectare*	*Number of Barbed and Tanged Arrowheads*	*Number per Hectare*	*Number of Microliths and Backed Blades*	*Number per Hectare*
A	69	0	0	0	-	-	-	-	-	-	1	0.4
A	1	0	0	0	1	0.3	-	-	-	-	-	-
A	75	3	0.3	6.8	-	-	1	0.1	-	-	-	-
A	8	1	0.3	1.3	1	0.3	-	-	1	0.3	1	0.3
A	43	0	0	0	-	-	-	-	-	-	-	-
B	93-94	5	0.2	4.0	2	0.1	-	-	1	0.1*	1	0.1*
B	6-7, 47, 56, 1025-29	7	0.2	0.4	11	0.4	4	0.1	-	-	7	0.3
B	9-13	8	0.7	2.3	10	0.9	2	0.2	-	-	3	0.3
B	1030	2	1.0	4.7	-	-	1	0.5	-	-	1	0.5
B	71, 1002, 1031	0	0	0	-	-	-	-	-	-	3	1.0
C	64, 73, 100-02	4	0.4	2.0	-	-	1	0.1	-	-	-	-
C	46, 88. 1003-05	0	0	0	-	-	-	-	-	-	-	-
C	65, 70, 72	4	0.6	3.5	1	0.1	-	-	-	-	1	0.1
C	1001	3	0.8	6.7	1	0.3	-	-	-	-	-	-
D	1032, 1035	5	1.0	1.3	3	0.6	-	-	-	-	1	0.2
D	62, 92	1	0.1	1.5	-	-	-	-	-	-	-	-
E	59, 98	0	0	0	1	0.1	-	-	-	-	-	-
E	77-79	1	0.2	2.0	1	0.2	-	-	-	-	-	-
E	76, 1019	0	0	0	-	-	-	-	-	-	-	-
G	14	0	0	0	-	-	-	-	1	0.6	-	-
G	17	0	0	0	-	-	-	-	-	-	-	-
G	20, 25	1	0.1	2.1	-	-	1	0.1	-	-	-	-
G	28	1	0.3	2.1	-	-	-	-	-	-	-	-
G	21, 24, 67	0	0	0	-	-	1	0.1	-	-	-	-
G	26-27, 29, 95, 1023	0	0	0	-	-	-	-	-	-	-	-
G	89, 1015-16, 1022	2	0.1	1.4	1	0.1	1	0.1	1	0.1	-	-
G	1037	0	0	0	-	-	-	-	-	-	-	-
G	1017-18	2	0.4	2.6	-	-	1	0.2	-	-	-	-
I	33, 1008-10	1	0.1	0.7	-	-	-	-	1	0.1	1	0.1
J	34-38	1	0.1	2.9	1	0.1	-	-	-	-	-	-
K	51, 74, 1011-12, 1014	4	0.4	2.9	1	0.1	1	0.1	-	-	-	-

* Value less than 0.05

Appendix G: 'Elaborate' Items and Arrowheads per Zone

Zone	*Area*	*Total Finds per Hectare*	*Number of 'elaborate' Items*	*Number per Hectare*	*% of Finds in Zone*	*Number of Transverse Arrowheads*	*Number per Hectare*	*Number of Leaf-shaped Arrowheads*	*Number Number of Barbed and Tanged*	*Arrowheads per Hectare*	*Number per Hectare*	*Number of Microliths and Backed Blades*	*Number per Hectare*
Limestone Plateau	A	11.2	6	0.1	1.1	2	0.04	1	0.02	1	0.02	6	0.12
Limestone Plateau	C	11.0	11	0.3	2.6	3	0.08	1	0.03	-	0	1	0.03
Limestone Plateau	D	20.5	6	0.2	1.2	3	0.12	-	0	-	0	2	0.08
Limestone Plateau	E	6.1	1	0.03	0.6	2	0.07	-	0	-	0	-	0
Sub-Total													
Limestone Plateau	A, C-E	11.6	24	0.2	1.5	10	0.07	2	0.01	1	0.01	9	0.06
Arbor Low	B	35.0	22	0.3	0.9	23	0.34	7	0.10	1	0.01	15	0.22
TOTALS													
Limestone Plateau	A-E	19.1	46	0.2	1.2	33	0.16	0.16	0.04	2	0.01	24	0.12
Shale Valleys	F-H	6.0	6	0.05	0.8	1	0.01	0.01	0.03	2	0.02	-	0
Gritstone Upland	I-K	5.3	6	0.08	1.5	2	0.03	0.03	0.01	1	0.01	1	0.01

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Many people from Arteamus and their guests walked fields between 1997 and 2003, and categorised each of the 1997-2003 finds under supervision of Mark Edmonds and John Barnatt. The field recording sheets name Paul Ardron, Paul Ash, Pauline Ashmore, Nadia Bagwell, Talya Bagwell, Diane Badger, Alicia Barber, Terry Barber, John Barnatt, Phil Barratt, Eileen Beech, Paul Capewell, Philip Capewell, Richard Carr, Mark Chelsea Smith , Malcolm Clarke, Ann Collier, Sue Collier, Ken Dash, Lucy Dash, Kathryn Denning, Lillian Deighton, Karen Deighton, Ashley Edwards, Kathryn Ellerby, Laura Ellerby, Paul Ellerby, Tom Ellerby, Eric English, Chris Flude, Lyn Flude, Bill Frazer, Jan Fuller, Teresa Games, Ian Geary, Peter Geary, Amy Griffiths, Pru Goodman, Mark Goodwill, Jill Gorvett, Paul Hadwin, Andrew Hall, Ann Hall, Anne-Marie Heath, Danny Hind, Nick Hulme, Tracey Hulme, John Hughes, Barbara Jones, Willy Kitchen, Nick Landon, Liz Landon, Andy Law, Stephen Leech, Chris Lemke, Derwent Levick, Rowan May, Bryan Metcalf, Stella McGuire, Pam McInally,

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The Arteamus walking coordinators were Pauline Ashmore, Paul Capewell, Malcolm Clarke, Kathryn Ellerby, Eric English, Jill Gorvett, Ann Hall, Frank Robinson, Stella McGuire, Liz Palmer, Jan Stetka and Arthur Wilson.

Preliminary analyses of material from the first 1997-2003 fields walked were undertaken by research students at the archaeology department at Sheffield University, notably Danny Hind and Willie Kitchen who, in return for helping with fieldwork, had access to the material for their own PhD research projects. Later, Dave Piddock categorised all data in Fields 1-50 as a student project.

A smaller Arteamus team concentrated on final analysis of the finds, working with John Barnatt with advice from Mark Edmonds. These included Paul Ash, Ann Hall, Nick and Tracey Hulme, Nick Landon, Stella McGuire, Liz Palmer, Eileen Parker, Andi Payne and Richard Walker. The late Eileen Beech was a stalwart member of the team and her great enthusiasm for everything archaeological is sadly missed.

Gill Gorvett and Ann Hall of Arteamus carried out the mammoth jobs of cross-checking the records made and creating a digital archive of the data collected, including a master spread sheet and GIS based field plots. They were helped with these tasks by staff at the Peak District National Park Authority and Sheffield University, notably Tim Allen, Philippa Davey, Graham McElearney, Angie Johnson and Alice Ullathorne. Richard Walker of Arteamus took the lead in carrying out computer analysis of data sets and produced a multitude of histograms to illustrate trends. Ann Hall cross-checked the spread sheet for the 1997-2003 data, ironing out minor mistakes and inconsistencies that inevitable creep in with a data set of this size.

The 1980s collection was also re-examined by Ann Hall and John Barnatt, with advice from Mark Edmonds, to bring categorisation of this material into line with the 1997-2003 collection. Ann Hall also completed field biographies reported in the full version of the report lodged with the project archive by examining the 54 fields with relatively few finds, and also undertook a variety of other cross checking and data collection exercises as the report was being put together.

John Hunter of the Peak District National Park Authority commented on specific geological issues, while Daryl Garton and Clive Waddington discussed the interpretation of specific artefacts. Pauline Beswick provided details of the prehistoric pottery excavated in Field 65 at Monyash, with information on their context given by Frank Robinson.

Pauline Ashmore and latterly Nick Landon coordinated the meetings and booked rooms. Sheffield University provided these and the Peak District National Park Authority provided storage for the artefacts.

Drawings used in the report were compiled by John Barnatt with provision of digital data by Ann Hall and scanning by Angela Johnson. Photographs were taken by an Arteamus team, comprising Tracey and Nick Hulme, Andi Payne and John Barnatt, and the plates were compiled by Angela Johnson. A penultimate draft of the text was commented on by Paul Ash, Ann Hall, Nick Landon, Liz Palmer, Andi Payne and Richard Walker.

Inevitably in a project of such long duration, some people's names will have slipped through the net and we offer apologies to any we have inadvertently omitted.

Last but not least, we thank the many farmers who generously allowed us to walk their fields and retain the finds for study, sometimes showing great interest in what was found.

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