EXCAVATION OF AN EARLY PREHISTORIC SITE AT CREFFIELD ROAD, ACTON

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SUMMARY

In 1988 *the Museum of London's Department of Greater London Archaeology excavated a small site in Creffield Road, Acton, West London close to a major find-site of Middle Palaeolithic material by John Allen Brown in* 1885, *interpreted by him as a working floor. It lay at the base of a layer of 'brickearth' overlying Lynch Hill Terrace gravel. Nearby excavations in* 1974/5 *directed by G de G Sieveking failed to relocate this working floor, although a number of Middle Palaeolithic artefacts and a large concentration of flint artefacts typologically of later date were recovered from the brickearth layers.*

The 1988 *excavation included a detailed investigation of the geology of the site. It revealed a sequence of fluvial deposits overlying Lynch Hill Gravel indicating that a braided stream system had existed in the area. Overlying the fluvial deposits was a series of reworked alluvial/colluvial deposits, with a large loessic component in the upper portion. These were deposited by mass-movement under cold-climate conditions, probably during the Devensian. It is possible that the surface Allen Brown described as a working floor could have been an unconformity within the sequence of fluvial deposits, with a possible early Devensian date. The archaeological material from the* 1988 *excavations was all recovered from the upper sediments, and mirrored the material from the* 1974/5 *excavations; a single Levallois flake evidently transported within the sediments, and a number of artefacts of later date deposited after they had been laid down and distributed vertically within them by bioturbation. A Mesolithic date is indicated for this later material.*

INTRODUCTION

In 1988 the Museum of London's Department of Greater London Archaeology undertook excavations in the grounds of the Japanese School in London (formerly the Haberdashers' Aske's Girls' School), Creffield Road, Acton, West London. Excavations took place following the demolition of a single storey annexe to the main school buildings in advance of the erection of a larger building on its site. This small site, made available through the co-operation of the Japanese School who delayed development for a short period, offered the Museum a valuable opportunity to excavate in the immediate vicinity of two major find-sites of earlier prehistoric material, by John Allen Brown in 1885 and G de G Sieveking in 1974/5. The aim of the excavations was both to recover archaeological material in advance of its destruction by the redevelopment and to investigate the geology in as much detail as possible in order to attempt to place the archaeology of the site in a firm context.

ARCHAEOLOGICAL BACKGROUND

John Allen Brown recorded and collected a large number of artefacts from what he described as an *in situ* 'Palaeolithic workshop' or working floor located during the digging of gravel pits in Creffield Road in 1885 (Allen Brown 1886, 1887, 1889). He reported this working floor to be lying on a seam of black-stained gravel situated immediately beneath the overlying brickearth. He interpreted this seam as an ancient land surface, the black staining being due to decayed organic matter. He claimed to have located this land surface elsewhere, for instance at Freeland Road nearly half a mile away (Allen Brown

1887, 61). As well as the concentration of artefacts on the surface of the gravel, Allen Brown described two seams or 'surfaces' at some depth within the gravel (also marked by black staining) and reported finding small numbers of unrolled flint tools from them (two from the lower, 'eight or ten' from the higher (Allen Brown 1887, 57)).

Almost five hundred flakes were recovered from the Creffield Road gravel pits by Allen Brown. They are now in the Sturge Collection, housed at the British Museum. Typologically these artefacts have been classified as Middle Palaeolithic (Wymer 1968, Roe 1981). J G Marsden collected more flints from the immediate vicinity of Allen Brown's find site in 1927, reporting them to have been 'thrown up from a depth of four to six and a half feet in the brickearth' (Marsden 1927). The 70 or so struck flints consisted mainly of simple flakes and spalls, but included 18 small Levallois flakes and a tortoise core. He reported the condition of the flakes to be generally good. Again, typologically these artefacts belong to a Middle Palaeolithic industry. The concentration of artefacts found by Allen Brown is interesting in that relatively few Middle Palaeolithic assemblages have such a large Levalloisian component. The *pointe levallois typique*, of which the collection contains a number, is often held to be associated with Mousterian industries (Roe 1981, 218).

Allen Brown's site now lies beneath housing immediately to the west of the Japanese School. In 1974/5 G de G Sieveking directed excavations, under the aegis of the London and Middlesex Archaeological Society, over 100m to the east of Allen Brown's find site, on the other side of the school, in an attempt to find more evidence for this working floor (Burleigh 1976). The working floor was not relocated, although a large number of flint tools were recovered from the deposits overlying the gravel. Of over 5,500 finds about 30 pieces were of Levalloisian or Mousterian type comparable to the material found by Allen Brown, some reasonably fresh while others were rolled. The bulk of the finds however were of a different type, characterised by blade cores, fresh flakes and blades. They included about 60 cores, 80–90 scrapers (some manufactured on blades) and 60 or so microliths. Burnt flint was also recovered. Typologically this material has Mesolithic affinities, although on the basis that the material lay within deposits of Devensian age a possible Late Upper Palaeolithic date was suggested. Mesolithic material had previously been recovered from the general vicinity; collected by both Allen Brown and F N Haward in Acton near the area of the school site (Wymer and Bonsall 1977).

THE 1988 EXCAVATIONS

The site to be developed lay immediately east of the main school buildings in Creffield Road (National Grid Ref: TQ 195808; see Fig 1). Following demolition of the single storey building and removal of the rubble by machine, the surface was cleaned by hand. Two flint artefacts were recovered at this stage from the exposed surface, including a blade (Fig 6 No. 5). Fragments of burnt flint were also recovered, together with artefacts of 19th-century and later date. The only cut features were modern. The stratigraphy of the site is dealt with in detail below, but may be briefly summarised here. The lowest level exposed in excavations consisted of river terrace gravels belonging to the Lynch Hill Gravel. These were overlain by *in situ* fluvial deposits, above which was a layer of brickearth consisting of reworked alluvial/colluvial deposits with a large loessic component in its upper portion.

The foundations of the building had disturbed the ground to a depth of about 0.6m; the modern ground surface lay at a height of approximately 29.2m OD while the surface exposed below the demolition material lay at an average level of 28.6m OD. A massive ring foundation trench, with two cross trenches, a 19th-century brick pit and a trench from the 1974/5 excavations cut the stratigraphy to the depth of the river terrace gravel. This left three 'islands' of intact stratigraphy (albeit truncated), designated Areas 1, 2 and 3 (see Fig 2). Together they occupied an area of about 110 square metres. Area 1 was the largest, at 55 square metres; Area 2 was badly disturbed by the brick pit and was some 20 square metres in area, while Area 3 occupied about 35 square metres.

In the absence of any ancient features, a sampling strategy was employed in order to locate any concentrations of archaeological material. A local grid was set up covering the area to be excavated, and a number of sample pits laid out conforming to it. Each Area was sampled using these hand-dug pits, measuring 1m by 1.5m, spaced between 1.5m and 2.5m apart. The size and spacing of these pits ensured

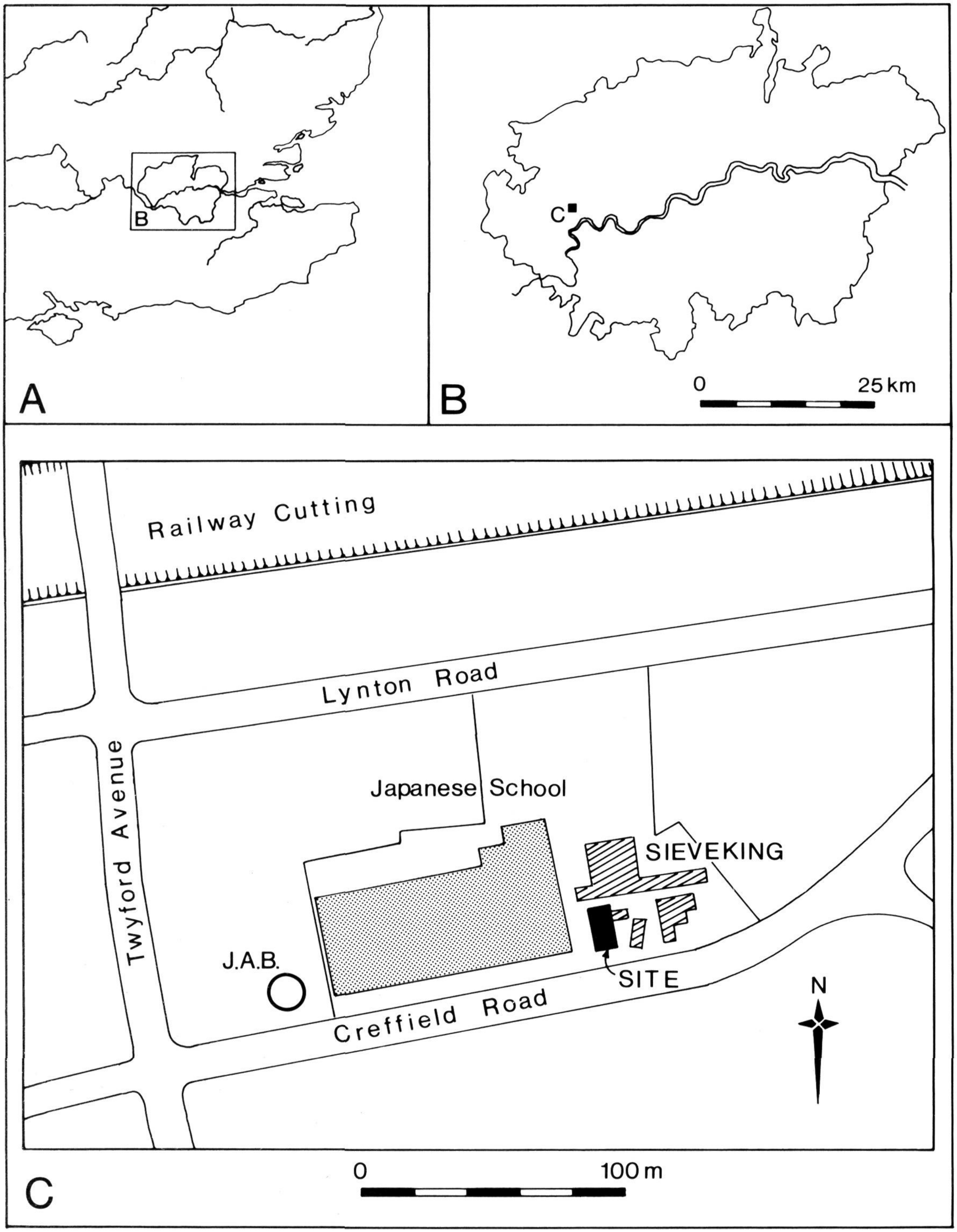

Fig 1. Creffield Road 1988: site location

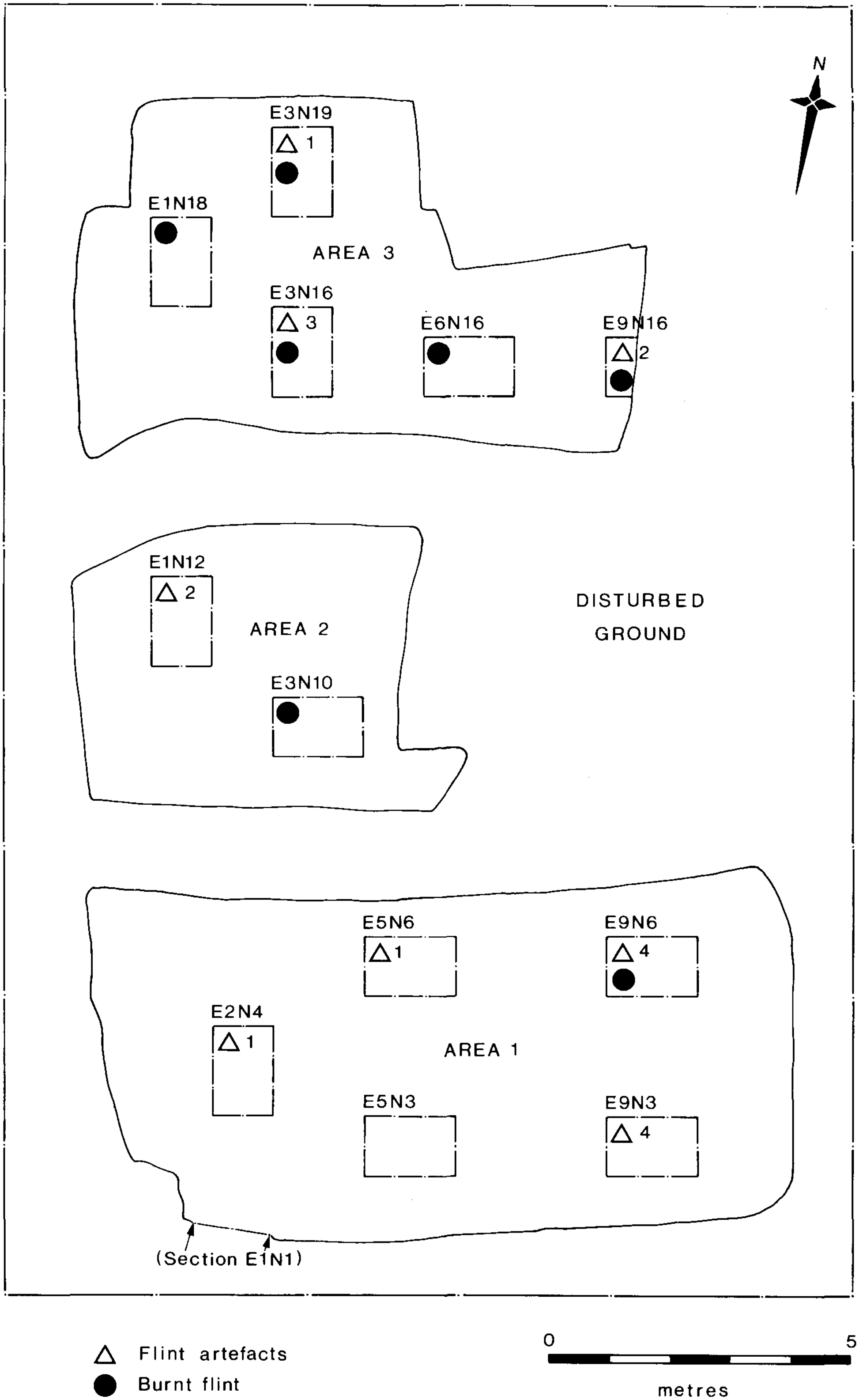

Fig 2. Creffield Road 1988: site plan showing artefact distribution

that any concentrations of flint or other features were likely to be located, and allowed for wider area excavations to be undertaken if necessary. A total of 12 sample pits were dug, five each in Areas 1 and 3, and two in Area 2. The easternmost pit in Area 3 (E9N16) was subsequently abandoned when it was found to be disturbed, though some material was recovered from the undisturbed portion. The sample pits were dug in 50mm spits through the upper deposits, or less if a change in the nature of the sediments occurred. Three dimensional recording was employed for all finds.

The sample pits in Area 1 were the first to be excavated, and all were taken down below the level of the river terrace gravels (the surface of the gravels lying at a level of 27.4m OD in this area). The gravel was only excavated to a depth of about 100mm. The geology of the site was investigated on the basis of the sample pits in Area 1 together with a machine-cut sounding (E1N1); the indications were that no *in situ* deposits would be found on the surface of the gravel, which was an erosive contact. In view of this, and the resources available for excavation, sample pits in Areas 2 and 3 were excavated to the bottom of the upper deposits only (except for one in Area 3, E9N16, also excavated to the depth of the river terrace gravel as a check on its level).

The distribution of finds is shown in Figs 2 and 3. The struck flint shows no significant areas of concentration, although there is a slight increase in density of finds in the south-western corner of the site. The vertical distribution of the struck flint shows wide variation, suggesting considerable vertical dilation of the material. None of the flints were in direct association, and no refits were found. The distribution of burnt flint is more uneven, being restricted to roughly the north-east half of the site. No local concentrations suggesting the presence of a hearth or other feature were found, and no charcoal was recovered. No evidence was found to link the burnt flint directly to the struck flint. Bulk samples were taken from the upper deposits for possible environmental sampling, but the acidity of the deposits makes the survival of such remains unlikely and none were recovered from the site. A single piece of later prehistoric pottery was recovered from the upper deposits.

The finds and site archive are housed at the Museum of London.

THE GEOLOGY OF THE SITE

Structural geology

S Collcutt

Introduction

The following brief discussion of the structural geology of the Museum of London Creffield Road site is based upon field observations made during a day visit in July 1988. At that time a small number of exposures were available in the southern part of the site, covering an area of *c.* 12m × 6m. Extreme caution must be applied in interpreting such restricted exposures. Nevertheless, certain suggestions relevant to the stratigraphy and physical contexts would appear justified, at least as hypotheses with which to approach future work in the general area.

Lithostratigraphy and lithogenesis

Detailed log descriptions of the five main exposures are given at the end of this report. Schematic representations are shown on Fig 4; the location of the exposures is shown on Fig 2. The logs have been set in an order judged to produce the best approximation of geometry and to bring out the most logical sequence of lateral *facies* shift; an element of subjectivity nevertheless remains. For ease of reference, we will say that the left side of Fig 4 represents conditions towards the SSW, and the right side those towards the NNE. The height scale shown is relative; the zero point is equivalent to 27.3m OD.

The composite sequence has been divided into four main sediment intervals, A to D, all but one (interval C) being sedimentary units in the strict sense.

Interval A is composed of well-bedded and compact fluvial flint gravels, sometimes with sand subunits. The lower boundary of the interval is undefined, but it seems reasonable to take the upper boundary as a stratigraphic marker, recognisable in all the exposures. This material can be referred to the Lynch Hill Gravel (*sensu* Gibbard 1985) thought to date from some point towards the middle of the Wolstonian (there is no need to enter into the present controversy over this term here).

Interval B also comprises *in situ* fluvial deposits which could be included with the Lynch Hill

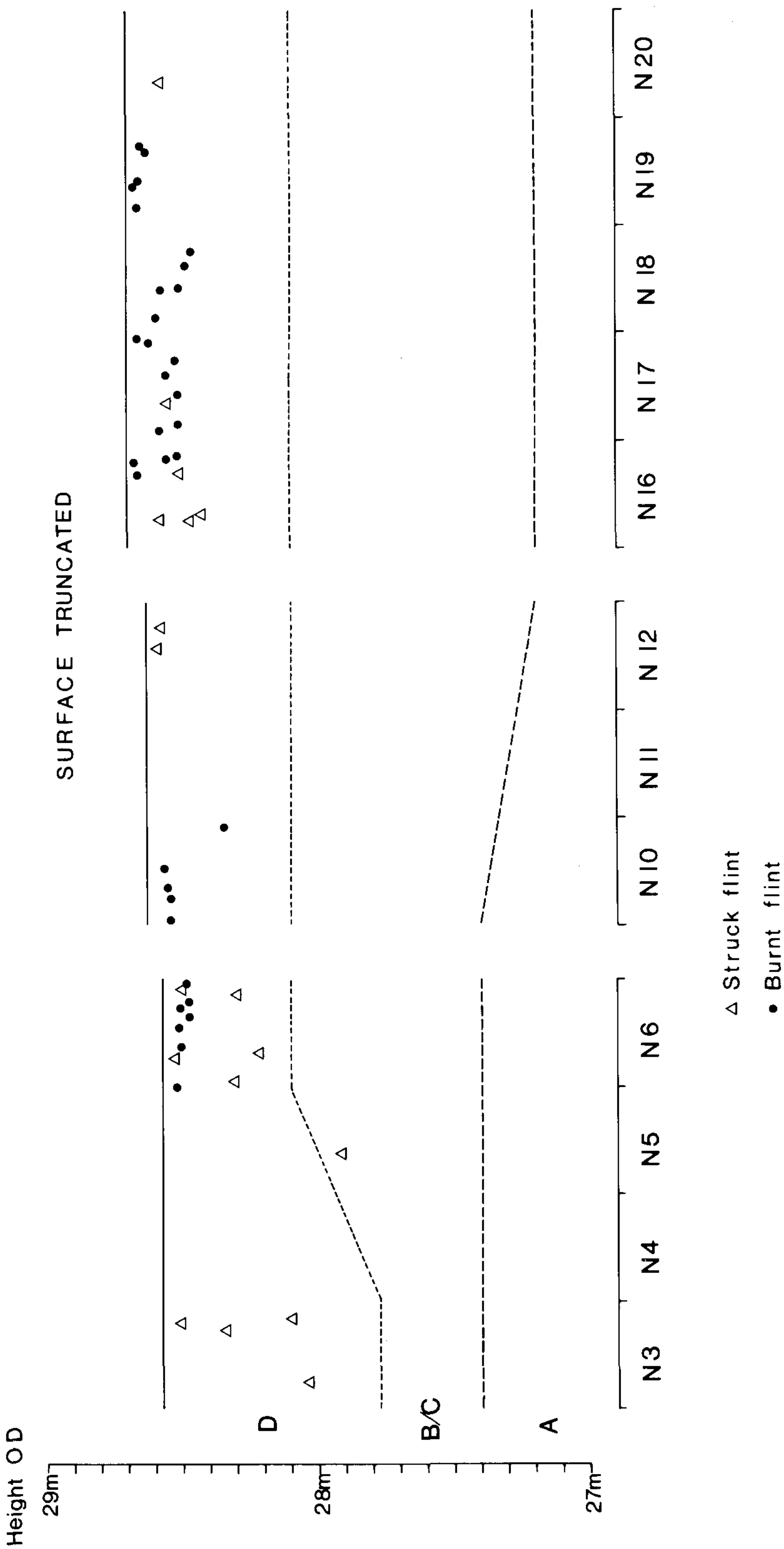

Fig 3. Creffield Road 1988: schematic cross-section showing sediment intervals and artefact distribution

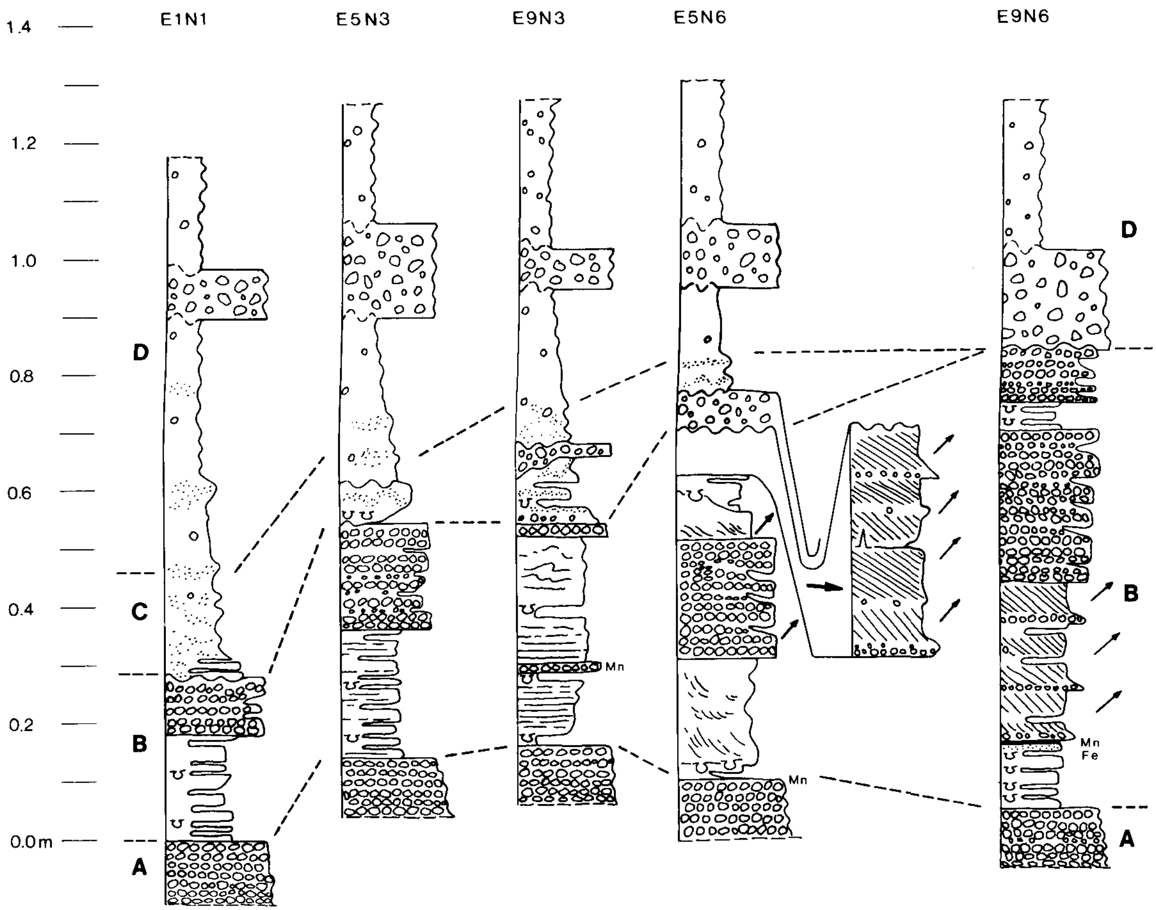

Fig 4. Creffield Road 1988: geological section of Area 1

Gravel. These gravels, sands and clays are well structured, but they are not generally well sorted and there are common signs of rapid deposition (load casts, fluid escape structures *etc.*), erosion (frequent cross-cutting relationships) and fluctuating flow stage (alternations of thin units with radically differing textures). All these characteristics are common in cooler climate rivers.

There are traces of cross-bedding in the stratigraphically lower part of Interval B (*eg* in E5N6 up to *c.* 0.6m on the scale in Fig 4) with a dip bearing generally towards the NNE. Assuming that these are point-bar accumulations, the local trend of the river might have been very roughly E-W; from regional palaeogeography, it might be expected that the river would have been running approximately towards the E or ESE.

In the upper part of Interval B (*eg* in E5N6) a clear channel cuts the older deposits. The sands in this channel show much stronger cross-bedding; combining the channel edge trend and the cross-bedding dip bearing, it can be stated with some confidence that the river at that time was flowing locally towards the east.

Within the restricted exposures of Interval B, it can be seen that one stream line was drifting laterally NNE through time. However it cannot be assumed that the whole river or its thalweg was drifting, since the system could have been braided and the observed drift might then represent a very local adjustment in channels on an essentially stable valley floor. Indeed, the valley as a whole might have been drifting in the opposite direction.

There is no unequivocal evidence of a substantial time gap or a subaerial palaeosurface within Interval B, although the frequent erosive contacts might mask a significant unconformity. The only suggestion of stability is found at the 0.17m level in E9N6 where there is a strong manganese-over-iron pan. No organic matter or truncated root casts could be recognised in the field. Also the position of the pan directly below a highly erosive channel base is rather suspect. The pan could be the result of diagenetic replacement of a calcareous or organic lag in the channel bottom rather than of emergence.

Interval C is defined here for contextual reasons. It comprises sediments that are dominantly fluvial in origin but which have been radically disturbed at a later date. The textures are those of the underlying Interval B, with the addition of silts in places. Bedding structures, such as laminations, only survive in small, often contorted patches, usually where clay laminae give the original sediment some coherence. There are no unequivocal ground-ice-induced structures but cold climate mass movement and cryoturbation seem the most likely cause. The whole interval is highly erosive, locally dipping rapidly towards the SSW and removing more and more of the underlying Interval B in the process. The dip is exaggerated in Fig 4; the actual slope is *c.* 5°. Gibbard (1985) notes that the Lynch Hill Gravel, where overlain by subaerial deposits, is usually capped by a cryoturbated interval, marking a significant unconformity. The slope towards the SSW would fit the regional pattern if the Thames had by then incised its valley to the south of the site.

The boundary between Intervals C and D is to some extent arbitrary and reflects merely the loss of even relic fluvial structures and a gradual decrease in the sand component. There is no sharp contact and no possibility of a stable palaeosurface.

The sediments of Interval D, although retaining a gravel component at some levels which was no doubt derived from the earlier fluvial deposits, are dominantly silty. These brickearths are included within the Langley Silt Complex of Gibbard (1985) and are thought to date from the Devensian, although there are rare cases in which the lowest material might be later Wolstonian. The source of the silt is probably largely aeolian (loess) but most exposures in the region show a variety of restructuring and mixing by such processes as mass movement and slope wash. At Creffield Road, the prominent gravelly diamict at about the 1.00m level is clearly a solifluction deposit. No finer structures, such as wash laminations, were observed in the clayey silts but, given the increasing degree of bioturbation upwards, this is not very surprising.

No pedogenic horizon differentiation was observed at any point within Interval D. Even the highest silts show only weak restructuring, although unstripped topsoil was not available for study. Neither are there any horizons of truncated bioturbation; bioturbation simply increases upwards towards the modern surface, with more and more roots still in place. Indeed, most of the observed bioturbation at the site, right down to Interval B in places, could well be sub-recent. It should be noted that some decaying tap-roots were *c.* 20mm in diameter.

There is no major lithological change in the topmost material of Interval D, despite the archaeological evidence of a Holocene date (see below). These are probably Pleistocene silts, gently reworked in a local setting with only low angle slopes.

Log descriptions (Fig 4)

E1N1 (approx) Sounding

—Well bedded and compact sandy medium gravel; Mn-staining; over 100mm thick (base not seen).
—Deformed sand and clay lenses and laminations; load structures; 180mm thick.
—Bedded but contorted sandy gravel; very irregular upper boundary; 100mm thick.
—Contorted remains of sand and clay lenses, passing upwards into clayey silt/sand with discrete disturbed clayey sand patches (lithorelics) passing upwards into clayey silt; no observable internal contacts; weak bioturbation structures; 620mm thick.
—Contorted gravelly clay; matrix support; diffuse contacts, especially below; 80mm thick.
—Bioturbated clayey silt; over 200mm thick (upper surface disturbed by stripping).

Excavation E5N3

—Bedded and compact medium to fine gravel in a matrix of slightly clayey medium sand; over 100mm thick (base not observed).
—Alternating clay and sand laminations, well bedded in places but elsewhere strong load casting; 220mm thick.
—Clayey fine to finest medium gravel, with pockets of clayey sand; bedded but becoming slightly deformed upwards; 180mm thick.
—Clays, with medium sand above; some load structures but also very heavily contorted at a later date; irregular but moderately sharp upper boundary; 70mm thick.
—Sandy loam, passing upwards to clayey silt; strong bioturbation; 290mm thick.
—Contorted badly classed fine to medium gravel; partial clayey silt matrix support; some vertically orientated clasts; diffuse and very irregular contacts, especially below; 160mm thick.

—Bioturbated clayey silt; over 200mm thick (upper surface disturbed by stripping).

Excavation E9N3

—Bedded sandy medium to fine gravel; over 100mm thick (base not observed).
—Deformed clay lens; 20mm thick.
—Laminated fine medium sand; Fe-staining; 90mm thick.
—Deformed clay; load casting; 20mm thick.
—Finest gravel; Mn-stained; 10–20mm thick.
—Laminated medium to finer coarse sand; Fe-staining; bedded but becoming deformed upwards; 120mm thick.
—Clayey fine to medium gravel; 20–30mm thick.
—Bedded but contorted or heavily contorted sands, with finest gravel seams and clay lenses; load casting; 80–120mm thick.
—Clayey fine to medium gravel; partial matrix support; sharp but irregular lower boundary, more diffuse upper boundary; 20–60mm thick.
—Sandy loam, passing upwards to clayey silt; strong bioturbation; 280mm thick.
—Contorted badly classed fine to medium gravel; clayey silt matrix support; some vertically orientated clasts; diffuse and very irregular contacts, especially below; 70mm thick.
—Heavily bioturbated clayey silt; over 250mm thick (upper surface disturbed by stripping).

Excavation E5N6

—Well bedded and compact sandy medium gravel; Mn-staining; over 100mm thick (base not observed).
—Load-cast clayey sand and clay; 30mm thick.
—Clayey medium to coarse sand; bedded, perhaps cross-laminated, but slightly deformed; Fe-staining; 180mm thick.
—Bedded medium gravel, with sand lenses dipping gently along bearing *c.* 20–25°; 200mm thick.
—Medium sand; slightly deformed but probable cross-laminations dipping along bearing *c.* 20–25°; Fe-staining; 50–90mm thick.
—Very clayey fine sand; thickening (lower boundary dropping) generally northwards; lower boundary irregular due to load casting; 20–60mm thick.
—Slightly clayey medium sand, with finest gravel and coarse sand seams especially near base; roughly horizontal tabular sets of cross-laminations, the laminations dipping along bearing *c.* 30–35°; some flame structures originating from clayier partings between sets; sharp erosive lower boundary; 80mm thick to south but thickening fast (within 1.5m laterally) northwards to 400mm.
—Contorted medium gravel, with patches of clayey matrix support; irregular lower boundary, erosive in places; 70mm thick but thinning around margins of a trough-shaped erosive feature filled mainly by the next unit above.
—Clayey silt with irregular sandy patches; rather diffuse lower boundary; bioturbated; 180mm thick but thickening to 470mm in trough-shaped erosive feature.
—Badly sorted, matrix-supported clayey silt; over 250mm thick (upper surface disturbed by stripping).

Excavation E9N6

—Well-bedded fine to finer coarse gravel, with sandy lenses; Mn-staining; over 100mm thick (base not observed).
—Alternations of sand and clay laminations; heavily load-casted; 100mm thick.
—Strong horizontal foliated Mn pan with underlying clayey Fe band; no observable reaction to combustion; no observable ancient bioturbation structures; discordant to structure in underlying unit; rare microfaulting (mm scale); 20mm thick (Fe drifting down into underlying sediment in places).
—Tabular erosive sets of laminated sands, with fine gravel seams and clay lenses; sands show cross-laminations in places, dipping along bearing *c.* 25–30°; Fe-staining; 270mm thick.
—Well bedded fine to medium gravel with slightly clayey fine sand lenses, the latter thickening and eventually becoming dominant north-eastwards; 260mm thick.
—Clayey medium sand laminae and clay lenses; 50mm thick.
—Medium gravel and medium sand lenses; 100mm thick.
—Badly sorted medium gravel; clayey silt matrix support; some vertical clasts; irregular and erosive lower boundary; 170mm thick.
—Heavily bioturbated clayey silt; over 250mm thick (upper surface disturbed by stripping).

Sediment analysis

C Green and D McGregor

Gravel composition

The composition of the 11.20–16.00mm size fraction of three samples of gravel was examined (Table 1). The samples (S1a, S4a, S5a) come respectively from sediment interval A, the upper part of sediment interval B and sediment interval D of the succession outlined above. Sample S1a, presumed to come from the Lynch Hill Gravel of Gibbard (1985), has a composition very similar to the mean composition of ten samples of Lynch Hill Gravel tabulated by Gibbard (1985) and derived from examination of the combined 33mm, 16mm and 8mm fractions.

Samples S4a and S5a also resemble the Lynch Hill Gravel, but both samples have a smaller proportion of quartz and quartzite, and a larger proportion of Lower Greensand material than sample S1a from the immediately underlying Lynch Hill Gravel at the Creffield Road site. These characteristics may reflect the influence of a right bank tributary of the Thames, presumably in this area the Mole, either actively reworking the Lynch Hill Gravel, or providing a source of material in the form of pre-existing tributary deposits.

The gravel beds from which samples S4a and S5a came were both thin and clay-rich, and

Table 1. Composition of gravel samples. Samples S1a, S4a and S5a from Creffield Road; PLG — mean of ten Lynch Hill Gravel samples tabulated by Gibbard (1985)

Sample	**flint**	**quartz**	**quartzite**	**L. Greensand**	**Other**	**No.**
S1a	90.3	2.1	3.7	2.9	1.0	484
PLG	90.1	4.4	2.1	3.1	0.2	—
S4a	91.1	1.1	2.8	4.4	0.6	181
S5a	89.3	2.4	1.2	5.9	1.2	156

prior to washing, both samples were seen to contain clay clasts. Both gravels are therefore consistent with very local reworking of material, or may be of colluvial origin.

Textural analysis

Textural analysis of the fine grained component (<2mm) in samples from the Creffield Road deposits shows that the samples are drawn from an association of sediment types represented widely in the Pleistocene deposits of the Thames valley and of other river valleys in southern England. Fig 5, based on the findings of several authors, indicates a continuum of sediment types, and shows the position of the Creffield Road material within this continuum.

In general, in sediments at one end of the continuum (group A), deposition from running water is indicated by a dominance of sand (>80%) in the <2mm size fraction. Sand occurs both as the interstitial matrix of clast supported gravels and as separate beds. At Creffield Road, samples S1, S3, S4, S5 and S7 are obviously very sandy and the sediment bodies from which they were taken all have characteristics consistent with deposition from running water. The sand forms either the sandy matrix of a gravel (S1—from Interval A) or discrete sand beds (S3, S4, S5 and S7—all from Interval B).

In sediments at the other end of the continuum (group D), deposition of loess is indicated by a dominance of silt (>80%) in the <2mm size fraction. However, uncontaminated loess deposits in primary depositional context are rarely identified in south-east England, and none is present at Creffield Road.

Between the two end groups (A and D) in Fig 5, two further sediment types can be identified with an area of overlap between them.

1. The predominantly sandy sediments of group A form a continuum, close to the axis aa in Fig 5, with sediments in which an admixture of both silt and clay has occurred (group B). This material typically forms the matrix of colluvial gravels or occurs as discrete beds within them. At Creffield Road samples S2, S8 and S9 represent sediments of this type. Sample S2 comes from a bed of clayey sand within a sequence of otherwise apparently water-laid sediments, towards the base of Interval B. Samples S8 and S9 come from a bed some 200m in thickness sandwiched between two thin <100m horizons of clayey gravel, towards the top of sediment interval B.

2. Silt-rich sediments of group D form a continuum with sediments in which an admixture of sand and clay is present (group C—brickearths). These sediments are loosely grouped on the clayey side of the axis bb in Fig 5. At Creffield Road, samples S6, S10 and S11, which all come from sediment interval D, closely resemble in texture brickearth from elsewhere in the Thames basin, including material underlying the Lynch Hill Terrace at nearby sites (Fig 5). The Creffield Road samples all include relatively large amounts of both sand and clay, which places them in the field of overlap between brickearths (group C) and the clayey and silty colluvial deposits derived from sediments of water-laid origin (group B). The two samples (S10 and S11) from the uppermost brickearth horizon suggest the presence of an upward increase in silt content, a pattern noted by McGregor & Green (1983) in brickearth deposits on the older terraces of the Thames. The textural characteristics of the brickearths at Creffield Road are clearly consistent with their inclusion, as suggested above, in the Langley Silt Complex of Gibbard (1985).

Conclusion

The composition of the gravels at the Creffield Road site, and the textural characteristics of the sediments, confirm the local stratigraphy outlined

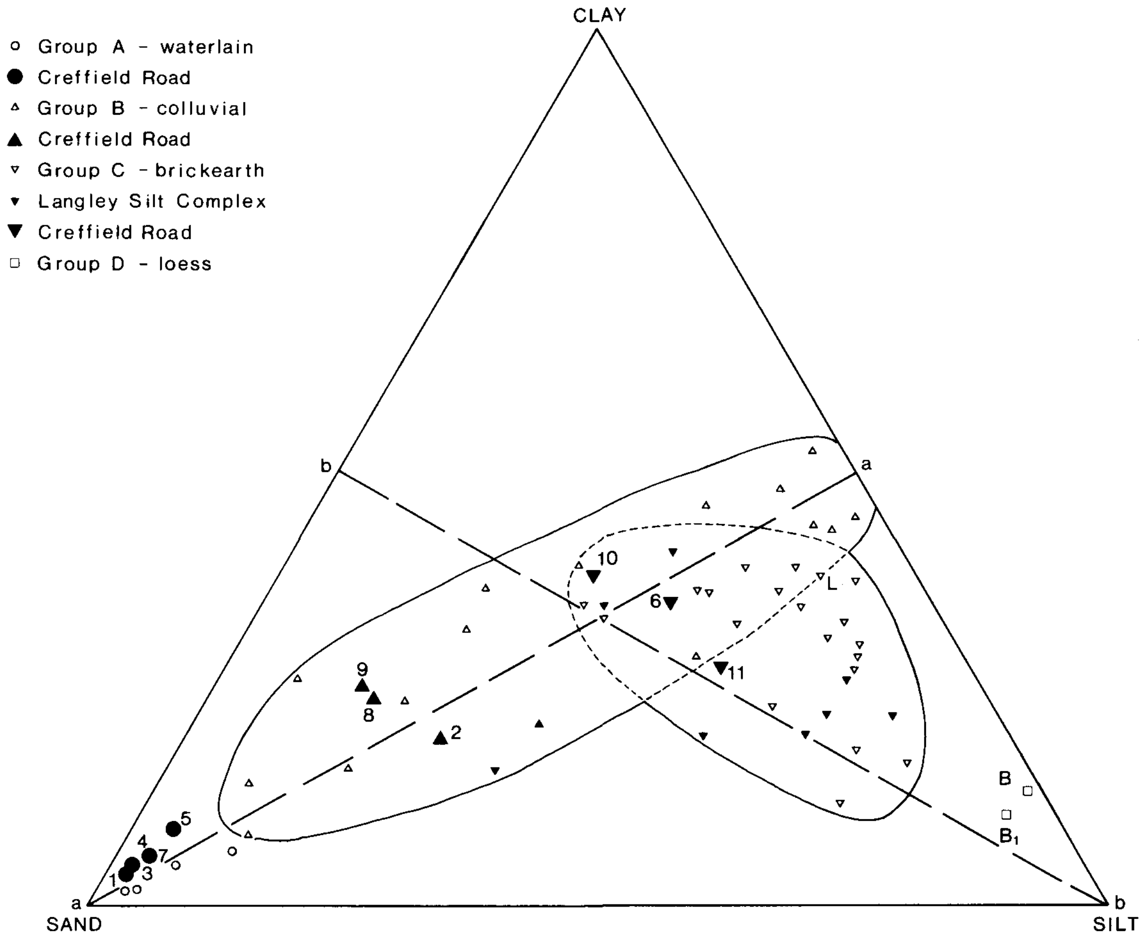

Fig 5. Textural characteristics of terrace sediments. B—Barham Loess (Rose and Allen, 1977); B1—Barham Loess (Allen, 1984); L—Lepe brickearth (Reynolds, 1987); Langley Silt Complex data from J Catt in Gibbard 1985; all other data from Middle Thames sites (McGregor and Green, 1983; or previously unpublished)

above. The composition of the gravel, forming the bulk of sediment interval A, and its topographic situation, place it, as previously suggested by Gibbard (1985), in his Lynch Hill Gravel. The stratigraphic relationships of sediment intervals B and C are less certain and are discussed below. The uppermost horizons (sediment interval D) form part of the Langley Silt Complex (Gibbard 1985).

The Langley Silt Complex appears in general to have originated on terrace surfaces on which episodic reworking of terrace sediments was occurring, accompanied by aggradation and reworking of colluvial material and wind-blown dust (loess). The Complex typically includes water-laid deposits indicative of small scale channel development; clayey gravels, probably of solifluction origin; and fine-grained silty deposits which may also be of colluvial origin, or may represent deposition in ponds on the terrace surface. Given this variability, it seems possible that sediment intervals B, C and D at Creffield Road, which individually and together display evidence of widely varying depositional conditions, and which are not separated from one another by well-marked or consistent boundaries, may all belong in the Langley Silt Complex.

At Creffield Road, fluvial influences become less prominent upward through sediment intervals B, C and D and are replaced by evidence of loessic deposition and colluvial rearrangement. There is no indication of the time interval separating the Lynch Hill Gravel from the overlying sediments, nor of the duration of any of the intervals represented by unconformities within sediment intervals B, C and D.

THE FINDS

The flintwork

Nick Merriman

Twenty-one pieces of humanly-struck flint were recovered from the 1988 Creffield Road excavation, all from the reworked brickearth and thus apparently displaced (Table 2). In common with other assemblages recovered from the area, from Creffield Road itself (Burleigh 1976), from Avenue Gardens (Cotton forthcoming) and from Woodhurst Road (British Museum, Haward Collection), the flint is of extremely varied colours, ranging from creamy white to grey, brown, orange and black. This presumably reflects the use of the varied gravel flint nodules available locally. Seven of the 21 pieces retain cortex, which might indicate that relatively large nodules were being selected, prepared and used for non-cortical blade production. The sample is, however, too small to be a reliable guide.

Standing out from the rest of the assemblage both in size, condition and production technique is a Levallois flake (Fig 6, No. 1), similar to those recovered from Allen Brown's Creffield Road excavations last century (Allen Brown 1886, 1887). Apart from this, the material is of a character which by comparison with other material excavated from the area, is most likely to be of Mesolithic date. However, there are no distinctively diagnostic pieces and in view of the reworked nature of the context from which they were recovered, some of the material may be of later date.

There are only two deliberately retouched tools, an end scraper (Fig 6 No. 7) and a serrated blade fragment (Fig 6 No. 3), neither of which would be out of place in a Mesolithic context although they might equally well be Neolithic. Also of Mesolithic character are the core with the narrow blade scars (Fig 6 No. 2), the utilised core rejuvenation flakes (Fig 6 No. 4), and perhaps two of the blades (Fig 6 Nos 5 and 6). The rest of the material, comprising flakes and small pieces of waste might be of any date from Mesolithic to Bronze Age, although the relative slenderness of the flakes suggests an earlier rather than a later date.

The following pieces are illustrated in Fig 6:

1. A double ridged flake converging to a point. This piece has the characteristic form and faceted striking platform of the Levalloisian technique. Its shape shows that it was struck from a prismatic core. Despite damage to one edge, it is possible to discern on the butt the distinctive triple curved Cupid's bow outline known as the *chapeau de gendarme*. The point and one of the sides have been extensively damaged, possibly through use. The flake is patinated a creamy white colour, with some brown patches, and an underlying blue showing through. It originates from the brickearth.

2. Two-platformed core with platforms at right angles (Class B3 of Clark, Higgs & Longworth 1960, 216). The scars show it was used for producing relatively long, narrow blades. One of the platforms shows extensive faceting to produce the optimum striking angle. The core has been worked to exhaustion and abandoned, possibly after a flaw in the flint was exposed. The flaw is of a rougher grained grey-brown, while the more regular flint is a mottled brown. From the brickearth.

3. Serrated blade fragment of a fine amber coloured translucent flint, originally produced as a single or double-ridged blade. The proximal end has been blunted, and one of the edges has been irregularly serrated. Subsequently the blade has been snapped transversely, seemingly accidentally. From the brickearth.

4. Utilised core rejuvenation flake of a mottled light grey and black flint, with a light brown patina on one edge, and cortex on part of the dorsal surface. Part of the original striking platform of the core is visible on the distal end, while the proximal end and all of one side show evidence of use. It may have served as a knife borer. From the brickearth.

5. Blade of mottled brown flint. Irregular towards distal end because of a flaw in the flint. A surface find.

6. Blade, of heavily patinated creamy flint, terminating in a hinge-fracture. Some damage to the proximal end, possibly through use. From the brickearth.

7. Scraper fragment of light brown-grey translucent flint, with some patination on the dorsal surface. It comprises the distal end of an end scraper snapped off just above the working surface, which shows evidence of use. From the brickearth.

Table 2. Classification of flintwork from the 1988 Creffield Road excavations

Blades	3
Snapped blade	1
Flakes	2
Small waste chips	9
Core	1
utilised core rejuvenation flakes	2
Scraper	1
Serrated blade	1
Levallois flake	1

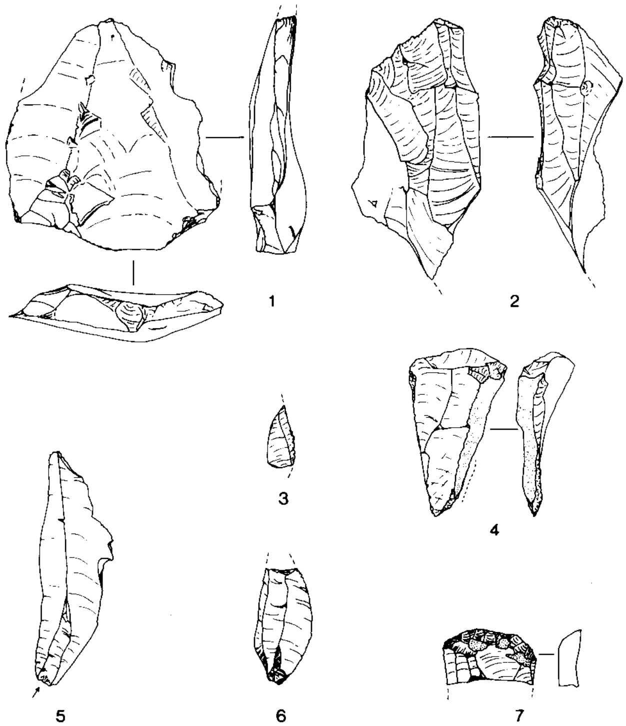

Fig 6. Creffield Road 1988: flint artefacts, scale 1:4

Discussion

The Palaeolithic flake of Levalloisian technique—unfortunately in a redeposited context—exactly matches in form and surface appearance much of the material recovered by John Allen Brown (Allen Brown 1886, 1887. Smith 1931). Wymer (1968, 75) suggests that the use of prismatic cores at the site (and used for the production of the flake under discussion), rather than of the earlier tortoise cores, may be indicative of a later date (probably now in the Devensian after Gibbard's work on the terrace sequence Gibbard 1985, Wymer 1988). Certainly, this interpretation would fit in with the apparent use of prismatic cores for the production of the blades which form a part of the later assemblage.

The rest of the assemblage is easily paralleled by the finds made by Sieveking's excavations of 1974/5 now housed in the British Museum, which seem to be Mesolithic in date (Burleigh 1976). In particular, the use of translucent amber flint for blades and tools is noted both in that assemblage (Burleigh 1976, 383) and one from Avenue Gardens (Cotton, forthcoming). Cotton has already pointed out the proximity of these and other Mesolithic sites in the area to streams feeding the Stamford Brook. Other similar sites, possibly of earlier or later dates, no doubt await future discovery.

The pottery

A single fragment of pottery was recovered close to the surface of the exposed brickearth. It was approximately 10mm square and up to 4mm thick, a coarse flint-tempered ware reduced throughout its thickness. The fabric suggests a Late Bronze Age/Iron age date (Lyn Blackmore pers comm).

DISCUSSION

The geological evidence from the 1988 Creffield Road excavations does not support the idea of a stable surface having existed at the interface of the Lynch Hill Gravel and the overlying fluvial deposits. The material found by Allen Brown on his 'working floor' however, if it was not strictly *in situ*, both from its condition and its concentration, can not have been transported far. The condition of the material is not completely pristine, although it certainly does not show signs of being badly rolled; the majority, as reported by Allen Brown, is in fresh condition. The concentration of the material is also marked—nearly 500 pieces from a few tens of square metres—and according to Allen Brown, many of them 'found in little heaps' (Allen Brown 1887, 60). A much greater dispersion would normally be expected for derived material. Identifying Allen Brown's surface with the interface of the Lynch Hill Gravel and the overlying sediments is therefore problematical, particularly as he also refers to unrolled artefacts typologically similar to his main collection as having been found 'within the gravel'. If Allen Brown's surface in fact relates to an unconformity within the overlying fluvial deposits, a possible interpretation of his material is that it was indeed deposited at a time when the area lay within a braided stream system, as he conjectured, and was not seriously displaced subsequently. Other material may well have been displaced within these deposits by erosional processes however: the depth of the artefacts in the Sturge Collection is not often recorded, but some of those labelled as coming from 'within the gravel' do in fact show signs of battering. The black staining associated with Allen Brown's 'land surfaces' and interpreted by him as the residue of organic decay may rather have been manganese panning, and could not be taken as evidence for the existence of stable surfaces.

The results of the sediment analysis and the investigation of the structural geology at Creffield Road do not provide a definite answer to the question of whether the fluvial deposits are more closely associated with the Lynch Hill Gravel or the Langley Silt Complex. If they are more closely associated with the overlying sediments then an early Devensian date for Allen Brown's material can be suggested. Allen Brown and other workers have also recovered Middle Palaeolithic material from various depths within the brickearth at Creffield Road (Allen Brown 1887, 58, Marsden 1927, Burleigh 1976). As with the Levallois flake recovered in the 1988 excavations, this material often shows affinities to the assemblage found by Allen Brown on his 'working floor'. It seems possible that if Allen Brown's 'working floor' did lie within the fluvial deposits below the upper sediments, such material may have been derived from the same deposits.

The bulk of the finds from the 1988 excavations belong typologically with the Mesolithic (but possibly including artefacts of Neolithic or later date). As suggested above, they would seem to belong with the assemblage found by the 1974/5 excavations. The small number of finds indicates that the 1988 site lay on the fringe of the material found by the 1974/5 excavations. The geological evidence suggests bioturbation as the mechanism for the distribution of the assemblage within the brickearth layers, following their original deposition on the surface. A late Upper Palaeolithic date is not supported.

The presence of later prehistoric pottery, and the possibility of a Neolithic or later date for some of the flintwork, provides some evidence that the area was settled in the later prehistoric period, but in the absence of features little more can be said.

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