

**Excavation of an Iron Age Settlement
adjacent to Beaumont Leys Lane,
Beaumont Leys, Leicester.**

SK6172 0590

John Thomas

For: Office Depot International

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John Thomas

Summary

Excavations east of Beaumont Leys Lane, Beaumont Leys, Leicester (SK 6172 0590) in advance of office and warehouse development have located an extensive area of Middle Iron Age open settlement lying adjacent to a landscape boundary ditch. The settlement was evidently long-lived and consisted of a spread of roundhouses, animal pens and four-post storage structures. A range of finds including pottery, animal bone and quernstones was recovered, and several 'exotic' artefacts hinted at the wide-ranging contacts of the settlement. Limited environmental information was recovered and it is suggested that the inhabitants of the settlement were predominantly involved with livestock farming.

Introduction

This report describes the results of an archaeological excavation undertaken between June-July 2006 by University of Leicester Archaeological Services (ULAS) on land east of Beaumont Leys Lane, Leicester (SK6172 0590) for Office Depot International (Fig. 1).

Development plans for this site involved construction of a new office and warehouse development within an area of c.8.5ha. Previous archaeological work on the site had revealed two areas of prehistoric activity (including a roundhouse, a ditch and a concentration of post-holes) and a number of features in evaluation trenches between these areas (Abrams 2002). Follow up work by ULAS in 2006 enabled a much larger area to be stripped (c.1.25ha), joining the two previously excavated areas up to show that they were part of the same spread of settlement remains.

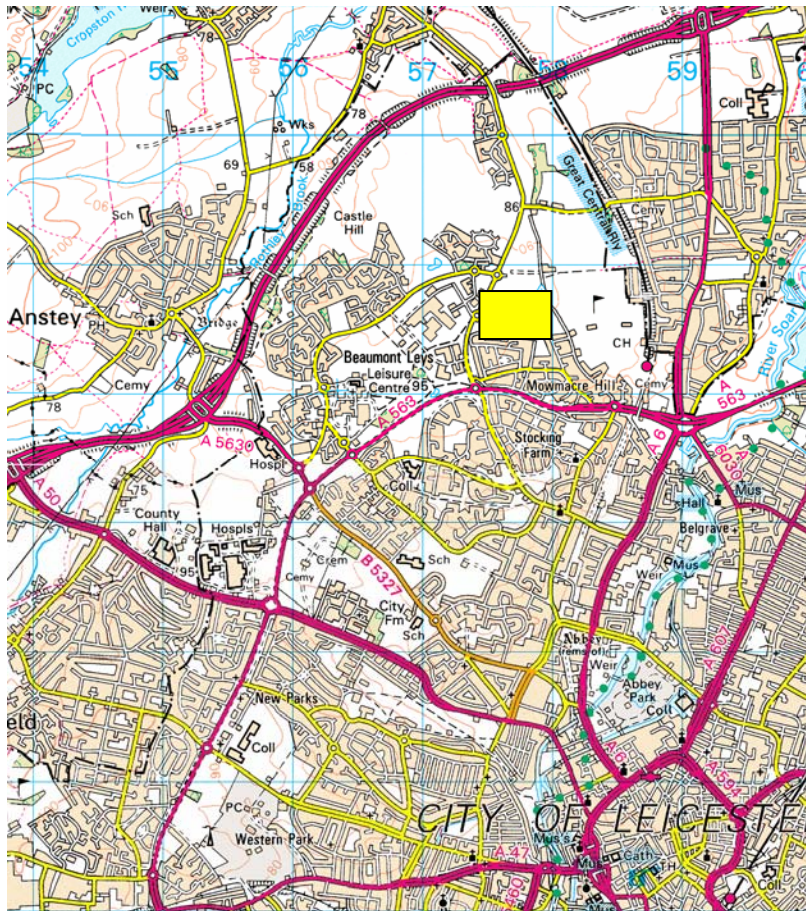


Figure 1 Location of the development area (highlighted)

Based on Ordnance Survey mapping.

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The work addressed the requirements for archaeological evaluation from the City Archaeologist, Leicester City Museum Service as archaeological advisor to the planning authority following Planning Policy Guidelines 16 (PPG16, Archaeology and Planning para.30) outlined in the *Brief for an archaeological excavation: Beaumont Leys Lane, Leicester* (LCC 21.3.2006, hereinafter the 'Brief'). It followed the written scheme of investigation *Design Specification for archaeological excavation. Land east of Beaumont Leys Lane, Leicester (SK 6172 0590)* (ULAS 26.06.2006, hereinafter DS) approved by the City Archaeologist on behalf of the planning authority.

The site archive will be deposited with Leicester City Museum under the Accession number A19.2006.

Site Description, Topography and Geology

The site lies to the east of Beaumont Leys Lane, some 4km north of Leicester City centre. It is situated on rough ground and occupies a boulder clay ridge at a height of *c.* 90m AOD, between Rothley Brook to the west and the River Soar to the east.

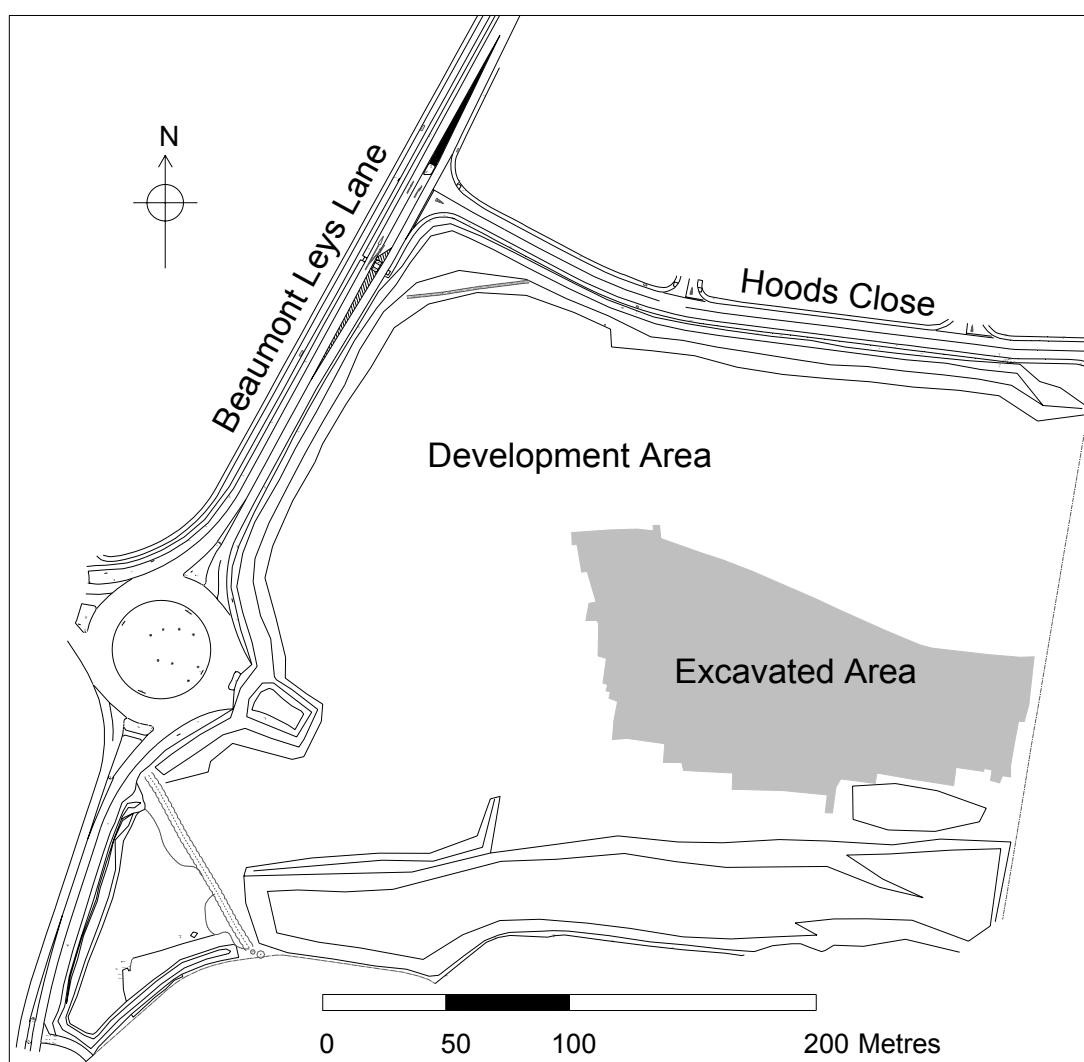


Figure 2 The extent of the excavated area within the development site

Archaeological Background

Fieldwalking in areas to the north and west of the site has revealed find scatters indicating early activity from the Mesolithic through to the Late Bronze Age (Leicester HER: MLC212 and MLC457) however before this settlement was revealed there was very little evidence for Iron Age activity in the Beaumont Leys area. With the exception of a ditch and a single post hole, recent evaluation work of adjacent areas to the north and east has been negative (Priest 2001, Gnanaratnam 2002 and Hunt 2005). Finds revealed during fieldwalking approximately 200m to the west of the site however, may indicate a

separate area of activity (HER Ref. LC 459). Although on the basis of current information it is difficult to draw the separate strands of evidence together it does suggest that the site currently under discussion was situated in a wider area of surrounding settlement.

Aims and Objectives

The site was identified as having the potential to address the following research questions (Brief 3.0; DS 3):

1. *The evolution of rural settlement* (EH 1997; T3). Recording the distribution of remains on the site may help to define domestic activity in contrast to other activity such as crop processing and may help to determine patterns of deposition on the site. It has been suggested recently that rates of change may vary between different regions. Comparison with other regions may show differences in resources exploited and crops grown over time.

2. *Settlement and land use on the East Midlands claylands* (Clay 2002). Comparison with sites on different geologies may show differences in agriculture or economy. The agricultural economy of the region in the prehistoric period is poorly understood and this is only likely to be improved by consideration of a larger number of sites to study the area as a whole. Evidence from the extensive Iron Age settlement at Elms Farm by the OAU indicates that the survival of biological data (bone and charred plant remains) is good in this area and the site has a high potential for further understanding Iron Age economies.

3. *The study of settlement patterns in the hinterland around Leicester*. Leicester was an important tribal centre during the late Iron Age (Clay 1985; Clay and Pollard 1994) and the relationship between Leicester and the surrounding Iron Age settlements is an ongoing research theme. The site has the potential to provide important comparative information in relation to trading patterns, contact, land use and economy during this period and compliment the work at similar sites for example, Enderby, Humberstone, Hamilton North, Kirby Muxloe and Crown Hills (e.g Clay 1992, Charles *et al* 2000, Cooper 1994, Meek *et al* 2004).

4. *Deposition patterns on Iron Age sites*. Structured deposition is a phenomenon identified within Iron Age settlements (e.g Marsden 1998; Charles *et al* 2000). Examination of deposition patterns within the possible pit features will provide further evidence of whether material has been discarded as rubbish or deliberately placed as special deposits.

The objective of the archaeological work was to ascertain whether any significant archaeological remains were present and characterise their nature (Brief 3.1) within the area to be developed. Specifically the excavation aimed to identify any evidence for prehistoric activity, identify whether it was occupation or agricultural, establish a chronology and identify how this activity might fit into a wider pattern of prehistoric activity in the surrounding area ('Brief' 3.2).

Methods

The scheme for archaeological work involved open area excavation as defined in the 'Brief' (4.0). Initially this involved examination of an area of approximately 900 sq metres (30m by 30m) as requested by the Leicester City Archaeologist (Brief 4.4 Fig. 1). In the light of the results this was revised following a request from the City Archaeologist on 20.06.2006 to include the stripped footprint of the warehouse area.

The topsoil was removed in spits by machine with toothless ditching bucket under supervision, until archaeological deposits or undisturbed substrata were encountered. The topsoil was kept separate from the subsoil. The archaeological deposits were then hand-cleaned by trowel or draw hoe, and the cleaned surface scanned by metal detector. The deposits were then planned using a Total Station Electronic Distance Measurer (EDM) and sample excavated to provide an adequate sample to address the research aims (DS 3).

All archaeological work followed the Institute of Field Archaeologist's (IFA) *Code of Conduct and Standard and Guidance for Archaeological Excavations* and the *Guidelines and procedures for archaeological work in Leicester* (Leicester Museum Service).

Radiocarbon Dating

Four samples of bone (2 human bone and 2 animal) from three features were submitted for radiocarbon dating at Poznan Radiocarbon Laboratory, Poland. Two samples came from Roundhouse 5, comprising human skull fragments and a cattle bone. A human tibia fragment was submitted from Roundhouse 6 and a cattle pelvis fragment from Structure 4. Calibration was made with OxCal software and Bayesian modeling of the results was undertaken.

Laboratory Number	Context	Material	Radiocarbon Age (BP)	Calibrated Date (95% confidence)	Posterior Density Estimate (95% probability)
Poz-22961	259 – Roundhouse 5	human skull fragments (x2)	2315 ±35	490–210 cal BC	410–350 cal BC (90%) or 290–250 cal BC (5%)
Poz-22843	234 – Roundhouse 6	human tibia shaft fragment	2330 ±30	510–260 cal BC	490–370 cal BC
Poz-22844	261 – Roundhouse 5	Cattle-size Tvert spinus	2205 ±35	390–180 cal BC	400–220 cal BC
Poz-22935	159 – Structure 4	cattle pelvis, pubis	2435 ±35	760–400 cal BC	560–390 cal BC

Figure 3 Radiocarbon dates: Results of Bayesian modelling

Bayesian Modelling - Derek Hamilton

Methodological Approach

A Bayesian approach has been adopted for the interpretation of the chronology from two sites presented here (Buck *et al* 1996). Although the simple calibrated dates are accurate estimates of the dates of the samples, this is usually not what archaeologists really wish to know. It is the dates of the archaeological events, which are represented by those samples, which are of interest (e.g. start or end of settlement).

Fortunately, methodology is now available which allows the combination of these different types of information explicitly, to produce realistic estimates of the dates of archaeological interest. It should be emphasized that the *posterior density estimates* produced by this modelling are not absolute. They are interpretative *estimates*, which can and will change as further data become available and as other researchers choose to model the existing data from different perspectives.

The technique used is a form of Markov Chain Monte Carlo sampling, and has been applied using the program OxCal v4.0.5 (<http://c14.arch.ox.ac.uk/>). Details of the algorithms employed by this program are available from the on-line manual or in Bronk Ramsey (1995; 1998; 2001). The algorithm used in the models described below can be derived from the structures shown in Figure 3.

Results

The chronological model for Beaumont Leys (Fig 3) has only four radiocarbon dates from three features, two of which are stratigraphically related roundhouses. As such the dating should only be viewed as rudimentary for the site as a whole, but the modelling has produced estimates for the latest start of Iron Age activity and the earliest end to this activity.

The model has good overall agreement between the radiocarbon results and the stratigraphic relationships noted for the samples ($A_{\text{model}} = 107.7\%$).

The model estimates that Iron Age activity began in 780–390 cal BC (95% probability; start Beaumont Leys – IA; Fig 1), and probably in 520–400 cal BC (68% probability). It estimates that dated activity ended in 400–20 cal BC (98% probability; end Beaumont Leys; Fig 1), and probably in 390–250 ca BC (68% probability). The activity dated lasted for 1–690 years (98% probability; use Beaumont Leys; Fig 4) and probably 30–270 years (68% probability).

The span is most likely an over-representation of the real amount of time as there are so few radiocarbon dates in this model. All four measurements fail a χ^2 test ($T'=21.7$; $v=3$; $T'(5\%)=7.8$; Ward and Wilson 1978) and so are likely to be representative of material over a fair span of deposition, however it is unclear just how long that period was in reality.

Results

Pre-Iron Age Evidence

Residual sherds of Neolithic and Bronze Age pottery hinted at earlier activities on or near the site, but the bulk of the evidence related to an apparently 'open' Iron Age settlement that had developed on the northern side of a sinuous linear boundary.

Iron Age Evidence

The settlement was characterised by an unusually large number of post-holes that covered the majority of the stripped area. The site had been ploughed in medieval times and the resulting furrows have distorted the settlement plan somewhat, although distinct patterns can be recognised in the spread of post holes (Fig 4). A number of roundhouses were revealed in addition to the one found in 2002. In contrast to the previously discovered roundhouse however, these were smaller and defined by structural remains represented by arcs of post-holes or wall slot. As well as roundhouses, several rectangular post-hole arrangements may have been the remains of buildings or animal pens. Several fence lines were also apparent and discrete structures, including a possible row of 'four-post' structures' (probable raised grainstores), give some idea of the organisation of the settlement. Various pits and gullies completed the evidence for occupation on the site.

Linear Boundary

Although essentially 'open' in plan, the southern limits of the Iron Age settlement were defined by a sinuous linear boundary. This was predominantly orientated along an east-west alignment before turning sharply on the western side of the site to adopt a meandering north-south alignment. The full extent of the linear boundary was not revealed during the excavation although taking into account the largely negative results of surrounding pieces of archaeological investigation, it was considered that the stripped area contained the core of settlement remains. A possible 'entrance' or causeway was tentatively identified approximately midway along the southern section of the boundary. At this point a c.7.5m gap was apparently created by two opposing ditch terminals, although this 'entrance' did coincide with an area of disturbed ground and interpretation must be cautious.

Despite having the appearance of a single, large ditched boundary on the surface, excavation (Slots A-G – Fig 5) revealed that the boundary had been redefined several times as the settlement developed (Fig 6). Additionally, changing characteristics of the boundary over the course of its length hinted that it may have developed in piecemeal fashion, with some areas receiving more phases of renewal than others. Common to all the excavated sections along the boundary however, was a homogenous deposit representing a final infilling of the associated features (Layer 145=152=180=190). In contrast with the main fills of the boundary ditches, this final layer contained large amounts of domestic debris including broken pottery, animal bone and occasional quernstones. The density of finds within the layer appeared to reflect proximity to nearby areas of occupation, such that relatively dense areas of pottery and bone were recovered from areas of the boundary adjacent to Roundhouses 1, 2 and 13, contrasting sharply with the intervening areas that were relatively finds free. Conversely excavation of Roundhouses 1 and 2 revealed that they were remarkably 'clean', perhaps suggesting that the dense finds groups from the nearby boundary reflected a final phase of 'tidying up' before the site was abandoned.

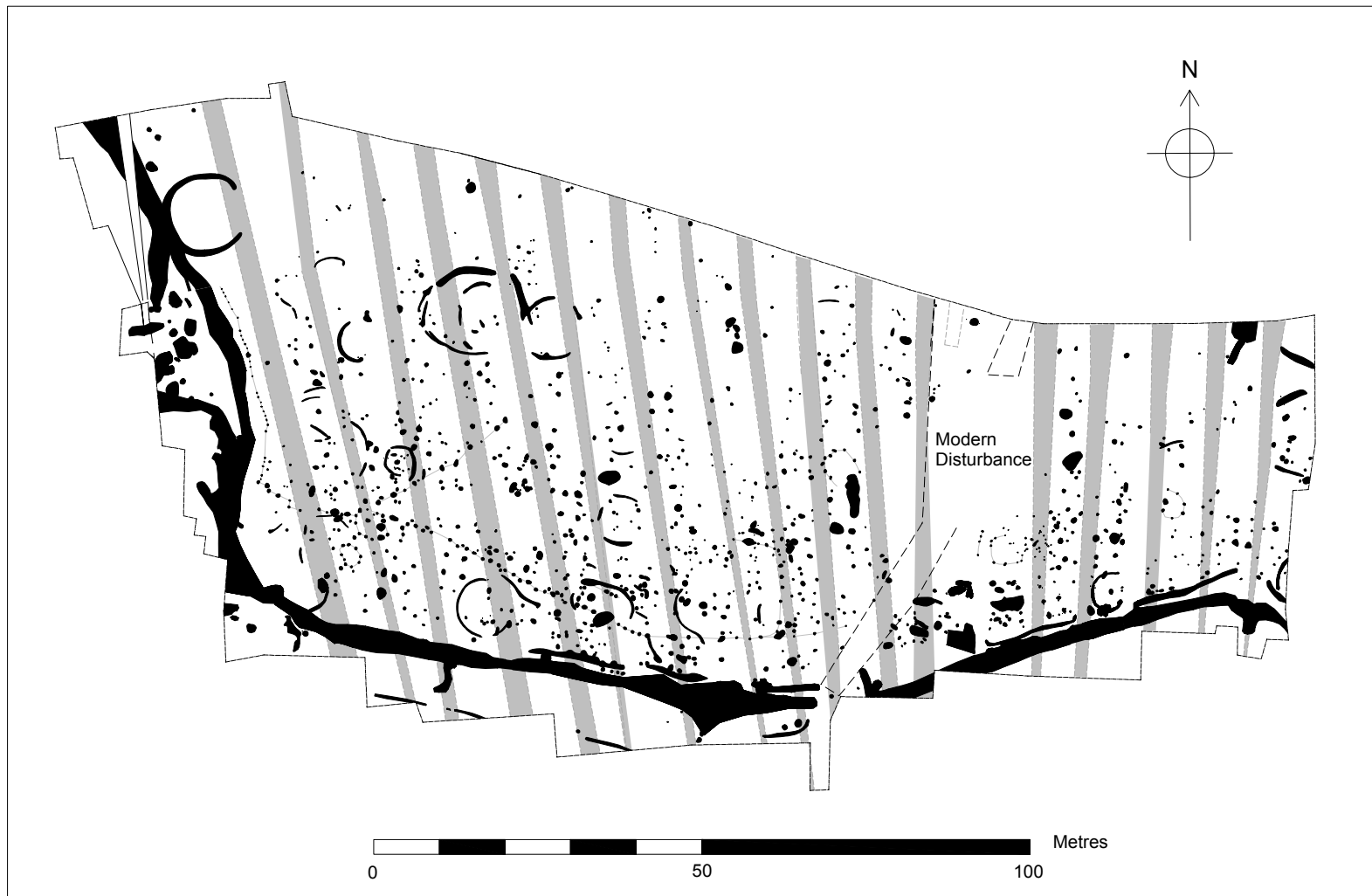


Figure 4 The excavated area showing archaeological features, furrows and modern disturbance

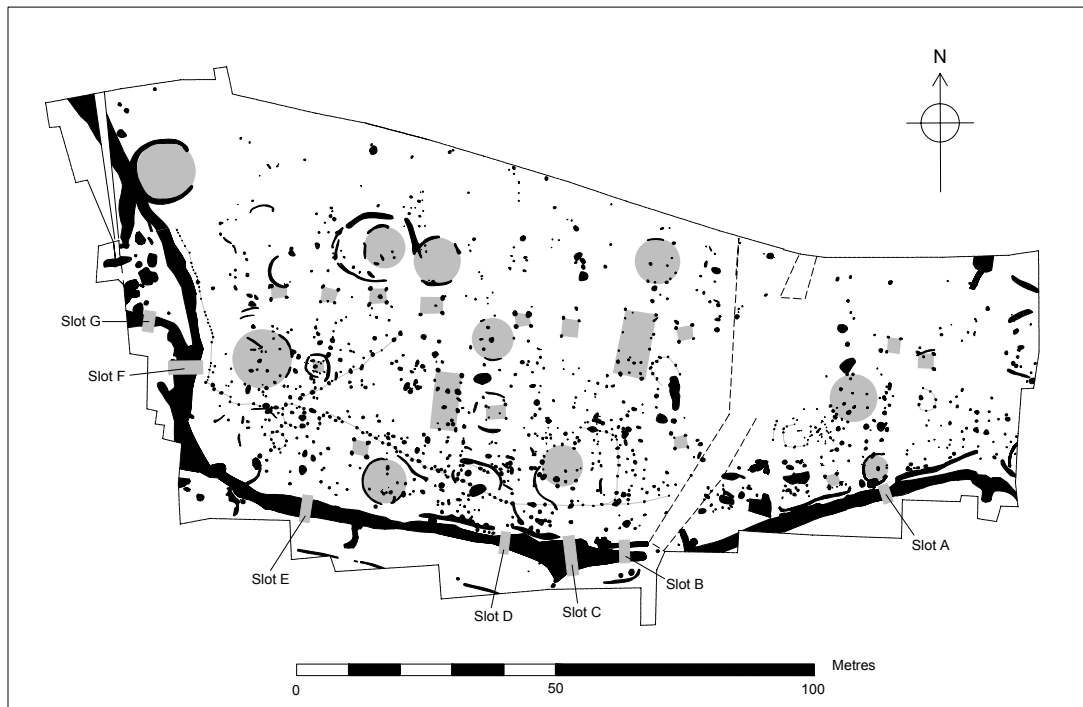


Figure 5 Location of excavated boundary slots

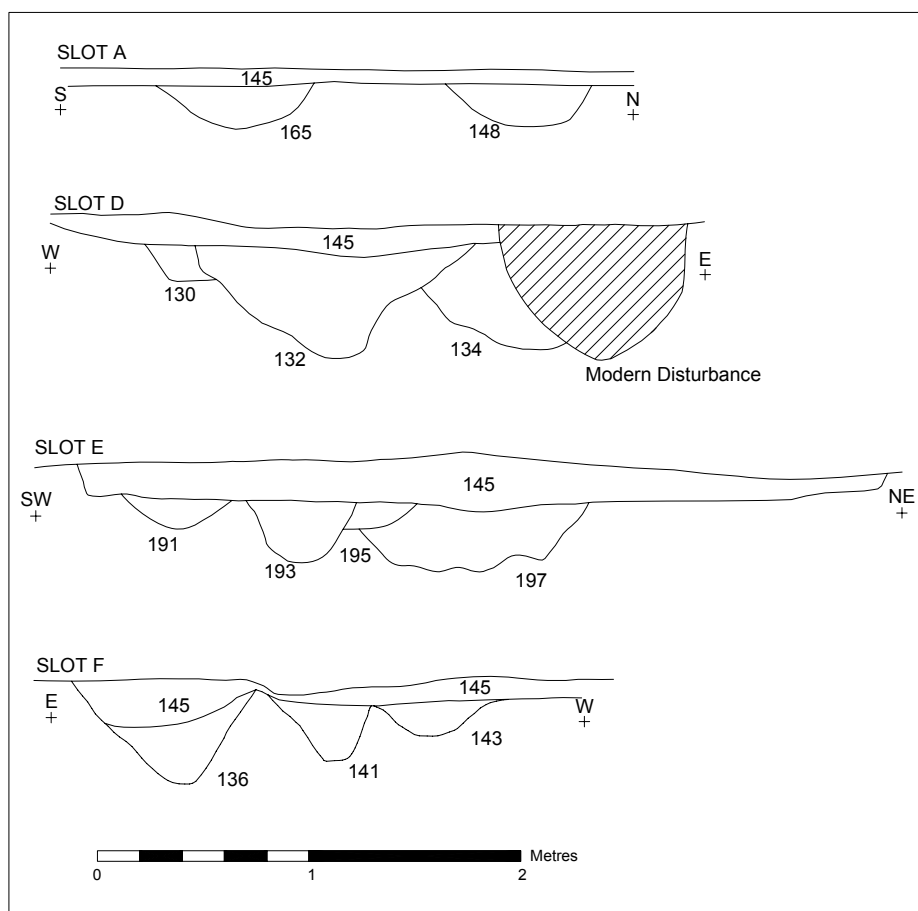


Figure 6 Selected section drawings showing the various phases of the linear boundary

The Structural Evidence

Structural evidence from the site is quite variable and consists of a range of roundhouses, defined by circular arrangements of post holes and penannular gullies, possible rectangular buildings, irregular post-built structures that may have served as animal pens, four-post storage structures and post-built fences. The dense spread of post holes across the site, evidently the result of several overlapping phases of occupation, coupled with the effects of plough-truncation has resulted in a plan that is challenging to decipher. However given the sheer density of post holes on the site it is clear that structural activity was well represented and an attempt has been made to define the most obvious for discussion and understanding of the sites internal organisation. The buildings were numbered according to the order in which they were either excavated or recognised during post-excitation.

Roundhouses

Ten roundhouses were identified on the site (Fig 7), of which half were recognised during the excavation phase of the project and thus were paid more attention in terms of excavation (Roundhouses 1, 2, 5, 6 and 13 – excavated by ASC in 2002). The rest were more fragmentary in nature and have been identified as a result of the post-excitation analysis.

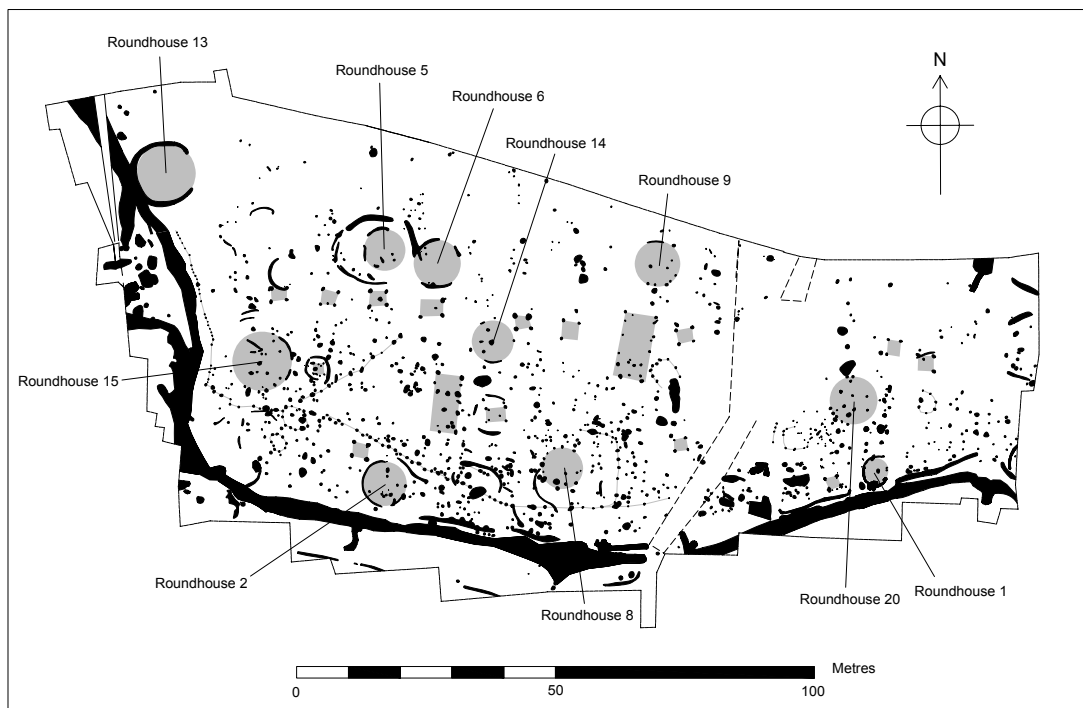


Figure 7 The Location of Roundhouses at Beaumont Leys

Roundhouse 1

Roundhouse 1 was located on the eastern side of the site, adjacent to the linear boundary. It consisted of the truncated remains of a narrow penannular gully that described a squashed oval measuring approximately 5m x 5.5m. A c.3.9m gap on the eastern side of the oval probably represented an entrance and a pair of post holes positioned centrally within the gap supported this suggestion. A small pit located centrally within Structure 1 contained a small amount of pottery and may have been the remains of a hearth or storage feature.

Roundhouse 2

Roundhouse 2 was also located adjacent to the linear boundary, on the western side of the site. This building was represented by a partially truncated penannular gully measuring c.8.7m in diameter. An east-facing entrance was indicated by the remains of the southern gully terminal, which coincided with a post-hole containing a complete saddle quern. The northern side of the entrance had been removed by ploughing. A short, sinuous length of gully (approximately 7.5m in length) lay across the entrance area, some 3m away from the building, which may have supported some sort of screen. The curvature of the western end of this gully mirrored that of the Structure 2 plan, suggesting they were interrelated. A number of post holes were located within Structure 2, and around the entrance way, that may have

related to structural elements of the building. Very few finds were associated with this building although large fragments of fired clay were found in several post-holes.

Roundhouse 5

Roundhouse 5 was located on the northern side of the site and was represented by the very truncated remains of a penannular gully, approximately 8m in diameter. Due to the limited information available for this building it was difficult to identify the position of its entrance. However given the orientation of the other circular buildings on the site it seems likely that this would have been on the eastern side. A small cluster of features, including a teardrop-shaped pit, a post-hole and a quernstone set into the natural clay lay on the southern side of Roundhouse 5, close to the suggested entrance location. Excavation of this building revealed pottery, animal bone, burnt stones, charcoal and a small group of human skull fragments. Two radiocarbon dates were obtained for this building. A fragment of human skull provided an estimated date of 490-210 cal BC (Poz-22961) and a further date of 390-180 cal BC (Poz-22844) was estimated from a cattle bone.

Roundhouse 5 lay within an oval-shaped enclosure measuring *c.*12 x 15m, also with an easterly entrance. The enclosure was demarcated by a series of discontinuous curvilinear features that had evidently been re-defined at various times and at various locations, with the available evidence indicating at least three phases of activity. Generally the enclosure consisted of short, shallow lengths of gully although a later addition, on the northern side, was considerably deeper with vertical sides, suggestive of palisade footings. A similar range of finds was recovered from the surrounding features making up the enclosure surrounding Structure 5.

Roundhouse 6

Roundhouse 6 lay adjacent and to the east of Roundhouse 5 and may have been the earlier of the two buildings as the remains of its ring gully were clearly truncated by the eastern side of the oval enclosure. Roundhouse 6 was slightly less truncated than Roundhouse 5 and consisted of a penannular gully *c.*9m in diameter with an east-facing entrance. Excavation of this gully revealed evidence of maintenance and redefinition at several points around the circuit. Finds included pottery, animal bone, heat cracked stone and the shaft of a human tibia from the northern side of the entrance. A fragment of the human tibia is estimated to date from 510-260 cal BC (Poz-22843). A distinct charcoal layer in the base of the northern terminal suggested deliberate dumping of hearth remains in the entrance area of the building. In addition the Roundhouse 6 ring gully was found to contain almost all of the burnt bone recovered from the site. A pair of post-holes was located in the north-western quarter of Structure 6 and may have related to internal features of the building. No other internal features were revealed.

Roundhouse 9

The remains of Roundhouse 9 consisted of a short length of curvilinear gully and an arc of corresponding post-holes that together described a circular area of *c.*8.8m. Due to the nature of survival, it was not possible to identify a definite entrance to this building. A number of post-holes were located within the building. None of the features relating to Roundhouse 9 was excavated although pottery, fired clay, heat cracked stone and charcoal was recovered from the top of one of the structural post-holes.

Roundhouse 8

Roundhouse 8 was defined by a circular arrangement of post-holes with a diameter of *c.*8m. A noticeably large gap on the eastern side of the arrangement probably indicated the site of the buildings entrance. A pit and several post-holes were located within the southern half of the buildings footprint. A snaking gully headed southwards away from the rear of Roundhouse 8 which may have acted as a drainage feature. Pottery and charcoal were found in the top of this feature but no other artefacts were associated with the building. None of the features relating to this building was excavated.

Roundhouse 13 (originally excavated by ASC)

Roundhouse 13 was located on the far western side of the excavated area and consisted of a penannular gully with a diameter of *c.*11m. Although no structural features were associated the gully is likely to have functioned as an eaves drip feature for a roundhouse. An entrance to the structure was marked by a *c.*6m gap in the gully circuit on the eastern side. Roundhouse 13 was markedly different in character to other similar structures on the site and was also more abundant in finds. Excavation of the ring gully produced a range of domestic debris including broken pottery, animal bone, heat-cracked stone and a collection of charred plant remains, indicative of small-scale domestic use. Roundhouse 13 lay very

close to the linear boundary on this part of the site, but the relationship between the two features was never fully resolved due to the similarity of fills. Although it is possible that both features were contemporary, perhaps with the eaves drip intentionally positioned to feed water into the boundary, it seems equally likely that Roundhouse 13 cut, and therefore post-dated the boundary.

Roundhouse 14

Roundhouse 14, near the centre of the site, was badly truncated but enough evidence remained to suggest the former presence of a building. This was represented by two short lengths of curvilinear gully that together formed the vestiges of a *c.*8m diameter circle. A single post-hole on the eastern side of the projected circle may also have been a structural element of this building. A pit-sized feature was centrally placed within Roundhouse 14 which may have been a hearth. This was partly encircled on its western side by an arc of three post-holes. None of the Roundhouse 14 features was excavated although fired clay and charcoal was observed in the top of the southernmost internal post-hole.

Roundhouse 15

Roundhouse 15 lay on the western side of the site and was another building that had suffered much from later truncation to the point where only the eastern portion survived. This was represented by two lengths of curving gully separated by a *c.*2m gap that likely formed an entrance. Projected, the curvature of the gullies would have created a building approximately 11.5m in diameter. The gap forming the east-facing entrance was flanked by two post-pits which may have created a porch at the front of the building. A number of features within the projected area of Roundhouse 15 included a scatter of post-holes and a centrally placed pit, which may have functioned as a hearth. None of these features was subject to excavation and the only feature to have any associated finds was the northern post-hole of the possible porch which had animal bone visible in the uppermost fill.

Roundhouse 20

Roundhouse 20 was located on the eastern side of the site and was represented by a clear arc of post-holes forming the south-west quarter of the building. If projected, the curvature of this arc would define a circular area with a diameter of approximately 9.2m. Several further post-holes on the northern side of the structure coincide with the projected wall line and may also be considered part of its structural make-up. Two large post-pits adjacent to the eastern side of the building lay *c.*2m apart and may have formed a porch, similar to that suggested for Roundhouse 15. A number of post-holes or small pits cluster within the ground-plan of Roundhouse 20 although it is difficult to determine their function or relationship to the building. A quernstone within a post-hole in the northern half of the building was one of the few finds associated with Roundhouse 20.

Other Structures

As well as the roundhouses a number of other post-built structures formed part of the settled area (Fig 8). In contrast to some of the roundhouses the evidence relating to these structures did not suggest any direct association with occupation. It seems likely that these other structures may have represented small enclosures and ancillary buildings relating to the main dwellings. The semi-circular gully defining Structure 4 (see below) may have supported a fence or wind-break.

Semi-circular structure

Structure 4

Structure 4 lay on the western side of the site and was represented by a shallow semi-circular gully forming an arc of *c.*6m diameter, with its open side to the east. The gully incorporated a post hole at the northern end although this was not completely evident as a result of plough damage in this area. It is possible that a similar situation once existed at the southern end of the Structure 4 gully however this was not conclusive due to truncation from a later feature. A small amount of animal bone was recovered during the excavation of this structure, a fragment of which produced an estimated radiocarbon date of 760-400 cal BC (Poz-22935).

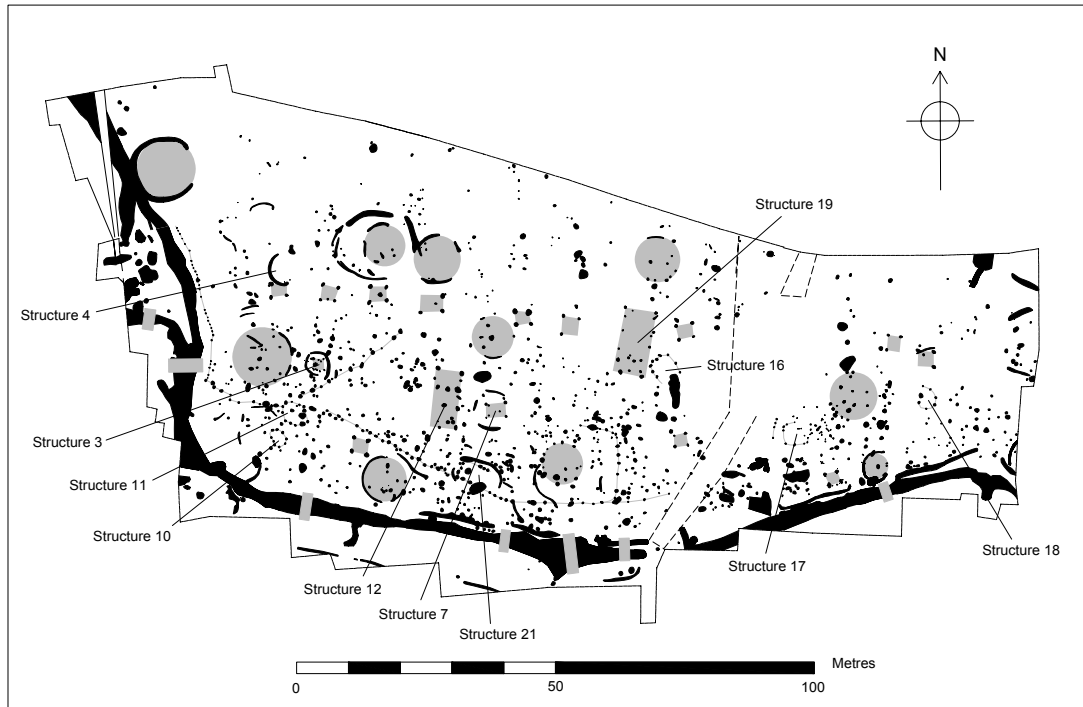


Figure 8 Location of other post-built structures

Large Rectangular Structures

Structure 12

Structure 12 lay near the centre of the site and was represented by a rectangular arrangement of post holes delimiting a *c.*11m x 5m area on a north-east – south-west alignment. Plough-damage had effectively removed much of the western wall-line, however the eastern side was represented by a strong line of regularly set post holes. Three large post-holes approximately 4m from the northern gable end of the building were arranged at right angles to the eastern wall and may have represented an internal division. If this is the case the building could have been spatially organised into two areas; one measuring *c.*5 x 4m that may have functioned as a byre, and another measuring *c.*5 x 7m that may have had a domestic use. A pit lying centrally within the larger area contained pottery, charcoal and heat cracked stones and may have been a hearth. Although none of the features relating to this possible building was excavated, quantities of pottery, fired clay and charcoal were also found in the tops of related post-holes.

Structure 19

Structure 19 was located to the north-east of Structure 12 and had a similar alignment. This also had a broadly similar ground-plan, consisting of a rectangular arrangement of post-holes measuring approximately 6m x 12m. As with Structure 12, a possible internal partition wall at the southern end of the arrangement may have represented a byre measuring *c.*6 x 3m. No evidence for internal features within this area was revealed and no finds were associated.

Structure 21

Structure 21 was smaller than the other rectilinear structures, measuring approximately 3.5 x 7m, possibly with an entrance on the south-eastern side. This structure was aligned north-west to south-east and appeared integrally linked with Fence 1 (see below), a section of which formed the southern side of Structure 21. A shallow pit lay centrally within the western half of the structure. Although charcoal was present in the pit fill, it was not possible to determine if it had been used as a hearth. An arcing gully lay alongside the northern side of the structure that may have provided drainage. A smaller length of gully close to the south-western corner of the structure may have provided a similar function. No finds were associated with this structure.

Smaller Post-built Structures

Structures 10 and 11

Structures 10 and 11 were located on the western side of the site and both consisted of small, irregular arrangements of post-holes, possibly representing animal pens. Structure 10 was a loose oval shape

measuring *c.* 3.5m x 2.3m and Structure 11 was slightly larger and less regular, measuring *c.* 5.3m x 4.4m. No clear entrance was evident in either structure and no finds were associated with them.

Structure 16

On the eastern side of the site Structure 16 consisted of a square arrangement of regularly spaced post-holes demarcating an area of *c.* 4.7m x 4.5m. The southern side of the structure was not clearly defined during the excavation although it is possible that it was open-sided to the south. No finds were associated with this structure.

Structure 17

Structure 17 was represented by a square arrangement of post-holes measuring *c.* 4.7m x 4.3m. No clear entrance was defined for this structure although it is possible that an opening may have existed in the north-eastern corner. No finds were associated with this structure.

Structure 18

Structure 18 lay on the eastern side of the site and was possibly oval-shaped although truncation had occurred on the western side. The surviving arc of the structure was made of a series of six regularly spaced post-holes and a single large post-hole or pit may have been an internal feature. Several of the post-holes produced pottery, fired clay and charcoal.

Structure 3

Structure 3 was a small post-built structure measuring approximately 2m square. This was surrounded by a penannular drainage gully with an entrance on the southern side. Excavation revealed this to be shallow with a V-shaped profile. All of the other features associated with this structure were very shallow and truncated. The structure seems largely to have been built of smaller posts than other structures on the site (*c.* 0.20m in diameter), although two larger post-holes were also evident. Only a small assemblage of animal bone and pottery sherds was associated with this building.

Structure 7

Structure 7 comprised a post-built rectangular structure measuring *c.* 3.8m x 3m. This was surrounded by a loose arrangement of gullies that most likely provided drainage for water running off the roof of the structure. Pottery, animal bone, fired clay and charcoal were all found in the tops of features associated with Structure 7.

Structures 3 and 7 are likely to have been raised storage buildings.

Four-post structures

At least twelve four-post structures were identified on the site sharing a remarkably similar ground-plan with an average size of *c.* 3m x 3m (Fig 9). Several were located in the southern half of the site where they may have been associated with particular structures/buildings; the most likely having a close spatial relationship with Structure 2. The majority of the four-post structures however, formed an east-west arrangement across the northern part of the site providing an insight into the general organisation of the settlement. Although four-post structures are generally regarded as being raised granaries, there was no particular evidence to suggest a specialised function for the structures at Beaumont Leys. Some of them were associated with pottery and animal bone, most notably where they lay adjacent to roundhouses (e.g. those adjacent to Roundhouses 5 and 6). There was little evidence to suggest that any of these structures had been rebuilt or modified, perhaps suggesting that they were relatively short lived and that not all of the examples on the site would have stood at any given time.

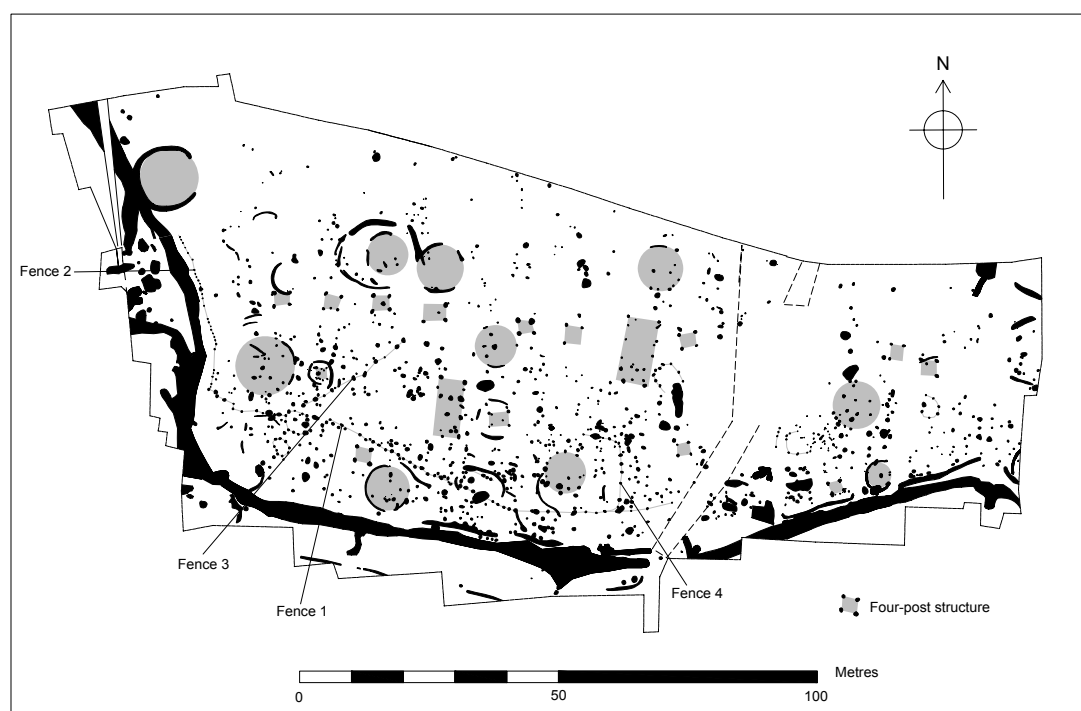


Figure 9 Distribution of Four-post structures and fences at Beaumont Leys

Fences

A series of post and stake-built fences was identified across the site, mostly concentrating in the southern half of the area (Fig 9). These provided further evidence for the overall organisation of the settlement.

Fence 1

Fence 1 was the longest example, measuring *c.*71m and comprising a continuous length of regularly spaced post-holes on a broad east-west alignment. Fence 1 appeared to closely mirror the course of the linear boundary, particularly along the eastern section, where it consistently lay *c.*6.5m away. Towards the western side Fence 1 diverged considerably from the linear boundary, possibly in respect of Roundhouse 2, to a maximum distance of *c.*17m. At the eastern end a sharp right-angled terminal to Fence 1 probably indicated the location of an entrance at this point, possibly associated with Structure 10. The character of Fence 1 at the western end was not so clear however, as it ran into an area of disturbance. The northern side of rectangular Structure 10 appears to have been integrated into Fence 1 and a slightly more erratic string of post-holes to the west may represent an extension or continuation of the fenceline to the point where it meets Fence 2.

Fence 2

Fence 2 consisted of a linear arrangement of closely spaced post-holes adjacent to the western section of the linear boundary. This fence appeared to join with the western end of Fence 1 and may therefore be considered broadly contemporary, however there were differences in character between the two boundaries. Fence 2 consisted of smaller posts (averaging *c.*0.20m in diameter) and had a closer relationship with the linear boundary, lying less than 2m away for the majority of its course. As such Fence 2 might be considered more of an extension of the boundary system represented by the recut gullies. The relationship between Fence 2 and Roundhouse 13 is not known.

Fence 3

Fence 3 projected from the western end of Fence 1 on a north-east - south-west alignment. This was evident over a distance of *c.*23m and defined by a relatively strong alignment of large (*c.*0.50m diameter) post-holes interspersed with a number of smaller ones (*c.*0.30m diameter).

Fence 4

Fence 4 projected northwards from the eastern end of Fence 1 and comprised a string of irregularly spaced post-holes with a well defined corner approximately two-thirds of the way along its length. The fence was observed for a distance of *c.*13m before making a right-angled turn westwards for

approximately 7m. The boundary appears to create a semi-enclosed area of the site containing Roundhouse 8 and suggesting that the two features may be broadly contemporary.

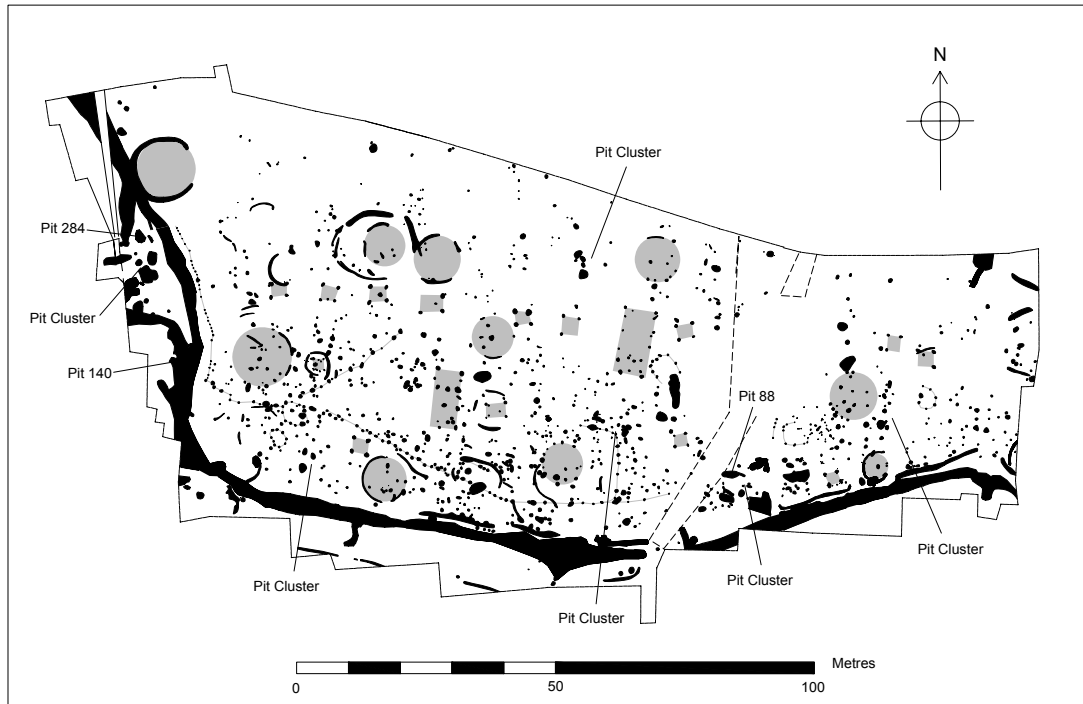


Figure 10 Distribution of pits at Beaumont Leys

Pits

Pits of varying size occurred regularly across the site, often concentrating in small discrete clusters close to the locations of the main structural features of the settlement (Fig 10). Of those excavated the majority appear to have been backfilled fairly rapidly, in single episodes of infilling, although some appear to have been backfilled over longer periods of time. The assemblages recovered from the excavated pits by and large reflected refuse disposal although none had excessively 'rich' assemblages of finds, in common with the other features on the site. The original purposes for the excavation of the pits may have been related to the extraction of clay for building materials, or to act as a temporary container for water. Of note, Pit 140, which had an uncertain relationship with the linear boundary on the western side of the site, contained a large boulder of Mountsorrel Granite that most likely arrived on (or near) the site as a glacial erratic. The boulder must have had some significance to the inhabitants of the settlement however as, despite its bulk, they had chosen to manoeuvre it into the pit for some reason. Some of the locally produced quernstones from the site were also made on similar material raising the possibility that this, or other glacial erratics in the area, were the source for these tools. Close by Pit 284 contained domestic debris; pottery and bone, as well as a group of shale-working off-cuts, indicating specialised craft activities on the site. At the opposite end of the site, Pit 88 contained several joining pieces of what appeared to be a deliberately broken quernstone (SF15 and SF16). This saddle quern, manufactured from Millstone Grit, was one of the few imported items from the site. It is possible that particular significance was attached to this item due to its distant connections, perhaps resulting in its deposition in this way.

The Finds

The Prehistoric Pottery – Patrick Marsden

Bronze Age Pottery

A single rim sherd weighing 38g of probable Early Bronze Age Deverel-Rimbury pottery was recovered from the upper fill of the boundary ditch, and is therefore apparently residual. The rim is a probable inturned rounded type and there are two impressions on the outside of the body below the rim. The fabric contains coarse rock fragments, which may be granitic.

Iron Age Pottery

Introduction

A total of 1224 sherds of Iron Age pottery weighing 7979g was recovered from the excavations. The pottery is generally typical of the East Midlands Scored ware tradition, although the percentage of actual scored sherds is only 7.3% by weight, which is lower when compared to other Leicestershire Iron Age sites, such as Elms Farm, Humberstone (45.6%-Marsden 2000, 173) and Wanlip (36.6%-Marsden 1998, 47). However, fabrics, vessel, rim and base forms are typical of the East Midlands Scored wares and plain “unscored” vessels are common during the period. In addition, some of the activity and pottery from the site may well date to the “pre-Scored ware” earlier Iron Age period, with the earliest C14 date for Structure 4 being 600-400 BC.

Methodology

The material was examined and recorded according to the guidelines for the analysis of later prehistoric pottery (Prehistoric Ceramics Research Group 1997). The fabric groups follow the University of Leicester Archaeological Services fabric series for late Bronze Age and Iron Age pottery (see below Fabrics). Forms were recorded using guidelines for the recording of later prehistoric pottery from the East Midlands (Knight 1998). Summary information by context is provided in Table 1 below.

Fabrics

These are dominated by R1 (granitic rock) and R2 (granitic rock and sand). Smaller quantities of Q1 (sandy) and S1 (shell) S2 (shell and sand) are also present. The fabrics can be compared to those from other Iron Age sites at Wanlip, Leicestershire (Marsden 1998, 45) and Elms Farm, Humberstone, Leicester (Marsden 2000, 171) and the late Bronze Age phase at Eye Kettleby, Leicestershire (Marsden forthcoming). The overall dominance of granitic fabrics (R1 and R2) is typical of this area of Iron Age Leicestershire and is unsurprising given the relatively close proximity of the granitic outcrops at Mountsorrel c.6km to the north.

Forms

Few large vessel profiles were recovered from the site, where the average sherd size for Iron Age pottery was only 6.5g. Only one vessel form was identified, a round-shouldered vessel from context 100. Ellipsoid forms are typical of the Scored ware tradition (Knight 2002, 134). Rim forms are characterised by everted, direct and inturned types. A rim that may represent a predecessor to the lid-seated jar form (Structure 6, context 231, see illus. no.1) could be given a later Iron Age date on the basis of parallels. Comparison can be made with shell-tempered vessels from Elms Farm, Humberstone (Marsden 2000 174 and illus. 50.16 and 52.34) and west Leicester (Pollard 1994, 259). However, the C14 date for this feature is middle Iron Age (420-350 BC), therefore indicating that such forms are also likely to have been present in this period. Bases present are generally characteristic of the Scored ware vessel repertoire.

Decoration

Two types of decoration were found on rim sherds: finger tip impressions and incised diagonal lines on the lip. Both of these are commonly found on Scored wares. Another very small sherd from a post-hole (context 514) displays comb-impressed decoration and is either part of a small carinated vessel or a lid. This type of decoration is unusual during the Iron Age.

Surface Treatment

As described above (Introduction) scoring occurs on a proportion of the pottery. Burnishing is also present upon a small number of sherds, on both the external and internal vessel surface. Two thin-

walled sherds in a sandy fabric (Q1) from context 261 (Structure 5) display burnishing on both internal and external surfaces.

Vessel use

Carbonised residues were present on the external surface of a number of the vessels. This is likely to indicate their function as cooking pots. It should also be noted that a vessel from a pit (context 407) displays two holes, one of which is unfinished. This probably represents an attempt to mend the vessel after breakage.

The Main Pottery Groups

Context 17 (Post-hole)

This produced 100 sherds of pottery weighing 407g. It includes two rims and two bases. One flattened inturned rim sherd in a shell and sand fabric (S2) is from the same vessel as another rim sherd in another post-hole (Context 15).

Context 28 (Post-hole cutting Structure 1)

This produced 98 sherds weighing 750g. As well as 2 rim sherds, the posthole produced 20 burnt sherds. Other Iron Age sites have produced quantities of “overfired” or burnt pottery (Marsden 1998, 50-51). It is possible these sherds may have been burnt during exposure to heat from ovens or hearths at the site, which may be represented by burnt clay fragments from the site (see below).

Ditch Deposits (Contexts 145 and 152)

225 sherds weighing 1710g came from the ditch. These include rim and base sherds and the residual Bronze Age rim described above. The large concentrations of pottery in the ditch were located in the south of this feature (especially from excavated slots A, B and C).

Roundhouses 5 and 6

Roundhouses 5 and 6 produced 489g and 651g of pottery respectively. Rim and base sherds were recovered from both. As described above, thin-walled burnished sherds in Q1 from Structure 5 and a rim in S2 fabric came from structure 6 (illus. no.1). The C14 dates for these two structures are broadly middle Iron Age - 390-180 BC (Roundhouse 5) and 420-350 BC (Roundhouse 6).

Although there were these relatively larger concentrations of pottery from the features described above the sherd size is still relatively small with no vessel profiles, for example, present. It should also be noted, however, that deposits of larger sherds of Iron Age pottery were produced from the eaves drip terminals of Roundhouse 13, producing 4.7kg of material (Marsden 2002). There was also a higher proportion of scored sherds in this particular assemblage, perhaps suggesting a slightly later date in comparison with other features on the site.

Summary

The pottery from the excavations is broadly characteristic of Scored ware assemblages associated with Iron Age settlements in Leicestershire and the East Midlands, and is probably mainly middle Iron Age in date. The assemblage may also contain some earlier Iron Age pottery, though this is hard to distinguish from plain pottery of the Scored ware period.

Table 1: summary information for prehistoric pottery by context

Context No.	Sherd no.	Weight (g)	Fabrics	Scored weight (g)	Form types	Comments
5	1	8				
13	1	2				
15	3	60	Inc. S2		Flattened inturned rim.	Includes rim (from same vessel as rim sherd in context 17).
17	100	407	Inc. S2		Flattened inturned and flattened direct rim.	Includes 2 rims and bases. One rim sherd from the same vessel as in context 15.
19	1	5				
23	6	34				
28	98	750	Inc. S1		Everted flattened and everted beaded .	2 rims. Also 20 burnt sherds, some very burnt.
34	14	125	Inc. S1 and S2.			2 base sherds.
38	1	2	S1			
39	4	8				
72	6	26				
79	3	3	Inc.S1			
81	1	4				
83	1	10	? Rock			Rim. Very coarse rock fabric.
85	11	31	Inc. S1			
87	20	296	Inc. S1 and S2.	50	Everted rounded.	1 scored rim sherd and 2 scored body sherds present and 1 base sherd.
91	19	78	Very coarse granitic.		Rounded inturned.	Rim and body sherds from the same vessel in coarse granitic fabric.
100	3	10			Small round-shouldered vessel with everted rounded rim.	Rim and upper body sherd.
117	4	8				
120	4	27				Base sherds from the same vessel.
125	24	106				
129	12	90				
139	16	20			Everted flattened form.	Includes rim sherd.
145	9	36			Rounded inturned form.	Includes rim sherds.
145-Ditch upper fill	10	167	Inc. coarse with large lumps of granitic? rock (Dev-Rim).		Everted flattened and probable inturned rounded rim (from urn?).	2 rim and upper body sherds. 1 with impressions on upper body (probably finger-tip) may be from Deverel-Rimbury urn. 1 sherd with external carbonised residue.
145-Ditch Slot A	10	142		108	Tapered direct.	1 rim. Carbonised residue on 1 sherd.
145-Ditch E of Slot A	1	7				
145-Ditch? E of slot B	16	60			Everted flattened with impressions (finger tip and nail?).	1 rim.
145-Ditch E of slot D	59	240	Inc. Q1		Everted rounded with diagonal incised lines on lip.	1 rim and 2 base sherds.

145-Ditch E side of slot E	16	90				Flattened direct.	1 base and 1 rim.
145-Ditch W side of slot E	5	7					1 base.
152-Ditch	99	961	Inc. S1 and S2.	82		Rounded direct and everted rounded forms.	Includes 3 rims and 2 bases. 2 sherds with burnishing.
154	11	80				Everted rounded.	Includes rim and base.
166	7	110		72		Flattened.	1 rim.
175	2	3					
179	7	86		75			
188	9	76	Inc. S2.				
203	5	52	Inc. S2.				
213	2	5					
218	1	23	Inc. S2.				
226	10	100					1 base.
227	16	126		24			1 base with internal carbonised residue. 1 sherd with external carbonised residue.
229	49	233	Inc. S1.			Everted flattened, everted rounded? and flattened.	3 rims and 1 part rim. 1 base.
231	26	165	Inc. S2.	5		Inturned rim, expanded externally and pinched out internally ("lid-seated"?).	3 rims. "Lid-seated" jar probably late Iron Age in date (1st century AD?).
232	5	32	Inc. S2.				
233	31	136	Inc. S1.			Everted flattened.	4 rims.
236	7	85		17			1 sherd with external carbonised residue.
238	20	65		3			1 rim and 1 sherd with internal and external burnishing.
240	8	82		48		Everted rounded.	1 rim.
246	1	10					
248	5	30				Rounded direct.	1 rim.
250	1	2					
253	10	50	Inc. S1.				
256	1	4					
257	1	6					
261	27	115	Inc. Q1 (thin-walled vessel).				2 joining sherds from thin-walled vessel with internal and external burnishing.
266	2	3	Inc. S2.				
268	2	30					
270	1	4					
281	1	3					
283	1	6				Flattened.	Rim
287	3	15				Everted rounded.	Rim. Same vessel as rim in context 316.
289	10	4		10			
293	2	6					
303	1	2					
316	8	40		5		Everted rounded.	Rim. Same vessel as rim in context

						287.
401	1	2				
402	11	30				
404	5	20				
406	2	8				
407	7	81			Flattened.	1 large sherd with 2 holes (1 incomplete). These possibly mending holes.
408	3	10	Inc. S2			1 part rim.
409	2	3				
410	3	40			Flattened direct.	1 rim.
411	1	4				
412	5	15			Flattened.	1 rim.
414	2	23				
415	1	4				
416	6	6			Rounded.	1 rim
417	1	5		5		
419	1	3				
420	11	65				
421	2	7				
423	2	6				
424	1	5				
428	12	82				1 base.
429	3	6				
431	1	10				
432	6	8				
438	3	10				
439	6	12				1 base.
441	2	10				
442	2	12				
444	4	42				
446	3	20				
449	1	5				
450	3	7				
451	2	8				
452	3	24	Inc. S2.			
453	1	5				
454	2	6	Inc. S2.			
455	8	25				
458	2	6	Inc. S2.			
459	1	5				
461	2	7				
462	3	22				
463	4	37		5		1 base sherd with scoring.
464	1	6				
465	4	13				
466	2	22				1 base.
467	1	10				
468	3	14				
469	2	7				
471	9	482				
472	1	9				
473	4	9				

478	3	9				
479	1	10				
480	2	22		20		
481	4	12				1 rim.
482	2	8				
484	3	10				
485	1	5	Inc. S2.		Flattened.	1 rim.
486	4	45				
487	1	5				
488	9	30	Inc.S1.			
489	1	4				
490	1	4				
491	3	10	Inc. S1.			
492	6	24				
493	1	10			Flattened.	1 rim.
494	1	2				
495	4	26				
496	3	28				1 base.
497	1	5				
498	4	12				
499	1	8				
500	1	41			Everted rounded.	Rim and upper body.
501	7	46			Rounded.	1 rim.
504	1	8				
505	3	7				
509	3	17				
510	1	4				
511	3	12				
512	5	14				
513	9	60			Everted flattened and tapered.	1 rim.
514	20	61			Rounded.	1 rim and one thin-walled comb decorated sherd -lid or small carinated vessel.
515	1	5			Flattened expanded.	Rim.
516	1	4				
517	3	4	Inc. S1.			
518	5	10				
519	1	9				
520	7	38				
521	2	5				
523	1	10				
524	2	14				
525	1	20				Base.
526	1	2				
527	1	100				Very thick base fragment.
528	3	7				
530	5	5				
532	3	5				
533	9	21				
535	7	35				
536	2	5				
537	1	14				

538	2	13				
539	1	10				
U/S test pit	6	96			Flattened.	1 rim and upper body.
U/S	11	136		56		
Total	1225	8017		585		

The Fired Clay and Daub – Patrick Marsden

Introduction

A total of 249 fragments of fired clay weighing 2056g was recovered from the excavations. Table 2 summarises the information recorded on the fired clay.

Discussion

The fragments would seem to be mainly fired clay, although there may also be smaller quantities of daub. The fabrics are mostly fairly sandy with occasional larger inclusions such as rock and quartz. Small quantities of fired clay contain shell in the fabric. A local origin for the fired clay would seem likely. A considerable number of the fragments were reasonably highly fired and displayed surfaces (See Table 2). These surfaces were sometimes also at right-angles indicating a possible brick shape. One piece also displays part of a perforation. The function of these objects is unclear and the fragments are spread in small quantities in different types of feature at the site, rather than being concentrated in any particular contexts. However, one possibility is that they represent oven or hearth furniture.

Table 2: fired clay totals (fragment totals and weight (g)) by context with comments

Context No.	Fragment no.	Weight (g)	Comments
5	1	4	
40	28	140	
71	10	40	1 fragment with possible surface.
85	24	70	5 fragments (4 with surface) possibly from object.
87	2	45	joining fragments- with flattish surface. ?brick.
91	1	8	
151	1	7	
166	1	7	
179	11	32	8 with surfaces. 2 join. ?brick.
188	7	58	
203	11	75	7 with surfaces, 1 with part perforation.
222	1	337	large fragment of brick with 2 surfaces present.
227	1	2	
229	4	14	1 possible piece of daub- possible wattle impression.
231	20	58	8 pieces with surfaces.
232	9	23	all with surfaces.
236	4	22	2 with surfaces.
248	8	53	
250	3	23	2 joining fragments with surface are burnt.
253	2	5	
259	1	55	2 surfaces. ?brick.
261	1	6	
310	2	10	
402	1	2	
405	9	35	
407	1	4	
410	10	136	4 fragments with surfaces.

411	1	2	
412	15	270	4 with surfaces.
415	2	5	
421	1	4	
424	1	5	
426	1	19	
428	1	5	
432	3	8	
434	3	10	2 with surfaces.
435	1	3	
438	1	2	
441	1	5	
445	2	40	joining sherds.
446	6	33	4 with surfaces.
452	1	3	
457	1	2	
458	2	4	
463	1	3	
468	1	16	
471	2	32	1 with a surface.
476	1	8	
485	4	50	1 with surface.
486	2	8	1 with surface.
496	1	10	
503	1	4	
506	2	10	1 with surface.
508	10	165	
520	1	3	surface.
522	1	2	
532	1	35	2 surfaces. Brick.
533	1	5	
535	1	4	
East of slot D ditch	2	10	
Total	249	2056	

The Human Bone – Harriet Jacklin

A small number of human bones, in a fragmentary condition, was associated with Roundhouses 5 and 6, including skull and long bone fragments retrieved from the fill of a ring gully (context 234) and part of Structure 6 (see Figure 14). A number of un-diagnostic skull fragments were located within the ring gully of Structure 5 (context 259).

Roundhouse 5 (Context 259)

A total of two medium sized (40mm<80mm) (reconstructed) and ten small (5mm<30mm) cranial fragments were recovered from this context, all of which show taphonomic damage. These were examined ectocranially and endocranially for any signs of disease or ill health but none was found. The width of the fragments indicates an individual aged beyond childhood and adolescence, but there are no age indicators to support this (apart from one partially fused cranial suture, however the age at which cranial sutures fuse vary between individuals, so using cranial sutures as an specific age indicator is unreliable). In addition a small (8x30mm) unidentifiable long bone fragment was recovered, also with no signs of disease. It is impossible to say whether or not the fragments are the remains of a single individual but the fragment indicates a similar age, beyond childhood, at least.

Roundhouse 6 (Context 234)

A tibia fragment was also recovered from the Roundhouse 6 gully.

Disarticulated human bones are not uncommon on Iron Age sites. Similar groups of bone, including skull fragments were also found in Iron Age ditches to the east, at Elms Farm, Humberstone (Boyle 2000, 197).

The Animal Bone – Jennifer Browning

Introduction

A total of 1331 fragments of animal bone was hand-recovered during excavation of Iron Age features at Beaumont Leys. The bones were extensively fragmented; individual fragments were recorded together as a single record where they clearly belonged to the same bone. This reduced the total to 1246 fragments. Surface condition of the bone varied and was mostly assessed as 3 to 5 (Behrensmeyer 1978), therefore medium, poor or very poor. Some of the bone had a much eroded appearance, possibly affected by acids in the soil.

Methodology

Bone fragments were identified with reference to comparative modern and ancient skeletal material held by Leicester University, School of Archaeology and Ancient History. Species, anatomy, state of fusion, completeness and modifications by humans or other agents were recorded, to elicit information on species proportions, skeletal representation, age and condition. Where possible the anatomical part of each skeletal element was recorded using the 'zones' defined by Serjeantson (2000), with additional zones ascribed to mandibles, based on the system outlined by Dobney and Reilly (1988). Condition of the fragments was assessed on a scale of 1 to 5, with reference to Behrensmeyer (1978), where 1 denotes a bone surface with no cracking or flaking and 5 indicates that the fragment is disintegrating into splinters. When joining fragments were identified, the bones were re-assembled and the result counted as a single fragment. A record of the original fragment number was retained. Butchery marks were located by zone, where feasible and described using a simple code. The location and nature of modifications such as burning, gnawing and pathologies were also recorded. Measurements were taken as appropriate, in general following von den Driesch (1976) and Payne and Bull (1988) for pigs. Few of the bones within the assemblage could be sexed but it was possible to separate male and female pig canines following Schmidt (1972). Information was compiled within a *pro forma* computerised database (Microsoft Access).

Species proportions were calculated using NISP (Number of Identified Specimens). However, large mammal bones have a propensity to fragment into more pieces than their smaller counterparts and the result is also likely to be affected by large numbers of loose teeth. To help address this bias MNI (Minimum Numbers of Individuals) was also calculated, although its own drawback is that it tends to overemphasise less frequent species. MNI was calculated from the most frequently occurring zone of each bone element (after Serjeantson 1991). MNE was also used to assess the representation of skeletal elements. Age at death was estimated for the main species using epiphyseal fusion, following the figures from Silver (1969) and further assessed using tooth-wear patterns for cattle, sheep and pigs, following Grant (1982). The resulting mandible wear stages were then grouped into age categories following Hambleton (1999), where 'A' denotes the youngest and 'I' represents the oldest individuals, to investigate potential patterns of slaughter.

Attempts were made to separate the bones of sheep and goat using criteria defined by Boessneck (1969), paying particular attention to horn core, skull and teeth, scapula, humerus, femur, metacarpal and metatarsal. Sheep and goat bones are frequently difficult to distinguish, but where positive identifications were possible, no goats were confirmed. The possibility of goat cannot be entirely excluded: it is possible that goat bones remain unidentified due to the fragmented nature of the assemblage and there was one suspected goat bone. However, the lack of goat is consistent with the results from nearby sites, such as Elms Farm, Humberstone (Charles 2000), where two horn cores were the only elements of goat recognised. At Grove Farm, Enderby (Gouldwell 1992), goat was nowhere identified. For these reasons (and to avoid excessive use of the cumbersome term 'sheep/goat') caprine bones will be referred to as 'sheep' throughout this report.

A visual estimate was made of the number of sieved fragments, noting the percentage of burnt fragments. The bones were briefly appraised as to whether undiagnostic fragments were likely to be

from large mammal, small mammal, bird, or fish skeletons. Identifiable bones were recorded and the results incorporated into the main database. The sieved material (most of which was from the coarse fraction, along with a few flots) did not yield abundant remains of small *taxa* or provide much additional data on the main domestic species.

Results of the analysis

Fragmentation

The pronounced fragmentation of the bones is illustrated by the fact that a mere 21% of the fragments (n=257) were positively identified to species (table 1). This compares with an overall percentage of 30% at Manor Farm, Humberstone, Leicester (Browning forthcoming a). An assessment of fragmentation (using the 'zone' data, see 'Methods') reveals the mean number of zones per bone fragment to be 2.5. Pig bones are more broken and sheep bones slightly less fragmented than average (1.6 and 2.9 zones per bone respectively). This compares with an average of three zones at Humberstone.

There was little usable tooth wear data and few epiphyses, therefore any mortality profiles are extremely tentative.

Identified fragments	Unidentified fragments	Total
259 (21%)	987 (79%)	1246

Table 3: Number of identified and unidentified fragments (% in brackets)

The Animals

The range of species was limited, but similar in composition to other nearby settlements such as Humberstone. Cattle were the most common species, followed by sheep and pig. Other species were sporadic (tables 2 & 3). No withers heights were obtained from this assemblage. A small number of measurements were taken and they are included with the archive information.

Species	NISP	%
Cattle	142	55
Sheep/goat	69	27
Pig	24	9
Dog	2	1
Human	12	5
Horse	8	3
Red deer	2	1
Total identified	259	
Unident. bird	2	
Cattle size	315	
Sheep-size	110	
unident.	560	
Total	1244	

Table 4: NISP (Number of Identified Specimens)

Species	MNI	%
Cattle	5	42
Sheep/goat	2	17
Pig	1	8
Dog	1	8
Horse	1	8
Red deer	1	8
Human	1	8
Total	12	

Table 5: MNI (Minimum Number of Individuals)

Cattle

Cattle bones appear in a wide range of contexts across the site and dominated the assemblage in both the NISP and MNI quantification (tables 2 and 3). More than twice as many fragments were attributed to this species than to the next most common species, sheep (table 2).

Cattle				
Age (months)	Bone	Fused	Unfused	% fused
by 10 months	Pelvis (acet) and scapula D	2	0	100
13-18 months	1st Phal P, Humerus D, Radius P, 2nd phal P	9	0	100
24-36 months	MetaC D, Tibia D, MetaT D	4	2	67
36-48 months	Femur P, Calc P, Radius D, Ulna P,	3	2	60
	Humerus P, Femur D, Tibia P			
		18	4	82

Table 6: Cattle fusion data

The available fusion data, although limited (table 4) suggests that cattle were not killed before their third year, when there is a rise in the number of unfused bones. One jaw still containing dp3 was from a young cow. Four mandibles from the site represent two animals of 30-36 months and two young adult animals (based on tooth wear age groups of E and F (Hambleton 1999, 65)). These combined results suggest that the cattle were raised primarily for meat but any conclusions must be tentative, as they are based on such little data.

Sheep/goat

Sheep bones were recovered predominantly from ring gullies but also from pits. According to the result of both NISP and MNI (tables 2 and 3), sheep are the second most common species, although less than half as frequent as cattle.

Sheep				
Age (months)	Bone	Fused	Unfused	
by 10 months	Pelv (acet), scapula D, Humerus D, Radius P	4	0	100
13-16	1st Phal P, 2nd Phal P	2	0	100
18-28	Metac D, Tibia D, MetaT D	2	1	67
30-36	Ulna P, femur P, Calc P, Radius D	2	0	100
36-42	Humerus P, Femur D, Tibia P	0	0	
		10	1	91

Table 7: Sheep fusion data

Very little fusion data was available and only a single unfused bone was present (table 15). This was a completely unfused metacarpal, however, the proximal part fuses before birth (Silver 1969, 285), which therefore hints that sheep breeding may have occurred on the site. Tooth wear analysis yielded only three age-able teeth and mandibles, two of which fall into age category F and one into G. Suggested ages for these categories are 3-4 and 4-6 years (Hambleton 1999, 64). There is too little data to suggest a mortality profile for sheep.

Pig

Only a small number of pig bones were recovered from the site, representing 9% of the assemblage, based on NISP data (table 12). Only one pig bone had a fusion surface; an unfused proximal tibia, indicating that this animal was less than 42 months at death (Silver 1969). Two age-able mandibles

were present; both were assigned to age category B, which suggests death to have occurred between two and seven months (Hambleton 1999, 65).

Horse

Three fused horse bones were recorded and there was no evidence for the presence of young animals. The remainder of the horse bones were loose teeth and mandible fragments. Five of the eight horse bones were recovered from the fill of an enclosure ditch, (152). The remainder were from pits (contexts 89 and 284).

Red deer

Bones of red deer were recovered from two different deposits. The tip of an antler was collected from the surface of ditch (152), while a very fragmented metatarsal was recovered from a pit (context 285).

Dog

Two dog bones were retrieved, a mandible and a fragment of radius. Dentition indicates that the mandible was from an adult animal. The bones were both from the same pit fill (87).

Butchery, burning and gnawing

Butchery

Butchery was noted on cattle or cattle-size bones (19 out of 24 butchered bones). Four sheep and sheep-sized bones and a single horse bone were also butchered. A small number of cattle elements (n=7); humerus, radius, tibia and metatarsal, and a horse tibia were deliberately smashed or broken, suggesting exploitation for marrow. Cattle bones (n=10) displayed cut marks, including ribs, scapula, tibia and metatarsal. However, these did not occur with any regularity and simply help to illustrate the extensive exploitation of the cattle carcass.

Two vertebrae, one sheep and the other cattle-size, appear to have been chopped sagittally, through the body. However, the degree of breakage in the assemblage sometimes made it difficult to distinguish between fragmented and deliberately chopped bones. If these bones are indeed butchered they would imply the existence of facilities for hoisting and splitting the carcass; a technique normally associated with later periods.

Burning

Burning affected 4% of the assemblage (n=52). Most of the burned bones were unidentifiable, although isolated examples of sheep and cattle were recorded. A quarter of the fragments were only partially burnt, 6% were charred but the majority, 69%, were completely calcined, indicating that they had been exposed to very high temperatures. Calcination is usually characterised by a 'porcelain' or 'glassy' appearance and white colour and indicates that bones have been heated to temperatures of around 800 degrees (Nicholson 1993, 425). Temperatures within a fire vary but even a campfire would be capable becoming this hot (Nicholson 1993, 427). Much of the calcined bone, including a sheep phalange, belonged to a single feature; the ring gully of structure 6, which suggests that the bone may represent hearth sweeping or other such domestic activities.

Gnawing

Around 2% of the Beaumont Leys bone was gnawed; a slightly greater percentage than was observed in the Elms Farm, Humberstone assemblage (Charles 2000, 198). Gnawing occurred mostly upon larger bones; 15% of cattle bones demonstrated tooth marks or partial destruction, indicating that dogs had access to the bones prior to their deposition. The proximal metatarsal and calcaneum were the most commonly affected element but gnawing also occurred on scapula, humerus, ulna, femur, phalange and a cranial fragment also survived damage. Gnawing almost always occurred at the ends of bones. A small number of sheep (7% of caprine bones) and a red deer metatarsal were also gnawed but no affected pig bones were recorded. The absence of gnawed pig bones at Beaumont Leys may be a consequence of the general paucity of pig bones or may suggest that porous young pig bones may have been completely destroyed by canine activity.

Discussion

The faunal assemblage recovered from Beaumont Leys contributes to current knowledge about exploitation of animals in the Midlands region during this period. Radiocarbon dates suggest that

Beaumont Leys was probably established in the Late Bronze Age/Early Iron Age, continuing into the Middle Iron Age.

Iron Age sites in southern England, particularly Wessex, are usually characterised by the importance of sheep husbandry. However, recent research suggests that there are regional patterns in terms of species proportions, frequency of skeletal elements and mortality profiles (Hambleton 1999, 89) and in regions outside Wessex there was greater emphasis on the exploitation of cattle. The local evidence is relatively sparse compared with the southern regions and therefore the recovery of animal bone assemblages of this period are a research priority for the East Midlands (Monckton 2006, 272). At the middle to late Iron Age settlement at Crick, Northamptonshire, cattle were the most common species followed by sheep and then pig (Monckton 2006, 271) and this pattern is borne out at nearby sites such as Elms Farm (Charles 2000) and Enderby, Leicestershire (Gouldwell 1992, 60). Low frequencies of pig are consistent with other domestic British sites of the Iron Age, although this is not necessarily the case for other site types: a recent Shrine assemblage in East Leicestershire was composed almost entirely of pig (Browning forthcoming b). Sites in Continental Europe tend to have far greater numbers of pig, which might reflect a greater consumption of meat (Albarella 2007, 395).

The variety of species identified at Beaumont Leys is narrow, but comprised the main domesticates. Cattle were the dominant species, followed by far fewer sheep and very small numbers of pig. However, the condition of the Beaumont Leys bone points towards preservation issues that may have biased against the recovery of bones from smaller animals. An assessment of the animal bone recovered during the excavation of Roundhouse 13, during previous work on the site, discussed a small assemblage, deriving mainly from the eaves drip fill. Although cattle dominate in the hand-recovered assemblage, the prevalence of sheep bones in the sieved samples suggests that sheep were probably more common (Rackham 2002, 69).

The mortality data for cattle suggests that they were predominantly slaughtered from their second and third year onwards. Although the evidence is scant, only a small number of very young individuals were present. This pattern therefore suggests that the animals were mostly raised for meat, although their importance for traction and manure should also be appreciated. At Beaumont Leys, young pigs were in evidence but there was not sufficient data to allow even a rudimentary mortality profile.

Wild species are very rare, which is not unusual for Iron Age assemblages; for example the settlement site at Crick had an almost total absence of deliberately deposited wild species (Hammon 1999, 29). There is little evidence for hunting at Beaumont Leys, however, red deer antler was clearly utilised, providing an interesting contrast with the lack of evidence for venison. Similar observations at other sites include a group of shed red deer antler deposited in a ditch at Manor Farm, Humberstone (Browning forthcoming) and complete shed antler and cut antler tines recovered from late Iron Age pits on a settlement site at Earls Barton, Northamptonshire. It was noted that this was not accompanied by any other deer bone, which might have indicated the exploitation of deer for food (Deighton 2005, 23). The antler from Humberstone appears to have been gathered for use in the production of tool handles (Browning forthcoming a).

The Quernstones – John Thomas (geological ids by Kay Hawkins)

Methods

The worked stone was examined using a hand lens to make initial geological identifications. Measurements and descriptive notes were taken for inclusion in the catalogue.

Introduction

The worked stone assemblage from Beaumont Leys (summarised in Table 8) comprises 27 examples, the majority of which (13 pieces) were saddle querns, with seven rubbers and a further two indeterminate fragments completing the group.

	<i>Quartzitic Sandstone</i>	<i>Mountsorrel Granite</i>	<i>Millstone Grit</i>	<i>Charnwood Agglomerate</i>	<i>Totals</i>
Saddle quern	3	5	2	3	13
Rubber	5	-	-	2	7
Quern or rubber	-	-	-	2	2
<i>Totals</i>	8	5	2	7	27

Table 8 Summary of worked stone by object and stone type

Types and Materials

Saddle querns can generally be classified as ‘formed’, with evidence of deliberate shaping, or ‘unformed’, with little or no evidence of shaping (Shaffrey 2007, 87). The Beaumont Leys saddle querns were predominantly ‘unformed’ examples, utilizing locally available stones or boulders from the clay subsoil. Almost all of these ‘unformed’ querns showed evidence that some attempt had been made to roughly dress them, presumably to make them more convenient to use. Several sandstone examples however had relatively unwieldy bases that must have once been set in the ground to make them more manageable. The majority of the ‘unformed’ querns were made on Mountsorrel Granite; three of which had been roughly shaped to form similarly shaped rectangular blocks. A large boulder of Mountsorrel Granite was also found buried in a pit on the western side of the site, and must have been deposited on the site as a glacial erratic. It is possible that this, and potentially other such boulders in the area, were used as sources for quern making material.

A single ‘formed’ quern, represented by two broken pieces, was also present. In contrast to the other specimens this was well-shaped on all sides and appears to have been an import to the site, being made of Millstone Grit, from the Pennines. The three saddle querns made on igneous rock (Charnwood Agglomerate) also had a more deliberately shaped appearance and it is a possibility that these were also imported items, most likely from the Charnwood Forest area north-west of the site.

Rubbers were made of resilient sandstone cobbles and chunks of igneous rock, both of which could have come from the boulder clay, or in the case of the igneous examples, possibly imported.

Context

Almost all of the worked stone was recovered from secure archaeological contexts, with only three unstratified items present (for distribution see Figure 14). The majority of the assemblage was recovered from the upper fills of the linear boundary, the overall distribution of items possibly reflecting association with particular nearby buildings. Almost all of these examples were broken to some degree, probably resulting from discard during the final abandonment of the site. In addition a noticeable cluster of querns was located towards the western end of the linear boundary, directly above where the large boulder of Mountsorrel Granite had been buried in a pit.

Away from the linear boundary, other examples of worked stone were recovered from pits, post-holes and gullies, and some appear to have been directly associated with particular buildings. A complete quern (SF 19) was found in the southern entrance post-hole of Roundhouse 2, while another whole example had been placed face down in the top of a post-hole associated with Roundhouse 20. A third complete quern was located close to the proposed entrance to Roundhouse 5, where it lay partially buried in the natural clay. A broken possible rubber was also associated with the outer gully of this building. Several other examples of querns in the tops of post-holes were located across the site. The only clear example of an imported item (SF15 and SF16 made on Millstone Grit) was found in the fill of a pit and had apparently been deliberately broken into several pieces before deposition.

Discussion

The quality of the worked stone assemblage from Beaumont Leys add significantly to the understanding of Iron Age quern use in Leicestershire, and represents an important group in comparison to other broadly contemporary settlements in the East Midlands. The assemblage is particularly important given the predominance of saddle quern technology, as relatively few excavated Iron Age sites in Leicestershire have produced such evidence in quantity. Only a few contemporary finds, from Breedon-on-the-Hill (Wacher 1964, 132 and 1978, 7), Wanlip (Marsden 1998), Gimbro Farm, Castle Donington (Derrick 1999), Elms Farm, Humberstone (Roe 2000) and the recently excavated Hallam Fields site at Birstall (Speed 2006) are available for comparison.

The overall size of the assemblage is comparable with that from Hallam Fields, Birstall, and Manor Farm, Humberstone both of which were also dominated by saddle querns, utilising variable geologies as raw materials (Thomas forthcoming, Roe and Thomas forthcoming). The assemblage contrasts sharply however, with other excavated Iron Age sites from the region which have produced far fewer querns. For example only four pieces were associated with the enclosed settlement at Gimbro Farm, two from Enderby I (Clay 1992), a single broken fragment from Hinckley (Chapman 2004) and none

from the farmsteads at Enderby II and Huncote (Meek *et al* 2004). The larger groups such as this from Beaumont Leys, perhaps reflects the longevity of the site and the potentially larger population.

In general the persistence of saddle querns on the site indicates a fairly conservative tradition, perhaps in-part driven by the local availability of suitable stone with which to make them. The predominance of saddle querns at Beaumont Leys might be a product of fairly conservative traditions, perhaps driven in part by the local availability of suitable raw materials. Equally however the early date for this settlement might preclude the presence of rotary querns, which generally appear to be a later introduction. At the broadly contemporary middle Iron Age settlement at Wanlip however, both saddle and rotary querns were apparently in contemporaneous use indicating that the initial adoption of new technologies was a gradual process, perhaps occurring according to particular local circumstances.

Quernstones may have had particular significance to Iron Age communities, probably due to their role in food production, and they frequently occur in what have been described as ‘structured’ deposits (Hill 1995, 108; Willis 2006). The querns from Wanlip were found together in a pit alongside pottery and were thought to have been deliberately placed as a ‘special deposit’ (Marsden 1998, 63). In general it is difficult to firmly identify such practices however a number of situations where querns appear to have been given special treatment are worth highlighting. At Beaumont Leys, perhaps not surprisingly, querns appear to have had strong associations with particular buildings, either being deposited within features directly relating to buildings or in closely associated pits and ditches. Of those relating to structural features several examples appeared in the tops of post-holes, having been placed either with their grinding surface-down or uppermost. The position of these querns makes it unlikely that they were a remnant of the original post packing but may have still had a pragmatic role, perhaps shoring up a post that had rotted at ground level. Alternatively however the recurring placement of these querns in such a context may imply deliberate deposition relating to the abandonment of particular buildings (Webley 2007). The only certain example of an imported quern from Beaumont Leys appears to have been deliberately broken before finally being deposited in a pit which may also be related to settlement abandonment processes.

The Small Finds – Nicholas J. Cooper

A total of nine small finds was retrieved from the excavations, seven of which are related to the Iron Age occupation of the site.

Glass

1) Sfn0 11 (505)

Glass bead. Plain annular bead of Guido’s (1978, 67) Group 6 (specifically subgroup 6*iva*) in mid-blue translucent glass. L: 4mm D: 9mm. Such beads were imported to Britain from the 6th century BC and into the early Roman period. Two similar beads were excavated from pre- or early post-conquest deposits at Causeway Lane in Leicester (Cooper 1999, 259, nos. 65 and 66). Parallels from Iron Age sites include Salford, Beds. (Duncan and Mackreth 2005, 131, fig.3.31.38) and Danebury, Hants. (Henderson 1984, 396, nos. 6.1 and 6.2, fig. 7.43), one of the latter examples coming from deposits dating approximately to the 2nd century BC. The fact that only two such beads came from ten seasons of excavation at Danebury indicates that the present occurrence is significant, especially given a potentially earlier dating.

Copper Alloy

Three small fragments of copper alloy were retrieved during the excavations.

2) Sfn0. 1 (Layer 145=152=180=190)

Flat, subrectangular lump with rough plano-convex section and indications of lobed apexes. L: 16mm, W: 15mm, Th: 4mm

3) Sfn0. 2 (188)

Roughly faceted length of copper alloy, tapered at both ends and with a tapered triangular section. L: 22mm, W: 5mm, Th: 2mm.

4) Sfn0. 7 (248)

Small fragment of curving copper alloy sheet. L: 5mm, W: 3mm, Th: 0.5mm.

Iron

Two corroded fragments from iron objects were retrieved. Measurements are taken from the x-ray images.

5) Sfn.5 Iron Age ditch (Layer 145=152=180=190)

Shaft fragment. X-ray shows it to be bent over. L: 25mm W: 2mm, Th: 2mm. Possibly a nail shaft.

6) Sfn.6 Iron Age ditch (Layer 145=152=180=190)

Shaft fragment. L: 67mm, W: 3mm, Th: 3mm. Possibly a nail shaft.

Shale

7) Context (287)

Fragment of shale. Highly laminated fragment with straight edges. L: 28mm, W: 26mm, Th: 5mm. Though not an identifiable object, the occurrence of what appears to be a working offcut indicates that materials with a non-local origin were reaching the site and being used in crafts. Occurrences of shale are restricted and known sources exploited in the Iron Age and Roman period included Kimmeridge Bay in Dorset. Eight objects of Kimmeridge shale were found at Danebury in Hampshire, close to the source, and including bracelets, spindle whorls and beads and roughouts for the former (Cunliffe 1984, 396, fig. 7.41). Given the proximity of Danebury to Kimmeridge it would not be surprising to suggest that blocks of shale or perhaps roughouts were brought to the site for finishing. However, it might be expected that only finished objects would travel the distance to the East Midlands from the south coast and this makes the occurrence of the material significant.

Objects of later date

Two objects of post-medieval and modern date were retrieved from the fills of medieval plough furrows.

8) Sfn. 3 US (medieval furrow)

Lead clothier's or weaver's seal. Fragment representing about one quarter of a circular two-disc seal. One surface bears a grid of six lines in relief intersecting at right angles approximately 1mm apart, almost in imitation of the impressions of the cloth that would be normally present. No recognisable clothier's stamp preserved. A number of similar examples known from London and Colchester (Crummy 1988, 34, no. 1943-9) from 16th century and later contexts.

9) Sfn.4 (medieval furrow)

Cast copper alloy buckle frame with traces of a central iron bar, now missing. Curving profile. L: 24mm, W: 18mm, Th: 3.5mm. Probably of 19th century date.

Discussion

On the face of it, it would appear to be a meagre assemblage of small finds from the site until it is put in the context of excavations of sites of this period which produce little or no portable material culture besides pottery. Iron Age sites rarely yield objects of copper alloy or iron and then usually only in the latter part of the period, which must be due to recycling of scarce resources, and perhaps low levels of usage in the first place, with greater reliance on organic materials and stone. Its occurrence at all at least demonstrate its use on site and that we are seeing odd items of scrap which escaped recycling, entering the archaeological record as accidental or deliberate losses. Locally, the middle Iron Age site at Wanlip illustrates this point well, yielding no portable items of any kind other than pottery as well as highlighting the possible continuation of flint technology (Beamish 1998). The assemblage from Manor Farm, Humberstone, demonstrates that by the later Iron Age, there is a slight increase in occurrence of iron in terms of identifiable tools such as knife blades and a much more apparent use of worked bone (Cooper forthcoming). At the national scale we can usefully compare the Beaumont Leys assemblage with that from the far more extensive excavations at Danebury in Hampshire (Cunliffe 1984) to emphasise the fact the occurrence of a glass bead and a fragment of shale are significant examples of the importation of 'exotic' materials and finished products from outside the region.

The Environmental Evidence – Angela Monckton and Alistair Hill

Introduction

Soil samples were taken during the excavations to facilitate the recovery of archaeobotanical evidence. The collection and analysis of plant remains from archaeological sites presents archaeologists with a very distinctive range of data that can be used to interpret the economic systems of past societies as ‘almost all plant species attested for archaeological sites have economic implications, either of direct or of indirect nature’ (Van Zeist 1991:109). Results from the previous evaluation of the site were also considered (Abrams 2002).

Methods

Using a judgemental sampling strategy, the archaeobotanical samples were taken from discrete datable contexts identified as having the potential to contain charred plant remains. A total of 44 samples from a range of contexts including pits, gullies, and post-holes was collected and 20 of these samples were selected and one part, approximately 8 litres in size, was processed by wet sieving in a York tank with a 0.5mm mesh and flotation into a 0.3mm sieve. The residues were air-dried and the fraction over 4mm sorted for all finds, the fine fractions of residue were reserved for analysis. The analysis of 20 flotation fractions (flots) was carried out by sorting all of each flot using a binocular microscope with magnification x7 - x45. Very few remains were recovered so no additional material was processed. The charred plant remains (except charcoal) were separated from the flots and stored separately in specimen tubes as either cereal grain, chaff and weed seeds prior to being identified further. The University of Leicester’s environmental laboratory’s modern seed reference collection and reference manuals (e.g. Anderberg 1994, Berggren 1969, 1981 and Cappers *et al* 2006) were used to identify (subject to the degree of preservation) the morphological characteristics of the archaeobotanical evidence found in each of the samples. The plant names follow Stace (1997).

Numerical quantification, by species, of the charred plant remains was carried out using the following method. For cereals, each grain present in the assemblage was counted as one. Where fragments of grain were present an estimate of the number of whole grains this would have represented was made by combining fragments. This method was also used in the counting of the chaff present in the assemblage. The weed seeds, although generally poorly preserved, in common with the rest of the archaeobotanical assemblage were counted as one unless they could be identified as fragments of a fractured large weed seed (following van der Veen 1992). The results of the analysis, by sample, was recorded using a Microsoft Excel spreadsheet and subsequently each sample was grouped in line with the feature types from the site with the item total and items/litre tabulated to illustrate the distribution of charred plant remains across the site (Table 10). The results were then summarised by feature type (Table 9.)

Results

Charred plant remains were present in 13 of the 20 samples examined with two of them containing cereal glumes. A few uncharred seeds, believed to be modern intrusions, of knotgrass (*Polygonum aviculare* L.) were also occasionally found in the samples as well as a few insect fragments. Eight of the samples contained fragments of small animal bone. Samples 13, 18 and 36 contained varying levels charcoal fragments. Modern root fragments were present in 19 of the samples.

Table 9: Summary of totals of samples by feature type with number of items of plant remains found.

Feature type	Total Samples	Total Vol. (L.)	Samples with cereal gr. (Nos.)	Samples with chaff (Nos.)	Samples with seeds (Nos.)	Total items	Max. density items/L.
Postholes	3	20	2 (4)	-	-	4	0.4
Pits	4	28	2 (2)	-	1 (1)	3	0.2
RH-Gully	6	42	2 (2)	-	2 (3)	5	0.5
Gully	2	14	1 (1)	1 (1)	-	2	0.2

Gully-terms	5	32	2 (9)	1 (1)	2 (3)	13	1.1
ASC RH	13	336	11 (c.30)	6 (c.10)	12 (c.80)	c.120	0.2 Grains.

Results continued.

Post-holes/ pit fill

The seven samples from this feature type contained six cereal grains, all of which were either positively or tentatively identified as barley (*Hordeum* sp.). One brome grass seed fragment (*Bromus* sp.) and one cereal node, a straw or grass fragment, were also found amongst the post hole/fill feature samples.

Roundhouse gullies

Six of the samples processed were attributed to this feature type. However, three of the samples contained no evidence of archaeobotanical plant remains and in the others contained only one indeterminate cereal grain, one barley grain and one small fragment of a cereal node.

Gullies

Two samples (15 and 25) were processed from curvilinear gullies features. As with the other samples the archaeobotanical evidence was sparse and these feature samples only contained one wheat grain and one glume base both of which were tentatively identified as spelt (*Triticum spelta* L.).

Gully terminals

No archaeobotanical evidence was present in two of the five samples processed from this feature type. Of the three samples containing charred plant remains, sample 27 (parts 1 and 2) contained nine badly preserved cereal grains, one glume base tentatively identified because of its lack of prominent minor veins, acute keel angles and small size as emmer wheat (*Triticum dicoccum*), one small leguminous weed seed and one grass seed. Sample 27 was the richest sample in the assemblage with a combined (parts 1 and 2) items/litre of 1.0 and may be representative of redeposited domestic waste. The remaining sample from this feature type (sample 40) only contained one small legume.

Roundhouse 13 (Excavated by ASC Archaeology)

In the previous site evaluation a roundhouse (Roundhouse 13) was investigated and 13 bulk samples were processed and assessed (Rackham in Abrams 2002). Charred cereal grains and chaff (wheat glumes) were found in very small numbers, grains in 11 samples and chaff in six samples. The maximum density of cereal grains was very low (0.2 grains per litre of sediment). The most abundant remains were weed seeds found in moderate numbers in two of the samples. The samples suggested only the accidental charring during food preparation.

Conclusion

The samples suggest that the archaeobotanical assemblage from Beaumont Leys Lane is representative of a thin scatter below about one item per litre (maximum density 1.1 items per litre) of redeposited domestic archaeobotanical material that had accumulated over the period of the site. The site falls into the group of Iron Age sites with few plant remains such as Enderby, rather than those with more abundant remains such as Elms Farm, Hmubestone and Wanlip (Monckton 2004). Very few plant remains were recovered with the exception of very small amounts of possible food consumption waste from the roundhouses. The limited evidence from the area of post holes would appear to indicate that most of the features from which the samples were taken were not primarily associated with, or in close proximity to, any cereal or plant food processing or storage or domestic waste disposal.

Table 10 - Assessment of flots for charred plant remains

Sample	Context No	Cut No	Feat type	Sample Vol Ltr.	Flot Vol. Mls.	Gr ch	Cf ch	Se ch	Char	Bone	No of items	Items/litre	Comments
1	17	18	P/hole-P/fill	5	55				FI		0	0.0	No charred seeds
8	70	72	P/hole-P/fill	5	55	1	1		FI		2	0.4	A cereal node and a fragment of a possible barley grain
13	34	35	P/hole-P/fill	10	60	3			+++		3	0.3	A barley grain plus two possible barley grains
4	91	89	P/fill	6	20	1			FI		1	0.2	A barley grain
36	289	284	P/fill-upper	5	80			1	+++	+	1	0.2	A possible brome grass and a small shell
37	288	284	P/fill-middle	9	20				FI		0	0.0	No charred seeds
7	188	189	Pit	8	20	1			FI		1	0.1	A fragment of a possible barley grain
6	179	178	RH-Gully	6	60			1	FI		1	0.2	One brome grass fragment
16	229	230	RH-Gully	8	60	1	1		FI	+	2	0.3	A cereal node and cereal grain fragment
18	234	235	RH-Gully	6	90	1		2	++	+	3	0.5	One large grass, one small legume and a barley grain
19	233	230	RH-Gully	8	20				FI		0	0.0	No charred seeds
20	236	237	RH-Gully	7	30				FI	+	0	0.0	No charred seeds
21	232	230	RH-Gully	7	110				FI		0	0.0	No charred seeds
15	227	228	Gully	8	90	1			FI		1	0.1	A wheat grain - possibly spelt
25	238	237	Gully	6	100		1		FI	+	1	0.2	Possible spelt glume base
27.1	248	247	Gully terminus	6.8	50	4		2	FI	+	6	0.9	Four indeterminate cereal grains, One small legume seed and one grass seed
27.2	248	247	Gully terminus	5.4	50	5	1		FI	+	6	1.1	Five indeterminate cereal grains and one glume base - possibly emmer wheat
31	262	252	Gully terminus	4.5	8				FI		0	0.0	No charred seeds
39	301	282	Gully terminus	7	35				FI	+	0	0.0	No charred seeds
40	303	302	Gully terminus	8	40			1	FI		1	0.1	One small legume

Key: Gr = cereal grain, Cf = chaff, Se = seed, ch = charred, Char = charcoal, fl = charcoal flecks, + = present, ++ = moderate amount, +++ = abundant

Discussion

The discovery of the Beaumont Leys settlement has added significantly to our understanding of Iron Age settlement in the region and has added to a growing number of 'aggregated' sites in the East Midlands. Importantly the site plan from Beaumont Leys clearly offers a different model of settlement morphology to those previously recognised, indicating larger population groups and greater longevity of occupation. The sites also contribute to increasing evidence of later prehistoric settlement of the regions claylands, helping to overturn ideas that such soils were avoided in prehistory.

Chronology

Establishing a chronology for both sites is problematic given the conservative nature of the Iron Age Scored Ware pottery tradition (Elsdon 1992 and Knight 2002) and lack of intercutting features. This latter point was especially relevant for the Beaumont Leys settlement where virtually no stratigraphic relationships existed. Given the dense spread of post-holes across the site there was clearly a strong structural element to the settlement, all of which could not have been contemporary, as movement around the site would have been severely restricted. Several phases of recutting evident in the development of the southern boundary to the site however provided a more tangible indication of the settlements development and repeated use of the area.

The information from radiocarbon dating suggests that Beaumont Leys was mainly occupied during the middle Iron Age between the 5th-3rd centuries BC, with activity there approximately lasting between 30-260 years (see above). Although this is based on relatively few dates it is the most reliable chronological indicator from a site that produced no closely datable artefacts.

Landscape setting

Evidence from the county as a whole suggests that the landscape would have been substantially cleared by the time these settlements were occupied (Clay 2001, 2). Pollen evidence from Croft and Kirby Muxloe together with land snail evidence from Tixover show an increase in woodland clearance from the Later Bronze Age with a related rise in the presence of grassland, a pattern that appears to continue throughout the 1st Millennium BC (Monckton 2004, 157). Supporting environmental evidence from Beaumont Leys is not entirely conclusive although the presence of cereal remains and quernstones indicates the nearby presence of cultivated land while the suggested emphasis on livestock farming must also indicate locally available pasture. The amount of timber required for building and fuel at both sites must also indicate that areas of woodland existed in the vicinity, which may even have been maintained by the communities as an important commodity. The presence of antler on the site may also give a further indication that areas of woodland existed close to the settlement.

The site occupies a prominent clay ridge on the western side of the Soar valley and there is some suggestion, that the linear boundary was helping to parcel up or demarcate areas of the local landscape perhaps according to distinct uses. At Beaumont Leys the boundary crosses the ridge at right angles to the overall landform, perhaps making a distinction between specific areas. In contrast a similar boundary identified at the Humberstone settlement to the east, follows the orientation of the ridge, effectively dividing it in half lengthways (Thomas forthcoming). It is also evident that settlement at Beaumont Leys grew in a landscape with a long history of previous occupation. Lithic scatters close to the Beaumont Leys settlement point to activities on the ridge top from the Mesolithic through to the Late Bronze Age. Worked flint was noticeably absent from the excavated area although residual pieces of Neolithic and Bronze Age pottery give a further indication of the history of occupation in the area.

Size and Organisation

One of the defining characteristics of the Beaumont Leys settlement is its large size in comparison to other sites that have previously been revealed in the region. Due to their size, and the often piece-meal nature of their discovery, defining the true extent of these larger settlements is problematic (Willis 2006, 110). It is fairly safe to conclude that the core of settlement lay within the stripped area at Beaumont Leys, given the relatively blank nature of results from surrounding areas. It is also worth bearing in mind however that the full extent of the linear boundary was not revealed and evidence to the west of the excavations hint that the excavated site lay within a wider area of occupation.

The overall layout of the settlement suggests a fairly integrated organisation with no clear concentrations of particular buildings (other than the 4-posters) or other structures although there is a significant lessening of activity on the northern side of the site, furthest from the linear boundary. If anything is suggested, or can be read into such a complicated plan, it might be that there is a slight

tendency for grouping of particular roundhouses with associated four-post storage building and animal pen. Apart from the density of occupation at Beaumont Leys, the overall architectural character of the site does tend to fit in with a pattern seen on other Early-Middle Iron Age sites in the region such as Salford, Bedfordshire (Dawson 2005), Weekley Hall Wood (Jackson 1976), Gretton (Jackson and Knight (1985) and Harlestone Quarry (Field and Chapman 2007), all in Northamptonshire. Clusters of pits also occurred across the site and in general appeared to relate closely to nearby structures. It is probable that many of these would have originally been dug as small-scale quarries to extract clay for building purposes. Given the geological context, it also seems likely that a proportion of the pits would have been left open to hold water for domestic and animal use. Several well-defined fences existed suggesting that movement around the site was to some extent structured. It is possible to identify at least two areas that appear to have been clearly defined, potentially for particular households. Roundhouse 2 appears to be located within a clear zone of the site – defined by the linear boundary on one side and Fence 1 on the other. Also contained within this area are a four-post structure, two animal pens and a cluster of pits, which may all have been related to this particular roundhouse. Roundhouse 8 is also located in what is apparently a specifically defined area of the site, created by Fence 1 and the right-angled Fence 4, which appears to turn in respect of the roundhouse. A group of pits also clusters around the outer edge of Fence 4 in respect of its corner. Such patterning adds to the suggestion that the settlement was organised according to particular guidelines, perhaps based around the identities of individual households, although we must be aware of the problems with phasing this site and recognising patterns in convenient arrangements of post-holes with different dates.

Linear Boundary

The core of settlement at Beaumont Leys consisted of a linear spread of roundhouses, post-built structures, fences and pit clusters adjacent to a long-lived linear boundary. Although essentially ‘open’ in character the relationship between the occupied area and its southern ‘boundary’ appears to have been strong and clearly defined. Virtually no evidence for transgression of this boundary was revealed although activity had resulted in dense clustering of settlement remains alongside the boundaries northern edge. The development of the linear boundary consisted of at least three distinct phases indicating the importance of maintaining the feature to the sites inhabitants. The form of the boundary is difficult to judge on the basis of ploughed out evidence but it seems fairly likely that its creation would have made imposing, if not monumental changes to the landscape. It is likely that the boundary was also accompanied by a bank, probably external to the settlement given the proximity of some of the buildings to the ditch, and maybe even a timber palisade. The creation of each boundary would have involved a considerable commitment to labour over long periods of time, and for the groups responsible its creation may have been more important than the end result. The ditches may have been the result of the combined labour of several different family groups, each responsible for a defined stretch, ultimately becoming the result of a community project and testimony to shared resources. Maintenance and recutting of the boundary over time would have served to reinforce this community identity and would have added legitimacy to claims on land.

Roundhouses

At least ten roundhouses represented the main areas of occupation on the site although it is difficult to say how many of these buildings were standing at any one time, or indeed if all of them were used as domestic dwellings. Certainly the information suggests that Roundhouse 5 replaced Roundhouse 6, possibly as a shift of the same household. The predominant form of building on both sites was the roundhouse, a characteristic feature of Iron Age settlement, although there were distinct variations in the architecture of these buildings between the two sites. At Beaumont Leys the roundhouses were largely represented by arcs of post-holes and curving wall slots forming fragmentary structural remains which noticeably lacked the enclosing eaves-drip gully characteristic of the Humberstone buildings (see below). Drainage must have been an issue given the clay subsoil on which the site was founded although there is little evidence to suggest that this was the case on many of the houses. Roundhouse 8 was distinct in having a drainage gully projecting from the rear wall area, suggesting this was a reaction to standing water behind the building and Roundhouse 13 incorporated an eaves drip gully, presumably also to assist drainage.

The roundhouses varied in size from *c.*5m to *c.*9m in diameter and several displayed convincing evidence for external porches. In the case of Roundhouse 2 the entrance area also seems to have been elaborated with an external screen that partially covered the northern side of the porch. Where entrances were recognised the prevailing orientation of the buildings fell between east and south-east facing as displayed at many similar buildings across the region (Clay 2001, 9, Willis 2006, 111). There

was very little evidence for internal features and the nature of the site made it difficult to determine if features that did fall within the buildings were actually contemporary. Several roundhouses had fairly convincing pits or hearths that were centrally placed while in Roundhouse 5 a quernstone set within the clay close to the approximate entrance position may have remained *in situ*. Generally the Beaumont Leys roundhouses were fairly similar in appearance, however there were some marked differences in the north-west of the site. Roundhouses 5 and 6 were slightly more substantial than others on the site and were richer in finds. Roundhouse 5 also stood out as being located within its own 'enclosure', albeit described by a series of discontinuous gullies that appear to have developed in piecemeal fashion. In further contrast to the other roundhouses on the site Roundhouse 13 was the only example of a building surrounded by an eaves drip gully, yet no structural remains were evident. Roundhouse 13 also had the most abundant finds assemblage from any of the buildings on the site. There is a suggestion that this may have been one of the later buildings on the site as it may have cut the backfilled linear boundary and it does have very similar characteristics to the mid-late Iron Age roundhouses at Humberstone (Thomas forthcoming).

Four-post Structures

A linear arrangement of nine 4-post structures, possibly raised granaries or other storage facilities, formed a strong line across the centre of the site, while others were positioned closer to particular roundhouses in other areas of the site. The apparently favoured location for the majority of the 4-post structures implies that certain areas or 'zones' of activity were allocated within the settlement, but as with the roundhouses it is far from clear how many of these structures would be contemporaneous and it is possible they were replaced fairly regularly.

Other post-built structures

A number of probable rectangular structures were represented at Beaumont Leys, presenting quite an unusual contrast with the circular buildings. Although several examples of Iron Age rectangular buildings have been recognised at Leicester (Clay 1985) and Normanton Le Heath (Thorpe *et al* 1994) they are still a relatively rare building form in the region and the country in general (Willis 2006, 112). Despite this rarity it is becoming clear that rectangular buildings were used during the Iron Age in other areas, with other possible examples from Crickley Hill, Harting Beacon and Norbury (Moore 2003, 50). Interestingly in comparison to Beaumont Leys, these sites are also associated with a large number of four-post structures, although in contrast they have produced no evidence for other types of building – particularly roundhouses (Moore 2003, 50). It is difficult to determine the nature of the Beaumont Leys buildings although the larger two (Structures 12 and 19) may possibly have been used as byre houses. Unfortunately very little was excavated of these buildings and therefore any interpretations must be tentative. Some of the smaller rectangular structures, particularly Structures 16 and 17, have remarkable similarities to well-preserved buildings revealed at Goldcliff in the Gwent Levels, some of which have been interpreted as cattle byres (Moore 2003, 53). In the absence of further evidence of these structures relating to buildings it is also possible that they represented small enclosures or stockades for livestock.

Daily Life

The occupants of Beaumont Leys appear to have been involved with mixed farming, although the suggestion is that their main concern was in pastoralism. The animal bone recovered from the site shows that a narrow range of domesticated species was kept on the site including cattle, sheep/goat, pigs and horses. In addition dogs were kept as evidenced by several bones as well as characteristic gnawing patterns on other animal bones. The presence of red deer bone and antler in small quantities suggests that limited hunting of wild animals took place although equally, the antler could have been collected after it had shed. Cattle appear to have been the dominant species at Beaumont Leys, followed by far fewer sheep and infrequent pig. However, the fragmentary condition of the assemblage suggests that poor preservation may not have been suitable for the recovery of bones from smaller animals. Charred plant remains existed on the site but only in very limited quantities. Remains of cereal grains (barley and probable spelt wheat) and chaff were largely concentrated on the main roundhouses but even then were only representative of thin scatters, probably the result of waste from domestic food preparation and consumption. In contrast to the meagre evidence for plant remains the site did produce a large assemblage (22 pieces) of quernstones. These were found in a variety of contexts across the site including examples from the linear boundary, pits, post holes and in association with particular roundhouses (see Figure 14). All of the querns were of the 'saddle' variety and the assemblage was clearly split between those that appeared to have been locally produced on available stone, and others that were probably 'ready made' imports. The pieces that were apparently produced

locally were made on large blocks of Mountsorrel granite and sandstone cobbles, both of which were probably available fairly locally in the surrounding clay. A large boulder of Mountsorrel granite had been deliberately buried in a deep pit on the western side of the site suggesting it held some significance to the sites occupants, and it seems possible that this was the core' from which at least some of the quern 'blanks' were removed. The locally produced querns were generally rougher in character, displaying only the bare minimum of shaping to enable them to be useful. In contrast the apparently imported querns had a much more 'finished' appearance and recognisable shape. One of the imported querns was of Millstone Grit and was a particularly well-worked item in contrast to the rest of the group. As an import from some distance this may well have been a prized household possession, not only of functional worth but as an indicator of wider contacts. Several other possibly imported querns were made on greenish sandstone found in coal measure deposits and may have been brought in from areas in the north of the county. Evidence for small-scale craft activities on the site included slag from iron working and perhaps more surprisingly evidence for shale working. A small number of shale offcuts from a pit in the western side of the site suggested shale working on the site, possibly for the production of decorative dress items. The raw materials for such activity must have arrived at the site down the line from Kimmeridge in Dorset and provides further evidence of the wider network of communication within which the site existed.

Deposition

A good sense of the pattern of finds distribution was gained from the excavation, although much of the analysis of this has had to be undertaken on a presence/absence basis (see Figures 11-14). Broadly speaking, concentrations of finds centred on the main building remains which contained mixed assemblages that were relatively fragmented and perhaps characteristic of midden accumulations. The positioning of the main artefact groups in these situations probably provides a good reflection of the location of these middens in relation the associated building (Woodward and Hughes 2007, 196) and may also provide a broad indication of activities associated with particular structures. At Beaumont Leys noticeable concentrations of artefacts were found in association with most of the roundhouses, particularly Roundhouses 5 and 6 as well as Roundhouse 13, perhaps suggesting that domestic middens lay close to these structures. Finds densities from Roundhouses 5 tended to concentrate near the entrance of the building which was in contrast with those from Roundhouse 6 where there was a clear concentration towards the rear of the building. The overall density of finds from Roundhouse 13 was far greater, with larger groups showing a marked concentration around the buildings entrance. In contrast to these three structures, those that lay close to the linear boundary were comparatively empty, such as Roundhouses 1 and 2. Adjacent areas of these buildings however held concentrations of finds indicating their proximity to occupational activities. To some extent this was also illustrated by the finds recovered from the linear boundary where a marked increase in domestic waste was evident adjacent to the nearby roundhouses, perhaps indicating that some buildings were 'tidied' before abandonment. Interestingly there is a marked concentration of finds in the post holes of four-post structures lying close to the main buildings, perhaps reflecting residuality or the presence of a general 'spread' of rubbish in the vicinity. The overall distribution of quernstones also shows a distinct association with the main roundhouses, perhaps reflecting their key role in the preparation of food. The importance of these finds might also be reflected in the ways in which they were deposited which in some instances appears to have been more than just casual disposal. The only definitely imported quern for example, had apparently been deliberately broken before being deposited in a pit. In other parts so the site apparently still functional querns had been placed face down in the tops of post holes, while another complete quern was found at the base of the Roundhouse 2 entrance post hole – perhaps placed to mark the foundation of the building.

Conclusion

The Beaumont Leys settlement represents an important addition to archaeological understanding of later prehistoric occupation in the region. Locally it offers new evidence in an area that has previously seen little in the way of large-scale excavation and will help to inform any future planning decisions in the vicinity. The site represents one of the earliest Iron Age settlements discovered from Leicestershire and therefore is of regional importance. The size and character of the site is quite distinct from the majority of Iron Age sites previously discovered in the county, for example the near contemporary settlement at Wanlip (Beamish 1998) although this difference may reflect alternative settlement roles. Also in contrast to other sites the settlement at Beaumont Leys appears to have been fairly long-lived and is perhaps the end result of several phases of repeated occupation, as witnessed by the overlapping recuts of the boundary ditch. Whether this repeated use represented seasonal, or part-seasonal occupation, as has been suggested at other similar sites (for example Crick, Northamptonshire –

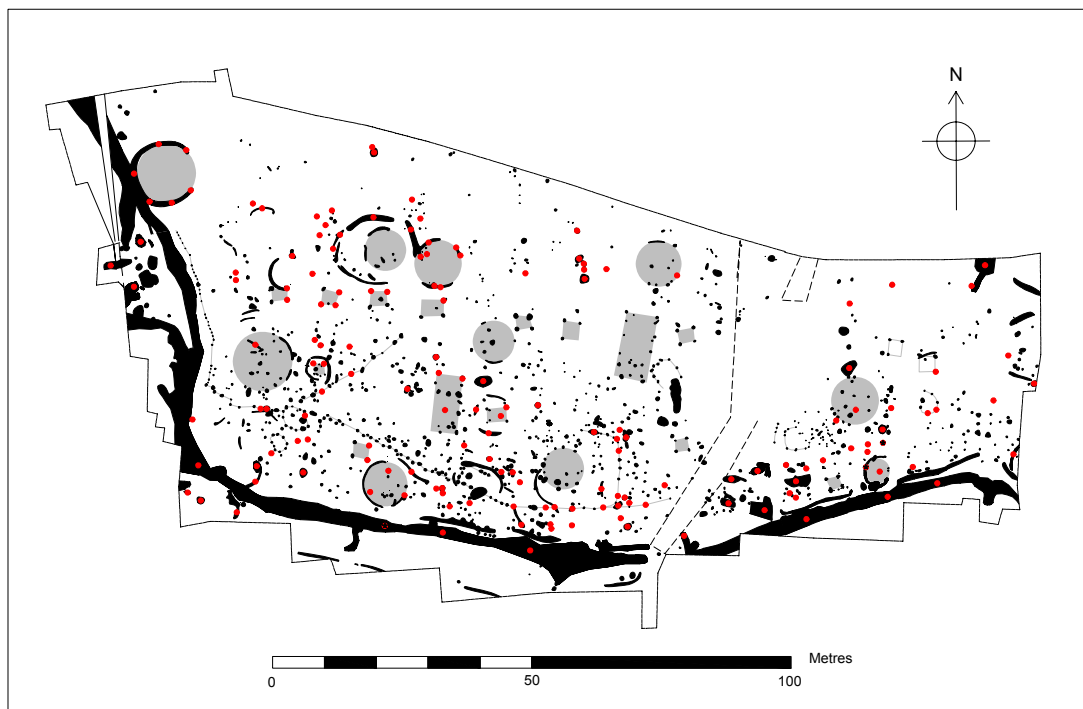


Figure 11 Distribution of pottery

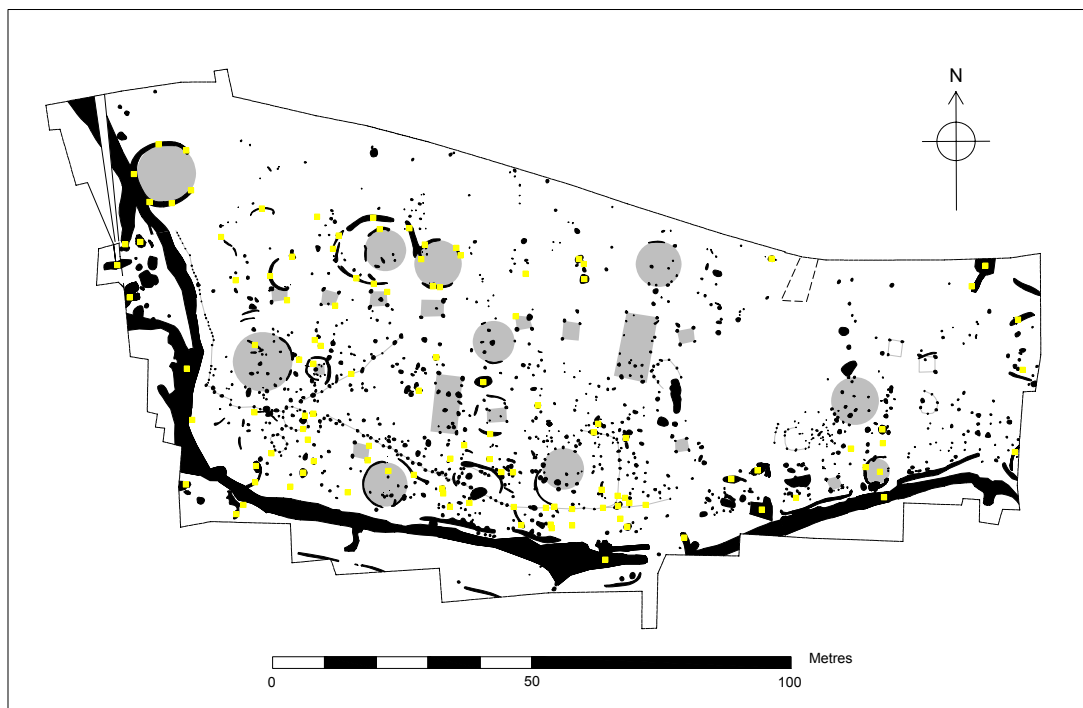


Figure 12 Distribution of animal bone

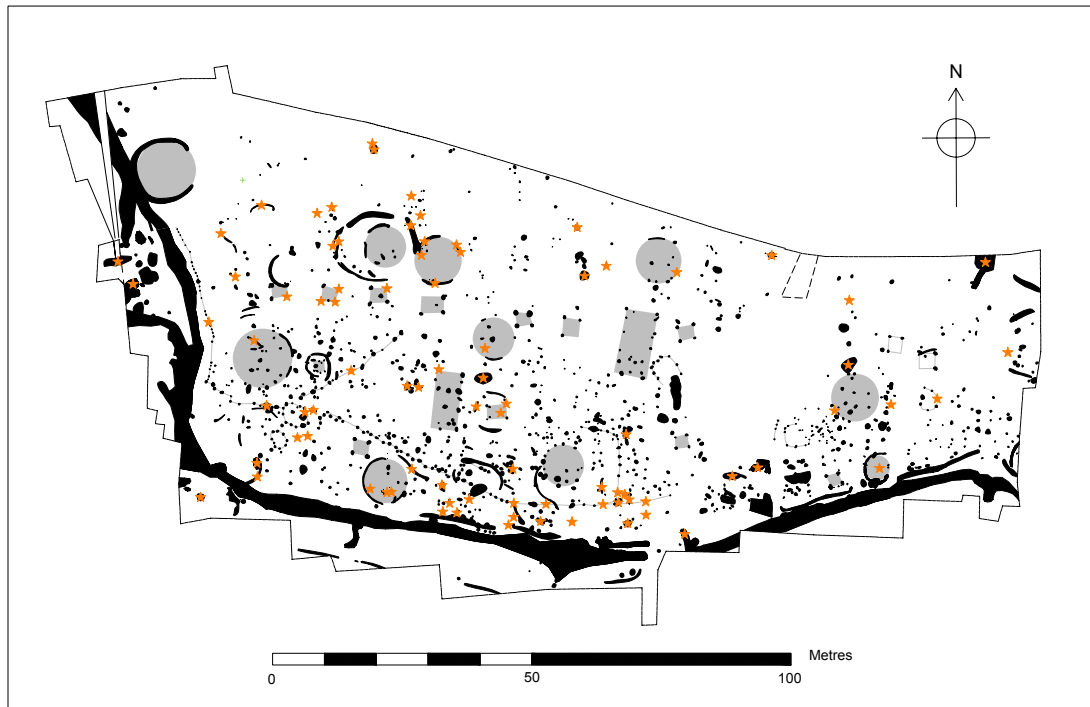


Figure 13 Distribution of fired clay

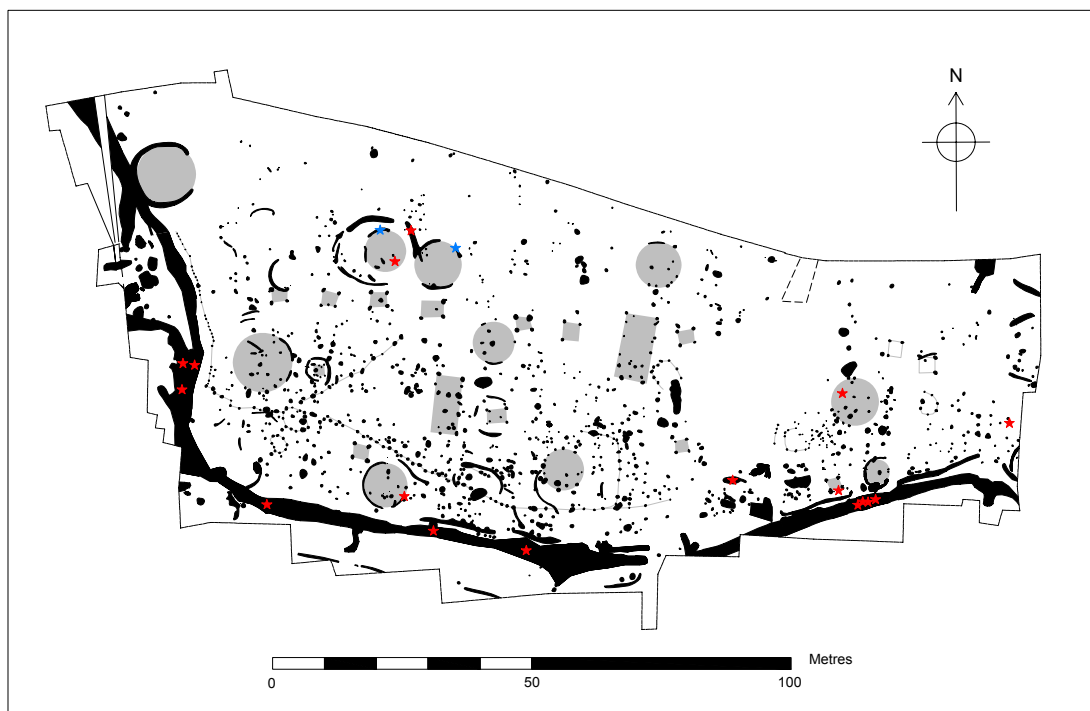


Figure 14 Distribution of human bone (blue stars) and quernstones (red stars)

Hughes and Woodward 1998) is unclear, although the apparent ‘permanence’ of some aspects of the settlement may tend to argue against it. Morphologically the site has similarities with other settlements from the East Midlands that appear to have developed alongside a linear boundary. Locally a similar situation has been revealed at Humberstone to the east of Beaumont Leys (Thomas forthcoming), but other examples are also known at Crick (Woodward and Hughes) and Stanwick (Crosby and Muldowney forthcoming) in Northamptonshire, Coton Park, Warwickshire (Chapman 1998) and Salford in Bedfordshire (Dawson 2005). Evidently the settlement form at Beaumont Leys was part of a phenomenon of such sites in the region. The nature of occupation on the site appears to have consisted of domestic and agricultural activities, perhaps with a bias towards pastoral farming. Whilst the finds assemblage from the site is relatively meagre, the occupants clearly had access to ‘exotic’ materials (the glass bead, shale and Millstone Grit quern), hinting at wide-reaching contacts and potentially indicative of the general status of the site.

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Bibliography

- Abrams, J., 2002 *An Archaeological Excavation on Land Adjacent to Beaumont Leys Lane, Leicester*. Unpublished Archaeological Services and Consultancy (ASC) report number ASC/LMH 02/1.
- Anderberg, A-L., 1994 *Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions Part 4– Resedaceae–Umbelliferae*. Stockholm, Swedish Museum of Natural History.
- Beamish, M., 1998 A Middle iron Age Site at Wanlip, Leicestershire, *Transactions of the Leicestershire Archaeological and Historical Society (TLAHS)* 72,1-91.
- Berggren, G., 1969 *Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions Part 2– Cyperaceae*. Stockholm, Swedish Natural Science Research Council.
- Berggren, G., 1981 *Atlas of seeds and small fruits of Northwest-European plant species with morphological descriptions Part 3– Salicaceae – Cruciferae* Stockholm, Swedish Museum of Natural History.
- Behrensmeyer, A. K., 1978 Taphonomic and ecological information from bone weathering *Palaeobiology* 4 (2), 150-62
- Birmingham University Field Archaeology Unit, 1998 *The excavation of an Iron Age site at Covert Farm, Crick (DIRFT East), Northamptonshire: post excavation assessment and research design*
- Boyle, A., 2000 The human remains, in B. Charles, A. Parkinson and S. Foreman ‘A Bronze Age Ditch and Iron Age Settlement at Elms Farm, Humberstone, Leicester’ *TLAHS*, 74
- Browning, J., Forthcoming a The Animal Bone in J. Thomas *Excavations at Manor Farm, Humberstone, Leicester*.
- Browning, J., Forthcoming b The Animal Bone in V. Score *An Iron Age Shrine at Hallaton, Leicestershire*.

- Boessneck, J., 1969 Osteological differences between sheep (*Ovis aries* Linne) and Goat (*Capra hircus* Linne) in D. Brothwell et al *Science in Archaeology* Thames and Hudson
- Cappers, R.T.J, Bekker, R.M. and Jans, J.E.A., 2006 *Digital seed atlas of the Netherlands*. Zuurstukken, Barkhus Publishing & Groningen University Library.
- Chapman, A., 1998 *Excavation of an Iron Age Settlement at Coton Park, Rugby, Warwickshire. Interim Report*. Unpublished Northamptonshire Archaeology Report.
- Chapman, P., 2004 Iron Age Settlement and Romano-British Enclosures at Coventry Road, Hinckley, Leicestershire, in *TLAHS* **78**, 35-82.
- Charles, B. 2000 'Animal Bone Report' in B. Charles, A. Parkinson and S. Foreman 'A Bronze Age Ditch and Iron Age Settlement at Elms Farm, Humberstone, Leicester' *TLAHS*, **74**, 197-207.
- Charles, B.M., Parkinson, A., and Foreman, S., 2000 'A Bronze Age ditch and Iron Age Settlement at Elms Farm, Humberstone, Leicester, *TLAHS* **74**, 113-220.
- Clay, P., 1985 The Late Iron Age Settlement, in P. Clay, and J.E. Mellor, *Excavations in Bath Lane, Leicester* Leicester : Leics Museums, Art Galleries and Records Service Archaeological Report 10, 29-31.
- Clay, P., 1992 An Iron Age Farmstead at Grove Farm, Enderby, Leicestershire *TLAHS* **66** : 1-82.
- Clay P., 2001 Leicestershire and Rutland in the First Millennium BC, *TLAHS* **75**, 1-19
- Clay, P., 2002 *The Prehistory of the East Midlands Claylands* University of Leicester Monograph 13
- Clay, P., and Pollard, R., 1994 *Iron Age and Roman Occupation in the West Bridge Area, Leicester. Excavations 1962-1971* Leicestershire Museums Arts and Records Service
- Cooper , N.J., forthcoming The Small Finds in J. Thomas, *Excavations at Beaumont Leys and Manor Farm Humberstone*. Leicester Archaeology Monograph.
- Cooper, L., 1994 Kirby Muxloe, A46 Leicester Western by-pass (SK 530 050) *TLAHS* **68**:162-165.
- Crosby, V. and Muldowney, L., Forthcoming *Phasing the Iron Age and Romano-British Settlement at Stanwick, Northamptonshire (excavations 1984-1992)*. English Heritage: Centre for Archaeology Reports.
- Crummy, N., 1988 *The Post-Roman Small Finds from Excavations in Colchester 1971-85*. Colchester Archaeological Report 5
- Cunliffe, B., 1984 *Danebury: an Iron Age Hillfort in Hampshire Vol 2 The Excavations 1969-78: The Finds*. CBA Res. Rep 52. CBA: London.
- Dawson, M., 2005 *An Iron Age Settlement at Salford, Bedfordshire*. Bedfordshire Archaeology Monograph 6.
- Deighton, K., 2005 'The animal bone' in A. Chapman and R. Atkins *Iron Age and Roman settlement at Mallard Close, Earls Barton, Northamptonshire* Northamptonshire Archaeology Unpublished Report 05/031
- Derrick, M., 1999 Castle Donington, Gimbro Farm (SK 440 256), *TLAHS* **74**, 86
- Dobney, K. and Reilly, K., 1988 A method for recording archaeological animal bones: the use of diagnostic zones *Circaea* **5**, pp 79-96

- Duncan, H.B. and Mackreth, D.F., 2005 Registered and non-ceramic bulk artefacts in M. Dawson *An Iron Age Settlement at Salford, Bedfordshire*. Bedfordshire Archaeology Monograph 6, 125-137. Bedfordshire County Council.
- EH 1997 *Draft research agenda* (English Heritage)
- Field, L. and Chapman, A., 2007 *Archaeological Excavation at Harlestone Quarry near Northampton, October 2006*. Unpublished Northamptonshire Archaeology Report 06/173.
- Gnanaratnam, T., 2002 *An Archaeological Evaluation at the Bursom Business Park Extension, Beaumont Leys, Leicester* (SK579 089). Unpublished ULAS Report No. 2002-208.
- Gouldwell, A., 1992 The animal bone in P Clay, An Iron Age farmstead at Grove Farm, Enderby, Leicestershire *TLAHS* **66** pp58-69
- Hambleton, E., 1999 *Animal Husbandry Regimes in Iron Age Britain* B.A.R. British Series 282
- Hammon, A., 1998 Animal Bone in BUFAU *The excavation of an Iron Age settlement at Covert Farm (DIRFT East), Crick, Northamptonshire: Post-excavation assessment and updated research design*. Birmingham University Field Archaeology Unit
- Henderson, J., 1984 'Beads of Glass' in Cunliffe 1984, 396-98.
- Hill, J. D., 1995 *Ritual and Rubbish in the Iron Age of Wessex*. Oxford: BAR (British Series) **242**.
- Hughes, G. and Woodward, A., 1998 *The Excavation of an Iron Age Settlement at Covert Farm (DIRFT East), Crick, Northamptonshire: Post-excavation assessment and updated research design*. Unpublished Birmingham University Field Archaeology Unit Report No. 468.
- Hunt, L., 2005 *An Archaeological Evaluation at Bursom Business Park Extension (Northeast), Mowmacre, Leicester* (SK576 088). Unpublished ULAS Report No. 2005-028.
- Jackson, D., 1976 Two Iron Age Sites North of Kettering, Northamptonshire, in *Northamptonshire Archaeology* **11**, 71-88.
- Jackson, D. and Knight, D., 1985 An Early Iron Age and Beaker Site at Gretton, Northamptonshire, in *Northamptonshire Archaeology* **20**, 67-86.
- Kenyon K., 1950 Excavations at Breedon-on-the-Hill, 1946, *Trans Leics Arch So* **26**, 17-82
- Knight, D., 1998 *Guidelines for the Recording of Later Prehistoric Pottery from the East Midlands*, Trent and Peak Archaeological Unit unpublished report
- Knight, D., 2002 'A regional ceramic sequence: pottery of the first millennium BC between the Humber and the Nene'. In Woodward, A. and Hill J.D. (eds) *Prehistoric Britain; the Ceramic Basis*, 119-42. Oxbow books, Oxford.
- Liddle P., 1982 *Leicestershire Archaeology: The Present State of Knowledge: Vol 1 To the end of the Roman Period*, Leicestershire Museums, Art Galleries and Records Service Arch Report 4
- Marsden, P., 1998 The prehistoric pottery in M Beamish 1998, A Middle Iron Age Site at Wanlip, Leicestershire, *TLAHS* **72**, 1- 91, (44-62).
- Marsden P., 1998 The Querns in M Beamish 'A Middle Iron Age site at Wanlip', *TLAHS* **72**, 62-3
- Marsden, P.L., 2000 The prehistoric pottery in Charles, B.M., Parkinson, A., and Foreman, S., 'A Bronze Age Ditch and Iron Age Settlement at Elms Farm, Humberstone, Leicester', *TLAHS*, **74**, pp. 170-186 (pp. 113-220).

Marsden, P.L., 2002 The Pottery Report in Abrams, J., *An Archaeological Excavation on Land Adjacent to Beaumont Leys Lane*, Archaeological Services and Consultancy Ltd.

Marsden, P.L. forthcoming The late Bronze Age pottery in Finn, N., *Closure and continuity: An evolving Neolithic and Bronze Age landscape at Eye Kettleby, Leicestershire*. Leicester Archaeology Monographs.

Meek, J., Shore, M. and Clay, P., 2004 Iron Age Enclosures at Enderby and Huncote, Leicestershire, *TLAHS* **78**, 1–34.

Monckton, A., 2004 Investigating past environments, farming and food in Leicestershire. In P. Bowman and P. Liddle, *Leicestershire Landscapes*. LMAFG Monograph No. 1, 2004, Leics County Council. P154-171.

Monckton, A., 2006 Environmental Archaeology in the East Midlands N. Cooper (ed.) *The Archaeology of the East Midlands* Leicester Archaeological Monograph 13

Moore, T., 2003 Rectangular houses in the British Iron Age? – “Squaring the circle”, in J. Humphrey (Ed.) *Re-searching the Iron Age*. Leicester: Leicester Archaeology Monograph 11, 47-58.

Nicholson, R.A., 1993 A morphological investigation of burnt animal bone and an evaluation of its utility in archaeology, *Journal of Archaeological Science* **20**, 411-428

Pollard, R., 1994 The Iron Age and Roman Pottery in Clay, P., and Pollard, R., *Iron Age and Roman occupation in the West Bridge Area, Leicester Excavations 1962-1971*. Leicestershire Museums Arts and Records Service, pp. 51-114.

Prehistoric Ceramics Research Group 1997 *The Study of Later Prehistoric Pottery: General Policies and Guidelines for Analysis and Publication Occasional Papers nos 1 and 2*, revised 1997

Priest, V., 2001 *An Archaeological Evaluation at Bursom Business Park Extension, Mowmacre, Leicester*. Unpublished ULAS Report No. 2001-140.

Rackham, J. 2002 Excavated Animal Bone in J. Abrams *An Archaeological Excavation on Land Adjacent to Beaumont Leys Lane, Leicester*. ASC/LMH 02/1, 2002

Roe, F., 2000 The worked stone in B M Charles, A Parkinson & S Foreman, ‘A Bronze Age Ditch and Iron Age Settlement at Elms Farm, Humberstone, Leicester’, *TLAHS* **74**, 188-9

Schmidt, E., 1972 *Atlas of Animal Bones* Elsevier, Amsterdam

Serjeantson, D., 1996 The animal bones in S. Needham and T. Spence *Refuse and disposal at Area 16 East Runnymede* Vol. II Runnymede Bridge Research Excavations British Museum Press

Shaffrey, R., 2007 Worked Stone, in L. Webley, J. Timby and M. Wilson (Eds.) *Fairfield Park: Later Prehistoric Settlement in the Eastern Chilterns*. Bedford: Bedfordshire Archaeology Monograph 7, 86-92.

Silver, I. A., 1969 The ageing of domestic animals, in Brothwell, D. and Higgs, E. S. *Science in Archaeology*, London

Stace, C., 1997 *New Flora of the British Isles*. (second edition). Cambridge, Cambridge University Press.

Speed, G., 2006 Birstall, Hallam Fields, in *Archaeology in Leicestershire and Rutland 2005*, *TLAHS* **80**, 229-30.

Thomas, J., forthcoming Excavations at Manor Farm, Humberstone, Leicester.

Thorpe, R., Sharman, J. and Clay, P., 1994 An Iron Age and Romano-British enclosure at Normanton Le Heath, Leicestershire, in *TLAHS* **68**, 1-63.

Veen, M. van der, 1992 *Crop Husbandry Regimes: An Archaeological Study of Farming in northern England 1000BC – AD 500*, Sheffield Archaeological Monographs 3. Sheffield. J.R.Collins.

von den Driesch, A., 1976 *A guide to the measurement of animal bones from archaeological sites* Cambridge, Mass., Peabody Museum of Archaeology and Ethnology, Bulletin no. 1.

Wacher, J.S., 1964 Excavations at Breedon-on-the-Hill, Leicestershire, 1957, *Antiquaries Journal* **54**, 122-142

Wacher, J.S. 1978 Excavations at Breedon-on-the-Hill, *Trans Leics Arch Hist Soc* **52**, 1-35

Webley, L., 2007 Using and abandoning roundhouses: a reinterpretation of the evidence from Late Bronze Age-Early Iron Age southern England, in *Oxford Journal of Archaeology* **26(2)**, 127-144.

Willis, S., 2007 The Later Bronze Age and Iron Age, in Nicholas J. Cooper (Ed.) *The Archaeology of the East Midlands*. Leicester Archaeology Monograph 13, 89-136.

Woodward, A. and Hughes, G., 2007 Deposits and doorways: patterns within the Iron Age settlement at Crick Covert Farm, Northamptonshire, in C. Haselgrove and R. Pope (Eds.) *The Earlier Iron Age in Britain and the Near Continent*. Oxford: Oxbow Books, 185-203.

Zeist, van W., 1991. Economic aspects. In W. van Zeist, K Wasylikowa, and K-E. Behre (eds.) *Progress in Old World Paleoethnobotany*. Rotterdam, A.A Balkema.