# Flint scatter at Priestley Farm, Flitwick


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*SUMMARY*

*A flint scatter site on the northern slope of the valley of the River Flit, to the west of Flitwick, was extensively sampled before and during construction of the Steppingley to Aylesbury natural gas pipeline. A large assemblage of flint tools and debitage was recovered, including pieces characteristic of both Mesolithic and later prehistoric technologies. Abandoned channels of the River Flit contained long sequences of peat which were sampled for pollen analysis, providing valuable evidence for the development of the later Holocene environment. There is some evidence for use of the site in the Middle Iron Age.*

*The flint assemblage indicates that Mesolithic activity was sporadic and probably seasonal, the variety of tools perhaps being more typical of small hunting groups rather than longer-term domestic occupation. Analysis of the spatial distribution of the flints indicates that there were specific centres of activity.*

*A high proportion of the assemblage consists of flint-working waste. Although this is difficult to date, there are indications that it mostly resulted from Bronze Age activity, otherwise represented by a number of diagnostic pieces, particularly arrowheads and scrapers. A few typical Neolithic forms were also recorded.*


## THE SITE

The site occupied parts of two arable fields between the River Flit and Church Road, west of Flitwick (Figs 1–2). The M1 motorway, 500m to the west beyond Priestley Plantation, separates the site from the village of Tingrith. Particularly during excavation, the site was commonly referred to as 'Tingrith' and this name persists in the titles of the specialist reports. From Church Road, the land initially drops very gently to the south, but beyond the boundary between the two fields there is a quite pronounced break of slope as the ground falls away to the south and east, towards the river.

This site was first discovered by members of the Ampthill and District Archaeological and Local History Society during the installation of the Southern Gas Feeder pipeline across the area in 1977 (Fadden 1991). However, because of a late change of route, the fieldwalking survey carried out by the society before construction of that pipeline did not cover the two fields containing the site, and the flint scatter was not identified until the topsoil had already been removed from the working width and the pipe-trench excavated. Although eighty-five pieces of struck flint, all believed to be of Mesolithic date, were recovered at this time, the significance of the site was not completely appreciated until the mid-1990s, when construction of another pipeline, from Steppingley in Bedfordshire to Aylesbury in Buckinghamshire, prompted the detailed study described here.

## STAGES OF INVESTIGATION

### Fieldwalking surveys

The significance of the flint scatter became apparent in the course of a fieldwalking survey carried out in the autumn of 1995, in advance of construction of the Steppingley to Aylesbury pipeline. In this survey, five parallel transects spaced 10m apart were walked, the central transect following

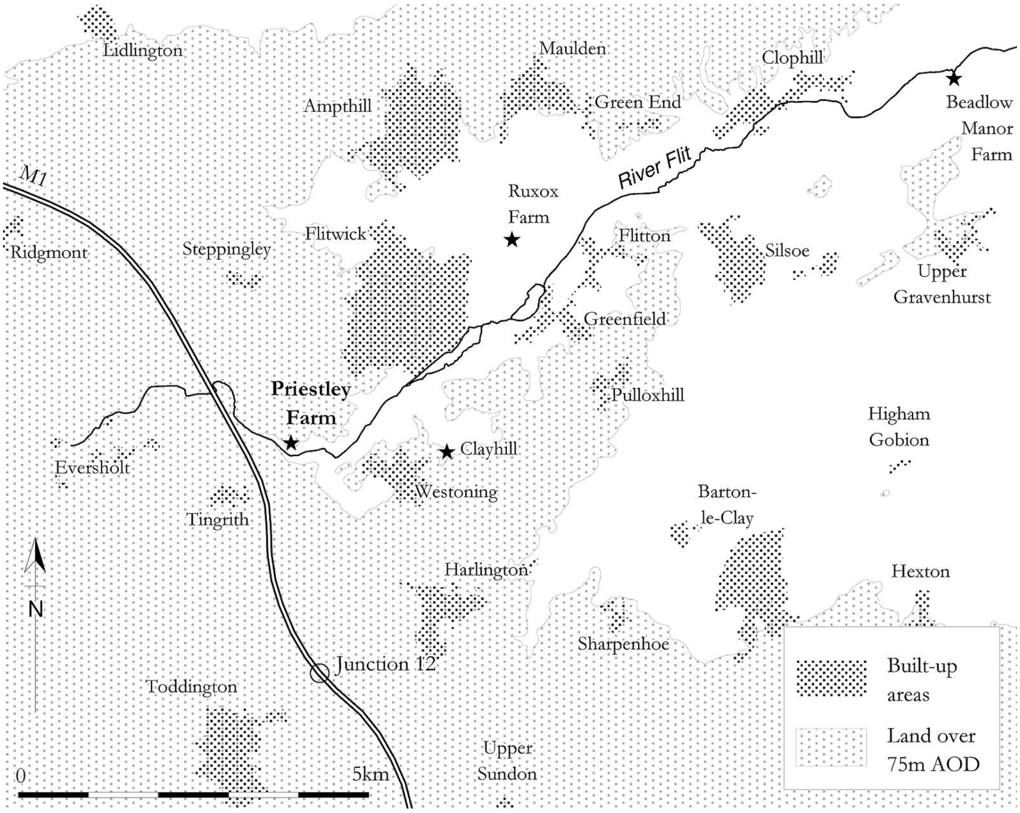



Figure 1: Location of the site, together with other sites in the area mentioned in the text

the proposed centreline of the pipe. A stretch of the route around 300m long yielded 217 pieces of struck flint, much of it recognisably Mesolithic in date.

An evaluation of the site carried out in 1996 consisted of more intensive fieldwalking, collecting all of the flint visible on the ploughed surface in three areas gridded into 5m squares. These areas (Figs 2–3) were oriented parallel to the field boundary crossing the site, in order to investigate the lateral extent of the flint scatter, as well as providing information about its north–south distribution. The three gridded areas covered a total of 4,275m$^2$, and produced 844 flints.

## Excavation of sample pits

The excavation of sample pits was carried out between December 1996 and February 1997. The area sampled was 280m long by 35m wide, the width being determined by the working width necessary for pipeline construction. This area was gridded out into 5m squares (Fig. 3), and the whole area fieldwalked, the finds being recorded by grid square. The results were used in the selection of squares in areas of highest concentration which were targeted for total excavation. In addition, further squares were selected randomly for 20% excavation.

All of the selected squares were subdivided into 1m squares. In the nine targeted squares, all twenty-five of the 1m squares were excavated. The twenty-one randomly selected squares were subsampled by randomly selecting five of their 1m squares for excavation. In total, the excavated 1m squares accounted for just under 2% of the total survey area. The 5m squares were referenced by letter (A to G) and number (1 to 56) and within each one the 1m squares were numbered from 1 to 25, starting at the north-west corner and running west to east, and north to south.

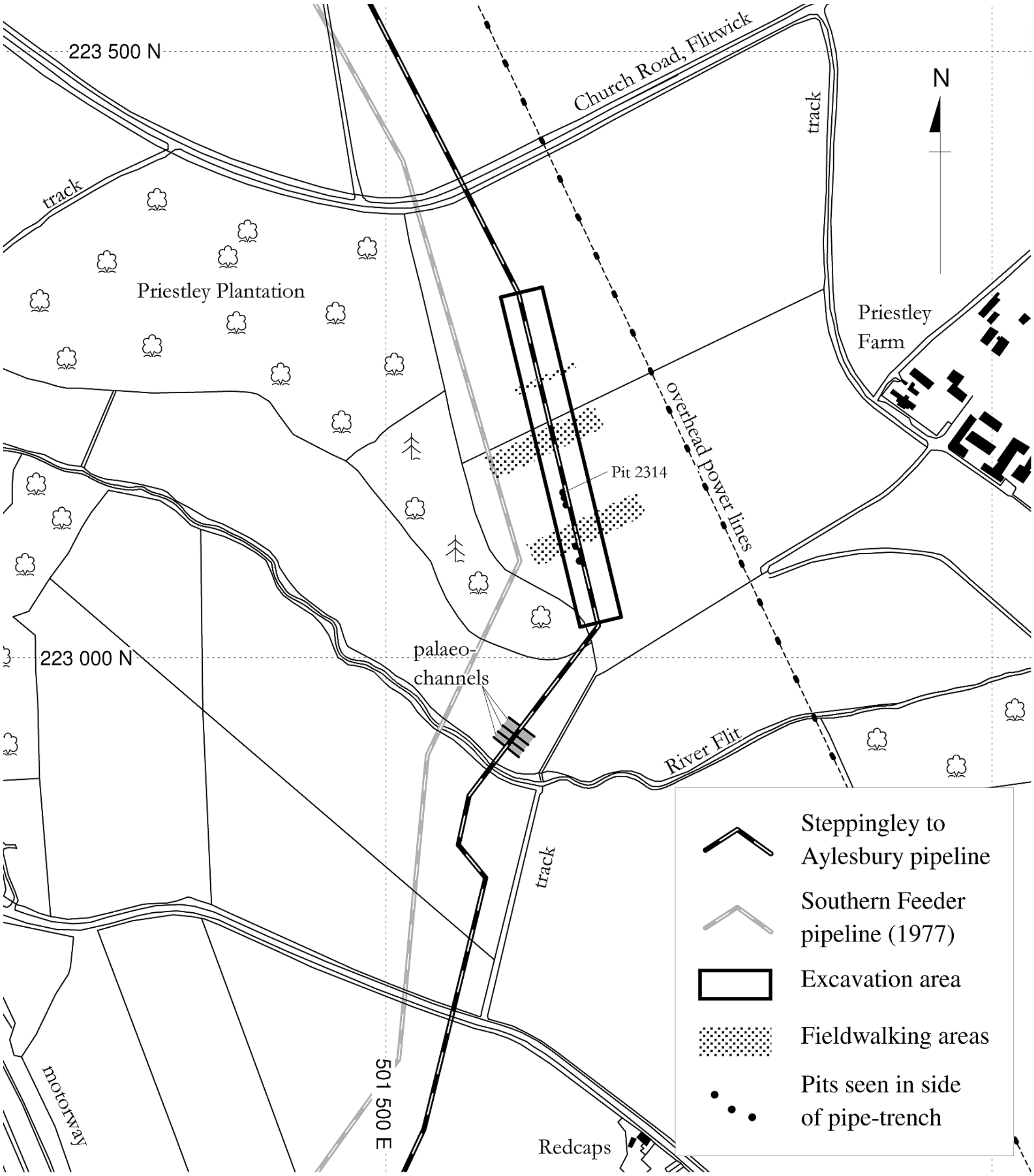



Figure 2: Location of fieldwalking and sample excavation areas, and of palaeochannels and pits recorded in the watching brief

The removed soil was passed through a 13mm mesh sieve into a wheelbarrow and then through a 6mm mesh sieve suspended from a scaffolding pole framework. The finds retrieved from the two sieves were separately bagged. Initially, a 3mm mesh was used, but it was found that the marginal improvement in retrieval of flints in comparison with the 6mm mesh was far outweighed by the increase in time taken, especially in the wet conditions prevailing during the winter of 1996–7. The recovered flints were identified by grid square, and notable individual pieces identified at this stage were given small find (SF) numbers. In all, 16,221 flints were recovered during this stage of work.

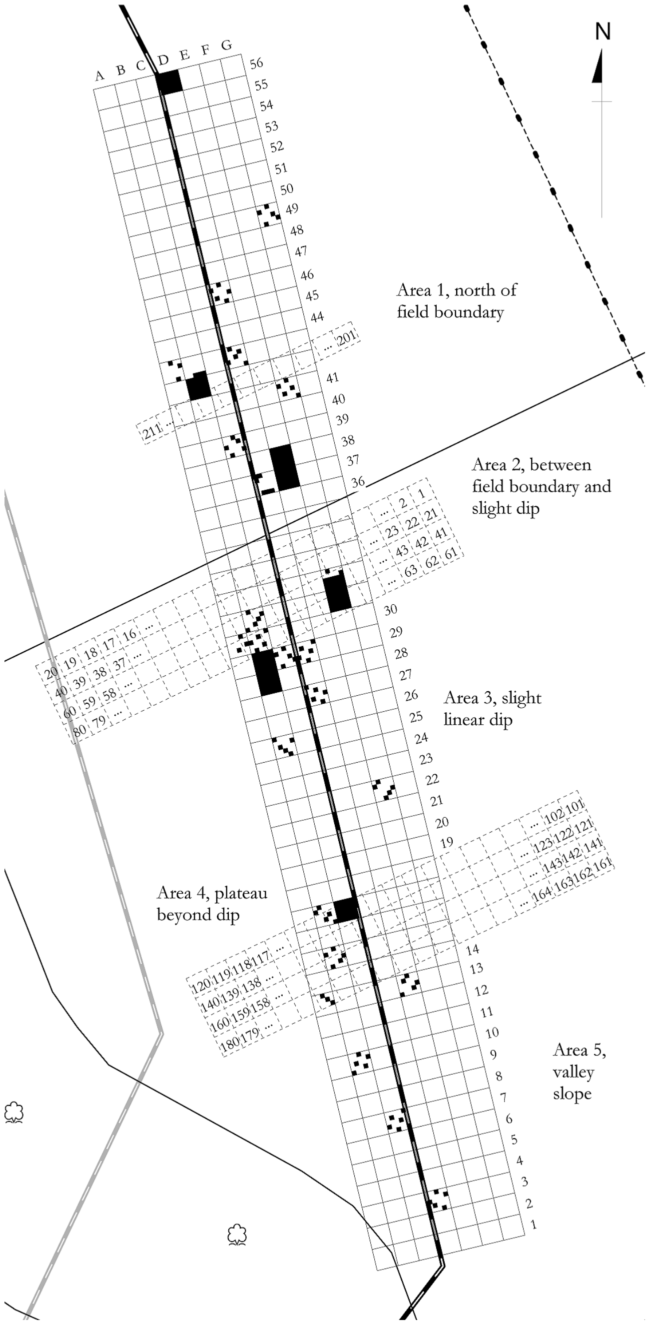



Figure 3: Fieldwalking and sample excavation grid squares, showing numbering, with excavated squares blacked in

In each of the excavated 1m squares, the dark grey topsoil was initially removed to reveal a pale, sandy subsoil. This was very similar in appearance to the natural subsoil but had inclusions of darker soil, decreasing with depth, indicating past disturbance. A 100mm spit of this subsoil was also removed and sieved. In a number of the sample squares, irregular features were recorded below the topsoil layer. On excavation, none of these produced any datable artefacts and they were interpreted as tree-throws or burnt-out stumps.

### Collection after topsoil removal

Topsoil was mechanically stripped from the site using a smooth-faced bucket immediately following completion of the sample pit excavations in early March 1997. No archaeological features were visible in the stripped surface. The surface and the heaps of removed topsoil were systematically searched, producing a further 785 pieces of struck flint from five broadly defined collection areas: the area to the north of the field boundary; the flattish area to the south of the field boundary; a slight linear hollow on the eastern side of the site; the area immediately beyond this hollow; and the slope down to the river (Fig. 3).

### Post-excavation assessment

All of the above stages of work were carried out by Engineering Archaeological Services (AES) who produced a post-excavation assessment (Brooks and Price 1997) in July 1997.

### Construction watching brief

Construction of the pipeline during the spring and summer of the same year allowed other elements of the immediate area to be investigated and recorded. The lower, southern end of the site was covered by a layer of sandy alluvium, and five small features, masked by this layer, were recorded when the pipe-trench was excavated. These were fairly irregular and may have been no more than tree-throws, similar to those recorded earlier in the northern part of the site, but one (pit 2314, Fig. 2) was notable for containing fifty sherds of a single pottery vessel. This heavy-rimmed vessel (Fig. 4) is decorated with rough vertical scores, typical of the Midlands Scored Ware (*e.g.* Breedon on the Hill, Leics, Kenyon 1950), and is therefore datable to the Middle Iron Age (Machling 1998).

The relatively fresh and unabraded nature of the pottery and the fact that the sherds were all from the same vessel indicate that they were dumped either within, or very close to the tree-throw, and that the hole filled fairly quickly after their deposition. Three flints found within the same fill as the pottery include a single, residual, Mesolithic cutting flake. In all, a further thirty-three flints were retrieved from the site during the watching brief.

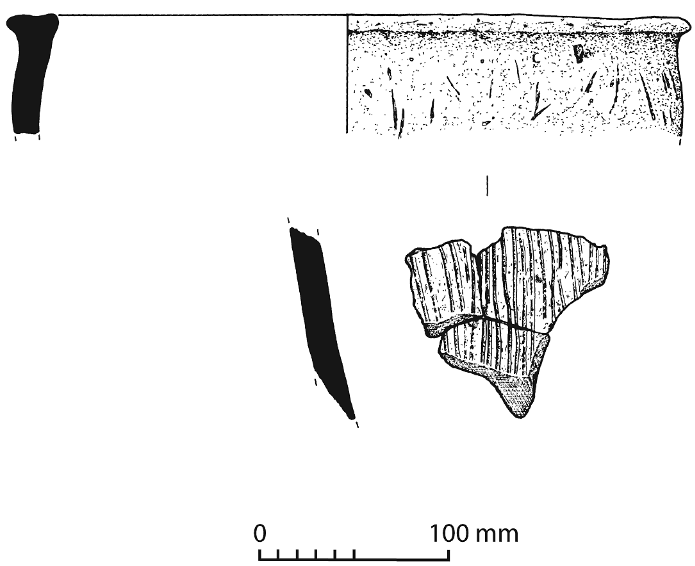



Figure 4: Iron Age pottery

Surface finds include a small amount of Late Bronze Age pottery.

Just to the south of the sample excavation area, the pipe-trench cut through a series of former channels of the River Flit, recorded as features 2317, 2323 and 2328 (Fig. 5). These contained stratified organic deposits sealed beneath layers of alluvium. Four column samples were taken through these layers for pollen analysis. Sub-samples of 2ml volume were taken from these column samples and prepared using standard procedures for the extraction of sub-fossil pollen and spores (Moore and Webb 1978; Moore *et al*. 1991).

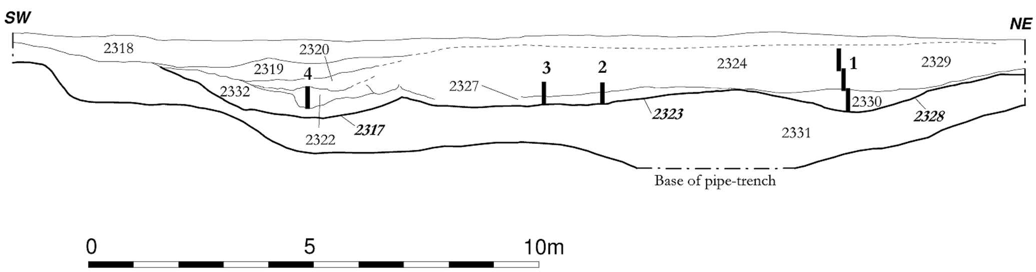
Seven peat samples, obtained from the monolith profiles at horizons of environmental change indicated by pollen analysis and stratigraphy, were submitted to Beta Analytic of Florida for radiocarbon measurement. These measurements have provided dates for changes in the successional vegetation of the early Holocene and for a principal hiatus in peat deposition.

## THE FLINT ASSEMBLAGE (Lynne Bevan and Julie Candy)

### INTRODUCTION

This section is based on specialist reports on the flint as a whole (Bevan and Candy 1999) and on the microwear analysis (Candy 1999). The total assemblage from all of the stages of work outlined above consists of 18,107 items of humanly struck flint, weighing over 60kg. The quantities from the different stages of work are summarised in Table 1. Selected flints are illustrated in Figures 6–9.

The earliest activity occurred during the Mesolithic period and is represented by blade cores, microliths and a burin. There seems to have been some activity during the Neolithic period, but the bulk of the assemblage, particularly the debitage, is believed to have been generated during the Early to Late Bronze Age. However, it was not possible to assign the majority of other retouched




| Layer | Description |
|---|---|
| 2318 | Mid- to dark orange-brown, oxidised, sandy loamy peat. |
| 2319 | Coarse white sand. |
| 2320 | Medium to coarse grey sand. |
| 2321 | Dark brown to black peat. |
| 2322 | Fine grey sand. |
| 2324 | Dark black-brown, sandy peat, ?same as layer 2329. |
| 2325 | Bands of white sand 0.02-0.05m thick. |
| 2326 | Mid black-grey, soft, humus rich peaty silt. |
| 2327 | Gravelly sand, grey silty bands, frequent flint gravels, ?same as fill 2330. |
| 2329 | Dark black-brown peat, ?same as layer 2324. |
| 2330 | Gravelly sand, grey silty bands, frequent flint gravels, reworked sand and gravel from layer 2331, ?same as fill 2327. |
| 2331 | Fluvio-glacial coarse sand, flint gravel and cobbles (diameter variable up to 0.15m). |

Figure 5: Section through palaeochannels 2317, 2323 and 2328, showing location of pollen sample sequences 1 to 4

| Stage of work | Site code | Total | Weight/g | Located by |
|---|---|---|---|---|
| Initial fieldwalking | SM1 96 | 217 | 462 | Measurement from field boundary |
| Evaluation fieldwalking | SA 96 | 844 | 2,348 | 5m square (1 to 211) |
| Fieldwalking excavation grids | LTNMG 96/116 | 1,775 | 4,291 | 5m square (*e.g.* 37B) |
| Sample pit excavation | | 14,446 | 45,611 | 1m square (*e.g.* 37B 12) |
| Collection after topsoil strip | | 785 | 8,445 | Area (1 to 5) |
| Watching brief | SAY 97 | 33 | 538 | Marked on 2500 strip map |
| Unallocated | | 7 | | Location lost or unrecorded |
| **Total** | | **18,107** | **61,764** | |

Table 1: Quantity of flints collected in each stage of work

or utilised pieces, especially single-episode tools, to a specific chronological period.

In considering the overall distribution of the flint, it is clear that there were several areas of concentrated activity. In the analyses described below, sample squares producing particularly large quantities of flint have been considered in greater detail and are designated as 'key grid squares'.

## Raw Material

The flint used is generally translucent, light to dark grey and brownish grey in colour, with some examples of an opaque blue-grey resulting from partial recortication. Occasional pieces of Greensand chert and pieces of a coarse, cream-coloured opaque material which is more like a coarser-grained rock than flint were noted in the assemblage, but these materials are too small in number to allow any spatial or numerical comparisons to be made. When present, the cortex is thin, brown, and compacted, characteristic of pebble flint from secondary deposits, the most probable source being local river gravels. Despite a prevalence of internal voids and crystalline inclusions which have resulted in a high incidence of hinge fractures, the quality of the flint is generally good and its appearance is almost exclusively glossy and fresh.

## Assemblage Composition

Unretouched flakes account for 80% of the total assemblage and unretouched blades over 15%. The remainder of the assemblage consists of lumps (1.3%), cores and core fragments (1.2%) and retouched tools, each class of which accounts for less than 1% of the total assemblage (Table 2).

| Class | Quantity | % |
|---|---|---|
| Arrowhead | 5 | 0.03 |
| Awl | 8 | 0.04 |
| Blade core fragment | 1 | 0.01 |
| Blade core trimming | 7 | 0.04 |
| Blade core | 37 | 0.20 |
| Blade-like flakes | 2,754 | 15.21 |
| Burin | 1 | 0.01 |
| Core | 103 | 0.57 |
| Core fragment | 80 | 0.44 |
| Core trimming | 13 | 0.07 |
| Denticulate | 9 | 0.05 |
| Denticulate/point | 1 | 0.01 |
| Flake | 14,484 | 79.99 |
| Hammerstone | 3 | 0.02 |
| Knife | 3 | 0.02 |
| Lump | 238 | 1.31 |
| Microburin | 2 | 0.01 |
| Microlith | 35 | 0.19 |
| Misc. pointed tool | 15 | 0.08 |
| Retouched blades | 55 | 0.30 |
| Retouched flakes | 156 | 0.86 |
| Scraper | 90 | 0.50 |
| Scraper/point | 1 | 0.01 |
| Serrated blades/flakes | 6 | 0.03 |
| **Total:** | **18,107** | **100.00** |

Table 2: Composition of the flint assemblage

## Recortication

Almost exactly two thirds of the pieces display some degree of recortication. Also known as 'patination' or 'cortication', recortication is a gradual opaque whitening which results from 'a complex range of factors, including chemical action, weathering, water and even light' (Edmonds 1995, 192) on decorticated struck flint. At least 80% of diagnostically Mesolithic flint classes — microliths, blades, blade-like flakes and Mesolithic-type cores — show total or partial recortication, compared to a much lower proportion, generally less than 40%, of those classes associated with later prehistory, such as barbed and tanged arrowheads, thumbnail and discoidal scrapers, and denticulates. These results support the suggestion that recortication might have been related to soil conditions prior to Neolithic deforestation, resulting in a higher incidence of recortication among Mesolithic flint than flint from subsequent periods (Lawrence Barfield pers. comm.).

Nearby, at Ruxox Farm, recortication was used as a general guide to the dating of a similarly mixed fieldwalking assemblage with some success, the diagnostically Mesolithic flints tending to be totally or heavily recorticated while the diagnostically later flints were 'mostly' un-recorticated (Fadden 1972, 81). However, the rule that 'recortication equals Mesolithic' is not universally true for Bedfordshire material: none of the diagnostically Mesolithic flints from Beadlow Manor Farm, Clophill, 2km further north-east of Ruxox Farm, exhibited any recortication (Fadden 1973, 131).

When the less chronologically diagnostic tool classes in the Priestley Farm assemblage, such as side scrapers and side-and-end scrapers, were considered, the degree of recortication was found to be significantly lower than that for Mesolithic material, despite a bias which creates an artificially high percentage of recortication among the more poorly represented tool classes. This tends to support the hypothesis that the bulk of the collection was generated from activities which took place during later periods. The proportions of recorticated flint within the key grid squares are within the range 56.78% (square 17C) to 71.16% (square 31F), conforming fairly closely to the overall average for the whole collection (66%), with the exception of square 29B which has a significantly lower percentage at 38.37%.

| Flint Class | No. recorticated | % of class |
|---|---|---|
| Discoidal scraper | 3 | 18.8 |
| Arrowhead | 1 | 20.0 |
| Thumbnail scraper | 2 | 22.2 |
| Side scraper | 2 | 33.3 |
| Scraper | 8 | 34.8 |
| Retouched flake | 69 | 44.2 |
| Denticulate | 4 | 44.4 |
| Misc. pointed tool | 7 | 46.7 |
| Non-Meso. core | 65 | 45.8 |
| Side and end scraper | 12 | 60.0 |
| End scraper | 10 | 62.5 |
| Lump | 149 | 62.6 |
| Hammerstone | 2 | 66.7 |
| Knife | 2 | 66.7 |
| Burin/microburin | 2 | 66.7 |
| Non-retouched flake | 9,096 | 62.8 |
| Retouched blade | 38 | 69.1 |
| Blade core | 31 | 81.6 |
| Meso. core fragment | 10 | 83.3 |
| Microlith | 30 | 85.7 |
| Bi. core trim/rejuv. | 6 | 85.7 |
| Meso. core | 25 | 86.2 |
| Awl | 7 | 87.5 |
| Non-retouched blades | 2,410 | 87.5 |
| Core trim/rejuv. flake | 12 | 92.3 |
| Denticulate/misc. point | 1 | 100.0 |

Table 3: Recorticated flint by class

## Tools

### *Microliths*

Thirty-five microliths are present, including fifteen obliquely blunted points and fourteen backed points. Figure 10 shows their distribution within the sample grid. Three isosceles triangles were identified: a backed blade and two unidentifiable fragments. While obliquely blunted points (*e.g.* Fig. 7:7–9) are common in Early Mesolithic assemblages, the generally small size of the microliths at Priestley Farm suggests a Later Mesolithic date: they are comparable in size to three Later Mesolithic microliths in the predominantly Early Mesolithic assemblage from New Plantation, Fyfield and Tubney, Oxfordshire (Bradley and Hey 1993, fig. 11:F12; fig. 12:F14–5). The presence of geometrically shaped microliths such as isosceles triangles (Fig. 7:6) in the Priestley Farm microlith assemblage is also indicative of a Later Mesolithic date.

### *Scrapers*

Ninety scrapers were identified (Fig. 11). Scrapers are generally not chronologically diagnostic tools, but there are two typically Early Bronze Age forms in the collection: discoidal scrapers, of which sixteen examples were identified, one of which has been illustrated (Fig. 9:25); and 'thumbnail' scrapers, nine examples of which were identified and two of which are illustrated (Fig. 9:26–7). The thumbnail scrapers tend to be small, with a rounded or roughly polygonal shape in plan, and exhibit a high ratio of retouched edge to flint surface area. This distinctive form of scraper is prevalent among Beaker-related industries (Healy 1986) and is not to be confused with typologically Mesolithic 'thumb' and 'button' scrapers known from central England (Saville 1972/3, 19; Saville 1973/4, 198–9, fig. 16:7), which, although small and generally round, tend to be more steeply retouched than the scrapers identified among the Priestley Farm assemblage.

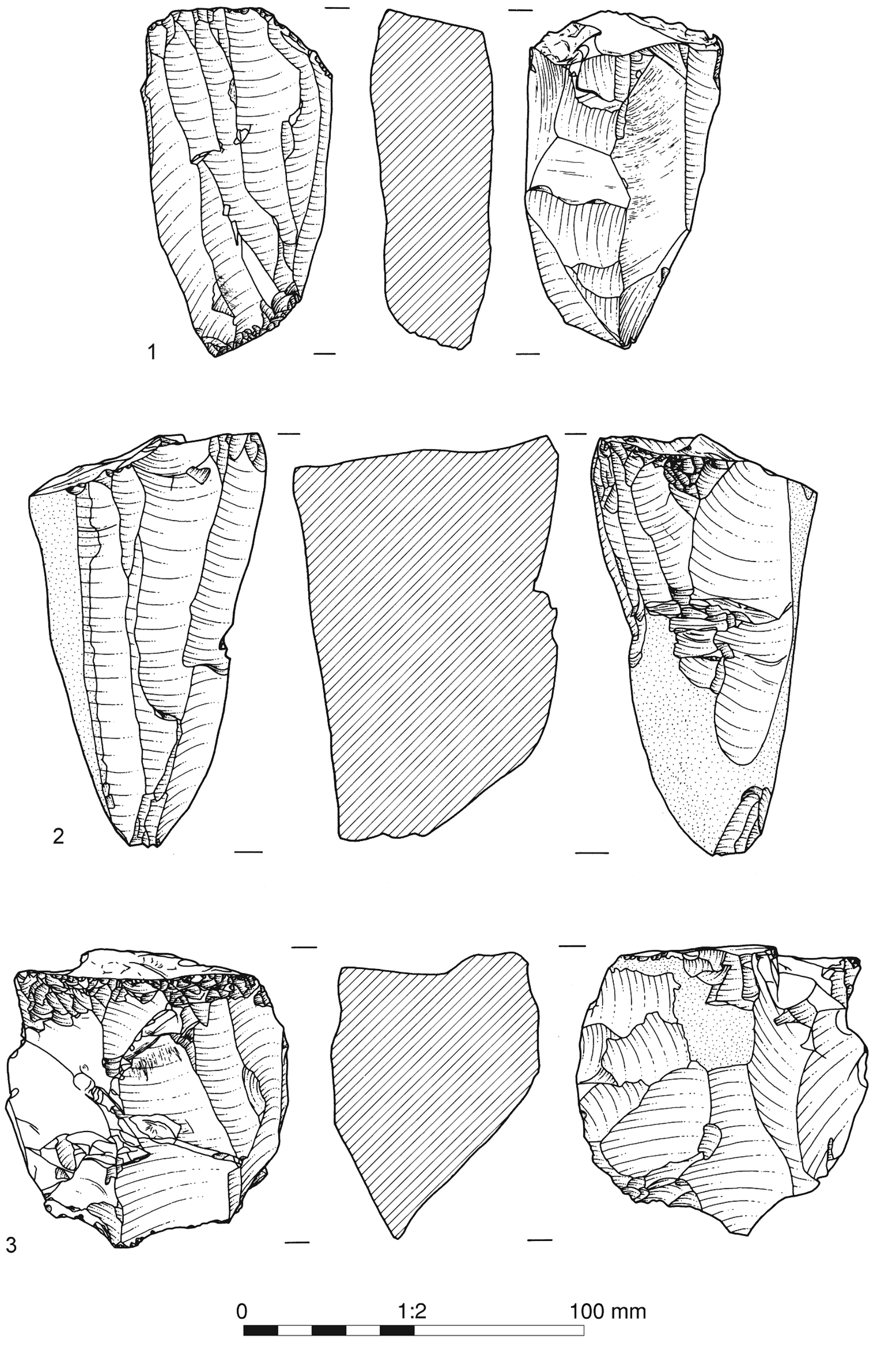



Figure 6: Flints, drawings 1 to 3

| No. | Location | Description |
|---|---|---|
| 1 | 29B 11 | Single-platformed, pyramidal blade core with hinge fractures; blue-grey colour resulting from partial recortication. |
| 2 | 49G 3 | Opposed platformed core with narrow blade detachments, opaque blue-grey/white, almost totally recorticated and partially burnt. |
| 3 | 49G 3 | Multi-platformed, light grey, partially recorticated flake core with hinge fractures. |

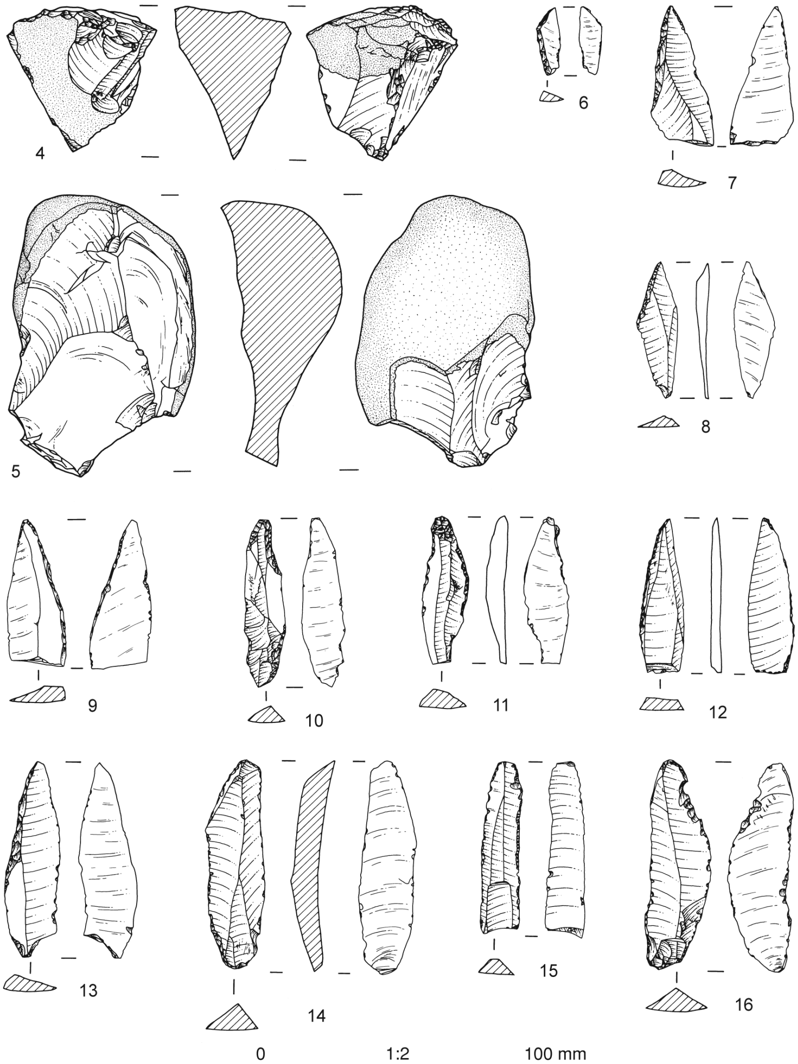



Figure 7: Flints, drawings 4 to 16

| No. | Location | Description |
|---|---|---|
| 4 | 56D 5 | Multi-platformed blade core with a large crystalline inclusion, light brown flint. |
| 5 | 7C 23 | Core with broad flake detachments made from a split pebble, medium-grey flint. |
| 6 | 12 | Isosceles triangle with total white recortication. |
| 7 | 31F 11 | Obliquely blunted point, blunted at left side, light grey in colour with partial white recortication. |
| 8 | 44D | Obliquely blunted point, blunted at left side, light grey in colour with partial white recortication. |
| 9 | 31B | Obliquely blunted point, blunted at right side with micro-serration on left side, light grey in colour with partial white recortication. |
| 10 | 41F 14 | Backed point with distinct 'needle' tip and some retouch at lower right edge, light grey flint. |
| 11 | 38E | Backed point with distinct 'needle' tip and retouch on both sides, light beige in colour with partial white recortication. |
| 12 | Area 4 | Backed point with retouch on left side, light beige in colour with partial white recortication. |
| 13 | 28B 22 | Backed point with retouch on left side, white in colour, totally recorticated. |
| 14 | 28B 11 | Backed blade with retouch and traces of utilisation at tip and bottom left side, light beige flint. |
| 15 | 41F 3 | Backed blade with retouch and traces of utilisation on both sides, tip broken, light grey flint. |
| 16 | 41F 3 | Backed blade with retouch and traces of utilisation at right side, light orange flint. |

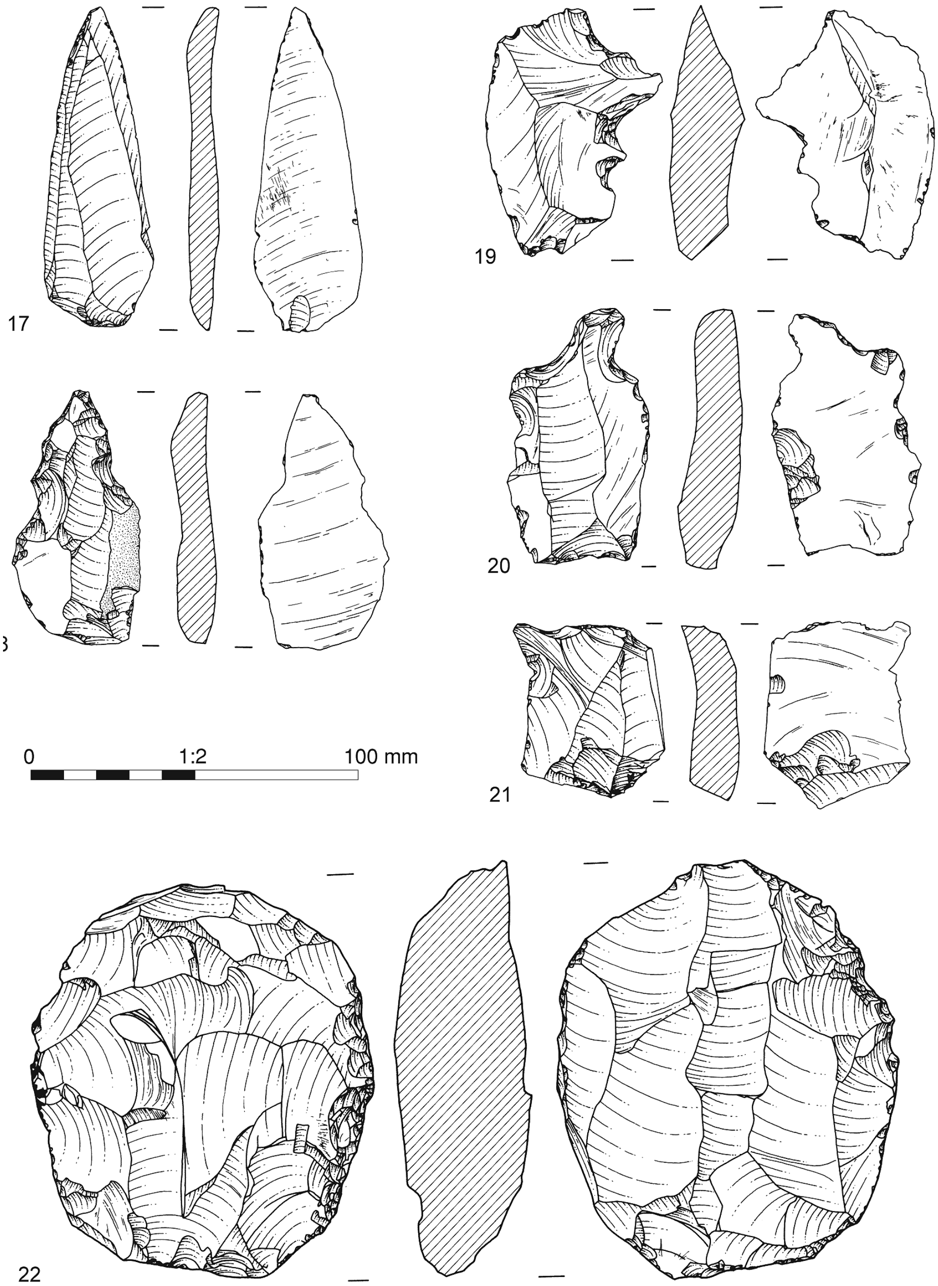



Figure 8: Flints, drawings 17 to 22

| No. | Location | Description |
|---|---|---|
| 17 | 155 | Point, retouched on left side of tip, light grey flint. |
| 18 | 37E 3 | Awl, opaque light grey flint. |
| 19 | Area 2 | Denticulated flake, opaque light grey flint. |
| 20 | Area 1 | Pointed tool/borer, medium-grey flint. |
| 21 | 29B 23 | Composite scraper/borer, light grey opaque flint |
| 22 | None | Discoidal knife, light grey opaque flint. |

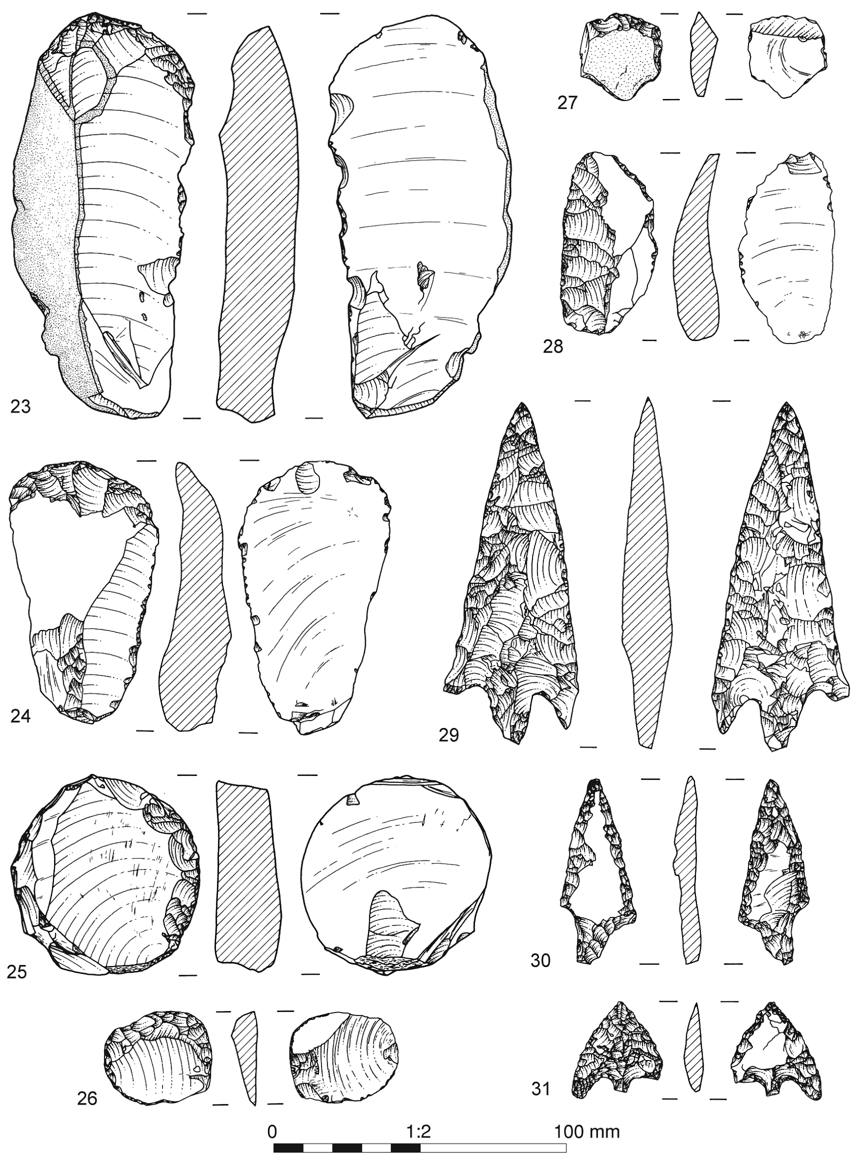



Figure 9: Flints, drawings 23 to 31

| No. | Location | Description |
|---|---|---|
| 23 | 38E 20 | End scraper with a notched edge worked on the underside, dark grey flint. |
| 24 | Area 1 | End scraper, dark grey flint. |
| 25 | 31F 5 | Discoidal scraper, medium grey flint, slightly burnt. |
| 26 | 43 | Thumbnail scraper; light grey flint. |
| 27 | Area 1 | Thumbnail scraper, light grey flint. |
| 28 | 42B 11 | Knife with pressure-flaking on left side and partial recortication on lower right, medium-grey flint. |
| 29 | 29B 1 | Large barbed and tanged arrowhead, translucent beige flint, conforms to Ballyclare Type C in Green's arrowhead typology (1984, 28–9). |
| 30 | 40F | Tanged arrowhead without barbs, medium-grey flint, pressure-flaked through surface recortication, conforms to Sutton B type in Green's typology (1984, 28–9). |
| 31 | 17C 1 | Barbed and tanged arrowhead with part of one barb broken, white from total recortication, conforms to Sutton A type in Green's typology (1984, 28–9). |

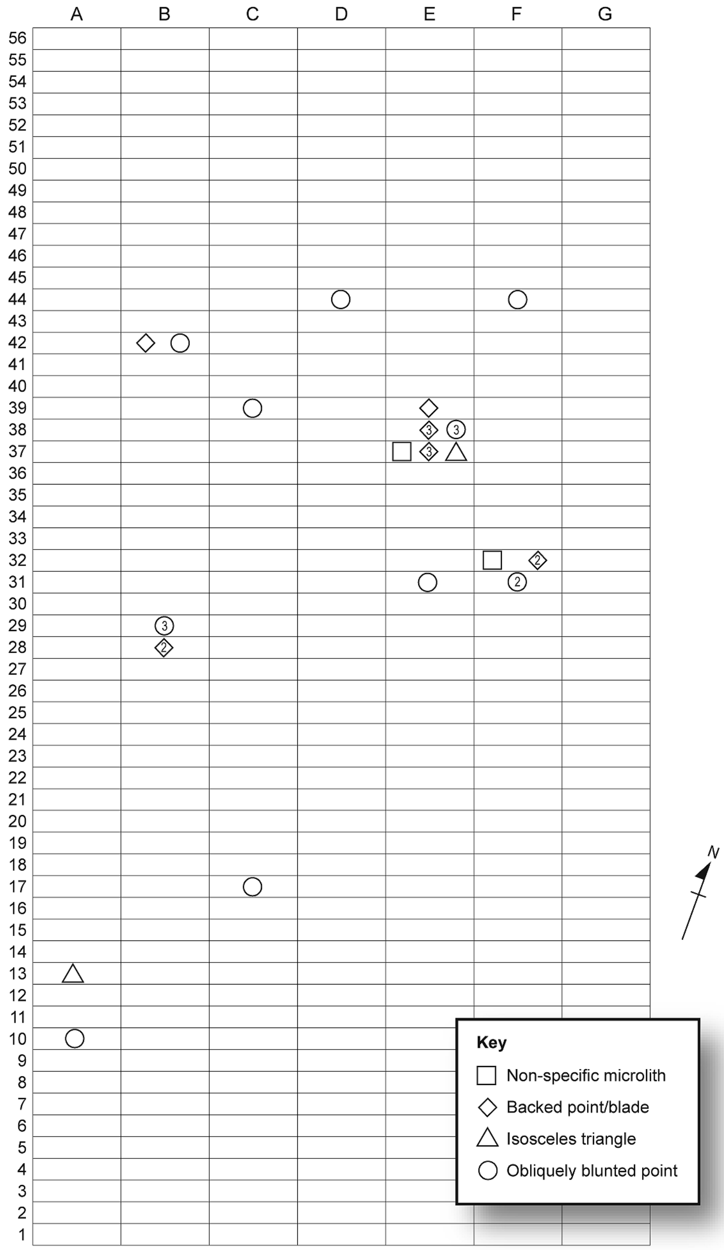



Figure 10: Distribution of microlith sub-types

Twenty-three scrapers are described as 'unclassified' since, mainly for reasons of fragmentation, they do not conform to any of the formal scraper groups defined. Other scrapers are classified as end (*e.g*. Fig. 9:23–4), side, and side-and-end scrapers. Less chronologically diagnostic than the other two groups, these scrapers are frequently characterised by the presence of regular retouch along the whole of either the side or end, or both the side and end of the scraper. Some of the sixteen end scrapers are similar to the typically Mesolithic forms illustrated in Wymer's Gazetteer of Mesolithic Sites in England and Wales (1977, fig. 2:18–9). However, a later prehistoric date cannot be ruled out, in view of the recortication issue discussed above and stylistic parallels within known later assemblages. For example, many of these scrapers show similarities with material from Late Bronze Age hut platforms at Black Patch, Sussex (Drewett 1982, 374–6, fig. 35:1–3, 35:5–7, 35:13, 35:14–6).

*Arrowheads*
Five arrowheads were recovered, only one of which is complete (Fig. 9:29). The complete arrowhead conforms to Ballyclare Type C in

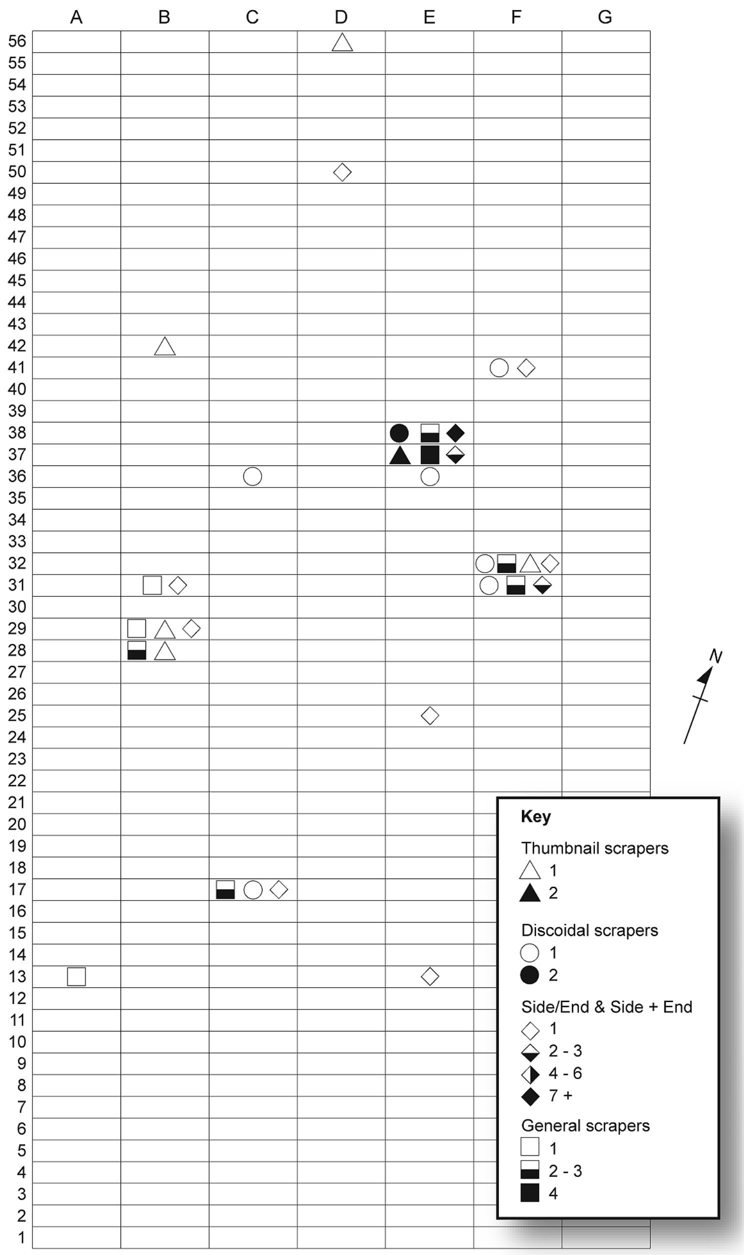



Figure 11: Distribution of scraper types by grid square

Stephen Green's arrowhead typology (Green 1980; Green 1984, 28–9), a comparatively rare type in lowland Britain, which probably originated from Ireland and which is 'associated with Early Bronze Age dating' (Green 1980, 138). Green has also suggested that these distinctive, large arrowheads were regarded as 'prestige objects or else as specialised missile point types, perhaps used in hunting larger, or different game' (Green 1980, 118), concluding that a 'ceremonial' use was more likely than a utilitarian function (Green 1980, 138). The example shown in Figure 9:29 is a particularly fine specimen, made from a translucent beige-coloured flint, which does not exhibit any evidence of having been used. A small fragment from another arrowhead of potentially the same type, and in the same coloured flint (37E 25, SF 131, not illustrated), was found, their relatively close proximity suggesting that these two arrowheads might have been part of a pair or set.

The other arrowheads are a possible un-barbed Sutton B Type (Fig. 9:30) and two barbed and tanged Sutton A Types (Fig. 9:3, and 38E 13, SF 48, not illustrated), all of which are broken to some extent (Green 1984, 28–9). An interesting aspect of the un-barbed arrowhead (Fig. 9:30) is that it was pressure-flaked through a milky-white recortication that appears to have affected the whole surface of the flint flake selected. The resulting two-tone effect might have been intentional, perhaps for aesthetic reasons. Sutton Type arrowheads are much more common than the Ballyclare Types, spanning 'the full chronological and cultural span of the occurrence of barbed and tanged arrowheads' and occurring 'with particular frequency in the graves of Beaker archers' (Green 1980, 138). They are widely distributed in southern England. Arrowheads are, however, generally associated with off-site, rather than site-based, activities (Schofield 1987), their presence indicating general activity in the wider area during the Early Bronze Age rather than a specific focus of activity. A general contemporaneity with the discoidal and thumbnail scrapers is likely. It is even possible that some of the arrowheads, particularly the illustrated examples (Fig. 9:29–31), might relate to funerary activity, although there was no other archaeological indication of this.

*Other Pressure-Flaked Items*

Other pressure-flaked items consist of a discoidal knife — a form of tool associated with the Later Neolithic period (*e.g.* Edmonds 1995, 96), the surface of which is devoid of cortex (Fig. 8:22) — and three small, partially pressure-flaked knives, one of which has been illustrated (Fig. 9:28). The two other knives (30B 19, SF 29 and 167, SF 156) are both made from a translucent beige flint with a fresh appearance. Although less effort was made to achieve a specific shape, such as that of the curved, ovoid shape apparent on the illustrated example, both pieces have been bifacially worked to some extent. The forms and techniques used for the production of these four items are characteristic of the Neolithic period, although closer chronological resolution is only possible for the discoidal knife (Fig. 8:22).

*Denticulates*

Nine denticulates, and a composite denticulate/miscellaneous pointed tool (29B, 21, discussed below), were identified. One of the denticulates has been illustrated (Fig. 8:19). While there is a degree of doubt regarding whether the denticulation on some of the smaller pieces is deliberate, the more obvious examples are made from large flakes and core fragments characterised by a series of contiguous notches along one or two edges. Denticulates are a form of tool usually associated with the Late Bronze Age (Stone 1937, pl. *vi*; Harding 1991, fig. 45, 84–5; Bevan forthcoming), but they have also appeared in lithic concentrations dated to either the Late Neolithic or the Early Bronze Age at Spong Hill, North Elmham, Norfolk (Healy 1988, 58–9, figs 48:L99 and 49:L114). Denticulated scrapers from Grimes Graves were also regarded as 'a distinctively Bronze Age type' (Saville 1981a, 21). The tools might have fulfilled an engraving function, perhaps for pottery decoration, or bone or antler working, or been used as boring tools. The fairly regular form of the tools suggests a multiple function, or that they are more versatile, composite tools.

*Awls and Miscellaneous Pointed Tools*

Eight awls, a burin, two microburins and fifteen miscellaneous pointed tools or piercers were identified within the collection. Awls are a pointed tool usually associated with boring and leather-working, including hide-processing (*e.g.* Fig. 8:18). Five of the eight awls, including the illustrated example, were found in squares 37E and 38E, raising the possibility of the localised use of this tool type. Microwear results indicate that they have been used predominantly for scraping or

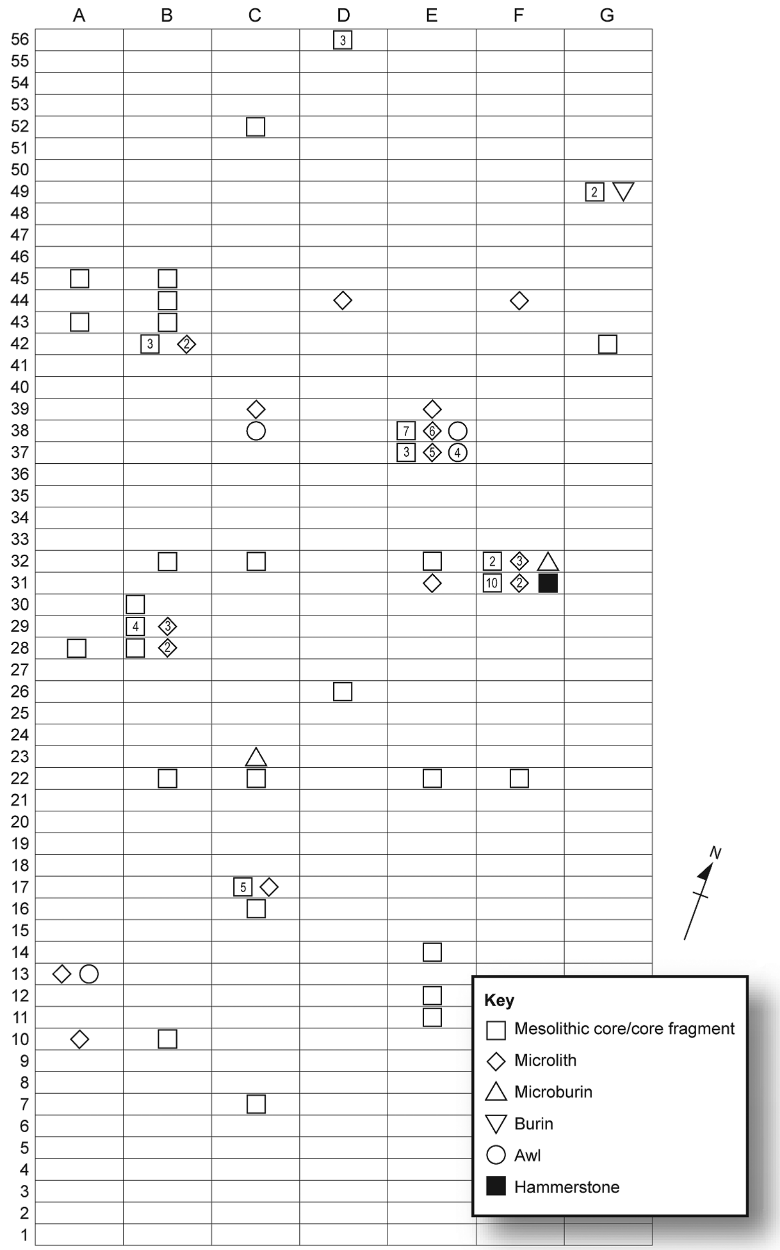



Figure 12: Distribution of Mesolithic tools and waste

perhaps engraving. The high incidence of recortication, observed in seven of the eight awls, suggests a Later Mesolithic date for this tool type.

One burin, a tool associated with bone and antler working (Bordaz 1989, 71), was recovered from square 49G. Its small size and general shape suggest a Later Mesolithic date, but its condition is poor and it has not been illustrated. Two microburins were also identified (23C, 32F). Microburins were by-products of microlith manufacture and seldom fulfilled a specific function (Bordaz 1989, fig. 42, 94). The definition 'miscellaneous pointed tool' encompasses all of those pieces which do not conform to the classic awl shape, yet which appear to possess either a deliberately worked point or seem to have a natural spur which has been utilised in a boring, scraping or gouging action (*e.g*. Fig. 8:20).

The miscellaneous pointed tools were widely distributed, although most of these tool types were excavated from grid squares with a generally high flint density. One piece from grid square 50F exhibits some polish on the point, suggesting that it has been used for bone or antler working. Harding has noted the proportional dominance of piercers as typical of late Bronze Age assemblages in southern England (Harding 1991, 85), and it is possible that a number of pointed tools are of Later Bronze Age date. The small number of pointed tools identified departs from the general model. While the awls may have been connected with site function, perhaps localised hide or bone working during the Later Mesolithic in the area of 37E and 38E (Fig. 12), the relatively low incidence of miscellaneous pointed tools might indicate a preference for bone or metal points during later prehistory.

*Composite Tools*

Two apparently composite pieces were found, both from grid square 29B (Fig. 13). The first is defined as a denticulate/miscellaneous pointed tool as it displays both notching and a point (29B 21, not illustrated). The second piece is categorised as a scraper/borer (29B 23, SF 91, Fig. 8:21) and its shape, combined with the pattern of retouch and utilisation, suggests that this implement served as both an end scraper and a borer, with a scraper edge at one end and a well defined point at the other. This is similar to the 'multiple tool ... a combined scraper and point' identified among Bronze Age material at Grimes Graves (Saville 1981, 25).

*Blades*

A total of fifty-five blades and 2,754 unretouched blade-like flakes were recorded, 15.5% of the entire collection. Of these, 180 pieces display evidence of utilisation.

*Serrated Blades and Flakes*

Serration, the presence of regular, tiny notches along the edge of a struck flint, was noted on six pieces, two of which are blades, the rest flakes. They were mostly from those grid squares with the highest concentrations of both tools and debitage. Current debate on serration centres on whether it was intentional or whether it was caused by edge-damage from being used for a certain function, for example as a sickle on plant material (Andrew Brown pers. comm.). Polish was not observed on any of the serrated flints, only one of which, a yellow-grey, long blade from square 28B, really has the shape and size necessary for such a function. The same edge-wear pattern was observed on all the serrated pieces suitable for microwear analysis and indicates a scraping function on medium-hardness materials.

*Retouched Flakes*

The term 'retouched flake' was applied to any flake which exhibited some degree of retouching, whether the removal of just a few scales or the extensive retouch of the whole of one or two edges. The majority of the 156 pieces identified within the collection have been retouched on one edge only, while a smaller number have been retouched on two or three edges. Analysis of the positioning of the retouch on the flakes shows no bias towards a certain area of the flint, but retouch is more likely to be located towards the distal end of the flake. Nearly all the pieces (91.7%) have been utilised and exhibit some degree of edge wear, frequently on more than just the retouched edge.

The characteristics of the retouched flakes vary considerably, with a range of colours, shapes and sizes. Twelve pieces have been retouched through a layer of recortication, indicating the re-use of older struck flakes. Eight pieces appear to have been deliberately notched, while nine pieces have a very small, fine pattern of retouch. This fine retouch suggests that high skill, care and precision were not just reserved for formal tools. The occurrence of such 'deliberately modified pieces' supports Bradley's observation regarding the high incidence of this general tool class on later Bronze Age sites at a time when the formal tool repertoire was decreasing (Ford *et al*. 1984, 165–7).

The colours of the retouched flakes were quantified and compared with the values recorded for the non-retouched flakes (Table 3). Significant differences were observed, with much higher numbers of beige-brown, brown-grey and grey pieces within the retouched flake group, and a much smaller quantity of white flints. The popularity of brown-grey flint probably reflects the most common colours of flint pebbles available, and perhaps flint in this colour range tended to be of a higher quality and was more easily worked.

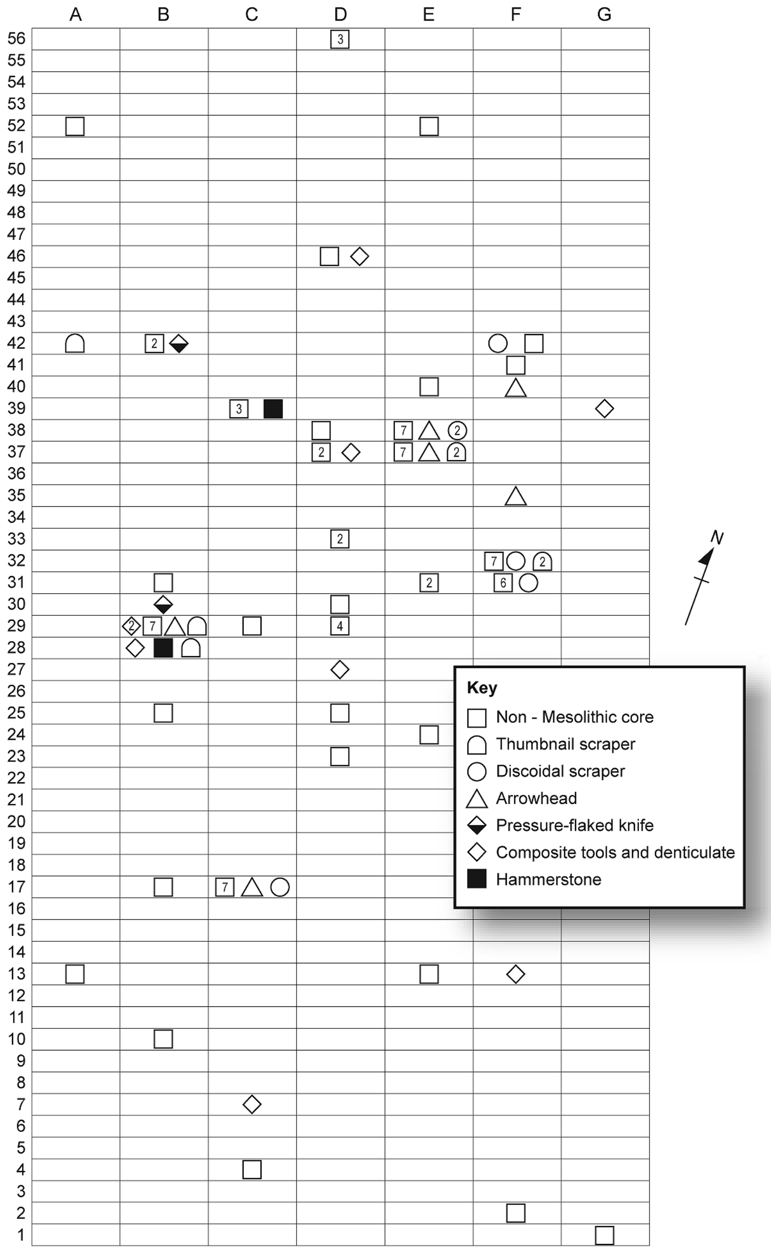



Figure 13: Distribution of Neolithic and Bronze Age tools and cores

Aesthetic reasons may also have been a factor in selection, with perhaps translucent beige and brown pieces being selected for their attractive sheen, as well as for their quality.

Almost half of the retouched flakes from Priestley Farm derive from the six key grid squares (Table 5) and the data from these squares were analysed in order to see whether there were any coherent, spatially linked groups. Squares 31F and 38E were both found to contain two pieces which exhibit retouch through a layer of recortication. Within a single $1m^2$ sub-square (32F 16), three pieces were found which have been very finely retouched. All three weigh 2–3g and have been

| Colour group | Retouched | Non-retouched |
|---|---|---|
| Beige-brown | 14 | 14 |
| Beige-brown-grey | 15 | 34 |
| Grey | 49 | 29 |
| Blue-grey | 17 | 12 |
| White | 5 | 3 |
| Other | | 8 |

Table 4: Comparison of colour of retouched and non-retouched flakes

| Grid Square | No. retouched flakes |
|---|---|
| 17C | 6 |
| 29B | 11 |
| 31F | 12 |
| 32F | 13 |
| 37E | 19 |
| 38E | 8 |
| Total | 69 |

Table 5: Quantities of retouched flakes in the key grid squares

used in a scraping action. It is tempting to see these pieces as representing a contemporaneous episode of flint use. The other 1m squares which contained more than two retouched flakes were 31F 14; 32F 19; 37E 4; and 37E 11. These 1m squares also contained several tools and many utilised pieces.

## Core and Waste Categories

### *Cores*

Of the 241 cores and core fragments identified in the assemblage, including core trimming/ rejuvenation flakes, eighty-six are, or are from, prepared blade cores of Mesolithic type. Of these, thirteen are core fragments and seven are core trimming/rejuvenation flakes. The average weight of this type of core is just over 31g. Mesolithic-type cores are characterised by a series of narrow detachments from one, two or, occasionally, more platforms. Some blade cores are pyramidal, with a single platform (Fig. 6:1), some bipolar, with two platforms from opposing ends of the core (Fig. 6:2), and others exhibit a series of platforms across the body of the core (Fig. 6:3–4), revealing that in many instances the core has been utilised beyond its apparent usefulness, an indication of resource stress. Most flake cores (*e.g*. Fig. 6:3) and some blade cores (*e.g*. Fig. 6:4) have multiple platforms, although the blade cores are Later Mesolithic in date and the flake cores are later. Like the blades within the collection, these cores frequently exhibit recortication, to the extent of displaying a colour within the range of white to a light bluish-grey.

The less chronologically diagnostic cores, which are probably of Bronze Age date, either have flake, rather than blade, detachments removed from a series of randomly placed platforms across the surface of the flint (Fig. 6:3), or are 'pebble cores' consisting of split pebbles with a series of broad flake detachments from the broken end (*e.g*. Fig. 6:5). With the exception of two unusually large pebble nodule cores weighing 259g and 513g, both from fieldwalking, the average flake core weight is 52.5g and the average pebble core weight is somewhat higher, at 71.6g.

Flake cores with multiple platforms and pebble cores are both characteristic of later prehistoric flint-working; for example, in the assemblage from the Late Bronze Age riverside zone at Runnymede Bridge, Egham, Surrey (Bevan forthcoming). At Mount Sandal, Coleraine, Ireland, in a similarly mixed assemblage to that from Priestley Farm, multi-platformed flake cores were used to determine the focus of post-Mesolithic activity (Woodman 1985, 53).

### *Hammerstones*

Three hammerstones were recovered, all of which were made from pebbles. A totally recorticated hammerstone made from a quartz pebble and exhibiting signs of intensive use (3lF, SF 66) may be of Later Mesolithic date. This has been included in the distribution plot of Mesolithic material within the main grid (Fig. 12). The other two hammers have been included with the post-Mesolithic tools and waste categories (Fig. 13). In addition, several of the cores exhibit traces of wear characteristic of re-use as hammerstones.

### *Technology*

Flint cores and pebbles were a common choice of material for hammerstones; they would have been locally available and, in the case of the re-used cores, an expedient tool for use in flint-working. Such hard hammers are often associated with later prehistoric flint assemblages and are known to produce pronounced bulbs of percussion. However, the relative percentages of diffuse and pronounced bulbs visible among the flake assemblage, which are almost identical, suggest that soft hammers of antler, bone and perhaps wood must also have been used, although these materials were not preserved archaeologically. Soft hammers appear to have been used to a greater extent in blade production since the incidence of diffuse bulbs is significantly higher (Table 6). This might indicate a period-specific preference, with more controlled flint-working being conducted with direct or indirect percussion using antler, bone or wooden hammers during the Later Mesolithic period.

Further comparison of other attributes of flakes and blades revealed similar ratios of feather and hinge terminations for each class of artefact, with hinge terminations being slightly lower than feather terminations in each instance (Table 6). While feather terminations are a characteristic of successful and skilled flint-working, hinge terminations can result from either poor craftsmanship or a raw material of unpredictable quality. That the relative percentages are almost identical for both blades and flakes suggests that, in this case, the quality of the raw material appears to have been the main cause of hinge fractures during all periods of activity on the site. This is supported by a high incidence of crystalline inclusions and other potential faults noted, as well as a number of hinge fractures visible on many of the Later Mesolithic blade cores, which had otherwise been prepared and reduced with more skill than the later multi-platformed flake cores and rough pebble cores.

A comparison of flake and blade platforms revealed similar percentages of different platform types, with a higher incidence of absent blade platforms resulting from use and post-depositional breakage (Table 6). Corticated platforms are, as would be expected, higher among the flakes, many of which were detached from unprepared flint pebbles. The fairly high incidence of plain platforms among both flakes and blades suggests that platforms were usually well prepared, which would be expected particularly among the blades, most of which are believed to have been generated during the Later Mesolithic period.

| | Flakes | | Blades | |
|---|---|---|---|---|
| | Number | % | Number | % |
| **Bulb** | | | | |
| Uncertain | 60 | 8.3 | 11 | 7.1 |
| Diffuse | 326 | 45.1 | 88 | 56.0 |
| Pronounced | 337 | 46.6 | 58 | 36.9 |
| **Termination** | | | | |
| Uncertain | 65 | 9.0 | 11 | 7.0 |
| Feather | 382 | 52.8 | 86 | 54.8 |
| Hinge | 276 | 38.2 | 60 | 38.2 |
| **Platform** | | | | |
| Uncertain | 60 | 8.3 | 11 | 7.0 |
| Absent | 125 | 17.3 | 48 | 30.6 |
| Corticated | 101 | 14.0 | 5 | 3.2 |
| Faceted | 41 | 5.7 | 3 | 1.9 |
| Plain | 396 | 54.8 | 90 | 57.3 |

Table 6: Comparison of flake and blade bulbs, terminations and platforms

### Flake Dimensions

Flake dimensions can be useful in determining, in a broad sense, whether flint-working took place during earlier or later prehistory, on the premise that narrow blade-like flakes were generated during the Later Mesolithic/Early Neolithic period, and thereafter waste flakes became much broader (Pitts 1978). This relatively simple method, which involves plotting the dimensions of individual complete flakes on to a numbered grid, is applicable to unstratified assemblages, provided that the measured sample is sufficiently large. Ideally, comparisons should be made with locally excavated assemblages of known date. This method has been used successfully by one of the authors to determine the predominantly Mesolithic character of fieldwalking assemblages from the vicinity of Kinver Edge in the West Midlands, by comparing this set of data to that derived from an excavated Later Mesolithic site at Lightmarsh Farm, near Kidderminster (Bevan 1995a and 1996). This method was also successfully used at Wasperton, Warwickshire to determine the predominantly Late Neolithic to Early Bronze Age date of the unstratified ring ditch assemblage (Bevan 1995b).

Measurement of all complete flakes in the Priestley Farm assemblage enabled compilation of length to breadth scattergrams of the key grid squares from the excavation, which contained some of the largest collections of struck flint. This was done in order to determine, in this case, whether the majority of the flint had been worked during the Later Mesolithic period or the Bronze Age, based upon the incidence of chronologically diagnostic tools and core types within this mixed assemblage. Scattergrams of complete blades were also compiled for some key contexts for comparative purposes. The results appear in Figures 14 and 15.

A general pattern of broad, rather than particularly slender, flakes was noted in the key grid squares, with flakes from certain squares tending to be shorter and squatter (*e.g.* 31F and 32F). Although a generally longer and more blade-like

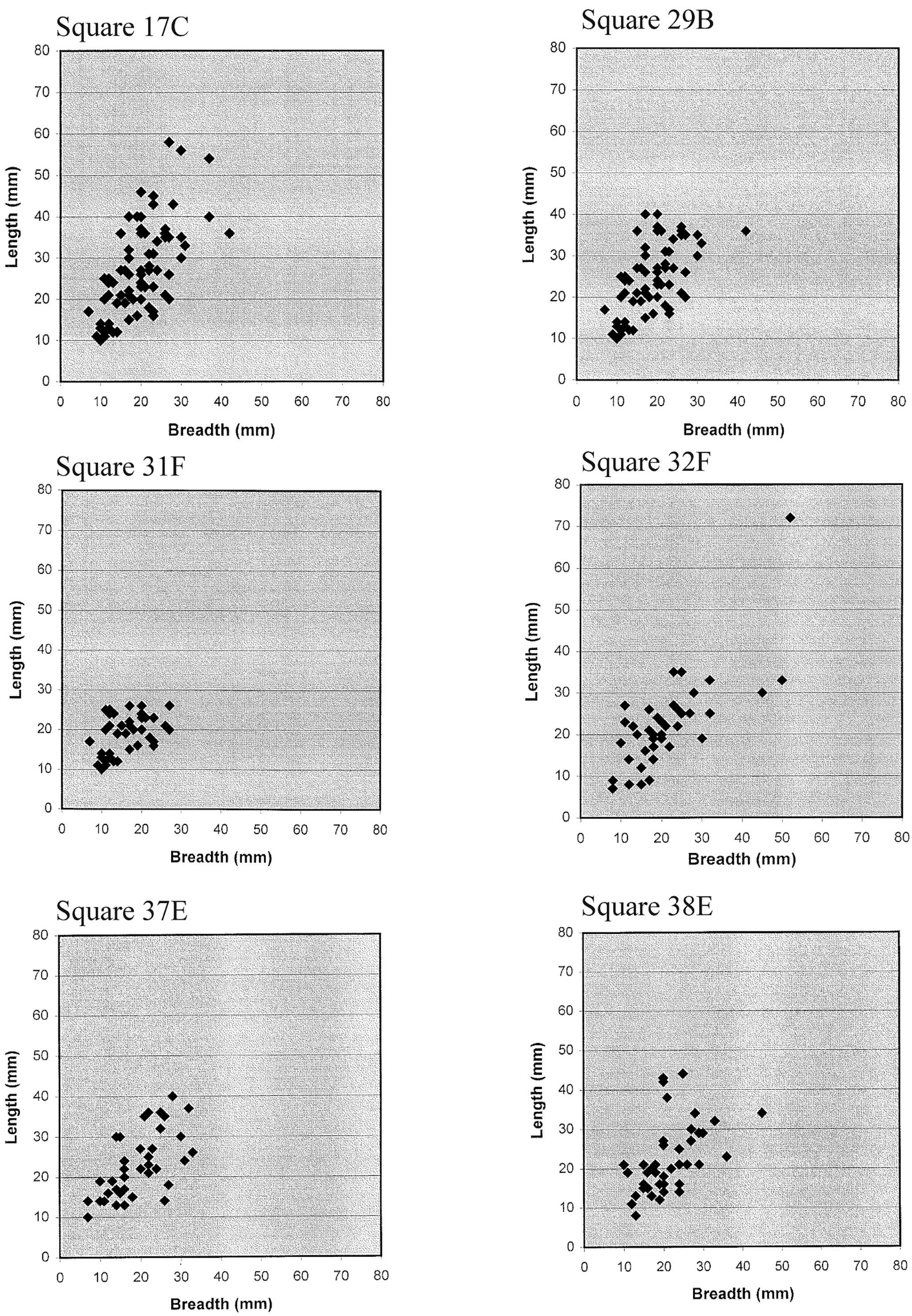



Figure 14: Scattergrams showing length:breadth ratios for complete flakes from key grid squares

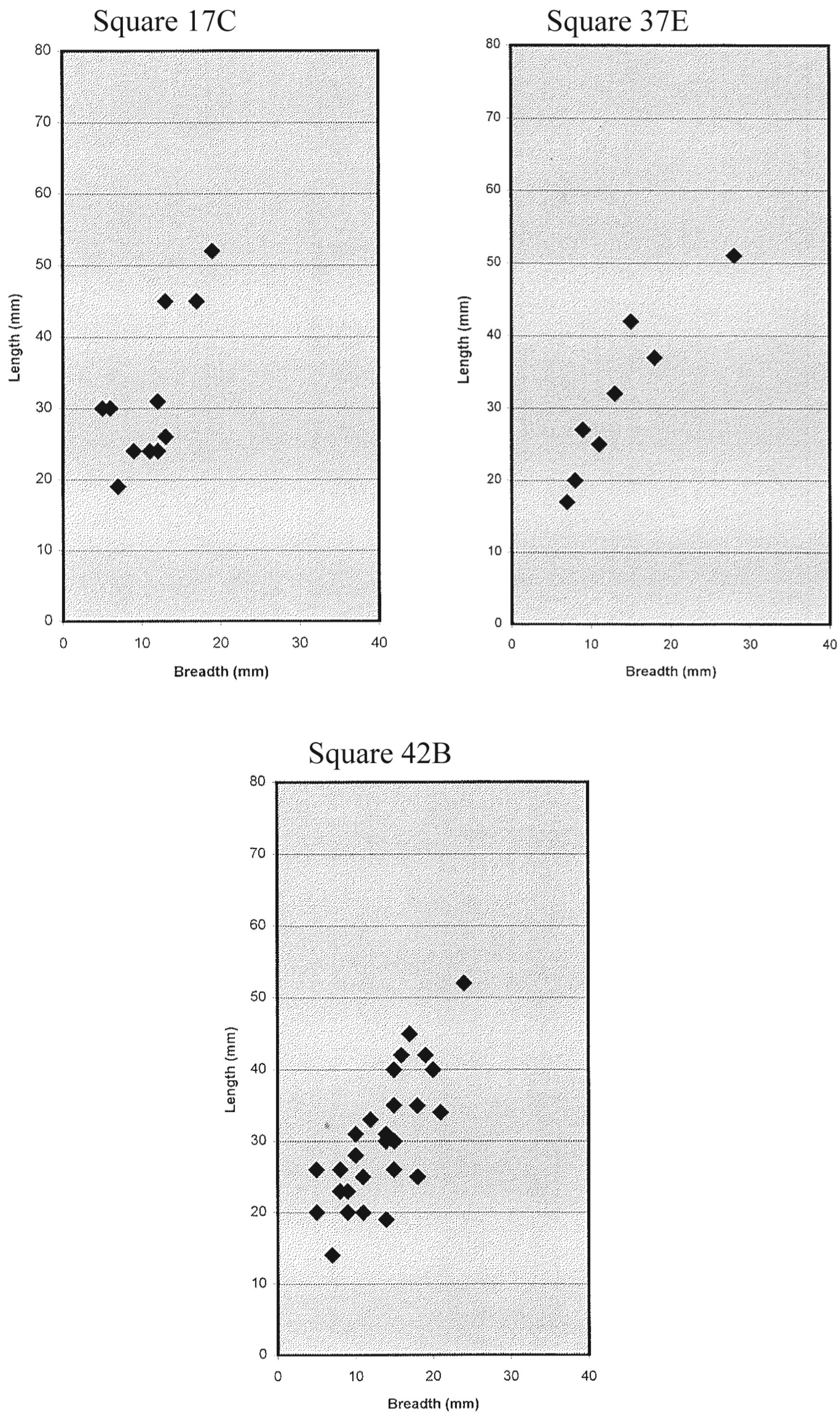



Figure 15: Scattergrams showing length:breadth ratios for complete blades from key grid squares

flake component was apparent, the general size range and pattern are very close to those from the Late Bronze Age riverside zone at Runnymede Bridge, Egham, Surrey (Bevan forthcoming). While Later Mesolithic material is obviously present among the Priestley Farm debitage, it appears from the scattergrams that the bulk of the assemblage is post-Mesolithic, and contemporary with the multi-platformed and pebble cores and predominantly Bronze Age tool forms described above.

### Burnt Flint

A total of 2,370 pieces of burnt flint were identified, 13.09% of the total assemblage. Burning among the waste flakes may be connected with the practice of flint-knapping around hearths or the establishment of new hearths on former knapping areas. No clear archaeological indications of hearths, such as stones or charcoal deposits, were noted during the excavations, but the flint might have become disassociated from the hearths by deliberate removal; in many non-western societies discard tends to take place away from habitation (*e.g.* Binford 1978; Simms 1988; Gould 1980). Alternatively, post-depositional processes might have obliterated any traces of hearths. The flint from grid square 31F revealed a high incidence of burning among waste flakes (from Nos. 21, 22, 24 and 25), which might indicate the former location of a hearth, although post-depositional burning from subsequent activities on the site cannot be ruled out.

There was some variation in relative percentages of burnt flint between the key grid squares, with the highest amount, nearly 19%, occurring in grid square 38E. This square, and the neighbouring square 37E, produced a high proportion of the Later Mesolithic awls. The association between stone tool-making and hearths is well attested in the ethnographic record (*e.g.* Binford 1980), as indeed is the common association between females and hearth-related activities (*e.g.* Grøn 1995; Bevan 1997; Moore 2000).

### The Mesolithic Assemblage

In contrast to the bulk of the flint assemblage, the diagnostically Later Mesolithic component appears concentrated in certain grid squares, although the extent of the debitage is difficult to quantify (Fig. 12). Compared to the more convincing evidence for episodes of flint-working and perhaps longer-term habitation on the site during the Bronze Age, the Later Mesolithic presence appears much more ephemeral, potentially reflecting shorter, perhaps seasonal, occupation. In functional and spatial terms, it has been possible to isolate this part of the assemblage with more success and to plot areas of more intensive, or potentially different, activities.

The closest affinities for the Later Mesolithic component of the assemblage are found among the assemblage from Peacock's Farm, Shippea Hill in the Cambridgeshire fenland, which included a high proportion of obliquely blunted points (Clark 1955, 8, fig. 2:1-11, 2:20-3), some points with oblique basal retouch (Clark 1955, fig.2:12, 2:14, 2:30), and an isosceles triangle (Clark 1955, fig. 2:37). Microburins, essentially by-products of microlith production, were also found among the material from Peacock's Farm, as were narrow blade cores, the majority of which were single or double platformed (Clark 1955, figs 3 and 4, 9–10). The other retouched items, particularly the scrapers, which might have been contemporary with the Mesolithic material or with either the Neolithic or Bronze Age elements of the collection, were chronologically ambiguous. Convex scrapers, long end scrapers with percussion retouch rather than 'scale flaking typical of the Early Bronze Age assemblage', were attributed to the Mesolithic on the basis of their 'lustrous surface and intermediate to heavy patina' (recortication) (Clark 1955, 11).

The degree of recortication among the Priestley Farm scraper assemblage, only sixty-five of which are not of obviously Bronze Age types, is significantly lower than that observed among the diagnostically Mesolithic material. While a number of convex end scrapers similar to those from Peacock's Farm are present, there is no demonstrable spatial correlation between any potentially Mesolithic scrapers and diagnostically Mesolithic material, such as microliths and blade cores, except perhaps in grid squares 37E and 38E where a concentration of awls was recorded (Fig. 12).

It is also entirely possible that the Later Mesolithic assemblage was never geared towards the large-scale production or use of flint scrapers, as, for example, the broadly contemporary assemblage from West Stow, Suffolk, may have been, which was dominated by microliths and burins

(Pieksma and Gardiner 1989). In this sense, the assemblage, although too small for relative percentages to be calculated with confidence, might be tentatively described as one of Mellars' Type A microlith-dominated assemblages, characterised by a high incidence of microliths compared to other retouched forms and a correspondingly low incidence, or absence, of scrapers (Mellars 1976, 386–9). Small blade cores, reflecting microlith manufacture, and burins are also present in Type A assemblages which 'appear to reflect a strong bias in favour of primary subsistence activities (presumably hunting) and against the usual range of 'maintenance' or 'domestic' activities (*e.g.* skin preparation, bone working)' (Mellars 1976, 388). Based upon the relative scarcity of scrapers, tools traditionally associated with hide-processing, which might have been more likely to have taken place during the winter months, Mellars proposed short-term, summer-season occupation for Type A assemblages (from both upland and lowland sites) which 'can be attributed with some confidence to the second half of the Mesolithic' (Mellars 1976, 395).

While attribution of scrapers to the Later Mesolithic assemblage is problematic, other diagnostically Later Mesolithic tools have been plotted by grid square and their associations have been studied. While occurring in small groups of up to three items, many of the microliths appear to have been made by the same hand, including the three obliquely blunted points from grid squares 28B and 29B. It is very likely that they were part of the same industry, but their purpose is less clear since no organic hafting material was preserved at Priestley Farm. That they were found in such small groups suggests collective hafting in composite tools, such as saws or harpoons, but they might equally have been used individually as projectile armatures or as scraping, boring, or scribing tools.

In his study of Maglemosian sites, Grøn makes the point that few microliths found on settlement sites exhibit damage 'from use as projectile points, compared to the often very large relative number of microliths with no wear traces at all' (Grøn 1995, 10), suggesting that 'many damaged points were discarded and replaced during the hunt, far from the settlements' (Grøn quoting Nuzhnyi 1990, 114, 122). Grøn suggests 'that the microliths found on the sites represent the intra-site aspect of hunting: production and maintenance of hunting weapons, removal of projectile remains from meat, etc'. This accords well with the low level of microwear identified among the microlith assemblage and the relatively low incidence of breakage, much of which might be explained by post-depositional damage. These factors suggest that the microlith assemblage is a combination of debris generated during manufacture, chance losses, or discard at small hunting camps, rather than off-site losses during hunting.

When compared to the lithic debris generated by a long-term settlement such as that of the Later Mesolithic assemblage from Oakhanger, Hampshire (Oakhanger VII), which included 1,458 microliths, nearly 2,000 scrapers and over 1,000 cores (Rankine and Dimbleby 1960), the Mesolithic component of the Priestley Farm assemblage clearly does not reflect a settlement here of any longevity. Instead, it appears to have resulted from activities of a more ephemeral nature, although the material recovered is of a higher density than that recovered from other local Mesolithic sites (see below). Such satellite camps might have been repeatedly revisited over time, although it is unlikely that any occupation was of a very long duration.

The apparent paucity of scrapers, generally a tool associated with the hide-working activities carried out by females (Hayden 1992; Grøn 1995; Bevan 1997), supports the possibility that occupation of the site was mainly limited to a small band of hunters. Ethnographic studies suggest that hunting is almost exclusively associated with males (Grøn 1995, 53), although the assumption that only males used projectiles during the Mesolithic has been challenged (Finlay 1997). The concentration of awls in grid squares 37E and 38E, where a typologically Mesolithic scraper on a flake was also found, along with several other potentially Mesolithic side scrapers and side-and-end scrapers, provides an exception to the general pattern. This concentration, which also includes blade cores, is more suggestive of hide-processing activities which might have involved a larger family group.

### The Post-Mesolithic Assemblage

The majority of the struck flint was generated during later prehistory. A proportion of this, but arguably only a small one, is diagnostically of Neolithic date (Fig. 13), principally the Late Neolithic discoidal knife (Fig. 3:22), the pressure-flaked tools (including Fig. 9:28), and the possible sickle fragment (see 'Serrated blades and flakes' above). While it can be difficult to distinguish between Later Mesolithic and Early Neolithic blade cores, in this instance there is little doubt that most, if not all, of the blade cores, blades and blade-like flakes belong to the Later Mesolithic phase of activity on the site, in view of the high incidence of recortication and their general homogeneity. This is supported by an absence of leaf-shaped arrowheads, measured against a prevalence of microliths among the retouched component of the assemblage.

The presence of multi-platformed flake cores and pebble cores, combined with the occurrence of diagnostically Early Bronze Age projectiles and scraper forms, indicates that the majority of the assemblage, particularly the waste flakes, is of Bronze Age date. However, not all of the post-Mesolithic and post-Neolithic assemblage can be viewed as contemporary with the diagnostically Early Bronze Age tool types such as the discoidal and thumbnail scrapers, which, along with awls and burins, are tools characteristic of occupation *foci* (Schofield 1987). Scrapers are also often associated with the presence of females (*e.g.* Bevan 1997); the high incidence of use-wear observed among these tools suggests the longer-term settlement of perhaps a more mixed population in the area during the Early Bronze Age than during the Later Mesolithic occupation or the subsequent Middle/Late Bronze Age period, although in the latter instance this impression might be erroneous as there are fewer period-diagnostic scraper forms.

During the Later Bronze Age, as observed in the flint assemblage from the riverside zone at Runnymede Bridge, flint procurement strategies changed from preparing formal cores of even the most basic kind to the smashing of flint pebbles, which resulted in a low incidence of cores combined with a high incidence of thick flakes and 'struck chunks', among which re-fitting is very limited (Bevan forthcoming). As part of the apparent decline observed in flint-working in the later Bronze Age (Ford *et al.* 1984), there was also a tendency towards using unretouched flakes for expediency rather than expending time creating formal tools, as was also noted in the Later Bronze Age assemblage from the riverside zone at Runnymede Bridge (Bevan forthcoming).

The characteristics of this Late Bronze Age 'smash and grab' technology can be observed in the Priestley Farm collection: few cores; few formal tools; and a high incidence of unretouched flakes exhibiting wear traces. Alongside the occurrence of miscellaneous pointed tools, denticulates and composite tools, all of which are characteristic of later prehistoric assemblages, this suggests that the majority of the Priestley Farm assemblage dates to the Middle/Late Bronze Age, although the exact proportion is unquantifiable. Flint-working may have been the principal activity carried out at Priestley Farm during later prehistory, perhaps to the extent that this was the major reason for the occupation of the site, but the spatial arrangement of tool-making and other activities is even more difficult to reconstruct than for the earlier periods, not least in view of the limited tool repertoire and the mixed nature of the deposits.

The Late Bronze Age assemblage at Mildenhall Fen in West Suffolk shows a similarly low standard of flint-working, with surface nodules being utilised rather than mined flint (Clark 1936), suggesting that this site may be broadly contemporary with Priestley Farm, although similarities with the artefactual assemblage are otherwise not that particularly marked. Flint assemblages collected during fieldwalking in the Great Ouse Valley, approximately 20km to the north-east of Priestley Farm, ranged in date from the Late Neolithic to the Middle Bronze Age, with the majority of material being dated to the Early and Middle Bronze Age (Woodward 1978). A high incidence of Early Bronze Age thumbnail scrapers was noted in the collections, as well as some borers, burins and gravers of similar date (Woodward 1978, 44). Occupation appears to have been sited on the gravels adjacent to the river during the Early and Middle Bronze Age in the Biddenham area, with some encroachment on an area of ring ditches during the Middle Bronze Age which might be explained by pressure on land use. At Roxton, Early Bronze Age occupation was sited 'well above the flood plain of the river and at the junction of two environmentally different areas' where the gravel terrace meets the glacial clays (Woodward 1978, 49–50). Although these sites are beyond the Greensand ridge, the preference for riverine, sometimes high-ground occupation of the kind seen at Priestley Farm seems to have been a feature of later prehistoric settlement in the region.

Evidence for later prehistoric activity on a more local level comes from Ruxox Farm where, in addition to the Later Mesolithic assemblage, Neolithic and Bronze Age tool types have been recovered (Fadden 1970 and 1972). Here Fadden attributed an absence of features or pottery to 'the light, easily eroded soil where artefacts of all periods continually arrive on the land's surface' (Fadden 1972, 4). The chronologically mixed nature of the assemblage at Priestley Farm attests to the reoccupation of a favoured location through time.

## Spatial Aspects of the Assemblage

Certain chronologically diagnostic components of the flint assemblage can be isolated, but plotting activity or habitation episodes spatially is of limited value with such a mixed assemblage, most of which is composed of waste material and a number of non-diagnostic tool types. However, some clustering can be observed among the larger assemblages from key grid squares, and sometimes a recurring chronological bias can be identified among the flint assemblages, with an obvious Mesolithic presence followed by perhaps an Early (or Middle/Late) Bronze Age presence in the same square. For example, despite the presence of a pebble core and a quantity of undiagnostic waste flakes, grid square 17C appears to have been a focus of Mesolithic activity, where an obliquely blunted point (SF 105), several Mesolithic-type cores, including a pyramidal core, and blades were found. Much of the debitage, including several blades, appears to have originated from the same blade cores, although no refits were possible. The Mesolithic focus in 17C also appears to continue towards the south-west, since three Mesolithic cores were found just outside grid square 2 where it extends beyond the excavated area.

Square 31F was again a focus of Mesolithic activity, where ten blade cores, a potentially Mesolithic hammerstone and two microliths were identified, and the high incidence of burning among tools and debitage suggests the one-time existence of a hearth here. Grid squares 37E and 38F appear to have been another focus of Later Mesolithic activity, since five of the eight awls identified in the assemblage were found there, as well as eight Mesolithic-type cores and five backed points. A potentially Mesolithic retouched and utilised flake and a typical Mesolithic scraper on a flake were also identified in the assemblage, which is composed mainly of broad flakes and also includes pebble cores and an early Bronze Age type scraper. Awls are not generally datable, but, while one of the awls, a large dark grey example, is potentially post-Mesolithic in date, the majority of them would not look out of place in a Later Mesolithic assemblage. Their presence is generally suggestive of an activity area connected with hide-working, especially perforating skins for sewing, although microwear analysis suggests that these tools were employed for scraping and perhaps even engraving tasks. For this reason, bone-working, or more likely woodworking, in view of the hardness of materials suggested by the microwear study, might have been the dominant activity practised in this area.

In comparison, grid squares 28B and 29B appear to have been a focus for both Later Mesolithic and post-Mesolithic flint-working. Here, Mesolithic material includes three very similar, obliquely blunted points, a backed point, a retouched blade and a serrated blade. The evidence for Late Bronze Age flint-working — the quantity of broad flakes and smashed cores — is more marked. A Mesolithic core and a matching, but non-joining, blade came from grid square 42B, from which the highest percentage of blades was recovered, but, again, the bulk of the waste material comprises large, smashed pebble cores and barely modified pebble nodules typical of Late Bronze Age flint-working techniques.

## The Priestley Farm Mesolithic Assemblage in a Local Context

The material recovered fits well with that found in the earlier work on the site (Fadden 1991), with close parallels among the blades and blade cores in particular (Fadden 1991, 93, fig. 2). Apart from one barbed and tanged arrowhead, Fadden makes no mention of Bronze Age material; this may have been the result of selective collection or of the assumption that all the undiagnostic material was Mesolithic.

The mixed Mesolithic/Neolithic–Late Bronze Age assemblages from Ruxox Farm (Fadden 1970; Fadden 1972) included a number of burins of both Mesolithic and post-Mesolithic date (Fadden 1972, figs 1–2). No microliths were present in the assemblages, but the large proportion of burins, particularly among those flints attributed to the Mesolithic period, is generally regarded as indicative of wood-, bone- or antler-working activities. For example, at the Mesolithic encampment of Vaenget Nord on the Danish island of Zealand, microwear analysis demonstrated that burins were associated with bone-working (Price and Peterson 1987, 96).

Other small Mesolithic assemblages have been recovered in the region, including the remains of a 'working floor' from Beadlow Manor Farm, Clophill (Fig. 1), which is approximately 9km north-east of Priestley Farm but in closer proximity to Ruxox Farm (Fadden 1973, 131). Here, similarities with the Ruxox Farm material have been noted, both in terms of the flints and the site locations on the lower Greensand ridge bordering the River Flit, as possible evidence of wider Mesolithic settlement (Fadden 1973). Two microliths were found at Beadlow Manor Farm, but neither was sufficiently complete to allow comparison with the examples from Priestley Farm (Fadden 1973, 8, fig. 1:4). Nearer to Priestley Farm, four identifiably Mesolithic tools were found during extensive fieldwalking in the Ampthill area in 1972, at Flitton, and near Westoning (Fadden 1975). Again, the distribution of finds is on the Greensand, near the River Flit (Fadden 1975, 2).

These smaller assemblages appear to have been the result of short-stay activity at sites or even isolated knapping activities, while Priestley Farm, with a much larger tool repertoire, would have been a favoured area for settlement. The apparent difference between the burin-orientated assemblage from Ruxox Farm and that from Priestley Farm, where microliths were common but only one burin was identified, is of particular interest in view of the microwear results. At Priestley Farm, microwear analysis confirmed that the main functions among the awls and pointed tools were scraping and, to a lesser extent, boring (perhaps including engraving), involving medium-hardness materials. The low incidence of boring, even among the awl concentration observed in grid squares 37E and 38E, might actually indicate a similar site function to that carried out at Ruxox Farm, despite the apparent artefactual differences. The range of tools suggests bone-, antler- or wood-working as the site functions at Ruxox Farm, although without the benefit of microwear study this remains a supposition, and these, or similar, activities might equally have been carried out at Priestley Farm in squares 37E and 38E, where the awl concentration was identified. The two sites, as well as others in the same area, may well have been contemporary, and it is tempting to interpret these two assemblages as evidence of related sites in a mobile cycle of encampments designed to take advantage of, and process, seasonally available resources in a favourable riverine environment on and around the Greensand ridge. The site locations conform to the general model of preferred Mesolithic site location: south-facing slopes and vantage points on sandy soils (Clarke 1976, 475; Jacobi 1978b, 77; Mellars 1976, 380; Saville 1981, 61). To the north-west, among fieldwalking assemblages from the east Warwickshire plateau, a similar Mesolithic preference for 'higher ground sandy locations' was noted, while river valley activity appeared to be more restricted, although the evidence might have been obscured by alluviation (Saville 1981b, 61).

The recovery of chronologically mixed assemblages from both Ruxox Farm and Priestley Farm indicates the reoccupation of favourable locations over time. While our interpretation of these phases of activity is limited by chronological mixing, problematic debitage and a paucity of other finds, it has been possible to identify possible occupation *foci* among the much larger assemblage from Priestley Farm, an important site on both a local and regional level, illuminating an area where prehistoric activities had previously been considered to be ephemeral and largely Mesolithic. In spatial and functional terms, the Later Mesolithic component of the assemblage has proved more useful, revealing other dimensions to a sparse collection of local working floors and setting them in a wider context as possibly different aspects of an annual cycle of related, special-purpose camps.

## POLLEN ANALYSIS (Robert Scaife)

This section is a brief summary of the results of pollen analysis carried out on peat sequences sampled from the palaeochannels at the southern end of the site. The full results (Scaife 1999) will be published separately. Pollen analysis and radiocarbon dating of the Priestley Farm peat profile provided evidence of vegetation and environmental changes which took place during three distinct periods. The first is the late (Devensian) glacial from 11,000 BP to 10,000 BP, and the second extends into the mid-Early Holocene at around 8,500 BP. Archaeologically, these two time spans equate with the Upper Palaeolithic and Early Mesolithic periods respectively. Thirdly, after a stratigraphic hiatus, there was a later accumulation which spanned the Late Holocene, Neolithic period. The principal vegetation changes are summarised as follows.

In the Late Glacial Interstadial (the Allerod; Lake Windermere interstadial; Zone II) there was some scattered birch woodland and dwarf shrubs including dwarf birch and juniper. A dated peat sample (10,930 ± 80 BP Beta-143289) demonstrated that by the Late Devensian Stadial (Younger Dryas; Zone III; Loch Lomond re-advance), an open herbaceous environment and dwarf shrubs, possibly including dwarf birch, had become established.

In the transitional period between the Devensian Glacial and the Holocene interglacial, juniper and meadowsweet (*Filipendula*) pollen reached a maximum, and birch and pine were increasing. The birch and pine pollen may have derived from the broader region but with increasing values as sources migrated closer. A peat sample from this zone was dated to 9,950 ± 80 BP (Beta-112215).

The Pre-Boreal Period (Flandrian Ia) saw a rapid expansion of colonising (pioneer) birch woodland, demonstrated in a sample dated to 9,730 ± 70 BP (Beta-143288). Also at this time, hazel (*Corylus avellana*) -type and oak pollen began to appear, possibly from long distance, regional sources but becoming closer due to post-glacial migration from *refugia*. In the subsequent Early Boreal (Flandrian Ib) period, birch was ousted as pine arrived, presumably from the east and south-east. This zone, from which a date of 9560 ± 70 BP (Beta-143287) was obtained, also showed hazel becoming important to give Boreal pine/hazel woodland (Godwin 1940, 1956, 1975a).

The next dated sample, at 8950 ± 40 BP (Beta-143286), corresponds to the arrival of oak and elm along with the increasing importance of hazel, and the establishment of woodland in which these species progressively out-competed pine. Sun-loving herbaceous vegetation was progressively shaded out by the increasing dominance of closed-canopy woodland.

There was a hiatus in the peat accumulation around 8500 BP, possibly due to climatic dryness typical of the Boreal continental period (Flandrian chronozone Ib–c). The next sample was dated to 4790 ± 60 BP (Beta-143285), by which time peat formation was once again taking place. This corresponds to the Late Holocene (Sub-Boreal; Flandrian III). This sample demonstrates the presence of woodland dominated by oak, elm, lime and hazel but also displays evidence of Neolithic cereal cultivation and agriculture. The on-site community comprised alder carr woodland. Anthropogenic activity may have been responsible for higher water tables through reduction in evapotranspiration rates and increased ground water levels and surface run-off, creating again anaerobic conditions suited to peat accumulation.

The upper horizon of peat gave a date of 3670 ± 60 BP, showing that peat formation ceased in the Late Neolithic or Early Bronze Age.

## DISCUSSION

While it is clear that there is both Mesolithic and Bronze Age material present within the flint assemblage, there is room for doubt about the relative contributions of these two periods, and about the more precise dating of the Mesolithic component. The excavators of the site were of the opinion that the majority of the assemblage was Early Mesolithic in date, with minor components being Late Mesolithic and Late Neolithic to Early Bronze Age (Brooks and Price 1997). However, the more detailed analysis presented here suggests that Bronze Age material makes up the larger part of the assemblage, and that the Mesolithic material is Late rather than Early Mesolithic.

Waste material from flint-working makes up a high proportion of the total assemblage. This is generally not diagnostic and is inherently difficult to date, but there are indications that it mostly relates to the later period of activity. The nature of the Mesolithic material suggests that occupation of the site was mainly limited to a small band of hunters, probably using the site sporadically and seasonally. However, the distribution of flints indicates that there were some specific areas of use, a concentration of awls in one case perhaps indicating that this included hide processing. The composition of the Bronze Age assemblage seems to suggest longer-term settlement in the area, perhaps with family groups engaged in a wider variety of activities.

Priestley Farm is the largest, so far discovered, of a series of flint sites along the Flit valley. The surface scatter could be seen to continue in the field either side of the pipeline easement, and covered a total area of *c*. 5–6 hectares. The pipeline probably passed fairly close to the centre of the scatter, but even so, the investigations probably sampled less than 20% of its total area. Given that only a 2% sample of the soil from this area was sieved, the amount sampled may be less than 0.4% of the total flint scatter. If this is a reasonably accurate estimate, the 18,107 items of humanly struck flint recovered from the scatter would represent a total for the whole scatter of close to 5 million pieces. The contrast between the numbers of pieces recovered by sieving and by the various phases of surface collection demonstrates how much could be have been missed by not sampling the site systematically.

In common with the other sites in the Flit valley, Priestley Farm offers dry, well-drained land, close to a ready supply of water, and it is easy to imagine that it would have been favoured as a place of settlement. The re-use of a Mesolithic site in the later prehistoric period also seems to be a pattern common to a number of these sites and suggests that Bronze Age flint-workers may have deliberately targeted old sites as a source of raw material. The distribution of the flint closely reflects the topography of the site, with the highest concentrations on the relatively flat areas at the top of the valley slope.

The pollen sequence shows the expected evolution of the local environment from an open post-glacial landscape to closed-canopy woodland, and provides valuable evidence of the details and chronology of this transition in an area of the country where datable peat sequences are rarely available for study. A long hiatus in peat formation probably corresponds to a drier climatic period, and it may be significant that this seems to correspond to the earliest periods of activity on the site. The final infilling of the old river channels and the cessation of peat formation seems to correspond to the later periods of activity, and it may be that this event was anthropogenic, caused either by deliberate water management or, more likely, as a result of silting from increased agricultural use of the land.

The single Middle Iron Age pottery vessel recovered provides evidence of some continuing activity at the site. The relatively fresh and unabraded nature of the sherds of this vessel indicates that they were dumped either within, or very close to, the feature in which they were found, and that the hole filled fairly quickly after their deposition. The feature was shallow and irregular and may perhaps be best interpreted as a tree-throw hole, which was perhaps used as temporary shelter.

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## BIBLIOGRAPHY

Bevan, L., 1995a, *Later Mesolithic Settlement in the West Midlands: the Analysis of Worked Flint from Surface Collections near Kinver Edge and Excavated Assemblages from the Trimpley-Blackstone Aqueduct* (unpubl. M.Phil thesis, Univ. Birmingham)

Bevan, L., 1995b, 'The Flint', in Hughes, E.G. and Crowford, G., 'Excavations at Wasperton, Warwickshire 1980–85', *Trans. Birmingham and Warwickshire Archaeol. Soc.* 99, 32–8

Bevan, L., 1996, 'The Flint' in Jackson, R. Bevan, L. Hurst, D., and De Rouffignac, C. 'Archaeology on the Trimpley to Blackstone Aqueduct, *Trans. Worcester Archaeol. Soc.,* Third Series 15, 97–107

Bevan, L., 1997, 'Skin Scrapers and Pottery Makers?', in Moore, J. and Scott, B. (eds), *Invisible People and Processes. Writing Gender and Childhood into European Archaeology* (Leicester, Leicester Univ. Press), 81–7

Bevan, L., forthcoming, 'A Late Bronze Age Flint Assemblage from the Riverside Zone at Runnymede Bridge, Egham, Surrey' (British Mus. Monogr.)

Bevan, L. and Candy, J., 1999, *The flint from Tingrith* (unpubl. rep., Network Archaeol. Ltd)

Binford, L.R., 1978, 'Dimensional Analysis of Behaviour and Site Structure from an Eskimo Hunting Stand', *American Antiquity* 43, 330–61

Binford, L.R., 1980, 'Willow Smoke and Dog's Tails: Hunter Gatherer Settlement Systems and Archaeological Site Information', *American Antiquity* 45, 4–20

Bordaz, J., 1989, *Tools of the Old and New Stone Age* (New York, Dover Publ. Inc.)

Bradley, P. and Hey, G., 1993, 'A Mesolithic Site at New Plantation', *Oxoniensia* 58, 1–26

Brooks, I.P. and Price, J., 1997, *Flitwick 1996–1997 post-excavation assessment* (unpubl. rep., British Gas Transco)

Candy, J., 1999, *Tingrith flint microwear study* (unpubl. rep., Network Archaeol. Ltd)

Clark, J.G.D., 1936, 'A Late Bronze Age Site in Mildenhall Fen, West Suffolk', *Antiq. J.* 16, 29–49

Clark, J.G.D., 1955, 'A Microlithic Industry from the Cambridgeshire Fenland', *Proc. Prehist. Soc.* 21, 3–20

Clarke, D.L., 1976, 'Mesolithic Europe the Economic Basis', in Sieveking, G. de G., Longworth, I. and Wilson, K.E. (eds), *Problems in Economic and Social Archaeology* (London, Duckworth), 449–81

Drewett, P.L., 1982, 'Later Bronze Age Downland Economy and Excavations at Black Patch, East Sussex' *Proc. Prehist. Soc*. 48, 321–400

Edmonds, M., 1995, *Stone Tools and Society: Working Stone in Neolithic and Bronze Age Britain* (London, Batsford)

Fadden, K., 1970, 'Ruxox Farm, Maulden 1. The Prehistoric Finds', *Bedfordshire Archaeol. J*. 5, 1–4

Fadden, K., 1972, 'Further Flint Finds from Ruxox Farm, Maulden', *Bedfordshire Archaeol. J*. 7, 79–81

Fadden, K., 1973, 'Mesolithic Flints from Beadlow Manor Farm, Clophill, *Bedfordshire Archaeol. J*. 8, 131

Fadden, K., 1975, 'A Field-Walking Exercise in the Ampthill Area', *Bedfordshire Archaeol. J*. 10, 1–4

Fadden, K., 1991, 'Mesolithic Finds from Priestley Farm, Flitwick', *Bedfordshire Archaeol*. 19, 91–4

Finlay, N., 1997, 'Kid Knapping: the Missing Children in Lithic Analysis', in Moore, J. and Scott, E. (eds), *Invisible People and Processes: Writing Gender and Childhood into European Archaeology* (Leicester, Leicester Univ. Press), 203–12

Ford, S., Bradley, R., Hawkes, J. and Fisher, P., 1984, 'Flint-Working in the Metal Age', *Oxford J. Archaeol*. 3, No. 2, 157–73

Godwin, H., 1940, 'Pollen analysis and forest history of England and Wales', *New Phytologist* 39, 370–400

Godwin, H., 1956, *The History of the British flora,* 1st edition (Cambridge, Cambridge Univ. Press)

Godwin, H., 1975, 'History of the natural forests of Britain: establishment, dominance and destruction' *Philosoph. Trans. Royal Soc*. B 271, 47–67

Gould, R.A., 1980, *Living Archaeology* (Cambridge, Cambridge Univ. Press)

Green, H.S., 1980, *The Flint Arrowheads of the British Isles,* Brit. Archaeol. Rep. Brit. Ser. 75 (Oxford)

Green, H.S., 1984, 'Flint Arrowheads: Typology and Interpretation', *Lithics* 5, 19–39

Grøn, O., 1995, *The Maglemose Culture: The Reconstruction of the Social Organisation of a Mesolithic Culture in Northern Europe*, Brit. Archaeol. Rep. Int. Ser. S616 (Oxford)

Harding, P., 1991, 'Stratified Flint Assemblages from Rowden and Cowleaze', in Woodward, P., *The South Dorset Ridgeway: Survey and Excavations 1977–84,* Dorset Nat. Hist. Soc. Monogr. Ser. 8, 73–85

Hayden, B., 1992, 'Observing Prehistoric Women', in Claassen, C. (ed.), *Exploring Gender Through Archaeology,* Monogr. World Archaeol. 11. (Wisconsin, Prehist. Press) 33–47

Healy, F., 1986, 'Struck Flint', in Petersen, F.F. and Healy, F., 'The Excavation of Two Round Barrows and a Ditched Enclosure on Wasenham Lyngs, 1972', in *Barrow Excavations in Norfolk, 1950–1982*, E. Anglian Archaeol. 29, 80–9

Healy, F., 1988, *The Anglo-Saxon Cemetery at Spong Hill, Elmham, Part IV. Occupation during the Seventh to Second Millennia BC*, E. Anglian Archaeol. 39

Jacobi, R.M., 1978, 'Population and Landscape in Mesolithic Lowland Britain', in Limbrey, S. and Evans, J.G. (eds), *The Effect of Man on the Landscape: the Lowland Zone,* Counc. Brit. Archaeol. Res. Rep. 21, 75–85

Kenyon, K.M., 1950, 'Excavations at Breedon on the Hill, Leicestershire, 1946', *Trans. Leicestershire Archaeol. Soc*., 26, 17–82

Machling, T., 1998, *Prehistoric pottery from the Steppingley to Aylesbury pipeline* (unpubl. rep., Network Archaeol. Ltd)

Mellars, P., 1976, 'Settlement Patterns in the British Mesolithic', in Sieveking, G. de G., Longworth, I. and Wilson, K.E. (eds,), *Problems in Economic and Social Archaeology* (London, Duckworth), 375–99

Moore, J.M., 2000, 'Who Lights the Fire? Gender and the Energy of Production', in Donald, M. and Hurcombe, L. (eds), *Gender and Material Culture: Archaeological Perspectives* (Oxford, Blackwells), 123–36

Moore, P.D. and Webb, J.A., 1978, *An illustrated guide to pollen analysis* (London, Hodder and Stoughton)

Moore, P.D., Webb, J.A. and Collinson, M.E., 1991, *Pollen Analysis,* Second edition (Oxford, Blackwell Scientific)

Nuzhnyi, D., 1990, 'Projectile Damage on Upper Palaeolithic Microliths and the Use of Bow and Arrow Among Pleistocene Hunters in the Ukraine. The Interpretative Possibilities of Microwear Studies', *Proc. Int. Conf. Lithic Use-wear Analysis, 15th–17th February in Uppsala, Sweden*, 112–24

Pieksma, E.J. and Gardiner, J., 1989, 'The Prehistoric Flint and Stone Assemblage', in West, S., *West Stow, Suffolk: the Prehistoric and Romano-British Occupations,* E. Anglian Rep. 48, 46–59

Pitts, M., 1978, 'On the Shape of Waste Flakes as an Index of Technological Change in Lithic Industries', *J. Archaeol. Science* 5, 17–37

Price, T.D. and Petersen, E.B., 1987, 'A Mesolithic Camp in Denmark', *Scientific American* 256, No. 3, 90–9

Rankine, W.F. and Dimbleby, G.W., 1960, 'Further Excavations at a Mesolithic Site at Oakhanger, Selborne, Hants', *Proc. Prehist. Soc*. 26, 246–62

Saville, A., 1972/3, 'A Reconsideration of the Prehistoric Flint Assemblage from Bourne Pool, Aldridge, Staffs', *Trans. S. Staffs Archaeol. Hist. Soc*. 14, 6–28

Saville, A., 1973/4, 'A Collection of Flint Artefacts from the South-East Shropshire Region', *Trans. Shropshire Archaeol. Soc*. 59, Part 3, 198–208

Saville, A., 1981a, *Grimes Graves, Norfolk. Excavations 1971–72, Vol. 2, The Flint Assemblage* (Dept. Envir.)

Saville, A., 198lb, 'Mesolithic Industries in Central England: an Exploratory Investigation using Microlith Typology', *Archaeol. J*. 138, 49–71

Scaife, R.G., 1999, *Tingrith: Pollen Analysis of the Valley Peat Sequence* (unpubl. rep., Network Archaeol. Ltd)

Schofield, A., 1987, 'Putting Lithics to the Test: Non-Site Analysis and the Neolithic Settlement of Southern England'. *Oxford J. Archaeol*. 6, No. 3, 269–85

Simms, S.R., 1988, 'The Archaeological Structure of a Bedouin Camp', *J. Archaeol. Science* 15, 197–211

Stone, J.F.S., 1937, 'A Late Bronze Age Habitation Site at Thorney Down, Winterbourne Gunner', *Wilts. Archaeol. Nat. Hist. Magazine* 47, 640–60

Woodman, P.C., 1985, *Excavations at Mount Sandal 19 73–77,* N. Ireland Archaeol. Monogr. 2

Woodward, P.J., 1978, 'Flint Distribution, Ring Ditches and Bronze Age Settlement Patterns in the Great Ouse Valley', *Archaeol. J*. 135, 32–56

Wymer, J.J., 1977, *Gazetteer of Mesolithic Sites in England and Wales with a Gazetteer of Palaeolithic Sites in England and Wales,* Counc. Brit. Archaeol. Res. Rep. 20