

An Archaeological Resource Assessment of the Palaeolithic in Derbyshire

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The Derbyshire Landscape

Derbyshire's landscape encompasses dramatic variations in geology (fig. 1), geomorphology, soil types, hydrology, relief and land-use. In the north-west lie the Carboniferous gritstone uplands rising to over 600m. Covered principally by acid soils and retaining extensive areas of upland peat moorlands the dominant drainages are the River Etherow which flows to the west and the River Derwent which flows southwards through the centre of the county until it joins the Trent to the south east of Derby. The Carboniferous limestone of the White Peak forms a massif rising to over 400m. This predominantly pastoral landscape has few surface water courses, but is deeply incised by the River Wye as it flows east to join the Derwent River. The latter is flanked on its eastern side by the Carboniferous gritstone East Moors forming a narrow belt of upland rising to 300m. With a mixture of open moorland, improved pasture and woodlands the East Moors extend southwards almost as far as Derby and are drained eastwards and westwards by a series of small streams. There is also a small area of Carboniferous gritstone in South Derbyshire in the area around Repton.

In the north-east corner of Derbyshire the Magnesian limestone of Bolsover district forms a narrow north-south ridge of high ground between 130m and 150m. Once again, with few surface water courses the limestone is bounded in the west by the River Doe Lea, and in the south by the River Meden. Sandwiched between the gritstone East Moors and the Magnesian limestone lie the coal measures, rarely rising to more than 130m. Running from the South Yorkshire border southwards through North East Derbyshire, Chesterfield, Amber Valley and Erewash the coal measures have been the focus for considerable development activity in the last few hundred years. Today this landscape presents a sometimes uncomfortable mixture of urbanisation, transportation routes, industrial development, mineral extraction

and farming. The coal measures also form smaller areas around Swadlincote, in South Derbyshire, and along the north-western edge of High Peak district.

The Carboniferous limestone is bounded by Carboniferous mudstones forming a narrow belt except along the southern edge of the limestone where the mudstones cover an extensive area. South of Ashbourne they give way to a large area of low, undulating landscape formed by Triassic mudstones and sandstones. This extensive area of heavy soils within a predominantly pastoral landscape stretches south to the River Dove and the River Trent, and eastwards past Derby and across to Nottinghamshire. The alluviated river valleys of the Trent and the Dove cut east to west across the county, with the alluviated valley of the lower Derwent branching northward. The Trent and Dove are bounded to the south by a complex area of undulating relief including Triassic mudstones and sandstones, and Carboniferous coal measures and gritstones.

Lower Palaeolithic

The Derbyshire Sites and Monuments Record has some 19 entries relating to discoveries of Lower Palaeolithic stone tools within the county. It can be seen (fig.2) that the findspots are highly clustered with the majority relating to a fairly small area within the Trent and Dove River valleys. Beyond these low lying areas discoveries of lower Palaeolithic artefacts are few. Most noteworthy is the ovate, twisted Acheulean handaxe from Hopton (Cockerton 1954: fig. 3).

Insert Fig.3: Ovate handaxe from Hopton (from Cockerton 1954)

This surface find was made at an altitude of 220m OD on the Carboniferous limestone of the White Peak. It serves to remind us that although our distribution maps for finds of the Lower Palaeolithic may emphasise the role of riverine locations in our ancestors activities their movements incorporated a variety of habitats including those at higher altitude. Other finds from Ashford (SK174674: Wessex Archaeology 1997, 141), also on the Carboniferous limestone, should further emphasise this point.

The majority of the remaining findspots have been known about for some considerable time (Posnansky 1963; Roe 1968) and relate to the recovery of lithic artefacts from gravels being quarried along a series of terraces on the northern side of the Trent and Dove Rivers. As outlined in Wessex Archaeology's '*The English Rivers Palaeolithic Project*' (1997) there has been a considerable debate regarding the origins of the terraces along the Trent. The debate grew following the early work of Fox-Strangeways (1905). Whilst accepting the lowest terrace as riverine the higher level terraces were thought to derive from fluvioglacial activity, and consequently that the terrace gravels did not have a riverine origin. Clayton (1953) concluded that the higher Hilton terrace was indeed underlain by true river gravels, but Posnansky (1960) followed the mapping of Mitchell and Stevenson (1955) who showed the terraces as being of fluvioglacial origin (see also Knight and Howard 1994, 7). Subsequently the case for viewing the gravels around Hilton, Etwall and Willington as true river terrace deposits has received considerable support (Straw 1963; Brandon and Sumbler 1988; Brandon 1995: 1996).

Insert Fig. 4: Schematic section through the gravel terraces north of the River Trent (from Posnansky 1963)

Posnansky's (fig.4) Upper and Lower Hilton terrace gravels have, in recent literature, been renamed the Etwall Sand and Gravel and the Egginton Common Sand and Gravel respectively (Wessex Archaeology 1997). The recognition that they represent true riverine gravel terraces is of considerable importance for the interpretation of recovered artefacts. Brandon (1996) was able to correlate the Beeston Sand and Gravel with the Allenton Sand and Gravel of the Lower Derwent sequence. At Allenton (SK37073257), in the suburbs of southern Derby, faunal and floral remains characteristic of the Ipswichian interglacial (OIS 5e) were uncovered in 1895 (Bemrose and Deeley 1896). These were shown to be overlain by the Allenton Sands and Gravels. A similar sequence has been demonstrated at Boulton Moor (SK381317) which is now protected as a SSSI (D/S/50). Consequently, the Beeston terrace deposits can be confidently assigned as being post-Ipswichian, and probably early Devensian. Following Brandon's correlation of the terrace deposits this places the Egginton Sand and Gravel into the late Wolstonian glaciation, between c. 186000 and 130000 years (OIS 6), and the Etwall Sand and Gravel into the early Wolstonian, between 303000 and 245000 years (OIS 8) (Brandon 1996; Wessex Archaeology 1997, 151).

With this correlation of the river terraces it is interesting to consider the Derbyshire ‘assemblages’ in more detail. It has been noted that in general the most prolific lower Palaeolithic sites in England tend to come from river deposits of OIS 8 with some also coming from deposits of OIS 6 (Wessex Archaeology 1997, 148). It can be seen (table 1) that this observation would appear to hold for the evidence in Derbyshire. By far the most prolific collections have come from the Etwall Sand and Gravel. This may, of course, be in part a product of variations in the amount of time spent by collectors searching for artefacts within gravels of the different terraces. At the very least however it would appear that the Derbyshire evidence does not contradict the national picture.

| Geology/ Geomorphology | No. of Findspots | No. of Artefacts (approx.) |
|----------------------------------|-------------------------|-----------------------------------|
| Beeston Terrace Sand and Gravel | 1 | 1 |
| Etwall Sand and Gravel | 6 | 135 |
| Egginton Common Sand and Gravel | 4 | 8 |
| Holme Pierrepont Sand and Gravel | 1 | 1 |
| Sand and Gravel (uncertain) | 4 | 220 |
| Carboniferous limestone | 2 | 2 |
| Triassic Mercian Mudstone | 1 | 1 |

Table 1: The geology/ geomorphology of Lower Palaeolithic findspots in Derbyshire

The most important collections were amassed through the dedicated collecting of A. L. Armstrong (1942) and came from gravel pits at Hilton and Willington. At Hilton Armstrong recognised a sequence within the gravel deposits on the Upper Hilton terrace (i.e. within the Etwall Sand and Gravel) which appeared to correlate with the numbers of artefacts being recovered. Armstrong identified in the section of the West Pit at Hilton 3 ‘zones’ separated by lenses of fine washed gravel particles (36). The lowermost of these, zone A, rested directly on the underlying Keuper Marl and was found to be the most prolific of the zones in terms of numbers of artefacts. Armstrong sought to sub-divide the artefacts on the basis of degree of patination and abrasion and claimed to recognise 2 assemblages, one of which he believed to be derived from an earlier deposit (37).

Posnansky (1963) rejected Armstrong’s sub-division of the zone A assemblage. Quite apart from problems he may have had with the apparent mixture of typologically early and middle Acheulean forms, a fluvio-glacial origin for the gravels would suggest that the gravels were the product of one depositional event, rather than an extended

process of “normal terrace aggradation” (365) that might give rise to stratigraphic relationships within the deposited gravels. If the origins of the Etwall Sand and Gravel at Hilton are now believed to be riverine, then perhaps Armstrong’s observations regarding the zones within the gravels, and his sub-divisions of the cultural materials might merit re-examination.

On the basis of what is currently understood typologically the collections from the Etwall Sand and Gravel are predominantly Acheulean with pointed and ovate hand-axes, some with twisted margins, being most numerous. At Hilton a mixture of hand-axes, retouched and unretouched flakes were found along with some Clactonian cores. There are a few examples from the Derbyshire material of Levallois technology. It is interesting to note that Armstrong (1942, 37) recognised 2 “slightly rolled Levalloisian flake tools” within the zone A material, and further “slightly abraded” examples from the overlying zone B. This may also reflect the early Wolstonian origins for much of the Etwall Sand and Gravel material, in that it has been suggested that Levallois techniques may have first developed during the early Wolstonian, subsequently becoming a normal component of Acheulean technologies (Mellars 1974, 52).

It must also be accepted that the Derbyshire collections, including the Hilton assemblage, are highly biased with hand-axes having been preferentially collected (Posnansky 1963, 365). In this sense, none of the collections can be regarded as representing a complete picture of the lithic technology represented (Mellars 1974, 45). However, in view of the renewed confidence with which the gravels are being regarded as riverine with the differing terrace deposits being assigned broad dates, and given the apparent stratigraphic divisions which may exist within the Etwall Sand and Gravel at Hilton, it would seem that the gravel deposits along the terraces at Willington and Hilton should be regarded as a valuable and finite resource for investigations of the material cultures of the Wolstonian. In practical terms the increased mechanisation and scale of gravel extraction about which Posnansky (1963, 365) lamented has continued. One consequence has been the decline in the numbers of discoveries of stone tools from such working pits. The ever increasing demand for aggregates is consuming large areas of the gravel terrace deposits within the Trent and Dove valleys. Finding the appropriate strategies for evaluating and mitigating the impact of continued large scale, mechanised gravel extraction upon an archaeology that is essentially artefactual is a problem requiring urgent consideration. At the very least it should be possible, in the case of the Etwall Sand and

Gravel and the Egginton Sand and Gravel, within the planning system and in future revisions of the Derbyshire Minerals Plan to formally identify the areas of greatest potential.

Beyond the material already discussed, the only other artefact which has been recovered from a context to which a date may be assigned is the single hand-axe from Foston and Scropton (Armstrong 1942, 34; Posnansky 1963, fig. 1 (4); Swinnerton 1934, 6). This ovate was derived from a gravel pit working the Beeston terrace at Foston (SK179315). It is the only identifiable find from the Beeston terrace in Derbyshire (table 1). Following Brandon (1996) the Beeston terrace gravels are post-Ipswichian. However, the lack of any more detailed contextual information regarding this find must leave certain doubts concerning the actual age of the artefact.

In keeping with the rest of England, and indeed with most of Europe (Mellars 1974, 54) evidence for occupation during the Ipswichian in Derbyshire has yet to be forthcoming. The two previously noted locations in Derby where Ipswichian faunal and floral evidence has been recognised preserve no trace of activity by our ancestors. Similarly, excavations of cave deposits at Robin Hood's Cave (SK534742) and Mother Grundy's Parlour (SK535742), both within Creswell Crags, produced Ipswichian faunal evidence. Once again this evidence cannot be directly associated with any cultural materials (Jenkinson 1984, 22-3 and 56).

In summary, outside of the Trent and Dove River valleys Lower Palaeolithic evidence is exceedingly sparse. What evidence there is provides a necessary reminder that the activities of our ancestors at this time were not wholly confined to riverine floodplains, but took in a range of geological and altitudinal zones. On the basis of the available information, the earliest evidence for settlement in Derbyshire comes from what used to be referred to as the upper Hilton terrace. Artefacts within the gravels indicate that the area must have been a focus for tool manufacture, use and discard during the early Wolstonian. The basal level of the Etwall Sand and Gravel contains a mix of Acheulean, Clactonian and Levallois technologies consistent with the general picture for the early Wolstonian (OIS 8) elsewhere in England. There is the possibility that some of this material derives from earlier deposits, but this may simply reflect different phases of deposition and reworking within the early Wolstonian. This collection of materials must largely represent the residue from a series of tool manufacturing and using sites along

the floodplain which, over a considerable period of time, had been swept by the river waters and, to some extent, moved and redeposited (Roe 1981, 207). The co-occurrence of tools and flakes within a relatively small area however might suggest that in certain areas they have not been removed too far from their original depositional contexts.

At this stage there is no identifiable Hoxnian material in Derbyshire. Important faunal and floristic evidence from locations in the suburbs of southern Derby provides valuable evidence for the immediate environment during the Ipswichian inter-glacial and important stratigraphic information regarding the terrace sequences along rivers in the area. Further Ipswichian faunal evidence from Creswell Crags also appears to be unassociated with the activities of our ancestors.

Middle Palaeolithic

In Britain as a whole evidence for settlement during the Middle Palaeolithic is limited. It is generally held that after the early Devensian the environment in Britain was too hostile, apart from during some of the milder stages, such as the Chelford interstadial (c. 64000 - 57000 BC) and the Upton Warren interstadial complex (c.40000 - 26000 BC) (Mellars 1974, 62; Roe 1981, 233). In keeping with this picture of only limited periods when settlement might have been expected evidence for Middle Palaeolithic activity in Derbyshire is sparse. Furthermore, the evidence that does exist is highly clustered (fig. 5). Without exception, all of the evidence has come from caves within the limestone regions of the county.

On the Carboniferous limestone evidence is confined to a single flint Mousterian side scraper from Ravencliffe Cave (Storrs Fox 1910) and two quartzite implements with an assemblage of bone splinters in layer 1 at Harborough Cave, Brassington (Armstrong 1923, 406-7). Armstrong believed that the longitudinally splintered bones were themselves tools (but see Jenkinson 1984, 66-7 regarding similar claims by Armstrong for Pin Hole Cave). These represent the only Middle Palaeolithic finds on the Carboniferous limestone.

In north eastern Derbyshire caves within the the Magnesian limestone have provided a variety of evidence for the Mousterian. Excavations at Ash Tree Cave (Armstrong 1956: 1957) have produced evidence in the form of a small quartzite and flint assemblage believed by the excavator to date to the Middle Palaeolithic. The dating of this assemblage has however been seriously questioned (Jenkinson 1984, 138-9). The dramatic limestone gorge at Creswell – Creswell Crags – has seen a series of excavations within its various caves. Many of these excavations took place during the last century and were, judged by modern standards, of poor quality. Even the technically improved excavations of Armstrong during the 1920s and 1930s have left an archival record that has proven difficult to interpret (Campbell 1961: 1969: 1977; Collcutt 1975). However, subsequent work has gone a long way towards unravelling certain idiosyncracies in his recording system (Jenkinson 1984) and have served to resolve many of the previous difficulties. For a more-or-less comprehensive bibliography of Creswell Crags investigations prior to the 1980s reference should be made to Jenkinson (1984).

Middle Palaeolithic tools have been recognised from Mother Grundy's Parlour (Armstrong 1925; Roe 1968; but see Jenkinson 1984, 26), Robin Hood's Cave (Boyd-Dawkins 1877; Jenkinson 1984, 35-58), Pin Hole Cave (Armstrong 1929; Jenkinson 1984, 63-95), and Church Hole Cave (Boyd-Dawkins 1877; Jenkinson 1984, 100-112). As Church Hole Cave, on the southern side of the gorge, falls within Nottinghamshire the important Mousterian remains that have come from excavations at the site will not be discussed beyond noting that the finds complement the discoveries from the other Creswell caves. In addition, it needs to be noted that there are other caves and fissures within the gorge, such as Arch Cave (Jenkinson 1984, 60-63), where it is suspected that there may well be further Middle Palaeolithic deposits.

At Mother Grundy's Parlour early excavations (Mello and Boyd-Dawkins 1877) possibly identified Mousterian occupation toward the rear of the cave (Jenkinson 1984, 25). The finds of "pot boilers and rude splinters of quartzite and one imperfect hache of ironstone" (Mello and Boyd-Dawkins 1877, 729) unfortunately cannot be identified amongst the surviving collection. Armstrong's 1924 excavations in the western talus area identified a small assemblage, including quartzite flakes, in the lowermost base zone (Jenkinson 1984, 26) which have been interpreted as Mousterian (see Roe 1968). Jenkinson (1984) does not however recognise this assemblage or a Mousterian presence in the cave.

At Robin Hood's Cave excavations by Mello, Heath and Boyd-Dawkins during 1876, mainly in the rear of the western chamber, have left a trail of conflicting accounts of the work that are founded in the mutual distrust and clashing personalities of the protagonists (Jenkinson 1984, 36-38). Yet from these excavations a substantial assemblage of predominantly quartzite (c.95%), but also flint, basalt and ironstone implements of Mousterian typology was recovered. Amongst the artefacts recovered are oval bifaces, a cordiform biface, a unifacially worked flake, quartzite side scrapers, hammerstones, a backed knife, chopping tools, two levallois flakes and a Tayac point (fig. 5).

Insert Fig. 5: Tayac point from Robin Hood's Cave (after Jenkinson 1984)

There is also a tantalising account by Laing (1889) of his excavations during the mid-1880s, also in the western chamber, where he found evidence for occupation in the form of "pot boilers, charcoal, a charred canine of bear, chopped bones with choppers and scrapers of the rudest Acheulian type...a fragment of skull...determined by Professor Boyd-Dawkins to be human, and...a fragment of human fibula.". Jenkinson (1984, 39) suggests that Laing excavated an area of middle palaeolithic occupation associated with hearth debris and human bones. Sadly, the finds from this early excavation have been lost.

At Pin Hole Cave excavations between 1924 and 1932 by Armstrong revealed a substantially intact stratigraphic sequence in which at least two Mousterian levels could be identified (Jenkinson 1984, 72-5). The lowermost assemblage, Mousterian 1, comprises some 22 artefacts of flint and quartzite. Tools are exclusively of quartzite and include a chopper, a unifacial side scraper and a utilised flake. A bone from this level and claimed by Armstrong to have been deliberately perforated would appear to have been perforated by carnivore activity (op. cit.: 73). A reindeer antler from within the Mousterian 1 levels has been dated to 38850 +/- 2500 B.P., and places the assemblage around the time of the Upton Warren interstadial.

The Mousterian 2 assemblage comprises some 115 artefacts and includes tools which, due largely to the misreading of Armstrong's stratigraphic recording system, have been published as being Upper Palaeolithic (Campbell 1977; Jenkinson 1984, 73). However, the Mousterian point (fig. 6) that has been described as an Upper Palaeolithic scraper (Campbell 1977, fig.101, 2) is a classic example of its type. The assemblage, once again made with a mixture of flint and quartzite, contains a variety of forms including hand-axes, a disc core, points, side scrapers, utilised flakes, choppers, a bifacial side-scraper, two unifacial scrapers and a hammerstone.

Insert Fig 6: Mousterian point from the Mousterian 2 assemblage, Pin Hole Cave (after Jenkinson 1984).

The Mousterian levels at Pin Hole Cave were also associated with a significant faunal assemblage including reindeer, hyaena, horse, bison and lion. Jenkinson (1984, 74-5) points out the critical importance of assessing which components of the faunal assemblage relate to the economic activity of Mousterian populations, and which are the product of carnivore predation. His analysis of the frequency of carnivore gnawing on the faunal assemblage, together with the absence of hearths, leads him to conclude that the site was not a 'prominent' occupation site. He suggests a more specialised role – skin processing - for the site related to the high frequency of scraping tools in the assemblage. Taken together with the observations made at Robin Hood's Cave this might indicate that neighbouring caves were used by Mousterian populations for differing sets of activities, possibly at different times.

Although the Mousterian evidence from Derbyshire is limited it provides a valuable body of evidence from what must have been one of the most northerly outposts of Middle Palaeolithic activity. At the very least the Mousterian archaeology at Creswell provides us with reasonably secure evidence relating to Middle Palaeolithic activity during the Upton Warren interstadial. The potential for further deposits within and around the gorge to preserve more detailed environmental and behavioural information should be emphasised. The gorge is now a Scheduled Ancient Monument, a Site of Special Scientific Interest, and a designated Conservation Area. Creswell Heritage Trust are a well organised body promoting education, conservation and research based around the gorge. These are vital elements in securing the conservation future of the finite resources at Creswell.

Upper Palaeolithic

Compared with the Lower and Middle Palaeolithic records the Upper Palaeolithic is relatively well represented in Derbyshire. However, it can be readily seen (fig. 7) that the distribution of sites is still confined almost exclusively to the limestone areas of northern Derbyshire. As with the Middle Palaeolithic, the majority of finds of this period have come from excavations within or just outside of caves or rock-shelters, with one or two notable exceptions.

The Early Upper Palaeolithic (c.40000 – 25000BP) (EUP) is represented at Robin Hood's Cave and Pin Hole Cave. At present there are no open air EUP sites in Derbyshire. Wymer and Bonsall (1977) also include in their list of EUP sites Ravencliffe Cave and Ash Tree Cave. However, the reports for these sites provide little evidence to this effect (Armstrong 1956; Storrs Fox 1910). Certainly, Jenkinson (1984, 138-9) has cast serious doubt as to there being any mid-late Devensian human occupation at Ash Tree Cave.

The excavation history of Robin Hood's Cave has already been discussed. The exact size of the known EUP lithic assemblage varies slightly between differing accounts (compare Campbell 1977, Wymer and Bonsall 1977 with Jenkinson 1984, 49), but agree on the essentials: excavations have produced evidence for an assemblage of between 41 and 52 pieces including several characteristic leaf points (fig. 8), side scrapers, burins, retouched and unretouched flakes. There are no reliable determinations for the EUP occupation at Robin Hood's Cave. A date obtained on an *Ursus arctos* bone from Campbell's excavations of 28500 +/- 1600 (BM-602) cannot be related to the EUP occupation on the cave as it comes from a bone showing no man-made modifications, that may have been in the cave through natural agency and which was found in a context that was potentially disturbed by early excavations and subsequent geomorphological processes (Jenkinson 1984, 40).

Insert Fig. 8: Early Upper Palaeolithic Leaf Points from Robin Hood's Cave (after Mellars 1974)

Armstrong's EUP assemblage from Pin Hole Cave overlay the Mousterian 2 assemblage, with an artefact-less layer, varying between 0.3 and 0.9m in thickness separating them (Jenkinson 1984, 75). As noted previously, a

date of 38000 +/- 2500 was obtained from the Mousterian 1 layer. The EUP layer is also separated from later cultural materials by an artefact-less layer covering much of the cave of c. 0.3m thickness.

Insert Fig. 9: Early Upper Palaeolithic points from Pin Hole Cave (after Jenkinson 1984)

The EUP assemblage at Pin Hole Cave numbers some 72 lithic artefacts. The assemblage includes a variety of point types, including 'laurel leaf' and 'tanged' or 'stemmed' varieties (fig. 9), burins, awls, scrapers, retouched and unretouched flakes and blades. There are some indications that some of the point types may correspond to different phases in the occupation of the front and rear of the cave (Jenkinson 1984, 77). This may be of some significance given the suggestions of Jacobi (1980) that the EUP can be sub-divided into at least two chronological phases, with leaf point assemblages characterising the earliest and the 'stemmed' points representing a slightly later phase (Jacobi 1980, 25). Both of these phases would however within the Upton Warren inter-stadial complex.

Evidence for activity during the later phase of Upper Palaeolithic occupation is much more abundant. Once again, cave sites and rock shelters in the limestone regions of Derbyshire provide the bulk of the evidence (fig. 7). However, there are a number of open air findspots from a variety of locations. Of central importance to discussions of the archaeology of the Later Upper Palaeolithic (LUP) has been the evidence from a series of the caves in Creswell Crags. Excavations within Robin Hood's Cave, Mother Grundy's Parlour and Pin Hole Cave have produced important lithic and bone assemblages. The lithic assemblages include particular varieties of the medium to large-sized blades that have been blunted to produce characteristically angular forms (fig. 10, 1 & 8). These 'Creswell points' are blunted along one edge to produce a point. Other characteristic elements of the lithic assemblages include shouldered (fig. 10, 6 & 7) and 'penknife' points, curved and straight backed blades (fig. 10, 2-4 & 9-10), steeply retouched awls, burins, end scrapers (on flakes and blades) and cores. Comparisons with dated continental assemblages have suggested similarities with the Tjongerian assemblages of the Netherlands and Belgium (Mellars 1974, 73), which date to around the Allerod interstadial (c.14000-12400 BP), whilst others have seen parallels with the German Federmesser assemblages (Jacobi 1980). However, radiocarbon determinations from secure contexts for the Creswell material have only relatively recently begun to provide a secure understanding of the chronology of occupation during the final stages of the Devensian in Britain.

At Robin Hood's Cave the excavations of Mello and Boyd Dawkins and of Campbell have produced a substantial lithic assemblage of over 300 pieces. The nineteenth century excavations almost entirely emptied the internal cave deposits. Campbell's 1969 excavation in front of the west entrance provides the most secure information. Yet even here, a series of radiocarbon dates (table 2) from layers LSB and OB, immediately below the nineteenth century spoil tips and taken by Campbell to be *in situ* have subsequently been accepted as being unreliable for dating the LUP occupation. These layers have been reinterpreted (Jenkinson 1984:) as being the product of material washing-out from the cave mouth. Consequently, the stone lined hearth found by Campbell in the surface of layer B/A can only be shown to have been in use at some time between the early thirteenth and the late eleventh millennium (Smith 1992, 87). Pollen evidence from Campbell's layer B/A has at least indicated that the vegetation during the period of occupation was dominated by open country species of sedges and grasses. Arboreal pollen from willow, juniper and birch was however also represented in small numbers. The associated faunal evidence includes bones of hyaena, woolly rhino, red fox, horse, reindeer, ibex and mountain hare. Hyaenas may have been responsible for many of the bones being in the cave, although the mountain hare bones include a number that have been deliberately cut. This has led to suggestions that they were hunted in the vicinity, probably for their pelts as much as for their meat (Smith 1992, 87). The dates on cut mountain hare bones are remarkably consistent, and suggest that this activity took place during the mid to late thirteenth millennium bp.

Mention should also be made of the finely engraved rib bone that was recovered during the 1876 excavations. The one side shows a highly naturalistic image of a horse's head, while the reverse is criss-crossed with deeply cut incisions.

As with Robin Hood's Cave, nineteenth century excavations in Mother Grundy's Parlour all but emptied the cave's interior deposits. Excavations on the so-called platform, in front of the cave entrance, during this century by Armstrong, McBurney and Campbell have revealed a succession of occupations including an assemblage of stone tools and faunal remains associated with a heath in Armstrong's 'base zone'. The LUP stone tool assemblage consists of convex and shouldered points, denticulated pieces, scrapers, retouched and unretouched flakes and blades. Jenkinson (1984, 26) has identified some 228 stone artefacts in collections which came from the 'base zone'. With these were five bone artefacts. Radiocarbon determinations on bone from the hearth point to

occupation late in the thirteenth millennium BP or early in the twelfth, whilst bone collagen had previously produced dates in the late twelfth millennium.

It is also worth noting that human remains from an apparently secure upper palaeolithic context (Jenkinson 1984) have been shown to be Iron Age or Roman. This highlights the potential problems of intrusive/ disturbed deposits not having been recognised as such within previous excavations at Creswell.

At Pin Hole Cave Jenkinson's (1984) important reassessment of Armstrong's stratigraphic recording system has assisted greatly in establishing the stratigraphic relationships of the EUP and LUP assemblages. He was able to identify some 137 flint and 10 bone artefacts as stratigraphically LUP, with a further 30 being typologically LUP (78). This compares with previous accounts (see Wymer and Bonsall 1977) which recognised an LUP assemblage of just over 50 pieces. The faunal assemblage associated with the LUP assemblage points to the increasing importance of woodland species (Jenkinson 1984, 94). Subsequently, a series of dates obtained on mountain hare bones has pointed to occupation in the mid-thirteenth millennium BP. The only determination from cut mountain hare bone and therefore demonstrably associated with human activity (Smith 1992, 90) points to 12350 +/- 120 BP. This is somewhat earlier than Jenkinson's (1984, 94) and Jacobi's 1980 (67) suggested dating of the Pin Hole LUP occupation.

The recognition by Jenkinson (1984) at Pin Hole of 2 charcoal scatters, probably representing hearths, in the middle and at the rear of the cave is of particular interest. Both were associated with fragmentary human remains – 4 individuals in total. A bone pendant was found near the central hearth whilst a bovid rib with a highly stylized engraving of what appears to be a human figure was found near the rear hearth. The long and very narrow form of Pin Hole Cave, in being thought unsuitable for normal domestic activity, combined with the particular character of these discoveries has provided the basis for suggestions that the cave was used for some form of post-mortem ritual (Smith 1982, 91).

Besides the important evidence from Creswell there are a series of caves and rockshelters, in both the Magnesian and Carboniferous limestone regions. For most of these sites the quantity of materials recovered that are regarded as LUP is usually quite small. A limestone fissure near Sheldon (Radley 1968) produced an assemblage including a stout backed blade and a shouldered point. Excavations at Whaley 2 rockshelter (Radley 1967) produced an

assemblage including three backed blades of a type and size usually associated with Creswellian LUP technology and quite different in character from the rest of the late Mesolithic assemblage from the site. Cave excavations in the Carboniferous limestone valley sides of the River Dove have identified LUP activity. At Dowel Cave (Bramwell 1959) a pair of blades were found associated with an antler that has been radiocarbon dated to the late twelfth millennium BP. At Fox Hole Cave (Bramwell 1971) a backed blade was associated with antler remains which have been dated to the late thirteenth or early twelfth millennium BP.

Beyond the cave and rockshelter sites, occasional finds from open air locations have been made, or at the very least claimed. Hart (1981) refers to having identified an open air scatter including LUP forms at Scarcliffe Mill Farm, not far from Whaley 2 rockshelter. The material is as yet unpublished. A single Creswellian point was found on the surface of a field near Minninglow, high on the Carboniferous limestone (Manby 1962). Perhaps of greatest significance however has been the recognition of a small assemblage of large, LUP blades and a Penknife point through surface collection at Potlock in the Trent Valley (Guilbert 1990; Knight and Howard 1994, 8). To date this represents the only LUP findspot in the southern half of Derbyshire, and would appear to contribute to a slowly growing number of open air sites belonging the late Devensian being found in lowland locations within the east midlands.

One issue about which existing publications have little to say but which could provide a valuable insight into the scales of LUP and EUP mobility concerns raw material use. It should be possible to attempt to characterise the materials used for lithic assemblages by micro-fossil analysis. Combined with an explicit examination of the reduction sequences at sites, and a study of possible raw material sources it should be possible to look at and begin integrating sites across large areas into potential models of settlement and movement. Such a study need not be confined to the east midlands. Comparisons of EUP and LUP material in the region with those in neighbouring regions, and indeed with continental assemblages would assist in underpinning many of the typological studies that exist.

One of the most involved debates which have directly concerned the Derbyshire LUP material has revolved around issues of chronology. A great deal of research interest has grown over the relationship between evidence for LUP occupation and the climatic fluctuations which characterise the last few thousand years of the glaciation. In

particular, some of the radiocarbon determinations obtained in the early years of direct dating have supported suggestions that there was evidence for LUP activity during the very cold terminal stadial (LDeIII) in Britain (Jacobi 1980). This has been viewed as an unusual phenomenon in the wider context of late Devensian Western Europe (Simmons and Tooley 1981). However, the reassessment of these dates together with a more reliable series of new determinations has tended to place LUP activity in the LDeI and LDeII (Older Dryas and Allerod interstadial). All of the more recently obtained and securely associated determinations from the Creswell sites, as well as those from Dowel Cave and Foxhole Cave, indicate pre-LDeIII activity.

Conclusions

Previous attempts to define research priorities for Derbyshire and the East Midlands (Courtney and Hart 1977; DAAC 1986; Wheeler 1977) have demonstrated the shifting concerns of archaeology in general, from an agenda shaped by rescue concerns towards one driven by issues of interpreting the past. In defining our research frameworks it is important to recognise how issues of conservation and curatorial decision making impinge upon the potential for research into the past. The scheduling of the known, important caves has largely served to ensure preservation *in situ* of remaining archaeological deposits. A finite resource is therefore being protected for the future. Such an approach has not yet been attempted for Lower Palaeolithic remains in the Trent Valley gravels. Unfortunately, opportunities here for preserving by record have also been made extremely difficult with the advance of mechanised, large scale quarrying. Some form of strengthening of archaeological conditions may be justified if appropriate methodologies can be identified and they are deemed reasonable. The recognition of the importance of the Hilton terrace gravels to Lower Palaeolithic research in the context of a regional research framework would lend considerable support to such a view.

Palaeolithic archaeology in Derbyshire provides a valuable body of information relating to some of the most temporally distant periods in the occupation of Britain. In being amongst the most northerly of settlement outposts in Britain during various periods within the Palaeolithic Derbyshire provides a particularly valuable contribution to the study of these periods. Past investigations have provided excavation records of highly variable quality. However, as our general understanding of issues developed and techniques of analysis are improved revisiting these past excavations and their archives can provide radically different interpretations of the evidence. The value

of being able to revisit the archives and collections of previous excavations has already been amply demonstrated for Palaeolithic research in Derbyshire in recent years. The potential value to future investigations of the already excavated resources needs emphasising. For many of the smaller excavated caves in Derbyshire publications have tended to be in the form of short notes or interims. Many have never been fully published. The archives for these sites need to be secured for future study. Where collections have been dispersed, a particular problem for the larger sites, there needs to be a determined attempt to bring as much of the material and records together as possible. Decisions will need to be made concerning the appropriate repository for such archives, and the resource implications will need to be identified. By giving priority to the creation and conservation of complete excavation archives, including the cultural materials, we will be doing a great service for the cause of future research.

Above all, the concept that Palaeolithic archaeology is a highly specialised branch of the discipline which somehow falls outside of the remit of ordinary, day to day curatorial decision making must be dispelled. Caves can be conserved. Open air lithic scatter sites can be found and investigated. Planning conditions appropriate to the importance and character of the archaeology may be sought. Archives can be managed for the benefit of present and future researchers. In this way the Palaeolithic archaeology of Derbyshire, in the context of the east midlands and beyond can continue to provide an important source of information for future work.

| Site Name | Lab Reference | Date bp | Note |
|--------------------------------|---------------|---------------|--|
| Dowel Cave | OxA-1463 | 11200 +/- 120 | On antler – Archaeometry 31 (2) 1989 |
| Fox Hole Cave | OxA-1493 | 11970 +/- 120 | On reindeer antler – Archaeometry 31 (2) 1989 |
| | OxA-1494 | 12000 +/- 120 | On antler – Archaeometry 31 (2) 1989 |
| Pin Hole Cave | OxA-1467 | 12350 +/- 120 | On bone: arctic hare – Archaeometry 31 (2) 1989 |
| | | | |
| | | | |
| | | | |
| Robin Hood's Cave | BM-603 | 10390 +/- 90 | On bone collagen (horse) and antler of megaloceros – layer OB – Radiocarbon 18 1976 |
| | BM-604 | 10590 +/- 90 | On bone collagen (horse) – layer LSB – Radiocarbon 18 1976 |
| | OxA-1462 | 12320 +/- 120 | On mammoth ivory, west side of west entrance – Archaeometry 31 1989 |
| | OxA-1616 | 12600 +/- 170 | On cut mountain hare left scapula – USB/OB, spit 12 – Archaeometry 31 1989 |
| | OxA-1617 | 12420 +/- 200 | On cut mountain hare left femur – OB, spit 16 – Archaeometry 31 1989 |
| | OxA-1618 | 12480 +/- 170 | On cut mountain hare right humerus – LSB/A, spit 21 – Archaeometry 31 1989 |
| | OxA-1619 | 12450 +/- 150 | On cut mountain hare right scapula – LSB/A, spit 21 – Archaeometry 31 1989 |
| | OxA-1670 | 12290 +/- 120 | On cut mountain hare right humerus – LSB, spit 18 – Archaeometry 31 1989 |
| Mother Grundy's Parlour | OxA-734 | 12190 +/- 140 | On bone – bovine – Archaeometry 28(2) 1986 |
| | OxA-733 | 12060 +/- 160 | On bone – bovine – Archaeometry 28 1986 |
| | OxA-736 | 2020 +/- 80 | On human mandible – Archaeometry 28 1986 |
| | Q-551 | 8800 +/- 300 | On charcoal & hazelnut shell – layer B |
| | Q-552 | 7602 +/- 140 | On charcoal – layer C/B interface |
| | Q-1483 | 11285 +/- 180 | One bone collagen – bos – from hearth – BAR 76 1980, 62-3 |
| | Q-1459 | 11160 +/- 170 | On bone collagen – bos – from hearth – BAR 76 1980, 62-3 |
| | Q-1484 | 11330 +/- 230 | On bone collagen – bos – in lowest 6" of Red Sandy Cave Earth and Stones – BAR 76 1980, 62-3 |

Table 2: Key Radiocarbon determinations for the Upper Palaeolithic of Derbyshire

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