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BEDFORD SOUTHERN BYPASS

POST EXCAVATION ASSESSMENT REPORT

VOLUME 4: The Landscape:
Statement of potential for further analysis

Report No. 95/14

DRAFT

September 1995

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For the Highways Agency

Volume IV in a series of five

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Bedfordshire County Archaeology Service
Contracts and Consultancy

Volume 4: The Landscape: statement of potential for further analysis

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Preface

The Bedford Southern Bypass Project (BSBP) has the potential to address a number of issues of national academic importance highlighted in the English Heritage document 'Exploring our Past: Strategies for the Archaeology of England' (1991). In particular, the national importance of the project lies in its potential to reconstruct the development of the landscape and land use along the 8.5 km Bypass transect through the Ouse Valley.

This in the 1980's frontier

> *"the investigation of the development of areas of the historic landscape through time should receive increased emphasis". (EOP, 4)*

This document is the fourth volume within 'The Bedford Southern Bypass Post-excavation Assessment Report'. In it, the potential of the project to address the overall landscape aims outlined in the project design is assessed. The significance of a landscape approach is first discussed with a critique of recent studies. The evidence, by period, is then presented with a discussion of the major themes. This has been approached in an integrated format, drawing on relevant evidence from all the sites and the full range of data types. This section highlights the potential of the project to address the overall development of the landscape and environment, while focusing on a number of key issues where the evidence is of particular quality. A number of these issues are period specific such as investigations into Neolithic settlement and Roman period non-villa rural settlement. Strong emphasis has been placed on the study of processes of change and transitional periods such as that from the late Iron Age into the Romano-British period. Themes have also been identified that cross a number of period boundaries, including investigations into the socio-economic basis of settlement and the study of ritual. The final part of this volume outlines four major aims for post excavation that will provide the basis for methodologies proposed in Volume 5; The Updated Project Design.

Mill Farm (Roman Pits)

Throughout this volume reference is made to three additional projects; Medbury Lane, Cardington Cross and the Elstow Brook Widening Scheme, and a summary report for each appears in the appendices to Volume 2. All three result from works directly associated with the construction of the Bypass, although none of them form part of the core funded project. It is proposed that these sites be integrated into the analysis and publication of the core, because of their relevance to the project overall, and to specific sites in particular. Separate and adequate funding is available to do this, and no claims for further resources will be made in this document, or within the 'Updated Project Design'.

By integrating and synthesising the results of these diverse sites the project is closely following the precepts of EOP (p.35) which states, with regard to providing a strategic framework for developer funded activities:

> *"This will involve commissioning work that will draw together and synthesise work which would otherwise remain isolated pockets of activity. This intention - of extracting academic value for money from the data that is currently accumulating - is the main theme of what follows".*

↳ This is quoted out of context. The 'Exploring our Past' quote refers to EH commissioning synthesising studies to draw together developer funded results, and provide a framework for them, not for using developer's funding on one site to produce a framework for the region and other sites.

1. INTRODUCTION

Implicit in the study of archaeology is that individual sites form part of a wider landscape, and throughout the early 20th century analysis of the interaction between archaeological sites and the environment has been extensively explored. Two essays have been particularly important to the development landscape of study: 'Archaeology of the Cambridge region' (Fox 1923) and 'The personality of Britain' (Fox 1932) whilst in the 1930s the interdisciplinary approach was adopted by the Fenland Committee in the formulation of the Fenland Survey (Hall & Coles 1994).

Despite the early recognition of the value of landscape study it was not until the early 1970s that the importance of linking rescue archaeology and landscape study was made explicit (Fowler 1974). In the early 1970s public perceptions of archaeology were still dominated by the single site - not recognising that however geographically isolated a farm, hamlet, town or frontier may be they are all part of a wider system. A significant movement towards general recognition of the landscape came with the construction of the M5. The pre-construction survey and rescue archaeology along the route of this motorway from 1969 onwards, indicated how much had been lost in the construction of the M1 and M6,and how much better the landscape might be understood if analysis of archaeological data was integrated into a landscape framework.

Today landscape archaeology is a powerful sub-discipline of archaeology with the annual publication of a journal "Landscape History" and an extensive bibliography of reports (Fulford 1990). English Heritage have emphasised the primary importance of landscape studies in *EOP* (1991) with funding policies directed to the recognition of projects focused on a number of key landscapes;

"The formulation of objectives for multi-period research can only be accommodated by setting specific and linked period objectives within a landscape or regional setting and within a broad chronological framework". (EOP, 37)

The Bedford Southern Bypass project was from the outset conceived as a landscape study. Within the line of the roadway individual sites were recognised and identified by their major characteristics prior to Public Inquiry in 1989. These site identifications were retained and modified during assessment, evaluation and excavation. In 1989 however, the concept of a landscape project dominated the archaeological approach and detailed assessment led to a variety of evaluation strategies. The results of these led either to preservation in situ: the ritual landscape of Octagon Farm; or proposals for preservation by record. Seven site-specific project designs were formulated in areas of recognised archaeology at Peartree Farm, Manor Farm, Bunyan's Farm, Harrowden, Eastcotts and Octagon Farm, but the areas between were also singled out for the potential they held as constituents of an archaeological landscape. The latter were important, for as 'blank areas' they were only blank for reasons of lack of information: where access had been denied or where evaluation had failed to clarify specific use. In the past these areas may have been pasture, arable fields, ritual clearings or abandoned scrub, all of which are significant to understanding the context of changes discovered during the excavation of the set-piece projects. Dealing with the blank areas was an explicit statement of the landscape approach' and was dealt with in two ways. Further evaluation sought to investigate the blanks at Village Farm and Bumpy Lane and the watching brief, during construction, sought evidence for land use such as boundary ditches or tree throw holes to confirm the absence of evidence from the remaining 'blanks'. Every opportunity has been taken to characterise spaces between settlements, and the result is a continuous archaeological record of a transect through the landscape.

It does not automatically follow that all the data from such a survey is of national significance and linear schemes that have been presented as a series of set piece site reports have been regularly criticised for the lack of analysis upon which to assess their importance. Lack of an explanation of the processes that underpin the evidence of landscape development has marred the results of nationally recognised projects such the Milton Keynes project (Taylor 1994) and the English Heritage Fenland Survey (Fleming 1994). Fortunately specific advantages in the region accrue to the landscape

approach adopted for the Bypass, and a significant amount of important research in the immediate area can be exploited to enhance the present study. There are detailed parish surveys of Eastcotts, Cardington and Elstow which cover the length of the new road, the county possesses one of the most comprehensive, computer accessible, regional sites, monuments and building records: the Historic Environment Record (HER), and recently a series of conferences *from The Archaeology of the Chilterns* (1991) to *The Archaeology of the Ouse Valley* (1994) have focused attention on the development of the region. All this information has the potential to feed into the analysis with virtually no extra funding implications.

In addition, the assessment has detailed the strengths and potential of the evidence which, with the increasing number of period and area based surveys, provides the basis for a landscape study that will significantly contribute to our understanding of regional development which in turn will ultimately form the basis of national and international trends.

1.1 Original project aims

These were presented within section 4 of the original Project Design (Baker and Dawson 1993g). However, the format of that document and its specific aims and objectives is not conducive to simple assessment of the fieldwork results. In recognition of this the aims and objectives have been recast, but correlation is possible as the original numbering system, has been retained (in brackets), together with a heavy reliance on the original text.

The principle project aims were ***'to study in-depth a broad transect through the Ouse Valley which cuts through a dense and contrasting multi-period landscape. The project represents an opportunity to add to the understanding of the archaeology of the Ouse Valley and the wider region'*** (4.2)

Of special note should be the high priority given to ***'the interrelationships between sites and areas within the study area and those adjacent to it****.....The Bedfordshire Archaeology Service has been active in the area for upwards of twenty years, and the accumulated data from all relevant work in the area will be brought to bear to enhance the potential of this project. This includes not only the specific work related to the footprint of the Bypass itself, but ancillary work undertaken on the widening of the Elstow Brook* (see Volume 2, appendix 3), *extensive excavations on Neolithic, Bronze Age and Iron Age sites in Plantation Quarry at Willington (Pinder 1986), excavations on multi-period prehistoric sites at Bury Farm, Goldington (Mustoe 1988) and Mill Farm, multi-period excavations at Elstow Abbey (Baker 1971) and at Peartree Farm, Elstow (Woodward 1976). Further west there has been extensive work in Biddenham on another large area of well preserved prehistoric landscape, and our knowledge of the settlement pattern along the Ouse has been widened by extensive survey and excavation work in advance of pipeline construction at Kempston Church End (Roman and 7th century Saxon), and development at Clapham (Iron Age, Roman and medieval).The excavations at Odell (Dix 1981) in the north and Salford on the western edge of the county will be useful comparisons.'*

A recent and important addition to this list should be the work recently carried out by the Service in response to the development of the Medbury Lane borrow pit adjacent to the Village Farm site (see Volume 2, appendix 1).

Two major strands to the overall investigation were recognised within the original Project Design, each comprising a number of specific project aims. These are listed as follows.

1. The Landscape; settlement and organisation

General: **To investigate inter-site relationships within the landscape and to chart the overall development of that landscape co-ordinating evidence from settlement, funerary, ceremonial, economic and environmental contexts** (4.5) (4.7).

Specific: ***Transitional periods***

1.1 To identify and understand the transformation of Neolithic settlement, burial, and monument types, and the gradual change to a settlement dominated landscape (4.1.3).

1.2 Briton into Roman; the identification of native settlements and the degree of change undergone by the communities throughout the Roman period, including recognisable changes in their agricultural base (4.1.4).

1.3 To study the transition following the decline of the Roman Empire, with the identification of post-Roman settlement or activity (4.1.5).

1.4 The development of medieval settlement and its relationship with earlier activity (4.1.6).

Specific: ***Socio-economic base***

1.5 To attempt an understanding of the socio-economic basis for settlements through the study of their material culture and trade patterns (4.1.1)

Specific: ***Boundaries***

1.6 The investigation of territorial, political, agricultural and settlement boundaries through time (4.5).

1.7 The identification and dating of relict field systems and their relationship to each other through time (4.1.2).

2. The Landscape: environment

General: **To provide a model for the archaeology and environment of the Ouse floodplain and for the development of the gravel terrace, including the examination of areas under alluvium and colluvium** (4.3).

Specific: ***Alluviation***

2.1 To map the pattern of alluviation (4.3).

2.2 To understand the relationship of settlement and land-use to the pattern of alluviation (4.3).

Specific: ***Environmental remains***

2.3 The reconstruction of the landscape and land-use for each of the settlements is a general aim of the Bypass project (4.4).

Specific: ***Formation processes***

2.4 To investigate the factors involved in site formation processes with especial emphasis on the contribution of environmental data (4.4).

2. STATEMENT OF POTENTIAL

Alluvial environments are recognised as being of considerable value, both because of the potential for good preservation and because of the importance of riverside locations and valley bottoms to prehistoric and historic communities. Darvill comments that "Of all the landscape environments considered in this volume (Darvill 1987), rivers, lakes and alluvium spreads are possibly the least well documented archaeologically". English Heritage have recognised this in defining areas of alluvium as a landscape type requiring further study. Ploughed landscapes, of which the Bypass is also a good example, have additionally been singled out as requiring special attention (EOP, 45).

The value of the Bypass project lies in the wide variety and longevity of the archaeological evidence for both settlements and landscapes. All major periods of activity are represented from the Mesolithic to the present day, and the potential of the area can be compared favourably with other landscape projects such as Yarnton /Cassington in the Upper Thames (Hey 1992;1993) and the South West Oxfordshire Reservoir project. There are few examples where a landscape has been investigated so intensively. A variety of domestic and funerary/ceremonial contexts are available for study, and comparisons can be drawn between contemporary adjacent settlements, their economy, landscape and land use up to the present day. Additional themes include the nature of earlier prehistoric settlement, settlement and development through critical periods of transition, the inter-relationship of ceremonial and domestic activity, the use that was made of different topographies, and the inter-relationship and effects of hydrological change and the onset of alluviation. These issues can all be addressed within the Bypass project.

Locally the project can contribute significantly to the understanding of nearby sites which have often been excavated under difficult salvage conditions. Many of these sites are of national or regional importance and are able to provide important contextual material, enhancing the potential of the Bypass data.

Other issues of significance that will be addressed by the BSBP are those related to planning. This part of the Ouse Valley is typical of many areas throughout the country where large areas of land have been targeted for mineral extraction, as well as urban and suburban development. Although the overall archaeological potential of these areas is recognised, investigative and conservation strategies have necessarily concentrated on the more obvious crop mark and earthwork sites. The extensive survey and observation works carried out along the Bypass have highlighted the fragile and dispersed nature of much of the evidence, especially for the earlier prehistoric, Iron Age and Saxon periods. It can now be appreciated that an apparent absence of sites may only be due to the limitations of detection methods. The ability to model the archaeological resources of the floodplain and gravel terrace will contribute substantially to a more effective working of the planning process. This has been recognised by English Heritage in *Exploring our Past* and further work on these issues is of national importance, the essential aspects of this study having been discussed by Needham and Macklin (1992).

Projects which investigate the remains of settlement and landuse patterns in any one of these* landscape categories provide information on archaeol. sites subjected to similar processes & decay & dist. Projects which investigate settlement and land use patterns across two or more landscape categories also have strengths.

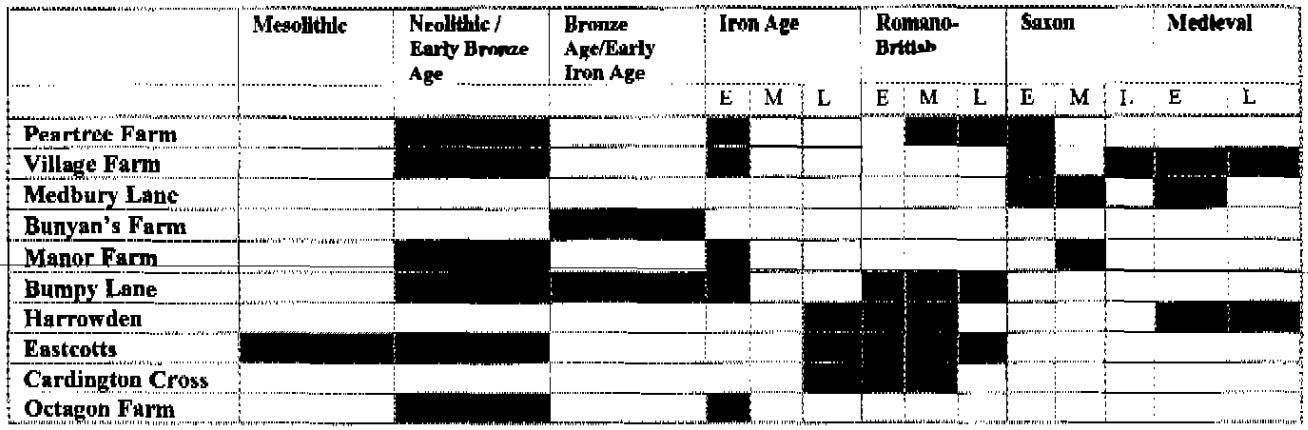
* Wetland
Coastland
Rivers, lakes, alluvium
Arable
Pasture
Woodland
Upland Moor
Lowland Heath
Parkland & ornamental
Urban

] = 100% of ground surface

2.1 Summary of Results

The following table represents a summary of the various periods represented across the Bypass sites (including Cardington Cross and Medbury Lane) based on an integrated but still provisional assessment of the structural, artefactual and ecofactual data sets.

Table 1 Summary of major periods represented across all Bypass sites



KEY
E=early M=middle L=late

Activity represented Activity possibly represented

2.2 Academic frameworks

2.2.1 Topography and environment

The location of the sites within the river valley provides an important opportunity to study the impact of settlement on the natural environment and to identify feedback effects into the human ecosystem (Bewley 1994). Three major environmental factors can be addressed, palaeotopography, alluviation and the evidence of floral and faunal remains for the natural and cultivated environment.

Palaeotopography

Archaeological investigations into river valley environments are increasingly undertaken within a wider geographical and environmental framework, and this is reflected in a number of recent studies (Needham and Macklin 1992; Robinson 1992a). One of the most significant aspects of the Bypass project is its potential to reconstruct the palaeotopography and assess its importance in the determination of settlement location and land use. Similar work has been undertaken in the Lower Welland and Nene Valleys (French *et al* 1992; French and Pryor 1992) and is currently underway in the Yarnton/Cassington area of the Upper Thames (Hey 1993). Observations on the microtopography of each Bypass site were made, including the plotting of palaeochannels and profiles through natural deposits, to determine patterns of Pleistocene and more recent fluvial activity. Comprehensive coverage of the valley bottom by aerial photographic survey provides the landscape context for site specific observations. Preliminary work at Octagon Farm demonstrates the importance of topography in site choice and organisation during the Neolithic and Bronze Age periods, and elsewhere similar influences have been observed during the Roman and Saxon periods.

'Identifying the resource'

Alluviation / Survey and identification projects

"Recent work in the Thames, rivers of the Wash and the Herefordshire Valleys has demonstrated the potential for stratigraphic and organic preservation and for environmental studies of alluviation phases....Specific valleys might be selected for identification surveys where potential is good but unvalidated" (EOP, 45)

A river valley is a particularly responsive system, and fluctuations in the intensity of land use, clearance and cultivation affect hydrological patterns, alluviation, and the build up of peat deposits. These changes impact upon patterns and forms of settlement and land use, as both hydrological changes and the human response varies. Intensification of land use from the Bronze Age has been cited as one of the major causes of increased levels of alluviation and although this general trend can be seen within all the Midland river systems the majority of the data comes from the Nene and Welland, especially the Fen edge environments (Robinson 1992). It is increasingly clear that alluviation has significant localised effects within the general trend and data has begun to be collected for the Ouse with useful observations at Warren Villas and from Bromham and Kempston (Clark and Dawson forthcoming). Test pitting along the Elstow Brook, part of drainage improvement prior to construction of the Bypass, has further facilitated the mapping of alluvium and peat in this area (see Volume 2 appendices 3 and 4), and further useful data is available from the Bypass sites at Manor Farm, Harrowden, Eastcotts, and Octagon Farm. Analysis of the Bypass data will provide a model for the extent, date and sequence of alluviation in this part of the Ouse Valley, allowing a comparison with evidence from other areas and river valleys. In particular the effects of alluviation can be assessed against provisional results suggesting that settlement shift at Eastcotts in the later Roman period was in response to rising water levels, with a similar phenomenon noted at Harrowden in both the late Roman and medieval periods.

The natural and cultivated environment

1980's objectives

"More resources should be directed towards projects with potential for recovering environmental information" (EOP, 4)

There is no mention of general environmental research in the 1990's section. The priorities are: wet + waterlogged sites, coastal zone, offshore submerged

Anthropogenic impact on the environment is further attested by preserved plant and animal macrofossils. Even though the evidence is mostly derived from charred plant remains, the Bypass sites (including Cardington Cross) provide a useful environmental sequence for the Ouse Valley. Neolithic tree-throw pits were encountered on many of the sites and there were finds of charcoal, especially oak, including root wood signifying early clearance. At Cardington, where perhaps the greatest concentration of tree-throw features was found, many had traces of burning, but yielded very little charcoal, suggesting that lime (*Tilia*) woodland, rather than oak, was cleared at here. This tends to corroborate pollen evidence which suggests that lime was the dominant component of woodland prior to Neolithic clearance over large parts of lowland England, yet its charcoal does not survive under archaeological conditions.

Evidence for the cultivated environment is evident from all the Bypass sites and is summarised in appendix 1. After assessment a provisional sequence can be proposed. Insufficient Neolithic settlement features were found to give the full picture for this period, but the occurrence in the late Neolithic / early Bronze Age of naked barley is characteristic of the earlier prehistoric period. It would be a most unusual crop from the Iron Age onwards. Although spelt wheat and hulled barley would have been anticipated as the major cereal crops during the Iron Age, the assemblages would seem much more characteristic of the Neolithic or early Bronze Age, with only a low level of agriculture and a part reliance on collected woodland food plant resources. The predominance of spelt wheat is usual for the Roman period, although it is surprising how little barley was found. The Roman results also show the characteristic diversification into horticultural crops: cherry, celery and walnut. The celery was perhaps grown for its seeds. Insufficient late Roman / early Saxon and Saxon material was found to give a reliable crop record. The Saxo-Norman and medieval periods show the complete replacement of spelt wheat, a hulled wheat, by free-threshing wheat, although it is not possible at this stage to show whether both bread-type and rivet wheat were being cultivated in the region. By the Saxo-Norman period, oats would have been grown as a crop rather than just being a weed. It was probably cultivated as drage along with six-row hulled barley, but all the cereal assemblages found are too mixed to confirm this. Rye does not seem to have been a major crop in the valley

bottom. The soils of the gravel terraces and clays around Bedford are well suited for the cultivation of wheat, barley and oats. Rye would perhaps only have been an important crop on the acid soils of the Greensand. Cultivated legumes assumed a greater importance in the medieval period than earlier. Bean and perhaps pea make their first appearance on the Southern Bypass sites in the medieval period, although their remains are not abundant.

2.2.2 Palaeolithic

Although important Palaeolithic assemblages have been recorded from basal fluvial deposits in the Biddenham area (Harding *et al* 1991) and from observations on deep profiles along the line of the Bedford Southern Orbital Sewer (Dawson forthcoming) no material of similar date was recorded from any of the Bypass investigations.

2.2.3 Mesolithic 8000 - 4000 BC

"The transition between the Mesolithic and Neolithic periods has proved persistently elusive, especially in areas of abundant, relatively thoroughly investigated evidence for established farming communities. More light could be thrown on this period by targeting deposits which are likely to span all or part of it...." (EOP, 36)

Systematic fieldwalking took place at Octagon farm, and residual lithics characteristic of Mesolithic/early Neolithic date were recorded from the majority of Bypass sites. While not providing evidence for *in-situ* settlement this material can provide some general indication of the level and distribution of early prehistoric activity. When set against this distribution it is clear that the quantity and nature of the Eastcotts assemblage is exceptional, and can be explained as an indicator of Mesolithic settlement activity. In all 433 tools and fragments of debitage were recovered (the next largest Mesolithic group came from Bumpy Lane where only 33 pieces were recorded) and although this material was residual, analysis of its distribution across the site has the potential to define the nature and focus of activity.

Little Mesolithic material has been recovered from elsewhere within the study area, although excavation at the Ursula Taylor School, Clapham revealed a small number of Mesolithic pits (Dawson 1988), and recent work in the Biddenham area has highlighted surface concentrations of Mesolithic date (CPM 1993) with possible working hollows recognised at Kempston (BCAS forthcoming). Further fieldwork is planned to investigate the significance and origin of this material with synthetic study proposed to investigated this period (Dawson forthcoming). The potential for environmental reconstruction has been demonstrated through pollen and molluscan samples taken along the line of the Southern Orbital Sewer (Scaife 1995).

2.2.4 Neolithic/early Bronze Age 4000 - 2000 BC

"The complexity and elaboration of developed later Neolithic society have become increasingly apparent; its origins less so. Transformation of settlement, burial and monument types, the broadening of the economic base and the emergence of separate but concurrent artefactual traditions all occurred within this period. Direction of effort to areas of known mid to late third millennium would promote an understanding of the processes involved" (EOP, 36)

The majority of Bypass sites produced residual flint tools and debitage of this date, and the increase in density of this distribution over the Mesolithic material, approximately in the ratio of 5:1, is significant. The range and variety of evidence suggests a number of themes can be explored including deforestation, ceremony and ritual, and settlement.

Deforestation

During the Neolithic and Bronze Age the wooded landscape of the floodplains was gradually transformed into one organised around monuments. This process is indicated by the occurrence of tree throw holes on all the Bypass sites. Dense grouping of features and association with carbonised root material indicates an anthropogenic element in the tree clearance (Mark Robinson pers. comm.). At Peartree Farm, Octagon Farm and Cardington Cross tree throws are associated with cultural material of Neolithic/Bronze Age date, although ceramics of Iron Age and Roman date were also recovered. This suggests that deforestation occurred in episodes from the Neolithic into the Roman period and appears to be corroborated by aerial photographic evidence of Iron Age and Romano-British cropmark sites throughout this part of the Ouse Valley showing the extent of field systems to be restricted. At Warren Villas in the Ivel Valley for instance, field systems laid out in the late first century may have occupied woodland clearings, and this may indicate extensive tracts of possibly managed woodland (Clark and Dawson forthcoming). In contrast widespread and permanent clearance may have occurred on the drier valley sides.

Analysis of the Bypass data will provide an important regional comparison with recent work from the Nene and Thames where evidence points to regional and local variation. Although tree throws demonstrate two major periods of Neolithic clearance at Drayton within the Upper Thames (Lambrick and Moore 1987), the Thames evidence, in common with that from the Bypass, generally suggests limited clearance (Robinson 1992). Evidence of localised clearance around monuments has been found within the Nene Valley at Redlands Farm, Stanwick (Keevil 1992), and it appears that it was not until the early to mid Bronze Age that clearance really began to impact upon the landscape demonstrated by agricultural soils of this date found in association with the Redlands Farm Barrows.

Ceremony and ritual (EBP cat: "Communal monuments into settlement and field landscapes" p. 36.

The most spectacular evidence for Neolithic and Bronze Age activity is the extensive series of funerary and ceremonial monuments, focused on the Cardington cursus complex. The transformation, of the wooded and tangled valley bottom into landscapes organised around groups of monumental structures marks one of the most significant developments in European prehistory and indicates the emergence of a complex society.

Three Bypass sites provided opportunities to investigate this monumental landscape: Octagon Farm, Eastcotts and Village Farm.

The Octagon Farm evidence belongs to a group of sites with a geographical distribution extending through the midlands, from the Trent Valley across to the North Sea, and as far south as the Upper Thames. Similar sites include West Cotton (Windel *et al* 1990), Dorchester on Thames (Whittle *et al* 1992) and Maxey (Pryor & French 1985). They have been referred to as 'Barford type complexes' and are often characterised by having a cursus as a central element, with large rectangular enclosures and ring ditches. A number of similar sites have been identified within the Ouse Valley, at Godmanchester (F. McAvoy pers. comm.), Haddenham (Evans and Hodder 1987), Brampton (Maylim 1990) and possibly also at Biddenham. A barrow and henge site has been excavated just to the north of the Ouse at Goldington and this may be another example (Mustoe 1988). These sites appear to be distributed fairly evenly along the river valley at intervals of 5-6km, and to have developed over many centuries.

At Octagon Farm the development of the complex appears to follow a pattern similar to that at Dorchester on Thames, the mortuary enclosures and cursus appear to be primary, and the barrows secondary, with a similar juxtaposition of barrows and cursus to that Maxey. The layout of the complex was constrained by topography, with the monuments sited on higher gravel islands between palaeochannels. This is a similar situation to that found at Stanwick, in the Nene Valley, where the long barrows occupied almost all of an elongated gravel island. Close by at Irthlingborough several of the round barrows gained prominence from their location on gravel islands, and this visual factor may also have influenced the Octagon Farm builders. The detailed layout at Octagon Farm was complex, with common alignments between the cursus, 'paperclip' enclosure and the large mortuary enclosure for instance, and with the earlier monuments exercising an influence on the location of later ones.

Similar monument groups at Dorchester on Thames and Godmanchester appear to have been aligned to the movements of the sun and moon (Bradley and Chambers 1988).

Although ring ditches cluster in the area of the earlier monuments they also have a much wider distribution along the valley of the Ouse (Woodward 1986). East of Octagon Farm ring ditches have been excavated at Willington (Clark 1991; Pinder 1986a; Woodward 1986), and to the west at Mill Farm (BCAS in prep)and Elstow (Baker 1971). Further afield, but still within the Ouse Valley, barrow groups at Harrold (Eagles and Evison 1970), Radwell (Hall and Woodward 1977) and Roxton (Taylor and Woodward 1985) have been excavated. Within the Bypass, and in addition to Octagon Farm, ring-ditches have been investigated at Village Farm and others are visible as cropmarks at Bunyan's Farm. At Eastcotts an isolated inhumation may once have been marked by a mound or ring-ditch. Recent evaluation at the Bunyan Centre, Bedford, has added to the corpus of barrow sites (Fell and Dawson 1995).

The Bypass data has considerable potential to characterise the form of individual monuments, the sequence of their construction and use, and to investigate the overall organisation and extent of the complex. In particular this will provide important new data contributing to current research linking these sites to core areas of Neolithic settlement (Thomas 1991), and in assessing their significance in the context of the socio-economic organisation of lowland communities (Bradley and Holgate 1984).

The continued importance of these monuments into later periods is indicated by the lack of disturbance they have suffered during the Iron Age and Romano-British periods. This implies that at the Octagon Farm and Village Farm sites, the barrows were still visible in the landscape; later field boundaries at Octagon Farm appear to respect the barrow sites. The challenge during analysis is to determine whether this survival resulted from continued use of the monument sites for ritual purposes, or simply because they were regarded as too substantial to level or remove. At both sites the upper fills of the ring ditches contained Iron Age pottery, and a similar situation was recorded by Eagles at Harrold (Eagles and Evison 1970). However, the form of the Iron Age features in proximity to the ring ditches, and the composition of assemblages, needs further characterisation to identify the nature of activity. Although the pits and post-holes at Village Farm and Octagon Farm might represent settlement, cremations were present on both sites, and deposits of bone and near-complete pottery vessels indicate possible ritual deposition.

Neolithic settlement

Neolithic settlement sites are extremely elusive in the Ouse Valley. This has led to an inevitable concentration of effort and resources in the investigation of the more obvious and spectacular monuments. It is certain however, that all but the very lowest and wettest parts of the floodplain would have been utilised by early communities, and extensive fieldwork in valley bottom environments is beginning to characterise this activity.

At Peartree Farm a single feature contained ceramics of Neolithic date, in addition to a significant lithic component. At least one of the sherds came from a Beaker vessel, and the group probably indicates settlement. Settlement features were also recorded at Manor Farm where a pit containing early Neolithic Grimston Ware was excavated, and at Bumpy Lane where two large pits were located. Sherds of late Neolithic Peterborough ware were found in one, and both contained flint tools and debitage. The association of these ceramic/lithic groups and the features with domestic settlement is as yet untested by analysis, but the range of material indicates a variety of activities. There is clearly potential to further characterise the material as resulting from temporary hunting or pastoral camps, or perhaps from more permanent farming communities.

The Stonehenge environs (Richards 1990) and Cranbourne Chase surveys (Barrett *et al* 1991) demonstrate that ceremonial and domestic sites are found in close proximity in Wessex, whereas the ritual landscapes at Raunds and Yarnton/Cassington appear to be devoid of settlement. Both ceremonial and settlement features were found on the Bypass, and appear to be within spatially distinct areas. This suggests regional variation, and the Bypass study area has good potential to shed light on this issue.

The value of the Bypass material lies in its potential to begin the characterisation of Ouse Valley clearance and settlement. Although very little Neolithic settlement has been located within the Nene, with a few pits containing domestic material at West Cotton and Stanwick (Windel *et al.* 1990), substantially more has been recorded for the Thames Valley. A general survey of this material has been possible and provides a framework within which the Bypass material can be studied (Holgate 1988). More recent excavation and survey at Yarnton/Cassington has highlighted the fragile and dispersed nature of Neolithic floodplain settlement, and this provides an additional comparison for the Bypass material.

2.2.5 Bronze Age/early Iron Age 2400 - 700 BC

The gradual change from the monument-dominated landscape of the Neolithic and early Bronze Age to the settlement-dominated landscape of later prehistory remains poorly understood..." (EOP, 36)

Little evidence survived from the mid to late Bronze Age, either for settlement or land use, other than a single pit at Bunyan's Farm, containing pottery and parts of a destroyed hearth or oven. This may be significant as an indicator of settlement, especially in the light of the limited trench excavations on this site. A single feature within Area 1at Bumpy Lane was dated to the late Bronze Age/early Iron Age and probably has similar significance.

Evidence may survive for landscape boundaries and enclosure. At Octagon Farm linear ditches describing a regular rectilinear pattern of fields were laid out, the ditches clearly cutting the 'paperclip' enclosure, but apparently respecting the position of a number of ring-ditches. No dating evidence was recovered from excavated sections. At Eastcotts lengths of ditch were excavated that pre-dated the Romano-British enclosures, and whose fills were similar in character to prehistoric features on site; a few fragments of Late Neolithic/Bronze Age flint were recovered from within them. Both systems may date to the Bronze Age, representing a similar process of enclosure to that identified at Stanwick (Neal 1989) and Fengate (Pryor 1991).

The paucity of evidence for this period reflects a national phenomenon, and attempts have been made to explain this on the grounds of site recognition (Pryor 1985; Knight 1984) although Hodder (1990) suggests this may have functional implications. Enclosed settlement has however been recognised within the Lower Thames at Mucking and Upper Thames at Marshal's Hill (Lambrick 1992), while large areas of enclosure have been excavated within the Nene at Stanwick and Fengate: within the Ouse Valley the large roundhouse at Bancroft (Williams and Zeepvat 1994) and the late Bronze Age structures at Salford are the sum of the evidence. The Bypass evidence may indicate that local forms are more commonly dispersed, fragile, and less susceptible to the standard methods of identification such as geophysical survey and aerial photography.

Valley

2.2.6 Iron Age 700 BC - AD 43] Not prioritised in EOP.

All the Bypass sites produced evidence for activity during the Iron Age, although only Eastcotts had significant evidence for late occupation. Unenclosed settlement was found at Village Farm and Bumpy Lane, with Peartree Farm, Bunyan's Farm, Manor Farm, Harrowden and Octagon Farm providing evidence for boundaries and peripheral areas. At Village Farm pits and post holes were clustered around the site of two ring ditches (provisionally dated to the Neolithic/Bronze Age) with the settlement focus probably beyond the limits of excavation. Three cremations, and Iron Age material within the upper fills of the ring ditches, suggest there may still be some residual ritual significance attached to the monuments at this time, although the majority of features can be taken to represent settlement. A further indicator of ritual activity might be the pit alignment running tangentialy to one of the rings, although again these features have usually been interpreted as boundary markers (Cunliffe 1991). At Bumpy Lane a similar collection of pits and post holes appear to indicate settlement, but without a clear focus or layout. Here a sequence of enclosures and boundaries indicate a complex and possibly episodic development.

The remaining sites comprise a variety of evidence. At Peartree Farm the ditched boundaries describe a rectilinear field system with scattered settlement which may form part of the Village Farm system, or be part of a settlement nucleus closer to hand. Although 77% of the ceramics were of early to middle Iron Age date, a significant proportion indicate activity in the late Iron Age. The exact relationship of the two groups has yet to be determined.

At Bunyan's Farm the amount of Iron Age material was too limited to conclusively date the boundaries. At nearby Manor Farm the field system can more confidently be placed in the early to middle Iron Age with 18% of the ceramic assemblage suggesting some activity in the later period. As at Peartree Farm the relationship of these two groups has yet to be analysed and it may be possible to characterise development between the earlier and later Iron Age. At Octagon Farm the scatter of pits and post-holes, predominantly of early to middle Iron Age date, suggests settlement. However, in common with Village Farm, the proximity to earlier funerary and ceremonial monuments, suggests a ritual component. This evidence is even more compelling at Octagon Farm where the crop marks indicates settlement enclosures some distance to the north.

Late Iron Age pottery was recovered from a ditch and residual contexts at Harrowden, while a larger assemblage came from Eastcotts. At the latter site two foci of dated features can be identified, but the larger part of the ceramic assemblage, 91%, is residual in contexts of Period 9.1 (the first to second century AD). It seems likely that the late Iron Age fabrics continued in use into the early Roman period when the first enclosures were established, and this has significant implications for the characterisation of Late Iron Age and early Roman assemblages in this area.

Until recently the paucity of excavated evidence for Iron Age settlement and land use in Bedfordshire had hindered the development of regional studies. Field survey by David Hall, in the south Northamptonshire/north Bedfordshire region, retained a bias towards ceramics as indicators of settlement that had been present in earlier work (Hall and Nickerson 1966, 1969; Hall and Hutchins 1972). Simco in her survey of the Iron Age in Bedfordshire (1973) was still forced to rely on ceramics and salvage recorded sites such as Harrold (Eagles and Evison 1970) and Bromham (Tilson 1973). Since then, on the basis of a wider excavated sample, Knight has been able to review the range of settlement forms present and offer models for their development and distribution (Knight 1984). He has been able to demonstrate an approximate 2.5:1 increase of sites from the early to late Iron Age. This is mirrored in recent work in the Milton Keynes area (Williams 1993, 214). Even within Knight's study the bias towards Nene Valley sites is striking, and much of the Ouse Valley evidence used remained that presented by Simco and Hall. As well as the geographical models proposed by Knight, historical models have also been attempted, with the emphasis on integrating the later Iron Age material into Belgic, and ultimately Roman patterns of influence and expansion, and specifically in extending the Catuvellaunian *territorium* north to the Nene (Branigan 1985). These models have been criticised by Dyer (1976) and Kennet (1977), and more recently by Clark and Dawson (forthcoming) who emphasis the importance of regional development and patterns of social and economic relationship over external influence.

Recent excavations on Iron Age sites within the Bedford Area of the Ouse Valley, at Stagsden, Clapham (Dawson 1988), Gold Lane Biddenham, Mill Farm, Riverside Meadows and Warren Villas is complemented by work undertaken upstream in the Milton Keynes area at Westbury (Ivens *et al* 1995), Pennylands (Williams *et al* 1994), Bancroft (Williams and Zeepvat 1994), Wavendon Gate (Williams forthcoming), and Caldecote (Zeepvat *et al* 1994), and downstream at Little Paxton (Jones and Ferris 1993). Despite the large number of recently investigated and published sites the Bypass represents the most intensively excavated area with the best potential for reconstructing patterns of landscape development. A number of themes can be addressed which are directly relevant to the academic priorities for the period as expressed in EOP.

- *The relationship of Iron Age settlement and activity to the Neolithic/Bronze Age ceremonial landscape with particular emphasis on continuity of place in ritual and ceremonial observance.* At both Village Farm and Octagon Farm and to a lesser extent at Eastcotts this relationship can be demonstrated but remains unexplained.

so not too helpful.

- *The location and distribution of early Iron Age settlement in relation to later Iron Age and Romano-British settlement.* This involves the closer definition of how these periods are represented in the artefactual record and in particular by ceramics. The majority of sites are dated by ceramics to the early-mid Iron Age, with late pre Belgic material conspicuously absent and Gallo-Belgic material rare, except at Eastcotts where it is largely found in association with early Romano-British material. The evidence suggests either that settlement density declines (in opposition to Knight's model), in which case a search for environmental or other determinants should be made, or that the earlier ceramic traditions were more long-lived and conservative than so far appreciated.

- *The economic basis for, and form of, valley bottom settlement and land use.* Can patterns be identified, and how do these compare with settlements on the valley sides and within the clay vales? In particular ecofactual material and the form of settlement may suggest a pastoral bias (as at Bumpy Lane), possibly transhumic and perhaps related to settlement on the higher and drier valley sides. Recent evidence from Yarnton/Cassington and Farmoor (Lambrick and Robinson1979) suggests an early Iron Age rise in water tables causing abandonment of the lower lying sites in favour of the higher gravel terraces, with re-occupation of the floodplain during the middle Iron Age, primarily for summer grazing shielings of Farmoor type (Hey 1993). Although the details of chronology may be different within the Ouse Valley in terms of hydrological changes it should be possible to identify similar developments and responses.

- *The form and impact of 'Belgic' influence and local response in the Later Iron Age.* How are Belgic assemblages defined and what is their significance in characterising contact? What does the evidence imply for the economic, social, and political position of the Ouse Valley in relation to surrounding regions.

- *The relationship of Late Iron Age settlement to Romano-British settlement.* At no site can direct continuity between the Iron Age and the Romano-British period be demonstrated. Some re-use of field boundaries may occur at Bumpy Lane, and at Eastcotts the relationship between the Late Iron Age and Early Romano-British material requires further work. On all other sites where both periods are represented it is possible to posit episodic rather than continuous occupation. In the light of sites such as Stagsden and Bromham where continuity can be demonstrated, what might be the determinants controlling these processes?

EOP priority ?.

2.2.7 *Romano British AD 43 - 410*

Not an EOP priority.

Evidence for Romano-British activity came principally from two sites, Peartree Farm and Eastcotts, both the subject of large scale open area excavation. Other sites also produced Romano-British material. At Harrowden a complex of enclosures similar to that at Eastcotts was revealed during trench excavation and to the north west at Bumpy Lane parts of a ditch system were excavated. Significantly, little of Roman date was recovered from Village Farm, Bunyan's Farm, Manor Farm or Octagon Farm despite early, middle or late Iron Age activity on all four sites, and crop marks of similar form to Peartree Farm just to the north of the Bunyan's Farm trenches. The lack of evidence from these sites is important in setting the context for the distribution of Roman settlement and its relationship to earlier settlements.

It is increasingly clear that a wide variety of settlement types exist within the Romano-British countryside (Hingley 1989). Crop marks within the Ouse Valley indicate a similarly diverse picture, with settlements varying from single farmsteads through a range of nucleated forms, representing hamlets and perhaps villages, and reflecting functional diversity. Both Peartree Farm and Eastcotts are typical of the two major types of non-villa settlement common to the area. The first settlement type, at Peartree Farm, can be termed agglomerated, and comprises a settlement core surrounded by infield enclosures and extensive outfield systems, with a stretch of drove or trackway providing the focus. These sites are located across the valley at regular intervals but appear isolated from each other by woodland, open pasture or scrub. The second group, represented at Eastcotts, can be classed as linear, with rectilinear enclosures arranged parallel to a watercourse. Other examples have been

excavated at Warren Villas in the Ivel Valley and Little Paxton in the Ouse above St. Neots. Linear settlement might also be aligned along routeways, evident in crop marks near Willington (Simco 1984, 65).

In order to understand how the sites relate to each other within the landscape it is necessary to undertake detailed survey; there is a wealth of evidence for Roman rural settlement in the north Bedfordshire area. Taylor has quoted a density of one settlement per 0.4 or 0.5 square kilometres (Taylor and Woodward 1983). This picture has been confirmed by Simco for Bedfordshire as a whole, highlighting the concentration of sites within the Ouse Valley (Simco 1985). This database has been considerably expanded in recent years, largely through rescue excavation, with sites investigated at Stagsden, Kempston, Ibbotsfield, Sandy, Warren Villas, and Mill Farm. The Bypass material complements and extends this work, and the large scale of the investigations at Eastcotts and Peartree Farm can provide detailed evidence on the form and function of settlement towards establishing models for economic development and social organisation.

Non villa rural settlement

Non villa rural settlements have received little attention in comparison with sites of higher status. This is true not only of the Ouse Valley where sites such as Peartree Farm and Eastcotts are only just beginning to redress the balance, but nationally where research and conservation priorities have been targeted towards villa and urban settlements despite calls for a more balanced agenda (Hingley 1989, 1991a and 1991b). Non villa settlements form the most numerous component within the settlement hierarchy.

The high quality of the evidence from Peartree Farm and Eastcotts, supported by that from Harrowden and Bumpy Lane, will allow a number of themes to be addressed, among the more important being the level of agricultural exploitation and intensification from the late Iron Age through the Roman period (Jones 1989; Fulford 1990). Analysis of the form and development of the sites can illustrate processes of social organisation, especially in relation to the size of the settlement and in the details of the subdivision of space and enclosures (Hingley 1991). Together these can provide indicators of the place of the sites within overall settlement hierarchies. Additional evidence is provided for the range of functions present and the relative affluence indicated by the material assemblages.

Peartree Farm appears to be the site of a single farmstead surrounded by infield enclosures similar to other crop mark sites within the Ouse and Ivel Valleys. It bears a superficial resemblance to the only other extensively excavated, but only summarily published, example at Odell (Dix 1981). Peartree Farm was occupied from the second century (primary fills within one of the major ditches dating from the mid-late second), continued in use into the fourth with evidence for re-occupation or continuous use into the fifth. This latest phase of activity is currently confused with early Saxon occupation and will require further definition during analysis. Three phases of development can be seen within the Roman period but the main framework of enclosures remained essentially unchanged until abandonment. The material culture suggests largely domestic activity, with little indication of craft or industry. Ecofacts provide evidence for arable crop production and processing and for animal husbandry, indicating a mixed economy. The majority of pottery types are local with only 20% of the assemblage imported (both national and continental wares). This figure does not include an exceptional deposit, comprising 91% of the total samian assemblage and 87% of the glass. This had been placed (or dumped) in the basal fills of one of the main ditches defining the limits of the enclosure and may represent some form of ritual or marker deposit (see Hingley 1990 for a discussion of ritual in boundary definition). Other evidence for ritual came from two inhumations, an infant burial in association with a possible building carrying particular significance (Scott 1991).

At Eastcotts the linear settlement extended for some 420m parallel with the Elstow Brook to the south. Three phases of development indicate a first century foundation, and migration westwards through the second to fourth centuries. This movement may reflect changing hydrological patterns in the later Roman period, also witnessed at Warren Villas and Bromham. The artefactual assemblages at Eastcotts indicate a wider range of activities than at Peartree, including iron and copper working, and pottery production, but remains overwhelmingly domestic in character. Pottery imports reflect a

similar picture to that at Peartree Farm with 85% of the assemblage being of local origin. The evidence for social organisation at Eastcotts has still to be examined and although domestic foci can be located, few buildings were preserved, and quantification in terms of numbers of dwellings or the organisation of compounds will be difficult. The size of the settlement and the range of activities present suggests Eastcotts not only represents a larger settlement than that at Peartree Farm, possibly a loose nucleation of farms, but a settlement of different character; both the ceramic and non ceramic assemblages support this contention, indicating a greater range of activities at Eastcotts.

The origin of both settlements appears to be firmly within the Romano-British period, and Peartree Farm may have been established as late as the mid-late second century. At Eastcotts a small number of Belgic Iron Age features were present but did not define any substantive settlement. Nevertheless, the presence in Period 9.1 (of the Roman period) of 92% of the late Iron Age pottery is highly significant. Found in association with late first century material it is clearly the case that the dating of both Romano-British wares and late Iron Age wares will require further analysis. In the absence of imports to signify a high status 'Belgic' site it seems more likely that the Late Iron Age tradition continued into the early Roman period. This has great significance for the dating of other late Iron Age and Romano-British sites and for the characterisation of the region in general. It has already been possible to suggest the presence of a conservative tradition in pottery of the early to middle Iron Age (see above), and perhaps this thesis can be extended into the early Romano-British period.

2.2.8 Saxon and Medieval AD 410 - 1500

The end of Roman Britain (EOP "~~Britain into Roman~~" The early med. period 350-700)

"The nature of the Roman decline in the Province of B itain is not well understood. Neither is the influx and settlement of immigrants from across the North Sea. This is a period that has left frustratingly few and fragile traces, yet is important for... the interaction between native inhabitants and incomers in the east and south... and the development of a feudal system" (EOP, 36)

→ continuity of Christianity in the north and west

Evidence for Saxon period activity came from Peartree Farm (early Saxon), Village Farm/Medbury Lane (early and middle Saxon) and Manor Farm (middle Saxon).

for the forging of links between church and newly emergent states

At Village Farm (and also Medbury Lane) extensive evidence for settlement was recovered from buildings, refuse pits and wells. These indicate a newly founded settlement, with no evidence for Roman activity on the site. At Peartree Farm all the Saxon material (71 sherds of pottery) was recovered from pits dug through the enclosure ditches of the Roman farmstead. This may indicate re-occupation and some continuity in the organisation of space, especially as the final phase of Roman activity, Period 9.3, comprises a collection of poorly dated enclosures that cut across parts of an earlier systems and which might be of early Saxon date. At Manor Farm large pits backfilled with domestic refuse indicate settlement, although the restrictions of trench excavation prevented further investigation.

The Bypass evidence must be measured against the small number of Saxon sites which have been identified within the Bedford Area and indeed nationally. Excavations along the line of the Southern Orbital Sewer in Kempston (SOS1 and SOS2) revealed evidence for late Roman/Early Saxon activity on the site of a villa, with nearby sixth century burials. The Newnham Marina villa produced sherds of fifth to sixth century pottery (Wingfield forthcoming) and at Elstow early Saxon cremations were found beneath the Abbey with the occurrence of Maxey type wares suggesting middle Saxon antecedents to the later Abbey foundation. On the Roman site at Mill Farm, Cardington, a ring ditch enclosed a burial dated by C14 to the Saxon period. In the Ivel Valley evidence for activity throughout the Saxon period has been recorded at Stratton near Biggleswade, and for the early Saxon period at Warren Villas. The town of Bedford itself is a probable middle Saxon foundation with considerable evidence for occupation within the northern burgh.

In general the Bedfordshire evidence, and that recovered from the Bypass excavations, reflects traditional theories concerning the development of Saxon settlement (Bilikowska 1980; Wingfield

forthcoming). Sparse early settlement is concentrated on the lighter soils of the river valleys. Lack of competition resulting from a decline in population may have been a major factor in making available sites on the better soils (Rowley 1978, 101), often with an ambiguous relationship to Roman settlement sites, and difficult to untangle from relict British communities. There is a great deal of shift and movement in choice of site through the fifth to seventh centuries with increasing evidence for expansion onto the heavier claylands. In the later Saxon period evidence points to the development of recognisable medieval forms in settlement type and economic and social organisation. The Bypass evidence provides the opportunity to contribute to a number of themes, notably the importance of topographical determinants in location of early Saxon settlement. Blair (1994) has observed that early Saxon settlement in Oxfordshire favours locations above the 30m contour and this appears to be mirrored by the Bypass evidence.

Clearly defined late Saxon activity is absent across the Bypass (see table 1). There is however, some evidence of overlap between the middle Saxon wares (Maxey types), and the Saxo-Norman wares (Stamford and St. Neots types). The potential to demonstrate continuity between early, middle and later Saxon settlement is best at Village Farm, and work here will make an important contribution to the definition of Saxon assemblages.

"The Viking Age and
[EOP "Late Saxon and period"]

The development of settlement and land use

"Late Saxon origins have been demonstrated for many towns and villages in southern England. Major reorganisation of the cultivated landscape may also have occurred in this period; studies in its field systems, crops and husbandry are likely to continue to produce results" (EOP, 37) — Goes on to emphasise the importance of the Vikings.

Understanding the factors behind the development of medieval rural settlement and its apparent diversity is a research objective of national importance (EOP, 37-39). The majority of medieval remains survived in the form of remnant ridge and furrow indicating cultivation, although two sites, Village Farm and Harrowden, have produced evidence for settlement,. At Village Farm, occupation, including buildings, yards, pit groups and evidence for agriculture and craft demonstrates a complex origin in the Saxon period and continuous settlement from the 11th century to at least the fifteenth century. Later documentary sources show the site within the open fields, with the main nucleated settlement some distance to the north, centred on the site of the Abbey. At Harrowden, although Saxon origins are suggested by the place name, the area of earthworks sampled contained evidence for occupation only from the 11th to 15th centuries. This continued in places into the post medieval period with a gradual decline and shift in settlement towards the present day pattern.

Both sites have great potential to address aspects of the development of medieval rural settlement. Excavation and research in the Bedford area has concentrated principally on ecclesiastical and urban sites; Elstow Abbey, Newnham Priory and various excavations close to the castle in Bedford. Only recently have excavations at the deserted settlement of Stratton begun to redress the balance. Rural settlement has previously been studied largely through documentary research and field survey of village plans and earthwork sites (Wood 1985). This has not been able to take into account the invisible evidence for complex sequences of development and for previously unknown sites that excavation, and the Bypass sites in particular can provide. At Village Farm, as for preceding periods, the evidence is especially significant for the development of the landscape in the parish Elstow.

Elstow

settlement
we now appreciate the importance of regional differences, broadly between the areas of nucleated and non-nucleated settlement.

"Medieval rural settlement patterns are the key to understanding the economic, social and political structures of rural England, and in extending our knowledge of change....The factors behind these processes are not clearly understood, though both environmental and social circumstances are thought to have had some influence. The medieval period cannot be studied without taking into account the preceding Romano-British and prehistoric settlement patterns" (EOP, 39)

Research over the last 15 years has focussed our attention on the formative period, before

The Village of Elstow lies just to the north of the Bypass and clusters around the extant ruins of the Abbey, with little modern development having taken place. Peartree Farm, Village Farm, Bunyan's Farm and Manor Farm all lie within the parish, and additional excavation has been carried out at Elstow Abbey (Baker

1200 and 1200 AD, which saw the nucleation of settlement in many parts of the country, but which also saw the development of many settlements of dispersed type. P.T.O

The key to understanding these problems is to select a threatened place which contains high quality evidence for med. settlements, preferably in a region with dating evidence for the pre-conquest period + good historical documentation. . . . the project could well take place in an area of dispersed settlement. The programme should involve intensive survey and documentary research to identify the most productive sites for excavation and sampling. All types of settlement and landscape site should be investigated — peasant farms, moats, seigneurial sites, churches, mills, ponds, and fields. p. 39.

1971; Fell and Dawson 1995), and just to the south within the boundaries of Peartree Farm (Woodward 1976). Excavated evidence has been recovered from the Neolithic onwards, with particularly good data for the medieval period. With this wealth of evidence the parish of Elstow forms an important microcosm of the Bypass as a whole and provides an opportunity for studying settlement development. Particularly interesting is the relationship of Saxon to medieval settlement, with the evidence suggesting a complex pattern of shifting settlement site. Work on Saxon and medieval sites in Milton Keynes has demonstrated the independence of early and middle Saxon settlement from the pattern established later in the ninth and tenth centuries, in which the origins of the fully developed medieval villages can be seen (Williams 1993, 216). The evidence from Village Farm suggests a more complex pattern of development, with later medieval settlement recorded at some distance from the modern core and suggesting polyfocal or dispersed settlement forms into this late period. Taylor has shown from detailed study at Whiteparish (1967) and Whittlesford (1989), and in more general surveys (1978; 1992) how complex the origins of medieval settlement can be, and research into this has been highlighted as of prime importance by English Heritage (EOP, 39).

NO. No mention of prime importance of origins of med. settlement — but: towns and their hinterlands particularly: IA oppida Northern Roman Frontier Towns, Mid. Saxon 'Wic' and Viking towns.

2.2.9 Transitional periods

"Processes of Change" EOP 35

"These remain poorly understood and for the later prehistoric and historic periods, offer opportunities to study aspects of continuity and change by co-ordinated examination of settlement, funerary, ceremonial, economic and environmental evidence for the relevant periods within defined areas" (EOP, 35).

A number of principal key changes which merit study in this way are defined in the following sections.

'Processes of change.' not transitional periods

The following academic objectives were identified as of particular interest in the original Project Design:

- *The transition of a landscape characterised by Neolithic settlement, burial, and monument to a settlement dominated landscape.*
- *Briton into Roman; the identification of native settlements and the degree of change undergone by the communities throughout the Roman period, including recognisable changes in their agricultural base.*
- *The decline of the Roman Empire, with the identification of post-Roman settlement or activity.*
- *The development of medieval settlement and its relationship with earlier activity.*

Aspects of all the above have been touched on in the period based summary and studies of transition and change have been highlighted as of key importance by English Heritage (EOP 1991, 35-36).

Communal monuments into settlement and field landscapes

The gradual replacement of the ceremonial landscape by boundaries and settlement features can be demonstrated as occurring from the around the middle Bronze Age and evidence for this process can be seen at Village Farm, Eastcotts and Octagon Farm. Significantly, at both Village Farm and Octagon Farm the changes appear to date from the Iron Age, while it may be possible to see boundaries of later Neolithic/early Bronze Age date at Eastcotts. Change can be expected to occur at different times between regions, and perhaps even on a more local level, and the Bypass evidence will provide an interesting model for comparison with other regions.

Briton into Roman

Superficially there is little evidence from the Bypass sites for the early transition of Briton to Roman. This in itself is an interesting observation and needs to be investigated, especially in the light of observations elsewhere that indicate a high level of continuity in settlement and land use (EOP 1991, 36). A good deal of evidence exists for early to middle Iron Age activity, and if Knight's model of increased density of settlement into the late Iron Age is accurate, then we should expect to find at least double the number of sites in comparison with the earlier period (Knight 1984). Late Iron Age material, defined by the occurrence of Gallo-Belgic wares, although present in small quantities on nearly all the sites, was only present in significant numbers at Eastcotts, and here only within features !!

* Hunter Gatherers — Lower Pal. to Post-Glacial
Hunter Gatherers into farmers
Change and diversification in farming communities
Communal monuments into settlement etc
Briton into Roman / Viking Age
[illegible] / Med-P-M

dated to the early Roman period. Clearly a strong native ceramic tradition survived into the later first century AD. No late Iron Age occupation sites were identified. Explanations need to be sought for this hiatus, as settlement is certainly resumed in the Roman period, and these may involve environmental determinants, such as a rapid increase in flooding of the lower lying land (possibly indicated by Roman features cutting alluvium at Kempston) or by more difficult to determine socio-economic factors. A switch to a predominantly pastoral regime might be expected to impact upon the density of settlement, and at Iron Age sites such as Bumpy Lane we can perhaps identify the origins of such a process in the form of enclosures and predominance of cattle bones. Even more difficult to identify are the political forces acting on the area during the later Iron Age. The boundary to the Catuvelaunian *territorium* has been suggested as running down the watershed between the Nene and Ouse (Brannigan 1985) and certainly coins and pottery suggest the areas to be peripheral to the core. The identification of core and peripheral areas is extremely useful in characterising regional differences in settlement and land use types (Cunliffe 1991) and it might be that the Ouse Valley at this point represented one of these peripheral areas, perhaps affecting the density of settlement.

If the origins of the 'Romanisation' of the native community are difficult to identify, they can be studied in fully fledged form at the settlements of Peartree Farm and Eastcotts. However, both settlements appear to be within the tradition of native Iron Age types, there being no evidence for elaborate building forms or for high status cultural assemblages (the Peartree Farm Samian and glass deposit can be understood as a ritual phenomenon). Changes from the later Iron Age certainly occurred, not least in the location of settlement, and further study will be extremely useful in characterising the extent of native or 'foreign' influences at these sites.

The Romano-British landscape of the Ouse Valley is dominated by non villa settlement and significantly lacks villas constructed on a grand scale, although stone buildings of villa type have been located at Kempston and Newnham Marina, and Simco (1985) suggests a number of other possible sites. Again this part of the Ouse Valley, as perhaps during the Iron Age, may be peripheral to the full effect of changes visible elsewhere.

The early medieval period

Rare early Saxon settlement was recovered at Village Farm, spreading some considerable distance to the south at Medbury Lane. This appears to have been a new foundation on a site unoccupied during the Roman period. Once abandoned in the fourth century there was no re-occupation of the Romano-British site at Eastcotts, and there is no evidence for continuity from the Roman into the Saxon period at Cardington Cross, Harrowden or Bumpy Lane. Recent excavations at Kempston however suggest re-use of the villa buildings during the early Saxon period, and evidence for some continuity was also uncovered at Peartree Farm. Early Saxon pottery was found within pits cutting the silted up boundary ditches of the Romano-British farmstead, and this may be associated with the final phase of enclosures on the site. Clearly the pattern of early Saxon settlement is variable and potential exists to characterise this, and the relationship between native inhabitants and newcomers.

Middle and later Saxon occupation was recovered at Village Farm/Medbury Lane and Manor Farm and these sites have the potential to contribute to studies concerning the development of later medieval settlement and land use.

The theme could be advanced in a number of ways but most particularly by projects which address the following problem areas:

i) The sources

Patterns of industry and craftsmanship

A theme with great potential value for all periods is to explore further the patterns of industry and craftsmanship. The development and distribution of technological expertise and practice in the production of artefacts is crucial for our understanding of many aspects of society from the Bronze Age onwards. The theme could be advanced in a number of ways but most particularly by projects which address the following problem areas:

N/A i) The sources, manufacture and distribution of stone artifacts remain poorly understood, whether these are the cutting tools of prehistory, such as axes and knives, or grinding implements such as hones and querns. There is a need for the identification and selective investigation of mine and quarry sites, together with their associated working areas.

N/A ii) There is a requirement for surveys and excavation of selected extraction sites of raw materials particularly copper, gold, iron, lead and tin mining.

iii) Analysis of the contrast between urban and rural industrial sites through excavation would also help to recognise spatial variations and patterns in the distribution of industry. Much attention has already been given most usefully to centres of ceramic production linked with provenance studies and for the medieval and post medieval periods in particular it would be profitable to concentrate on other processes, such as the tanning and working of leather, copper alloy trades, both founding and similar industries, cloth industries, particularly dyeing and fulling, and horn-working sites if any can be found.

N/A iv) Further study of waste and process material from industrial sites is needed to determine craft procedures. Our knowledge of medieval leather working has recently increased considerably as a result of the study of waste from production sites and similar progress could be made elsewhere. A possible project would be a complete study of medieval moulds for metal working.

NA v) Objects, particularly those which are non ceramic, from previous excavations or in museums, need to be examined to determine whether aspects of craftsmanship and manufacture deduced from a study of the finished object can indicate directions for further research through excavation or analysis. Projects might sample groups of stone, horn, copper alloy, cloth, wood or bone, questioning the nature of the technical process involved in their production.

NA vi) Selective investigation of documented industrial sites to compare the application of new technologies with the historical records of innovation and contemporary technical literature may also be worthwhile.

NA vii) There is a need to relate the evidence from the extraction and manufacture of building materials to that derived from excavations and the archaeological study of buildings.

2.2.10 Non period based themes

A number of general topics can be addressed, suggested by the original project aims, and with reference to material crossing chronological boundaries.

Socio economic base

"A theme with great potential value for all periods is to explore further the pattern of industry and craftsmanship" (EOP, 42)

There is no doubt that for all the sites investigated, (except perhaps for the earlier prehistoric), agriculture formed the dominant economic activity, supplemented by small scale craft and industrial activity. The form and development of agricultural production, processing, and consumption is central to any understanding of economy and can be studied on a number of sites, through analysis of plant macrofossils, animal bone, the form and layout of settlements and boundary systems. Comparison of the diversity between settlements and between chronological periods will help identify trends in agricultural activity which can be tested against models suggested by Knight (1984) for the Iron Age, and Fulford (1990) for the Roman period. Potential also exists to identify trends in the balance between arable and pastoral regimes, and in the extent to which communities may have moved away from subsistence production towards some element of market oriented production during the Roman period. Evidence for contact, trade and exchange within the locale, region, and beyond will be sought in the artefactual record to complement this enquiry.

The study of agricultural activity also requires investigation into the nature of the communities, their organisation and their interrelationships, both local and regional. Potential exists at Peartree Farm, Village Farm and Eastcotts to study the form and character of settlement and the organisation of space in relation to its social significance. For the Roman period especially, these sites represent classic examples of common types known throughout the Ouse Valley from crop marks, but otherwise little investigated. The Bypass project provides the first opportunity to fully characterise these types of site and to begin to develop patterns of organisation and relationship in the landscape.

Although the evidence recovered from Bypass sites indicates primarily agricultural activities, some evidence for craft and small scale industrial activity was also recorded. The importance of these activities to communities, in providing goods for use or for trade/exchange must not be underestimated, and in particular the evidence for pottery production at Eastcotts requires further analysis. Fulford and Huddleston (1991) are insistent that "kilns are vital for the information they provide about the source and range of contemporary vessels". The Eastcotts kiln, with its independent dating, has significance for site specific investigations into economy, but also in tracing relationships between Bypass sites and with sites further afield. Kilns have recently been excavated at Warren Villas and Stagsden, and the kiln complex just to the north-west of Eastcotts at Mile Road is now the subject of doctoral research.

Ritual and ceremony

The study of the ritual component within past human societies is complicated by difficulties encountered in the recognition of significant data (Barrett 1993). Quite simply, we cannot see it because we may not be able to understand it. For the Neolithic and late Bronze Age period at Octagon Farm, Village Farm and Eastcotts there is less of a problem as the monuments supply a context for investigations and provide opportunities to study spatial and chronological relationships. Aerial and field survey along the length of the Ouse provides a good landscape database within which to consider similar themes, and within which to contrast groups of monuments (Green 1974; Woodward 1978, Maylim forthcoming). The ritual and communal landscapes of the earlier prehistoric give way gradually to agricultural and settlement forms, and ritual becomes less outwardly visible: expressed in the physical evidence of burial rites and of deposition of objects within pits and ditches. Evidence for burial was recovered from Peartree Farm, Village Farm, Bumpy Lane Eastcotts and Octagon Farm with both cremations and inhumation represented. Although the remains were few and isolated the nature of the rites used and the spatial distribution of burial in relation to settlement and other features can afford an insight into social and religious systems. A good example of this is the child burial at

Peartree Farm, Eleanor Scott having argued for a concordance of such burials with agricultural features and buildings, and that behind this may lie the control of aspects of the agricultural domain by women through manipulation of symbols and actualities of fertility and reproduction (Scott 1991). Special deposition of objects can be seen from the Iron Age and Roman periods at Peartree Farm, Village Farm and Eastcotts. Whole or part animal carcasses were found within pits, boundary ditches and ring ditches and further analysis may indicate further deposits and patterning within the landscape. Other objects were also placed in the ground, with whole pots placed as possible boundary deposits at Peartree Farm and Eastcotts (Hingley 1990). Although an increasing awareness of these types of deposit has prompted current research (Gwilt, Durham University) it is still likely that a great deal of everyday ritual goes unnoticed simply because we do not make the connections between objects (Thomas 1994, 75). At the larger area-excavated sites the potential exists to rapidly scan assemblages for significant associations within single and combined data sets and for recurring patterns to be identified.

2.3 Landscape development

After assessment of the fieldwork data, and from a provisional scan of work undertaken elsewhere in the vicinity a model can tentatively be proposed for the development of settlement and land use in the area. This can be summarised chronologically:

Neolithic to late Bronze Age

- Partial tree clearance close to settlement and around ceremonial areas.
- Settlement and funerary/ceremonial activity on the higher and drier areas of the floodplain and first terrace.
- Possibly widespread but sparse domestic occupation, consisting of short-lived, perhaps chronologically distinct foci, spatially separate domestic and ceremonial sites.

Later Prehistoric

- Development of more sedentary settlements and enclosure, possibly from the late Bronze Age but most evident from the early Iron Age.
- Mixed arable pastoral farming but also evidence for specialist pastoral farms.
- Possible abandonment of the floodplain for settlement in the later Iron Age, perhaps resulting from increases in the water table.

Romano-British

- Reoccupation of the floodplain.
- Continuation of late Iron Age ceramic and agricultural traditions into the early Roman period with a decline of this influence visible in ceramics from the second century.
- Expansion of arable and intensification of settlement.
- Increased diversity in activities.
- Rapid alluviation in later Roman period leading to settlement abandonment.

Saxon

- Low intensity occupation of higher land.
- Less intensive land management.
- Shifting settlement patterns throughout the early and middle Saxon period.

Late Saxon to medieval

- Possible shift of settlement towards area of later medieval settlement
- Use of lower lying areas for grazing and hay meadow, with intensification of arable on higher areas of first terrace

3. UPDATED AIMS AND OBJECTIVES

The following four major themes can be addressed during analysis. Within each of these a number of more specific issues have been highlighted where the Bypass evidence is of particular quality. The potential of each site to address these issues is tabulated as no potential (-) moderate (★), good (★★) or high (★★★).

3.1 Settlement and land use

To characterise and formulate models for the development of settlement and land use from the early prehistoric to the medieval periods. Comparisons can be drawn with other areas and an important contribution to the debate on regional differentiation can be made

Table 2 Summary of potential; settlement and land use

	PT	VF	BF	MA	BL	HA	E	OF	CC	ML	EB
General landscape and environmental development	★★	★★ ★	★	★★	★★	★★	★★ ★	★★ ★	★★	★★	★★
Neolithic and early Bronze Age	★	★★	-	★★	★★	-	★★	★★ ★	★	-	-
Iron Age settlement	★	★★ ★	★	★	★★	★	★★	★	-	-	-
Non-villa Romano-British settlement	★★ ★	-	-	-	★	★★	★★ ★	-	★	-	-
Elstow Area	★★	★★ ★★	★	★★	-	-	-	-	-	★★ ★	-

3.2 Economy

To investigate the form, development and the relative importance of different economic strategies through time with particular reference to agriculture, craft, trade and exchange.

Table 3 Summary of potential; economy

	PT	VF	BF	MA	BL	HA	E	OF	CC	ML	EB
Wider socio-economic relationships	★★	★★	★	★	★	★	★★	★	★	★	-
Development of agriculture.	★★	★★	★	★	★	★	★★	★	-	★	-
Ritual	★★	★★	★	★	★	-	★★	★★ ★	-	-	-

3.3 Environment

To attempt the reconstruction of the natural environment; including palaeotopography, alluviation and the plant/animal ecosystems. Particular emphasis will be placed on investigating anthropogenic factors in environmental change and in identifying the inter-relationship of communities and their environments and their exploitation of natural resources through time.

Table 4 Summary of potential; environment

	PT	VF	BF	MA	BL	HA	E	OF	CC	ML	EB
Palaeotopography	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★	★★
Alluviation	-	-	-	★	-	★	★★	★★	★★	-	★★
The Natural and cultivated environment	★★	★★	-	★	★	-	★★	-	-	-	-

Two subsidiary stands of investigation with particular relevance to all the above major themes can also be addressed.

3.4 Processes of change

The investigation of patterns of continuity and discontinuity in settlement, society, cultural identity, technology, economic strategy, land use and landscape change. These will be studied chronologically and spatially within individual settlements, and between settlements in the study area, and compared with evidence elsewhere, regionally and nationally. In addition the identification and investigation of transitional periods is of great significance, with special emphasis on the transformation from communal monuments to settlement and boundary forms in the Bronze Age/Iron Age; from Roman to Britain; the relationship of later Roman to Saxon settlement and the development of medieval settlement and land-use forms.

Table 5 Summary of potential; processes of change

	PT	VF	BF	MA	BL	HA	E	OF	CC	ML	EB
Continuity and discontinuity	★★ ★	★★ ★	★	★★	★★	★★	★★ ★	★★	★	★★	-
Monument to settlement	-	★★	-	-	-	-	★	★★	-	-	-
Briton to Roman	★	-	-	-	★	★	★★	-	-	-	-
Post Roman	★★ ★	★★	-	-	-	-	-	-	-	★★	-
Development of medieval settlement	-	★★ ★	-	-	★	★★	-	-	-	★★ ★	-