

## Solent Thames Historic Environment Research Frameworks

### Buckinghamshire; Post-Medieval

#### David Green, Brian Giggins and Christopher Welch

#### September 2006

(David Green, s.3, 4, 5 (except for Urban Settlement which is CMW) and 8; Brian Giggins, s.6,7 and 9; Christopher Welch, s.1, 2, 10, 11, 12)

#### 1. Inheritance

##### *The Administrative County*

The boundaries of Buckinghamshire are not defined by clear natural features, except where they lie along the Thames in the south. Buckingham itself lost its status as the county town to Aylesbury during the course of the eighteenth century. In around 1881 the county contained 475,694 acres, and the boundaries of the county remained fairly stable until 1974 when a group of parishes north of the Thames, including including Slough and Eton, were transferred to Berkshire, and Milton Keynes is of course now a unitary authority. This study concentrates on the post-1974 county, including Milton Keynes.

##### *Topographical Background*

In very general terms, the historical county can be divided into broad bands which follow the general strike of the geology in this part of England in a WSW-ENE direction. North of a line through Buckingham and Newport Pagnell the geology is that of limestones (Cornbrash and the Great Oolites). South of this line, stretching all the way to the foot of the Chilterns scarp, is a geology principally of clays (Oxford and Kimmeridge), with occasional outliers of Portland and Purbeck limestones (for example at Brill Hill and Aylesbury town itself). At the foot of the Chilterns lies an important band of Greensand and then the chalk extends to the outskirts of London. Along the Thames, there are bands of alluvial gravel.

The strike of the geology is at right angles to the main communication routes in and out of the capital, and this has increasing importance in considering communications with the capital.

##### *Historical Background*

The Dissolution of the Monasteries over the period 1536-40 is generally taken today to mark the end of the medieval period, and this does have the advantage for archaeologists of being represented very clearly within the archaeological record. As it happens, Buckinghamshire had relatively few monastic institutions, perhaps a reflection of the general lack of a prosperous population from whom a surplus could be extracted.

At some point after the Dissolution the capitalist system came to prevail, and this was a much longer process which was intimately connected with the religious changes that brought about the Reformation. Buckinghamshire has much to offer in understanding the transition, and in some ways is better placed than other English counties for this.

Whatever the underlying drivers of change, few would disagree that an increase in trade and production for trade is characteristic of the period. Simple production of a surplus for sale probably existed alongside subsistence production, but the extent of this is not known. What is obvious is that London grew spectacularly throughout the period from about 1550 up until the nineteenth century, and although it had a manufacturing base which is often not recognised, it sucked in more goods and raw materials from a hinterland than any other town in England. Buckinghamshire was obviously placed to take part in this process, and perhaps the movement of the county town to a location south of the (wet) clay belt and closer to the city is symptomatic of this.

The identification of this increase in production and trade should be identifiable within the archaeological record, since both the productive process and the finished commodity can leave a trace in the archaeological record. In particular, in this rural county, it should always be remembered that farmhouses, barns and enclosed fields represent capital invested in the forces of production through builders, surveyors and lawyers, and their construction and creation must indicate times when a politically stable period and good demand offered suitable rewards and must serve to chart the progress towards a fully market orientated economy. At present we do not have a clear picture of the level of production and trade, in all sectors, at the start of the period, except for isolated areas. We know, for example, that the London trade for wood fuel was already thriving and may well account for the survival of private woodlands in the Chilterns (Roden, 1968, 64), and we know that Penn tiles were being supplied to areas outside the county.

At the other end of the process, some capital would be invested in non-productive consumption, and it is here that the understanding of the amount of construction of houses and their associated parks and gardens is important. In this regard, it is worth noting that the county is considered to have been not prosperous in the Middle Ages and so does not possess any medieval churches of particular merit, few major medieval domestic buildings and few surviving unaltered buildings of the sixteenth or seventeenth century (Pevsner, 1994, 38-39, 51, 58), and so it may be that this is a reflection of the general low level of affluence (or more specifically the affluence of the ruling class) of the county at the start of this period. This contrasts with the number of nationally important houses from the late eighteenth and early nineteenth centuries.

With respect to production, consumption and trade at the start of this period, the general picture is that it exists, but has yet to feel the full effect of the presence of the country's largest city a few tens of miles to the south-east.

The other key feature of the whole period is enclosure, and it is important to see how far this had gone at the start. This is discussed in more detail below, but some general trends can be identified. Enclosure as a process had clearly been going on for some time before the classic period of enclosure by parliamentary act, which starts around 1760. Inquisitions into enclosure in 1517-19 and again for the period 1555-66 found that enclosures had been made in the county, but whether the figures stated are reliable is not clear. Certainly, by the mid-eighteenth century around 37% of the county remained to be enclosed, and most of this lay within the clay belt of open fields and nucleated villages (Turner, 1973a, 1,18). This still leaves the extent of enclosure in the first two-and-a-half centuries to be calculated; Wordie, for example, has suggested that the great age of enclosure, primarily by agreement, may be the seventeenth century and offers a figure of 24% of the national total being enclosed then (Wordie, 1983, 502). Whether Buckinghamshire followed this pattern is not known, but it an area for investigation, and some estimate of the percentage of enclosed land, open arable and unenclosed waste would be valuable, against which subsequent trends can be measured. Nevertheless, it is possible to say that the pattern of open-field cultivation prevailed north of the Chilterns, and elsewhere there existed large tracts of common waste or woodland which remained open. As Reed says, at the beginning of this period, 'The Forest of Bernwood was still largely wooded and given over to deer. Wycombe Common and Iver Heath were still immense tracts of poor scrub and rough grazing.' (Reed, 171).

Enclosure and depopulation are seen as linked, but the latter process is often hard to actually pin down chronologically. Two cases demonstrate this; at the very well preserved earthwork site at Quarrendon, depopulation can be fairly well blamed on conversion to pasture by the landowners in the sixteenth century. At the village of Aston Sandford enclosure and associated depopulation went on up to the nineteenth century, with the main fall in population happening in the latter half of the seventeenth century (Everson, 2001; Gulland, 2003). Clearly both processes had begun before the start of this period, and were to be a recurrent feature of it until the nineteenth century.

The wooded and hilly Chilterns are frequently contrasted with the low lying Vale of Aylesbury, and it is always easy to see an opposition between wood-pasture and open field arable existing at the end of the medieval period. It might then be thought that the wood-pasture area

should become the home of 'proto-industry', as these areas were unable to provide full-time employment for the population, in contrast to the arable Vale. There are problems with such an interpretation in this area. Firstly, the distinction between the two zones can be over-emphasised, and Hepple and Doggett make a clear case that the medieval Chiltern economy, while certainly mixed and including the exploitation of woodland, was based on arable cultivation, and they argue that the distinction between the two actually became more emphasised in the eighteenth and nineteenth centuries (1994, 76). In fact, the distinction may well have become more emphatic as a result of the kind of specialisation always seen with the introduction of the market economy, and this has to be a key question for the period as a whole. Secondly, the concept of 'proto-industrialisation' itself has been challenged, and in particular the association of early industry with wood pasture areas has been questioned, and one writer gives the Buckinghamshire pillow lace and straw plait industries as good examples amongst others where the association does not hold (Houston and Snell 1984, 478).

In summary, Buckinghamshire at the start of the period discussed here was a predominantly rural county and would perhaps have been more homogenous in its character and economy than we might expect. Through the period, massive change came to the area. Enclosure and depopulation could be said to characterise the historical trends north of the Chiltern scarp, and these processes had barely begun at the end of the Middle Ages. Everywhere specialisation, driven by the presence of London, was perhaps beginning, but none of these processes would perhaps have been obvious to the population of early Tudor Buckinghamshire, who no doubt largely believed that they lived in an unchanging state of things ordained by their creator.

## 2. Nature of Evidence Base

The evidence upon which any understanding of this period is based is more complex and has a greater range than is the case with earlier periods. Published material is extensive, but very good basic introductions are given in the relatively recently second edition of the Pevsner guide (Pevsner and Williamson 1994) and in Michael Reed's *The Buckinghamshire Landscape* (Reed 1979), and for the Chilterns the second edition of Hepple and Doggett is invaluable (1994). These three sources have been drawn on heavily here. The county is fortunate in having a long running archaeological journal in the *Records of Buckinghamshire*, and that is the main source for archaeological information outside the county Sites and Monuments Record. Cartographic sources include the county maps of Jefferys and Bryant (1770 and 1824 respectively), usefully republished by the Buckinghamshire Archaeological Society, and the Ordnance Survey Old Series 1:63,360 published in the 1830s was based on, and revised from, survey work carried out between 1811-1818, the difference between the two allowing some changes to be identified in this critical period. The initial survey for the Ordnance Survey 1:2500 First Edition took place between 1867 and 1881, and 1:500 plans were produced for Aylesbury (1877), Buckingham (1879), High Wycombe (1874) and Slough (1874). The Victoria County History for Buckinghamshire was largely published in the early years of the twentieth century, and is useful, if rather out of date.

More detailed examination of sources is given under the relevant subject headings below.

## 3. Landscape and Land use

### History of research

The study of the post medieval and modern landscape in Buckinghamshire is somewhat under represented in comparison to other periods, yet this period more than any other benefits from a greater volume of source material both written, cartographic and extant physical remains. Despite the myriad of sources there is limited archaeological publishing; the most recent synthetic work is nearly thirty years old, namely Michael Reed's *The Buckinghamshire Landscape* (Reed 1979) while the later *The Chilterns* (Hepple & Doggett 1997) gives a specific view of a region of the county. There are useful parish summaries on history and archaeology of the period in *The Buildings of England Series* (Pevsner & Williamson 1994). The most recent (and potentially useful), research to be undertaken is the

Historic Landscape Characterisation project of Buckinghamshire, (Green & Kidd 2006); this is an English Heritage initiative, which maps the historic dimension of the present day landscape. The project is particularly germane to the post medieval period of research as it draws upon evidence from historic maps, charting change in Buckinghamshire's landscape over a 250-year period.

### Use of natural places

The use of natural places is little studied in this period. Although given the manipulation and change of landscape the question could be asked whether 'natural places' exist by the post medieval period. However, the use of rivers could be included, with the manipulation of areas for flood control, the development of dams and weirs on the Thames, (Marlow); the divergence of watercourses for agricultural purposes, the creation of watercress beds in the 19<sup>th</sup> century along the Chess and Misbourne, (Reed 1979). While on larger rivers (i.e. the Thames), has been used for leisure and recreation purposes, the creation of boating clubs, jetties.

### Woodland

A broad overview of woodland in the post medieval period has been discussed by Michael Reed (Reed 1979). In the north of the county local concentrations of woodland are found on the former medieval hunting forests of Bernwood, Salcey, Whittlewood and Whaddon but elsewhere there is only a few isolated examples. The start of the period sees the disafforestation of these hunting forests, of those in Bucks only Bernwood is has been studied in any detail, (Broad & Hoyle 1997). Woodland history and evolution in the Buckinghamshire Chilterns has been outlined by (Mansfield 1952), although this study investigates only a small proportion of the Buckinghamshire landscape. Generally the extent and form of these woodlands have remained unchanged for hundreds of years, their size and shape maintained by wood banks and boundaries. However, there has also been woodland regeneration that has enlarged the extent of woodland in some areas.

The current archaeological record for woodlands in the Buckinghamshire SMR is somewhat poor, revealing a paucity of investigation on woodland sites. However, there have been some exemplar studies that have shown the potential of measured survey in woodlands: work undertaken by the National Trust on its estates and woodlands in the Chilterns, in particular the woodland surrounding the Bradenham Estate, (Matthews & Wainwright 1990) & (Marshall forthcoming), while the Chilterns Woodland Project is undertaking a systematic programme of archaeological investigation into woodland within the Chilterns AONB, (Morris 1999).

Miles Green's work on Penn Wood has revealed the complex extent of industrial activity during the manufacture of tiles in the woodland, (Green, M 1999).

In addition to ancient woodland, recent research has shown that much of the 19<sup>th</sup> and 20<sup>th</sup> century plantations in the Vale of Aylesbury and the Chilterns are in fact fox coverts, which form a part of a hunting landscape and are of county significance, (Green, 2005). Further research is needed to see whether this pattern of woodland planting is replicated in other parts of Buckinghamshire and neighbouring counties, (see Recreation section).

Investigation is needed into the origins, changing composition and historic uses of woodlands. Of particular interest are industrial activities (many post medieval), such as the clay industries, charcoal burning, bodging, and iron-smelting and timber production. Survey and small-scale excavation to identify rare post-medieval earthworks is a priority. Although woodlands are rich in archaeological remains, others appear to contain few features such as Finmere Wood (Farley pers comm); the reasons for these differences are not yet understood.

There remains enormous potential for archaeological investigation of woodlands using environmental archaeology to provide a long term history of woodlands, while the emergence of LiDAR technology as a remote sensing tool is revolutionising the survey of woodlands such as the Forestry Commission's work on woodland in the Forest of Dean, (Devereux et al 2005).

### Designed landscapes

Buckinghamshire contains some of the finest Designed Landscapes in England, there are a total of 34 Parks and Gardens registered on the English Heritage list; of these, Clivedon, Stowe, Waddesdon and West Wycombe are classed as Grade I and a further nine are graded II\* . The majority date to the 18<sup>th</sup> and 19<sup>th</sup> centuries some such as Stantonbury, Milton Keynes with antecedents going back to the medieval period. Those deemed nationally important have been included on the English Heritage list of Parks and Gardens, (English Heritage 1994). Not all Parks and Gardens are afforded protection and custodianship; given the extent of some parkland landscapes, many are facing changes to their designed landscapes for recreation purposes, (creation of golf courses). While others have had part of the landscape reverted back to farmland or abandoned to woodland encroachment. Buckinghamshire County Archaeological Service conducted a systematic survey of a second tier of designed landscapes that could merit inclusion in some form of designation, (BCC 1998). Assessments of Chilterns designed landscapes have been discussed by (Williamson 2003). There have been a number of publications that have assessed designed landscapes individually, looking at their philosophy of design, and evolution of parklands; of note is the guide to Stowe (Barrington 1995). These publications have derived their information almost exclusively from documentary evidence, cartographic and pictorial sources, however, in recent years the importance of Garden Archaeology has come to the fore, excavation has revealed the complexity of planting regimes and phasing of garden changes, this is best exemplified by the investigations at Stowe Landscape Gardens (Oxford Archaeology 1998), Waddesdon Manor (National Trust 2003) and current work on Langley Park in south Buckinghamshire (Phibbs forthcoming). Attention should also be paid to more contemporary landscapes of the twentieth century, in particular designed landscapes for leisure, water features created from mineral extraction such as Willen, Milton Keynes.

Parkland landscapes contain a rich diversity of sites and buildings designed for both functional and aesthetic purposes. Aside from the main house, there are typically follies, formal and kitchen gardens, agricultural and horticultural buildings, stables, plantations, rides, artificial lakes, bridges etc. This landscape type has the potential to contain a rich and wide variety of archaeology. Many of the parks have an historical continuity, usually being built upon older manors or estates, while the surrounding parks for some estates such as Hughenden have adapted former Medieval Deer Park to incorporate into their design. The process of park creation or 'emparkment' in itself has preserved a number of archaeological sites. Emparkment absorbed former villages and field systems that now exist as archaeological sites within the grounds. Larger estates such as Stowe and Waddesdon have examples of these.

The complex nature of parks and gardens, which often display multiple phases of design, gives a high research potential, which should inform management and restoration. For many parks and gardens research has hardly begun, among research topics that might be considered are: the economic, social relationship of Parkland landscapes with the surrounding countryside.

### Agriculture, fields and field systems

There have been several synthetic studies that have discussed the evolution and character of post medieval agriculture in Buckinghamshire, of note is Michael Reed's *The Buckinghamshire Landscape* (Reed 1979), which highlights the demarcation between the clay vales and the Chiltern region. The book uses a number of case studies to illustrate the transition from medieval forms of open farming in the clay vales to understanding what is perceived to be the earlier enclosed landscapes of the Chilterns. The character and landscape of post medieval agriculture in the Buckinghamshire Chilterns is dealt with by Leslie Hepple and Alison Doggett (Hepple & Doggett 1996). Although much of this summarised information has been drawn from a number of primary references, the most comprehensive of which is *A Hand-List of Buckinghamshire Enclosure Acts*, (Tate 1947),

which details and dates the known phasing of enclosure parish by parish from the medieval period onwards. The more essential references are the multifarious maps and estate plans found within the Buckinghamshire Record Office (BRO), these date from the Tudor period, good examples are the enclosure maps of Salden (1599) in north Buckinghamshire or for - open field farming the map of Thornborough (1637). Despite being regarded as a medieval method of agriculture, much of north Buckinghamshire and Milton Keynes was still a part of the Open field system, until this was superseded by piecemeal enclosure and systematic enclosure by Act of parliament, which eradicated all trace by the end of the 19<sup>th</sup> century. A regional study on Open fields was undertaken by English Heritage in conjunction with Northamptonshire Archaeology (Hall 2001), it remains the definitive work dealing with Open field research. , The process of agriculture and enclosure in the Buckinghamshire Chilterns has been examined in great detail by David Roden, (Roden, 1965, 1969a, 1969b, 1969c, 1973); although Roden's focus of study centres on the Medieval period, the work has been regressed back from the Post medieval period, to deduce landscape change and gives a useful insight into the creation of enclosure and Chilterns evolving agrarian economy.

Another phase of landscape change in this period is the Parliamentary Enclosure Acts from 1761 to 1860, which transformed c. 37% landscape of the county. Most of the enclosure awards occurred on the vale landscape of north Buckinghamshire and Milton Keynes, with limited impact on the Chilterns and Thames Valley Landscape. Parliamentary Enclosure in Buckinghamshire has been thoroughly examined by Professor Michael Turner, (Turner 1973a, 1973b, 1973c), while the Buckinghamshire County Record Office has excellent coverage of enclosure maps and awards for parishes in the county, (Watts pers comm.) Perhaps the largest synthetic work has been the Historic Landscape Characterisation of Buckinghamshire, (Green & Kidd 2006), which has produced GIS based mapping that has examined the historical dimension of Buckinghamshire's landscape. The project has mapped field systems from the analysis of historic maps and attributing different categories of enclosures, (Green 2003). At a more local level there have been a myriad of parish based studies analysing the evolution of field systems, and agriculture, these involving mostly desk based research from the record offices to understand the evolution of local landscapes, exemplars of type are: (Chibnall, A.C. 1965), (Gulland 2004).

Aside from the data gathered from the Buckinghamshire HLC project, there is a dearth of synthesised material on the later patterns of agriculture after the Victorian period; the effects of the agricultural depression in the late 19<sup>th</sup> century and early 20<sup>th</sup> century are little discussed. Neither is there much research (if any) into the impact of the First and Second World Wars on agriculture and landscape in the county. Associated with agriculture and field systems is the linkage or association with the rural settlement pattern/built environment and tenorial holdings of farmsteads and landowners in Buckinghamshire. There is a known movement of farms from 'nucleated' villages to fields especially in the 'planned clay vale'.

Although primarily used for curatorial planning purposes, Historic Landscape Characterisation (HLC) has a huge potential to be used as a resource for research for most aspects of the post medieval landscape. Although it has been acknowledged that since its inception, HLC as a technique has been little used by the academic community in the pursuit of research aims, (Rippon 2004). This is largely due to the lack of understanding about GIS technology and the lack of accessibility of HLC datasets. It is hoped that the promotion of the HLC project and the availability Buckinghamshire HLC datasets can act as both a catalyst and framework for future research in landscape archaeology and landscape history.

The characteristics of Parliamentary enclosure in Buckinghamshire can be more subtle and individual than the generalised view of a designed landscape containing indistinguishable rectangular fields. Each parish can have its own distinctive pattern, often reflecting the individual design and spatial organisation of the enclosure commissioners and surveyors. Examples of this individuality can be seen in the layout of a number of parishes in the Vale of Aylesbury such as the parish of Padbury surveyed by Richard Davis and Miles Russell in 1796, who created a distinct landscape of elongated field boundaries. In contrast, other surveyors such as Henry and George Dixon who surveyed Marsh Gibbon at the later date of

1856 arranged their field boundaries in an overlapping fashion similar to a brick bond. The influence and impact of these surveyors upon the Buckinghamshire landscape has been overlooked. Other surveyors such as John Foscott surveyed or participated in the process of 29 enclosure commissions in Buckinghamshire, including Tingewick 1773-5, Hartwell and Stone; Preston Bissett, but also fifteen in Bedfordshire, seven in Northamptonshire and one in Oxfordshire (Reed 1979). Many of these surveyors conducted their business in other counties in England but it is not known whether these distinct enclosure patterns are replicated in other counties or restricted their practice and method to Buckinghamshire? As most parliamentary enclosure was undertaken on a parish scale, further research could be directed to ascertain the best preserved parliamentary enclosed landscapes in conjunction with contemporaneous farmsteads of the 18<sup>th</sup> and 19<sup>th</sup> century.

#### Commons, Heaths and Greens

The historic origins and use of common land throughout Buckinghamshire and Milton Keynes is an area for further research. Although the bias for surviving common land is principally in the Chilterns, Wycombe and the South of Buckinghamshire, the HLC time depth provides an insight into the locations and approximate extent of former commons in other areas; many of which have been lost to enclosure in the 19<sup>th</sup> century. Associated with agriculture is the use by an itinerant population and the eventual establishment of settlements in the form of squatters cottages on common land.

Shape and morphology differs from common to common; thick sinuous strips on the Chilterns hills with larger areas found on the lower lying land. This pattern may relate to the dynamics of Commons in terms of their form and function. A possible function of commons could have been a part of a system of transhumance where stock was moved from grazing areas to market, examples of which can be seen with the former commons and heaths in south Buckinghamshire which formed an almost uninterrupted chain north of the Thames, possibly a staging post before final movement towards the main cattle markets in London. Industrial uses of commons: Are there particular commons where pottery, tile was produced compared to other industrial activities such as iron smelting? Although the Vale of Aylesbury has virtually no surviving common land of note, the time depth facility on HLC could provide a means of studying the past landuse and inter-commoning rights on the Vale. Some commons seem to be transient such as Waddesdon only existing for perhaps a generation.

#### 4. Social Organisation

##### Society, hierarchy and social interaction

There are a variety of sources dealing with hierarchy in post medieval society although they are almost entirely skewed towards the landed elite rather than the working class. Discussion of the manorial system and its decline is dealt with by Williamson (2003). The most dominant material centres around the rise of landed estates and country parks, which determined the social order of much of the rural landscape in Buckinghamshire. Carefully designed landscapes placed clumps of trees, sweeping lawns and lakes and follies, and provided a sanitised, stylised form of what was seen as the natural landscape and large estates represented the landed wealth on which the aristocratic ethos was based. Yet this landscape also served as a barrier between the house and the rural community and in its exclusion of this realities or rural life denied the importance of labour within agriculture and as an essential part of the production of wealth.

From the sixteenth century the landed elite gradually isolated themselves and became divorced from the work of agriculture and rural labour. The landscape parks which they created around their country seat revealed their desire to shape their immediate environment and increasingly limited the lower classes' rights in the land. Examples of this can be seen in the studies on the Verney Estate in the 17<sup>th</sup> and 18<sup>th</sup> centuries (Broad 1973 & 2004) while the 18<sup>th</sup> century is best exemplified by the Temples and Cobhams at Stowe and have been discussed by Robinson (1990). By the mid 19<sup>th</sup> century the arrival of the de Rothschild family had a huge impact upon Buckinghamshire with the construction of a number of estates in the

Vale of Aylesbury, Waddesdon, Mentmore, Halton Aston Clinton and Ascott, (Rothschild 1996) A reflection of this hierarchy is the creation of a standardised architecture with estate housing for their workers. The Rothschilds made provision for workers with the construction of estate cottages for their employees and in one instance the wholesale redesigning/re-planning of a village (Waddesdon).

Beyond the creation of parks and gardens, probably the zenith of the landed elite's expression of domination of landscape is its use for recreation, in particular hunting. Beyond the later medieval creation of fenced deer parks, (Cantor & Hatherly 1977) the emergence of stag hunting (Rothschilds) and fox hunting in Buckinghamshire required access to vast areas of countryside by the organisers. The impact of fox hunting in north Buckinghamshire (Green 2004) has revealed a subtle but extensive influence upon landscape, providing a wide distribution of woodland coverts, managed hedgerows together with a built environment of stables, lodges, kennels and hunt inns. Much of this expression of hierarchy is inextricably linked to the monopoly of land tenure and holding.

The roles and hierarchy and social interaction in urban areas is less well known, particularly trades etc.

### Land tenure

The post medieval period can be simplistically defined by the growth of large landed Estates owned by wealthy individuals. Absolute private property replaced small-scale peasant farmers by large capitalist farmers; it also coincided with new estate owners, providing themselves and their successors with a mansion, garden and parkland suitable to their enhanced status. At the beginning of this period there is an acknowledged transition of land ownership after the dissolution of the monasteries, however, very little research has been undertaken to determine the conversion of monastic land in Buckinghamshire from church ownership to the property of the crown and local magnates. The process of tenure is closely tied with the section on agriculture as enclosure of pasture did take place here in the fifteenth and sixteenth centuries, (documented examples at Salden, and Bernwood), but it was often a process of upheaval with the depopulation of a number of settlements, including Hillesden and Stowe, a good example is Quarrendon, discussed by Paul Everson (Everson 2001),

The enclosure of the Buckinghamshire landscape and the concentration of land in the hands of a small elite were accompanied by a fundamental revolution in attitudes to landed property. These new concepts of land and land ownership stimulated changes in the way that the countryside was used. The 18<sup>th</sup> century heralded parliamentary enclosures saw the removal of open fields and the disenfranchisement of the labouring class as more land was converted from arable to pasture, (or the increasing dominance of large landed estates and the concomitant decline in the small owner occupier). The later enfranchisement of a land holding middle class in rural Buckinghamshire is dealt by Prof Michael Turner, (Turner 1973, 1978, 1980). While there have been some parish based studies examining the tensions of land division (Mead 1987), with the exception of Roden, (Roden 1965), not a great deal has been written about the tenurial arrangements of landscape in the Chilterns, which has a landscape of greater complexity, enclosed and partitioned much earlier than the land of North Buckinghamshire. Further work could look at the landholding arrangement of the population of Bucks, a useful but little known publication is *Landowners in 1871* (BRO 1871).

## 5. Settlement

### Rural settlement & settlement hierarchies

There have been a number of studies of rural settlement although a national framework for understanding this has been established with the publication of *The Atlas of Rural Settlement in England* (Roberts and Wrathmell 2001), which defined a morphology of settlement patterning and the creation of distinct zones of types in England, while a greater discussion of the subtleties of settlement types is found in Village, Hamlet Field (Lewis, et al 1995). The Buckinghamshire HLC project has produced a map showing distinct patterns of settlement, (Green & Kidd 2006). At a broad level settlement types

conform to the Roberts/Wrathmell model of settlement, with Aylesbury Vale characterised by nucleated forms, with the Chilterns and south Buckinghamshire are characterised by dispersed settlement. However, HLC has revealed subtle areas where this broad definition does not apply; the Vale of Aylesbury, although composed largely of nucleated settlements, has a great degree of settlement variation, including pockets of dispersed settlement e.g. Whittlewood (Jones & Page 2006). Many villages are composites of discreet 'Ends' such as Swanbourne that was once formerly composed of small farmsteads, later coalescence in the 19<sup>th</sup> century have made a coherent village. The variation in morphology can be a reflection of a settlement and the economic role of each village.

#### Urban settlement: towns, markets and fairs

The major towns in Buckinghamshire were all relatively small market towns until the expansion in the Victorian era. Buckingham, Wycombe and Aylesbury being the three principal towns. Although the towns of Amersham, Beaconsfield, Marlow, Olney, Stony Stratford, Winslow, Wendover would also benefit from further study. There has been no all-encompassing synthetic work on urban settlement, but research has focussed on individual historical studies of places, many published by Phillimore, good examples are Stoke Poges (Rigby 2000), Wycombe (Andrew 2005). Further understanding of Buckinghamshire's urban settlement would benefit from a more detailed English Heritage sponsored Extensive Urban Survey project (EUS).

There is no question that towns were intimately involved in the development of a market-orientated capitalist economy in post-medieval England. Their growth or decline is almost always a clear marker for the growth and decline of the economy of the surrounding area; even in the early post-medieval periods production in the countryside was closely linked to demand in the towns. They were centres for consumption by a non-food producing population, and for production of non-agricultural products by that population, and it followed that they provided the location for markets, which allowed the necessary exchange. In time, they also provided a centre for political control, increasingly by an urban bourgeoisie. These functions have left a record in the historic environment.

Until the sudden railway driven expansion of the late-nineteenth century, Buckinghamshire was not a heavily urbanised county. There were a number of market towns surviving from the medieval period, and Reed has discussed medieval markets and fairs in considerable detail, and has produced a useful list of fifteen markets (either by grant or by prescription) that survived past 1500, together with four created after that date (Reed 1978, 574). A shorter list of eleven places considered to be boroughs is given in Youngs (568), Chepping Wycombe and High Wycombe are different names for the same place, and Slough becomes a municipal borough in 1938). The latter list adds only one place to the former; Brill had a market in the medieval period which did not survive, and its borough status did not survive into the nineteenth century. Once again, Brill stands out as unusual.

Buckinghamshire does not show any major expansion of settlements in the nineteenth century to match the industrial towns of the Midlands and the north, with the exception of Wolverton, discussed below. In the early twentieth century the county saw the development of Metro-land, and in 1967 Milton Keynes was designated as a New Town.

#### a) *Pre-nineteenth century towns*

As noted above, the key questions relating to towns concern their growth and decline, their function as a market and as production centres, and their political and administrative function.

The Pevsner guide for Buckinghamshire (Pevsner and Williamson 1994) gives useful short histories of the towns, and the various volumes of the Victoria County History, although now somewhat dated, also give large amounts of information. This gives useful background against which the archaeological record can be examined, but it does not appear that there has been a systematic study of that record. One very recent and very useful article has been published which looks at the historical records associated with the town of Buckingham and generated at the time of a disastrous fire in 1725 (Poornan 2006). Buckingham gradually lost

its status in competition with Aylesbury, and the question is examined as to whether the fire was a contributory factor, or whether the town's failure to rebuild and subsequent stagnation was a reflection of pre-existing weaknesses. Poornan notes that the fire in Buckingham appeared to affect the more affluent area of the town, and identifies the zones within which the rich and poor lived their separate lives. It is an important question whether the archaeological record reflects this division, and whether it has sufficient resolution to detect the speed at which recovery took place. Where the town is prosperous, one might see subdivision of plots; where it is not, there might be empty spaces that remain unfilled for long periods of time.

Some other observations made by Poornan might also be usefully tested against the archaeological record and compared with results elsewhere. He makes the point that Buckingham inherited a pattern of long backlots from the middle ages which favoured 'backyard' enterprise. He also finds (by examination of the insurance policies held in the town) that the number of merchants (dealing in luxury goods) declined after the fire, but the number of craftsmen and shopkeepers increased proportionally (30). At this stage it might not be able to confirm this from an examination of the archaeological record, but it ought to be possible to detect the broader trends.

With respect to the administrative functions within and beyond the towns, the various market halls, of which Amersham has perhaps one of the best examples, survive in many cases to be compared. Their size and quality is more a sign of the aspiration of the town's bourgeoisie than its actual prosperity.

The Extensive Urban Survey has yet to be carried out for Buckinghamshire, and it is hoped that this will be carried out with the above general questions in mind.

#### *b) Nineteenth century towns*

A few Buckinghamshire towns do have nineteenth century suburbs, and these are usually related to a particular industry. Aylesbury is a good example with the Queen's Park development of the late nineteenth and early twentieth century, built by, and to serve, the Nestle milk factory. But one settlement stands out as a single industry company town: Wolverton has been much studied and is a Conservation Area.

#### *c) Twentieth-century*

The first half of the twentieth century is characterised by the growth of Metroland. This is discussed below with the railways which gave birth to it, and a very detailed discussion is given in Hepple and Doggett, chap. 12.

The second half of the twentieth century is dominated by the development of the 21 English New Towns, starting with Stevenage in 1946, which provided homes for two-and-a-quarter million people over the next fifty-odd years. Milton Keynes can be seen as the most significant achievement of this period, and is set to expand further into the twenty-first century. It has been, and will be, studied, not least from the perspective of the impact of ideological changes in society upon the architecture and planning of the town (for example, the effect of a shift towards private development and right-to-buy from the 1980s onwards). Pevsner and Williamson (1994, 483-489) give an excellent introduction, and Miller (1994) goes into more detail.

#### *Relict settlement*

Buckinghamshire has many deserted and shrunken villages, which are often thought of as being abandoned in the medieval period, either as part of the famine and the Black Death of the 14<sup>th</sup> century or the subsequent fluidity of the high demand for labour. However many villages were depopulated in the post medieval period. The enclosure movement was responsible for the abandonment of some settlements where labour intensive arable farming was replaced by pastoral landscapes, an early example of this can be seen with the parish of

Quarrendon where the Lee family transformed the landscape of the 16<sup>th</sup> century to a pastoral economy. The transformation of the Vale of Aylesbury in the 18<sup>th</sup> and 19<sup>th</sup> centuries from an open field farming to a largely enclosed landscape depopulated towns and shifted populations towards towns and cities. Although there are isolated instances where conflict has displaced and destroyed a village (Lamb, G. 2001).

Another factor in desertion during this period is the growth of Parks and Gardens, where whole villages were 'emparked' into estates; examples of this can be found at Stowe, Hartwell, and Waddesdon manor in the vale of Aylesbury and Milton Keynes. While the hamlets of Crafton were inhabited up until the 18<sup>th</sup> century before complete abandonment in wake of the development of the Rothschild's mansion of Mentmore in the 19<sup>th</sup> century.

## 6. The Built Environment

The Buckinghamshire post-medieval and modern built environment covers an extensive range of buildings and building materials from 16<sup>th</sup> century wicket cottages built on the waste to twentieth century re-enforced concrete tower blocks. Pevsner and Williamson (1994), and others undertook the huge task of assessing the county's buildings. The Introductory essays cover most of the pertinent elements of the built environment and brief descriptions in the body of the text provide a useful start for assessing individual buildings although many minor buildings were not included due to limitations of space.

The major change that has occurred since the book was published is the influence of the Government's Planning Policy Guidance Notes 15 and 16 in respect of buildings, conservation areas and archaeology. This guidance can be taken into account when planning consents are granted and allow some building recording works to be conditioned where major alterations or demolition occurs. Such conditions have been applied to listed buildings, some unlisted vernacular buildings and a few significant modern buildings e.g. Bletchley Park. This has resulted in archaeological contractors producing reports that record and analyse standing buildings. In Buckinghamshire there has been less use of recording conditions compared to other counties with approximately 60 'grey literature' building recording reports being produced for both Milton Keynes and Buckinghamshire. There have been instances where district authorities have required building recording reports but these have been retained within the planning files and not forwarded them to the relevant sites and monuments record. In the last ten years there has been no building recording reports published in Records of Buckinghamshire.

Dr James Moir, in his article 'Past premise: an integrated buildings strategy for the Chilterns' published in "New Perspectives on the Chiltern Landscapes 2003", identifies the large amount of recording work undertaken by individuals, groups and archaeological units etc. This has created a large pool of information that needs to be brought within the public arena and used to both provide an historic overview of the development of the built environment and guide future conservation of region's historic buildings This would apply to the whole of the county and not just the Chilterns.

The increased availability of laser distance metres and use of computer aided design systems has revolutionised the production of measured drawings and techniques for analysing structures. Similarly the prodigious amount of historical data available over the internet now enables a significant amount of documentary research to be undertaken without visiting national and county record offices. There are photographs and descriptions of most listed buildings available through the English Heritage Images of England website (<http://www.imagesofengland.org.uk/>)

Dating of Buckinghamshire buildings and features still remains difficult. A small proportion of buildings have date stones but these have to be treated with care as they may date an extension or be re-used from elsewhere. Close or definitive dating can be achieved through dendrochronology which has been successfully undertaken at Bradwell, Brill, Fenny Stratford, Ludgershall and Pitstone.. In some areas to the north of the County the oak used for construction had wide annual rings making them impossible to use for dendrochronological dating. The conclusion of the Whittlewood Project was that the timber source might have

been a quickly grown timber 'crop' from Whittlewood (Woodfield P, 2005 Whittlewood Project Historic Building Surveys: Summary 8-9).

No corpus of dated Buckinghamshire features e.g. roof structures, joints, fireplaces, doorframes, staircases has been produced. Some comparable information is available through the few settlement studies of standing buildings that have taken place. Chenevix Trench's survey of the houses of Coleshill remains the most comprehensive vernacular architecture study of a Buckinghamshire parish and more recent studies of the pre 1700 buildings of Akeley, Leckhamsptead, Lillingstone Lovell and Lillingstone Dayrell with Luffield as part of the Whittlewood Project, provide ground plans and drawings of roof trusses.

There have been a limited number of excavations of urban and rural sites of post-medieval buildings. The most extensive rural investigation of medieval and post-medieval settlements has been by Milton Keynes Development Corporation at Great Linford, Tattenhoe and Westbury. At the predominantly medieval settlements of Tattenhoe and Westbury the buildings had poor survival whereas there were extensive stone foundations at Great Linford. One of the reasons for this may be that Tattenhoe and Westbury are in an area of timber-framing and Great Linford is in a stone walling area. Watching briefs on known house sites in stone areas appear to more often find remains than non-stone areas. Urban excavations do not appear to have the depth of stratigraphy found in other areas although post-medieval structures have been found beneath 1960s buildings in Aylesbury. The complexity of pits cellars etc. on urban archaeological can make the analysis of building features difficult.

The following table, based on the author's general observations of the county's buildings, suggests the survival rates of various types of Buckinghamshire buildings in terms of very poor, poor, average, good and very good. It does not included industrial archaeology buildings.

	C16th	C17th	C18th	C19th	C20th	NOTES
<b>Building materials</b>						
Brick buildings	P	A	G	VG	VG	Throughout county
Chalk / clunch buildings	VP	VP	VP	N/a	N/a	Found in Chiltern escarpment
Earth walling buildings– Chalk cob & witchert	P	P	A	A	A	Used in the central area of the county up until 1930's.
Flint buildings	P	A	A	A	VG	Found in Chiltern escarpment
Greensand buildings	VP	P	P	A	N/a	Found in North-west Buckinghamshire
Limestone buildings	P	A	G	G	VG	Found in North Buckinghamshire
Timber-framed buildings	P	A	A	A	N/a	Used to reinforce brick walls in C18th & early C19th.
<b>Building types</b>						
Residential Buildings						Almshouses, clergy houses, guesthouses, hotels, houses
houses: 1-2 rooms	VP	VP	P	P	N/a	e.g. C18th labourers cottages
houses: 3-4 rooms	A	G	VG	VG	VG	e.g. C16th farmhouses
houses: 5-8 rooms	A	G	VG	VG	VG	e.g. C18th farmhouses
houses: 9-12 rooms	A	A	G	VG	VG	Usually mansions
houses: 13+ rooms	A	A	G	G	VG	Usually great houses
Agricultural buildings	VP	VP	P	VG	VG	Barns, cattle pens, creameries, dovecotes, granaries, horticultural outbuildings, pigsties, pinfolds, pounds, stables

Commercial buildings	VP	VP	P	A	VG	Abattoirs, beerhouses, breweries, corn exchanges, guesthouses, hotels, inns, public houses, warehouses
Education buildings	VP	VP	VP	G	VG	Academic buildings, educational workshops, school buildings, university campuses
Garden buildings	VP	VP	VP	P	A	Belvederes, boathouses, gazebos, glass houses, icehouses, summer houses
Medical institutions	N/a	N/a	N/a	G	VG	Asylums, dispensaries, hospitals, medical centres, sanatoria
Public Buildings	VP	VP	P	A	VG	Ambulance stations, assembly rooms, civic centres, county buildings, court buildings, Fire stations, Government Buildings, Guildhalls, market crosses, market halls, Police Stations, Post Offices, Shire Halls, Town Halls
Recreational buildings	N/a	N/a	N/a	G	VG	Bandstands, bingo halls, cinemas, concert halls, theatres

## 7. Ceremony, Ritual & Religion.

The study of religion in Buckinghamshire in the post-medieval and modern periods commences with the Reformation, sees the development of Protestant faiths and embraces the arrival Sikh, Jewish, Hindu, Muslim and Buddhist religions in the 20<sup>th</sup> century. The Buckinghamshire volume of the Buildings of England Series covers most of the surviving religious buildings and has introductory chapters on 'Medieval Ecclesiastical architecture', 'Ecclesiastical architecture and sculpture, 1660-1840', 'Church Building 1840-1914' and 'Church Building 1918-93' (Pevsner and Williamson 1994). These provide an excellent background on our present knowledge of this subject. The table below sets out the different types of religious buildings that would be found in the County and, in general terms, their survival rate in terms of being Very Poor, Poor, Average, Good and Very Good.

	C16th	C17th	C18th	C19th	C20th	NOTES
Chapels	N/a	VP	P	G	VG	Baptist, Christadelphian, Congregational, United Reform, Methodist, Moravian, Presbyterian, Wesleyan
Churches	A	A	A	G	VG	Anglican, Congregational, Methodist, Roman Catholic, Unitarian
Friends Meeting Houses	N/a	A	A	A	?	Quakers
Gurdwara	N/a	N/a	N/a	N/a	VG	Sikhs
Mission Rooms	N/a	N/a	N/a	A	N/a	Anglican
Mosques	N/a	N/a	N/a	N/a	VG	Muslim
Synagogues	N/a	N/a	N/a	VP	?	Judaism: Orthodox, Reform, Liberal

Temples	N/a	N/a	N/a	N/a	VG	Hindu, Buddhist
---------	-----	-----	-----	-----	----	-----------------

The impact of the Reformation was immediate for the County's fifteen major ecclesiastical institutions of abbeys, friaries and priories, but took slightly longer for religious guilds and Churches. Most of these buildings, apart from churches, became redundant and were either demolished or converted to alternative uses. What is uncertain is whether demolition works occurred prior to the crown disposing of the sites or whether purchasers were covenanted to demolish certain elements such as an Abbey Church? There are no standing buildings at the Premonstratensian Lavendon Abbey and none of the sites of the Abbey's buildings are known. Bradwell Priory surprisingly still retains its monastic barn, bakehouse and pilgrimage chapel with medieval wall-paintings. At Great Missenden, the Abbey was dissolved in 1538 and a new house built on the site of the cloisters in 1574, incorporating parts of the south and east ranges. Clearly there were significant variations on how the sites were dealt with in the immediate post-reformation period, which require further research.

The redundant monastic buildings offered unparalleled reclamation sites for building materials by the entrepreneurs of the period and undoubtedly some theft by local inhabitants occurred. Much of the re-used monastic material may be found in new buildings and alterations from 1540 onwards. The timber and lead would be quickly used but the extraction of stone could continue for several centuries if the site was subsequently not used for development.

The mid-sixteenth century movement from the Catholic to Protestant forms of liturgy impacted considerably on fabric of the churches. Much Catholic imagery was lost as wall paintings were covered over and both statuary and stained glass destroyed. Chancels became the place for taking communion and the placing of the altar became an area of dispute. Naves in the 17<sup>th</sup> century had pulpits with testers and the medieval walls paintings were occasionally replaced with edifying texts in ornate frames and the Royal coat of arms painted over the chancel arch.

Religious and ritual features are occasionally found in domestic buildings. Wall paintings in the form of instructive texts were the main religious features of post-medieval domestic dwellings and ritual apotropaic marks, notably the letter "w", were used to ward off evil, especially above areas where cooking was carried out or corn threshed. Other superstitious practices included the deposits of 'witch bottles', shoes, clothes, pieces of furniture and dead cats in different parts of buildings to keep out witches spells. The finds in Buckinghamshire have been limited. In the county there have been identified approximately 6 examples of hidden shoes, one of which was 14<sup>th</sup> century and three witch bottles but one came from a grave in Loughton rather than a house (pers comm. B. Thorn). Evidence for surviving elements of Paganism within the early pos-medieval Buckinghamshire population are limited to items that were considered to give protection against witchcraft and the historical data from witchcraft trials.

The 1689 Toleration Act gave security from persecution to dissenters from the Church of England but was withheld from Catholics and Unitarians. Before this landmark piece of legislation was enacted there were non-conformists establishing a permanent presence in the county. The Baptists in Amersham purchased a burial ground in 1676 and built a meeting-house on it in 1677 but which was not registered until 1707. Similarly the Quakers at Chalfont St Giles bought land for a burial ground in 1671 and then land adjacent for a meeting-house erected in 1688 but not registered until 1689 (RCHM 1986). Many of the dissenting groups obtained houses and barns after 1689 that were converted for religious use. These were often replaced in the 18<sup>th</sup> and 19<sup>th</sup> centuries with purpose built chapels and meeting houses incorporating Sunday schools.

The period from 1840 to the end of the century witnessed an intense period of Anglican church restorations, extensions, rebuilding and new building in the Gothic style. Few new churches were built in the 20<sup>th</sup> century apart from those associated with the development of Milton Keynes as a new town. The population changes in this period increased the range of religious buildings in the county. The new congregations have erected some purpose built structures such as the mosque at Granby, Milton Keynes, but have generally adapted existing buildings to their liturgical practices

## 8. Warfare, defences and military installations

### *Military installations and military infrastructure*

The history of 20<sup>th</sup> century defences in Buckinghamshire is somewhat modest in comparison to neighbouring counties. The CBA sponsored *Defence of England Project* was undertaken to make a national assessment/audit of WWII defensive sites and monuments on a county by county basis, (CBA 1996). Unfortunately Buckinghamshire was very poorly covered by fieldwork and the survival of much of Buckinghamshire's former military infrastructure is not known. A more systematic survey is required to understand the archaeological resource of Buckinghamshire's military past. The greatest impact upon the landscape is the construction of military airfields before and during the Second World War. Unlike the eastern counties of Britain where airfields formed part of the front line and the offensive, Buckinghamshire's airfields generally had a secondary role, serving as training grounds for RAF pilots or as ancillary stations for other airfields, examples can be found at Great Horwood, Wing, and RAF Thame in Haddenham. Most of these airfields had a design and build quality not for a degree of permanence, (most designed to last a decade) consequently the infrastructure is of some sensitivity (Brooks 2000).

Aside from military airfields, the character of Buckinghamshire's military infrastructure in the Second World War is more subtle and understated, being the centre for intelligence work, propaganda and the 'secret war'. Bletchley Park was the centre of an international code-cracking operation in the Second World War. A detailed survey on the buildings and surrounding environs was conducted by English Heritage (English Heritage 2005). Another example of Buckinghamshire's secret war role is 'The Firs' in Whitchurch which was one of the sites taken over by Ministry of Defence Department MD1 nicknamed 'Churchill's Toyshop' so called because they developed novel and unusual weaponry (Macrae 1971) Other notable sites were the M19, the branch of the Secret Service established at Beaconsfield, the department was responsible for providing tools for escape and evasion, while an aerial photo interpretation was carried out at Medmenham.

Buckinghamshire also had an important role in accommodating exiled governments during the Second World War. The Abbey at Aston Abbots was a residence for President Benes, head of the Czech government from mid-November 1940 to October 1945. Alteration to the grounds included the creation of two Nissen huts to accommodate a bodyguard of Czech soldiers. Addington House was used as a safe house for four families of members of the Czechoslovak Military Intelligence, (Rees 2005). There is also the function and role of large Country Estates in facilitating /accommodating the military during wartime. The most notable example is the use of the Rothschild mansion of Halton during WWI for both soldiers and the RFC, it eventually became a permanent base for the RAF (CAT 2004a & b). Langley House, was used as hospital for officers of the 2nd Regiment of King Edward's Horse (a cavalry regiment of the special reserve forces, formed in London in August 1914 and moved to France as a dismounted unit in May 1915). During WWII Langley House was the SE Regional HQ of the Home Guard until 1944, and then became the HQ of Polish units preparing for D Day. Cliveden House by the Thames was had a role as a Red Cross hospital in both World Wars, although much of the buildings in the grounds have been demolished (Moir 2001). RAF Strike command was accommodated at Hughenden, while the Prime Minister's Residence of Chequers, had an elaborate defence system, with aircraft batteries and garrisons. However, due to the sensitivity of security of the Prime Minister's retreat, opportunities for research at PRO are going to be limited.

More ad hoc military camps were established in Bucks, Miles Green's *History of Penn Wood* (Green 1999), notes that the woodland became a military training area during World War II. Nissen huts, pre-fabs and concrete roads were established for to accommodate 300 soldiers. At the end of the war, the camp was used as a reception centre for returning POWs. The woods were de-requisitioned in June 1946 and in August 1946 the camp became the temporary home of the 2nd Polish Corps whilst they awaited resettlement. There are other

wartime army and prisoner of war camps such as camps at Hartwell and Water Stratford for Italians captured in North Africa. A more synthetic study of Prisoner of War camps in England is awaited, (Thomas, R. J. C. forthcoming). There are also a plethora of recorded monuments for the Second World War, in the Bucks SMR, these include observation posts, pillboxes, bombing target zones all of which have yet to be systematically recorded and understood.

Buckinghamshire has also one notable Cold War site at the former Westcott airfield, which was used as the base for the Rocket Propulsion Department set up on the site by the Ministry of Supply in 1958 to develop and test rocket propulsion, (Cocroft 2000). It is believed that there are a number of Cold War observation posts in the county which have yet to be investigated.

### Forts and defensive earthworks

Buckinghamshire has very few prominent examples of post medieval defended sites and very little survives particularly from the Civil War. However, there are numerous earthworks interpreted as civil war defences, particularly Upper South Farm, Leckhamstead, Quainton, and Oving Church, (Wise pers comm) Possible Civil War battery earthworks, constructed to defend Ickford Bridge, (Sheahan 1861, p. 390). Most of these are at best tentative interpretations and need further research and fieldwork.

Both sides in the Civil War seemed to utilise towns and adapt buildings as fortifications. Buckinghamshire was known to have some defended towns. The county proved to be of strategic importance given the royalist base centred on Oxford. Parliamentary garrisons were based at Aylesbury where there is tentative evidence for defensive works, (Farley 1974) and at Newport Pagnell there where also substantial defences were created by Parliamentarian forces as a counterweight to Oxford. Lesser towns and villages were also defended. While it is known that Brill had defences (VCH Vol. 4) (Sheehan 1861), there is a paucity of evidence to confirm the presence of a Civil War rampart and ditch, (Farley pers comm). Earthworks and Ramparts have been recorded on estate buildings including inner and outer edges of medieval to post-medieval moat at Grove Farm curtain wall Ashley green Chilterns. While the former site of Greenlands House, had fortifications noted in 1797, (VCH Vol 4). There is also merit in the analysis of continuity of castles and forts from the medieval period. One such example is the reuse of the Motte and Bailey castle in Whitchurch, used as a base during the English civil war. Evidence is somewhat apocryphal, (Lipscomb Vol 3 pp.508-511). (VCH, Vol 3 pps.443-444)

There are few examples of extant defences relating to the twentieth century conflict, although many found within Bucks are related to training purposes. The impact of the First World War practice trenches have been surveyed at Whiteleaf Hill, (Wise 1991) and at Pullingshill Wood, Medmenham (Dawson 2005), the latter demonstrates the value of topographic, contour and geophysical surveys and the use of GIS viewshed analysis in understanding the layout and function of these trenches. Other practice trenches are associated with historic parks, in particular Ascott House, Wing and also the RAF base at Halton House, (CAT 2001a). Analysis of vertical aerial photographs is yielding previously unknown sites including possible practice trenches near to the north front of Stowe House (CAS 6858) and an extensive complex of probable WWI practice trenches between Halton and Buckland Wharf.

### Battlefields

#### English Civil War

There are no registered battlefield sites in Buckinghamshire, and few significance examples of military engagements. The examples that are known relate to the English Civil War and are of doubtful occurrence. The most prominent is the supposed Battle of Aylesbury in 1642; this is thought to be near Holman's bridge after the discovery of burials near there in 1818

(VCH Vol. 3 pp. 5-6), (Records of Bucks 1854). However, the results from a recent archaeological evaluation in the area has suggested a possible confrontation, (Kidd pers comm). Other Civil War skirmishes include Chearsley Road, Long Crendon in 1645, (Sheahan 1861) Pitch Green, and Stewkley where earthworks recorded in field survey and records of burials being found here in the early 19<sup>th</sup> century, (Sheahan 1861 p.669).

Buckinghamshire witnessed a number of civil war sieges at Boarstall Tower, Greenland House, (Hambledon) and Alexander Denton's residence at Hillesden. A good summary of these confrontations can be found in *Aylesbury in the Civil War* (Lamb, G. 2001) and (BCM 2005). Beyond these synthetic works, very little research has been undertaken on civil war sites in the county.

## Twentieth Century

In the age of total war in the twentieth century, a battlefield could be defined as the home front, and as such the areas affected by the bombing of the Luftwaffe in the 1939-45 conflict, and even rural villages such as Whitchurch were affected, (pers comm). It is open to question whether crash sites of military aircraft should also constitute a battlefield(s) of the aerial war of this conflict.

## 9. Material Culture

Researching the material culture of post-medieval and modern Buckinghamshire involves the study of man-made items to learn how previous generations lived. Sources of relevant material include assemblages of artefacts, documentary evidence in the form of inventories and pictorial evidence from paintings and photographs of domestic interiors. In addition to understanding the functions of artefacts, some consideration has to be given to decoration and the symbolism that may be included on the items. This ranges from simple love motifs on lace bobbins to complex Masonic symbolism on badges.

Looking through the excavations reported in Records of Buckinghamshire it is apparent that post-medieval artefacts are recorded, used for dating purposes but not used for material culture analysis. The exception is Gavin Lucas and Roderick Regan's report on the excavations at Temple End , High Wycombe published in the 2003 Post Medieval Archaeology Journal. David Allen's report on the multi-phase site at Berton between 1975 and 1979 commented that resources did not permit more than a brief examination of the large quantities of post-medieval pottery that was excavated (Allen 1986). His comments will be equally applicable to other multi-phase excavations where post-medieval features will not be seen as ranking high in importance.

From the archaeological, rather than historical, perspective, the source material for material culture analysis is from the excavation of post-medieval occupation sites and metal detector finds. Normally these will mean that the artefact assemblages are lacking treen material, which could bias analysis. There is likely to be a strong bias towards urban sites providing a sufficiently large assemblage of material for analysis, as pits used for rubbish disposal are not a common rural feature. Metal detector surveys could provide significant items to help understand some cultural aspects of demolished post-medieval sites.

On a larger scale, post-medieval buildings could come within the 'man made-items' classification. Often there are features that can assist in helping to understand how the occupiers lived. Kitchens, brew-houses, washhouses & dairies sometimes have features such as fireplaces, ranges, ovens, brew-vats, cheese-presses, salting troughs and plunger-churn recesses which, if dated, can provide good information on domestic activities and conditions. Similarly where reception rooms and bedrooms retain china cupboards, panelling, bell pulls, over-mantle paintings, gas fittings etc. these can demonstrate the social lives of the occupiers. Within industrial, and commercial there will also be occasional domestic features providing clues on the occupier's lives.

The lack of material culture considerations within published archaeological reports and grey scale literature is not surprising as the majority of archaeological investigations in county are

development led (PPG16) with very few research excavations being undertaken, especially for the post-medieval period. The same is true of building recording reports resulting from planning consent conditions (PPG 15). Tight timescales and competitive tendering means that this aspect will be ignored unless it was specifically required in the brief provided by the curatorial archaeologist. In many instances the lack of a sufficient quantity of suitable material would not make such analysis worthwhile but there will be instances where material culture can be meaningfully analysed (e.g. the excavation of a post-medieval urban building producing large amounts of artefacts) and throw light on the activities and aspirations of the occupiers.

Bringing material culture elements into archaeological and building reports can help populate a site or building and add significantly to the interest of the general reader. This is an aspect that should be given greater consideration where 'outreach' is an important element of an archaeological project / building recording scheme or where it will provide further understanding of the structures recorded. There would be additional benefits to those sites and buildings that have good documentary evidence to identify occupiers and their trades or professions.

## 10. Crafts, trades and industries.

### Industries

**Bricks** were manufactured extensively in Buckinghamshire. An excellent discussion of brickmaking in the county is given in Andrew Pike's gazetteer, from which most of the following is taken (Pike 1980). Eton College is one of the earliest examples of large scale use of the material in the country, and the bricks came from Slough (formerly in Bucks but transferred to Berks in 1974), and bricks were being made at Brill in the medieval period. By the sixteenth century it is clear that bricks were being made on a large scale, and the construction of large estate houses in the seventeenth and eighteenth century often required individual brick kilns. London was being supplied by bricks from Hedgerley in the eighteenth century. In the nineteenth century, operations became larger as capital was invested in major works. At Great Linford, works adjacent to the canal provided bricks from the 1880s for the construction of Wolverton and New Bradwell, and the kilns survive as scheduled monuments, together with the associated clay pits (Mon. No Bucks 148). These works took as their raw material the Oxford Clay, which is self-firing, and this also supplied the two major works at Calvert and Newton Longville which represent the final stage of development. The former works were making nine million and the latter four million bricks a week in the 1970s, but both closed in the early 1990s. Specialist brickmakers still operate in the Chilterns.

The resource for understanding brickmaking and its development is extensive, and Pike's work is an invaluable foundation. As an industry with a long period of development it must have the potential to answer questions relating to the relationship between capital, labour and raw materials. There is obviously a general pattern of development from small, almost *ad hoc* production sites, to larger kilns associated with particular building projects, through to kilns feeding markets (the Hedgerley works would be of interest here) and on to the large scale works of the nineteenth and twentieth centuries. Particular questions might relate to output, and here the 'project specific' kilns are of interest, since in some cases their entire output lies in a pile near the site of their operation in the form of a house, a situation rare in the study of manufacturing sites. Pike gives several examples where it is known brick kilns were set up for the purpose of a particular construction, and where the costs of plant and labour might be found. In these cases the relationship between investment, output and the rate of profit might be investigated, and where the kilns themselves can be located there is the possibility of relating this to the actual technology involved.

The development of the manufacture of **tiles**, not surprisingly, is similar to that of bricks. The production sites at Penn are well known, but it was generally assumed that they ceased around the fourteenth century (e.g. Pike, 1980, 3), but recent excavations at Rose Cottage, Penn, have located a kiln from the sixteenth century and it may be that others await discovery (Bucks SMR). Floor tiles were also made at kilns at Little Brickhill which operated in the fifteenth and sixteenth centuries (Pike, 3). The integration of all the clay manufacturing

industries is demonstrated by the production of bricks, tiles and pottery at Brill, and particularly clearly by the kilns found at Leyhill, Latimer, where a tile kiln of the late fifteenth century had been converted into a pottery kiln, possibly by the same producers. Farley and Lawson suggest that there is a trend towards integration at this time, which runs so obviously counter to the accepted trend towards the division of labour that it demands further investigation. They also note that the understanding of the production of tiles in the earlier part of the period will be largely dependant on chance finds, in the absence of the kind of detailed documentation associated with brick manufacture (Farley and Lawson 1990, 55-56). The resource is largely unknown, therefore, and an assessment is not possible. Efforts here need to be directed to locating early kilns, and one possible route might be through the public involvement in the identification of wasters in areas thought to be of potential.

**Pottery** production is essentially the third element in the clay based industries, and its integration with the others has been noted above. Any discussion of pottery must start with Brill, where the medieval industry is well known and documented. Farley researched the post-medieval pottery industry here up until its final demise in the 1860s, and reported on excavations carried out in the mid-1970s, when three kilns of the sixteenth and seventeenth centuries were found (Windmill Street and Tram Hill; Farley 1979a). Subsequently, another sixteenth century kiln has been excavated (Temple Street; Yeoman 1988), a kiln of the eighteenth century has been excavated (Prosser's Yard; Cocroft 1985), and Farley's work in the 1970s also looked at the last of the kilns here, belonging to the Lubbock family in the 1860s (Farley, 134-137). The integration of the industry is emphasised again by the fact that the Temple Street kiln also made roof tiles.

While there is clearly a need to understand the development of the Brill pottery industry from the perspective of ceramic studies, the fact that there are perhaps twelve excavated kilns of the medieval and post-medieval period, together with tile kilns and brickworks, in a village that is barely a kilometre long, must provide an opportunity to understand the development of an industrial community which sits in virtual isolation from any other, and might serve to model the development of similar early industrial settlements in the areas where subsequent nineteenth century development has eliminated earlier traces. Detailed investigation of the village might fill in the picture of the distribution of kilns through time and space; it would be interesting to know, for example, whether little Brill had an 'industrial quarter' as might be superficially suggested by the concentration of known sites in the northern half of the settlement. This pattern might usefully be related to known historical settlement pattern, and evidence of the standards of living across the village through the study of pottery or other material.

Pottery production is found elsewhere than Brill in this period. A site at Penn was examined through non-destructive fieldwalking with good results which suggested that a kiln there of the late fifteenth or sixteenth century was producing pottery (Hutchings and Farley 1989). Again, the close association of tiles and pottery should be noted. Other production sites are known in the Chilterns, at Chesham and Great Missenden, dating from the seventeenth and eighteenth centuries (Farley, 1979a, 129).

Taken together, the three clay based industries raise some specific questions for the earlier part of the period. The occurrence together of brick- and tile-making might be expected, but the occurrence of pottery and tile is perhaps less obvious. If Farley and Lawson are correct, at least one kiln was converted from tile production to pottery and perhaps even used by the same people. It could be argued that the skills involved are different, and one might expect brick- and tile-makers, and potters, to concentrate in their own areas as skills were passed from one generation to the next and labour became more specialist in form. Alternatively, it might be argued that the raw materials and fuel requirements are basically the same, leading to the concentration of all three at certain locations. This hypothesis remains to be tested – there are other areas with clay and trees in Buckinghamshire that could have been utilised but were not. Another possible explanation is that in an essentially conservative society there may have been certain areas where the relationship between craftsmen and landowners followed traditional and established lines that were locally understood, but which might have been difficult to replicate elsewhere.

Another more basic question relates to fuel supply. Even the eighteenth century pottery kilns at Prosser's Yard at Brill were wood-fired, and coal does not make an appearance until the canal age (Cocroft, 75). There are obviously questions as to how the supply of wood was managed and regulated, and woodland archaeology will have a part to play in this.

**Water- and wind- mills** are usefully dealt with in two papers from the 1970s by the Buckinghamshire County Museum Archaeology Group (BCMAG, 1982; BCMAG, 1975). These list the known sites of all periods for both categories, using everything from written references in the Domesday survey to the evidence of extant, and listed, structures. Another two lists exist in typescript form in the Bucks RO, and it is not clear what the relationship between these two sets is (Simmons 1977). Given the existence of this valuable resource in Bucks, it is possible to ask some specific questions about water and wind powered industries in general. Mills are treated here together, even though their purpose may not be necessarily the same, although obviously the greater number were for corn milling.

Fernand Braudel noted that in past societies fixed capital was subject to rapid deterioration, and suggested that this was a weakness of early capitalism when it was 'away from home', in the area of production (Braudel, 1982, 246-247). Watermills could be destroyed by floods; windmills were subject to fire and gales, and needed constant repair (Crossley, 130-133). This might be seen to particularly true of water powered industries, where the significant machinery was made of wood, subject to continuous wear in a permanently damp environment. The technology also changed rapidly at some periods, and it is worth noting that with respect to windmills Bucks has a reference as early as 1190, when the earliest references in Western Europe are supposed to have been in the 1180s (BCMAG 1975, 516), and also that the county has one of the earliest surviving post-mills at Pitstone, dated to 1627 (Crossley, 130; dendro-dating suggests it may in fact date from the 1590s (J. Wise, pers. comm.).

The issue of the rapid deterioration is one that can be tested archaeologically, since it will leave a clear trace in the record, and a rough assessment of loss of fixed capital might be made. On the other hand, the investment, particularly in watermills, does not consist of the wheels, gears and buildings alone. There will be extensive waterworks to feed the mill, to avoid its destruction by flooding and its idleness through drought, and to take the water away from the wheel. Equally, given the contention that arose around watermills through their diversion of water supplies from other users and other mills, their effect on fisheries and the occasional failure of their ponds and subsequent flooding of properties downstream, it could be argued that the legal establishment of the existence of a watermill alone represented an investment. If this is true, one might expect watermills to stay where they were over time, but one of the few excavations of a watermill in the county, at Caldecotte, Bow Brickhill, directly contradicts this. The mill there was shown to have origins no earlier than the eighteenth century, even though a medieval mill is known to have existed in the parish (BCMAG 1982, 34). Future excavations of watermill sites might usefully have this kind of question within their project designs, as it could have implications for the type of investigation involved.

Windmills would suffer a similar rate of deterioration, but here the establishment of new sites would be far less difficult, not least because the wind can be encountered more widely than reliable running water, and this is probably why the name Windmill Field occurs so regularly on tithe maps and the like. No windmill sites have been excavated in Bucks, and the identification of the site recently dug on Whiteleaf Hill as a post-mill mound is subject to considerable doubt (Gill Hey pers. comm.)

**Paper-making** had begun by the early seventeenth century in Buckinghamshire. It was a water powered industry, and the tributaries of the Thames provided the power, and the lawyers and bureaucrats of the capital provided the market (Bucks Victoria County History, 1908, 111). The raw material, at least until the middle of the nineteenth century, was old rags, which had to be slightly rotted; perhaps not surprisingly the establishment of a paper mill was not greeted with wild enthusiasm by its neighbours.

The seventeenth century industry seems to have been located primarily around High Wycombe, and in the eighteenth it was one of the major industries in the county. There are 42

records on the SMR relating to it, but the list is incomplete, and there do not appear to have been any excavations on paper mill sites. A conservation area in South Bucks, has recently been designated a conservation area by the local authority principally on the special character and interest of the surviving mill buildings there.

Bucks is still famous for the **furniture industry** and firms like Ercol still operate locally. The industry was, and is, principally centred on High Wycombe, and seems to have grown from very small beginnings to a large industry within the space of a few years. Hepple and Doggett describe this rise in some detail, and ascribe it to a rapid rise in demand and the end of the use of the extensive Chiltern beechwoods for fuel (Hepple and Doggett, 1994, 185-189). A very detailed survey of the remaining built heritage of the industry in Wycombe itself has been carried out by Marian Miller (2004), and this identified the need for further investigation of the remains in the town. It does provide a very extensive resource, however. A part of the town has recently been designated a conservation area by the local authority because of the special character and interest conferred on it by the surviving industrial buildings.

The raw material for the industry was provided by Chiltern beechwoods and this gave rise to the famous 'bodgers', who were romanticised at the same time that they were eliminated by progress in the industry. Miller makes the point that no actual bodgers' camps are known, although many photographs exist which show them, and one was still working in 1959 (*ibid.*, 12). This is perhaps unfortunate, as this lies at the end of a very ancient tradition of temporary settlement associated with specific seasonal industries, and the examination through archaeological techniques of a known site where some variables like date and period of occupation can be verified through other means would provide an interesting background to the investigation of other such sites from much earlier periods.

A little known industry, but which has been studied in a valuable article by O'Connor, is that of the extraction of so-called **coprolites** (1990). These were actually phosphatic pebble beds in the Upper Gault clay, and formed a significant component of the superphosphates which replace imported (and expensive) guano in the mid-nineteenth century (BGS 1996, 74). O'Connor finds that the industry existed from the 1860s to 1904, and notes that it has left little trace on the ground, although he does not indicate whether he carried out any detailed fieldwork to confirm this.

There is a surprising lack of evidence for the **lime** industry in the county, even though the oolitic limestone belt runs through it. The Bucks SMR records only seven lime kilns in the modern county and the Milton Keynes SMR records only 20, where they tend to be associated with brickyards. This may be related to the use of chalk over the southern part of the county, but their relative scarcity in the limestone belt of the north is hard to explain.

### Raw material acquisition

Some industrial activities can be placed under this heading alone, principally those relating to the extraction of a mineral which is then used without significant further processing.

**Chalk** was extensively quarried and mined in the southern section of the county throughout the post-medieval period. The principal use of chalk was in lowering the acidity of arable fields, which allows manure to be more effective and thus raises yields. It is not known when this practice, referred to in classical times, began in this area: the earliest documentary reference appears to be in 1733, but an earlier origin can be assumed. As with the practice of liming elsewhere (using a similar material for a similar purpose), the main development may have been in the sixteenth century, driven by a rapidly increasing London grain market (Havinden 1974, 111; Farley 1979b, 138; Hepple and Doggett 1994, 140).

The chalk was extracted from pits, and later on, from mines, and one particular such 'chalk well' is reported by Mike Farley. This took the form of a bell pit some 16.5m deep from which some 1300 cu.m. of chalk would have been extracted. One pit could provide sufficient material to chalk about six acres, and the process might be repeated every twenty years or so, and so the amount of material required is evidently large (Farley, 1979b, 138-139).

The Bucks SMR has the results of a detailed map-based record of all extraction pits, and lists, in basic form, hundreds of chalk pits in the Chilterns. An analysis of the data has been carried out, which identifies some interesting patterns amongst the records, but recognizes that further analysis of the morphology of pits would be useful (Beckley 2005, 38). The archaeological resource here is huge; the Chilterns are full of sometimes extensive chalk pits, and these often have associated hollow ways indicating the direction in which the chalk was taken. Coupled with an understanding of local landowning patterns, there is potential to answer significant questions about the way in which this important component of the agricultural advances of the post-medieval period was undertaken.

Buckinghamshire is not renowned for **Building Stone**, and it might be that the resource here is best assessed within the wider sub-regional area. An excellent discussion of the subject is given by Roger Evans in the second edition of the Pevsner guide, and the use of stone on vernacular buildings is discussed above. The main area where stone was used in building is in the north of the county where the geology is that of the Jurassic oolites. The Portland beds in the Vale of Aylesbury were also used locally, and Denner Hill stone came from the Chilterns. However, there are no extractive sites recorded on the SMRs for either Bucks or Milton Keynes that specifically relate to building stone (Evans 1994, 25-28). Kelly's directory indicates that there were quarries at Gayhurst, Eakley and Olney and a quarry at Weston Underwood still produces limestone for building purposes, and this seems to have expanded at some point in the 1960s.

**Aggregate** (i.e. aggregate) was, and is, extensively dug from the county's river valleys. Known gravel pits are listed in the work by Beckley (2005), but it is not easy to see what further information might be had from a study of them, except with respect the kind of landholding questions outlined for chalk, above.

### Trades

In addition to the above, there are a whole series of trades which merit consideration, but which have not normally been given systematic study through the archaeological record. The later history of these trades is most clearly seen through the nineteenth and twentieth century trade directories, in particular Kelley's.

Buckinghamshire is famous for its **lace** industry, which was centred on Aylesbury, Wycombe, and very much in particular, Olney. The industry seems to have originated in the sixteenth century in the area, and was organised on a version of the putting-out or *Verlag* - system and so is worthy of interest in that regard, given the debates around the early organisation of industry (e.g. in Dobb 1963 and the subsequent debates in Hilton 1976). Thread and silk were bought in London and given out to the largely female workforce who evidently operated at home, and the finished goods were returned to the merchant who sold them. This has been seen as one route by which capital entered the production process. The archaeological record for lace making must largely manifest itself in the discarded means of production, in this case pins and bobbins (which are sometimes datable in their own right), and it is important that these be recorded with excavations where they are incidental finds. Above all, the economic and geographical context needs to be understood. The industry was eventually killed by machine made lace from the middle of the nineteenth century, although there were still over 4000 people employed in the 1840s (VCH Bucks 106-109; B. Giggins, pers. comm.).

**Pin-** and **needle-making** were apparently a feature of Long Crendon, and were evidently associated with the lace industry. Here the key question has to be the degree to which the division of labour had progressed by the late eighteenth century, and this would require known sites of manufacture to be identified (Smith 1986, 109-110). **Straw-plaiting** was at one time second only to lace in importance, but it seems to have flourished within the nineteenth century, and its manifestation in the archaeological record is likely to be difficult to trace.

Apart from the Wolverton locomotive and carriage works, the only other major **engineering** plants were the Castle Iron Works started at Buckingham in 1857 and the Watling Works

dating from around the same time. Any research questions relating to these would need to be regional or national in focus. The Watling Works are worth noting for their production of steam yachts and launches; a slightly surprising product given the geographical location, but use was made of the Grand Union Canal to get the boats to the sea (VCH, ii, 126). Boats were also made on the banks of the Thames (VCH, ii, 105).

The British **film** industry was located in a fairly restricted part of Hertfordshire, NW London, Buckinghamshire and Surrey. Studios were (and are) isolated units of production within which the division of labour is marked, and the integration of the various stages of production is realised in the layout of buildings. Pinewood, in South Bucks, is a particularly interesting example: it was purpose built in the 1930s and the 'stages' remain (apart from the largely independent '007' stage which recently burnt down) surrounded by a great array of technical buildings. The only element of production which went outside the gates was the film processing itself, which was carried out at Denham, to and from where the film was taken in sealed cans carried by despatch riders (pers. comm. R. Busby, Group Property Director, Pinewood Shepperton). Although partly demolished, the remaining section of Alexander Korda's studio at Denham is listed at grade II. The studio closed in the 1950s (Bucks SMR).

## 11. Transport and communication.

Buckinghamshire's location has meant that major routes from the capital to the rest of the country run through it, and it is in this area that its resource would have a contribution to make to understanding the development of communications.

**Roads** are discussed by Edmonds, et al, in an article dedicated specifically to turnpike roads which contains a very useful gazetteer (1995), and Hepple and Doggett discuss them in detail with respect to the post-medieval Chilterns (1994, 155-165). Hepple and Doggett make an important point that is sometimes overlooked: the improvement in communications and in the transport of people and goods in the eighteenth century was tremendous, and presaged the improvements brought about by the subsequent canals and railways (163-4). The turnpike system had a major part to play in this, and the development of coaching traffic from the seventeenth century required the development of an associated infrastructure in the form of coaching inns, bridges, mileposts and tollhouses which needs systematic investigation (see for example Eveleigh 1996; also note Wilson 1995 for milestones). In broader terms towns like Beaconsfield and High Wycombe developed in response to the coaching trade. There would be equally interesting questions to be asked of places which were bypassed by improvements; both these places provided overnight accommodation on the way to Oxford in the seventeenth century, but by 1800 the whole journey could be completed in a day (Hepple and Doggett, 163). Can this be tracked in the development of these, and other, towns?

The Bucks SMR does have records relating to this period and subject, but they have inevitably not been collected in a systematic fashion and it would be useful to do this.

Hepple and Doggett, and Edmonds, refer to abandoned sections of road bypassed by the turnpike improvements (see especially Hepple and Doggett 158 for the section of road up Stokenchurch Hill, just over the county boundary in Oxon, a key point where the London-Oxford route climbs the Chilterns scarp), and these have the potential to answer questions about the conditions of the roads that were improved.

The legal and technical improvements to the road system allowed a far greater amount of goods to be transferred from one place to another, and represented a major capital investment in a vital section of a rapidly growing market economy. The county has a rich resource which has the potential to answer questions about its development.

For the much later period, the arrival of the motorways has had a significant effect upon the landscape, and marks an era when again road transport has become dominant, and in particular, the opening of M1, the first motorway, to Newport Pagnell in 1959 was critical in the development of Milton Keynes.

## **(River navigation might be best dealt with in the Oxfordshire post-med ?)**

**Canals** are dealt with fairly easily with respect to the county, as it has only one main route, with some branches. The Grand Junction canal began life as an attempt to shorten the all-important route between the industrial powerhouse of the Midlands with London, and was a reaction to the geological fact that the country's coalfields did not lie in the same place as the capital. A route did exist down the Oxford Canal and down the Thames, but this was circuitous and unreliable (Faulkner, 1972, 16-17), and a route was proposed from Braunston in Northamptonshire to Brentford on the Thames, a distance in a straight line of about 70 miles. In a rehearsal for the greed and self interest that characterise the railway years, the Oxford Canal, seeing its tolls threatened, proposed various alternatives that involved a branch from Hampton Gay into Buckinghamshire via Aylesbury to London.

The Oxford Canal interest was eventually bribed out of contention, and the Act received assent in April 1793. The route cut across the general strike of the geology in this part of England, and the key engineering problems reflected this, with a major tunnel through the limestone at Blisworth and a climb over the chalk of the Chilterns at Tring, neither in Buckinghamshire. A branch at Wendover was an early necessity to feed the canal at the summit level, and the section within Bucks was under construction by November 1797 (Faulkner, 39).

The major works within Bucks were at the crossing of the Ouse near Wolverton. Initially it was intended to lock down and up across the valley, but it was soon realised that the crossing was best made with embankments and an aqueduct. By April 1800 it was decided that this would not be complete for at least two years, and a temporary canal was built with timber locks upstream of the aqueduct, and this allowed the canal to have some form of open route in October 1800, and thus to give the company some return on its capital. As it happened, the works to the aqueduct were not started until January 1803, and the construction was plagued by litigation and problems, and crowned by the collapse of the structure in February 1808, which forced the company to return to the temporary works built eight years earlier. A new aqueduct was built and opened in 1811 and remains today; it is a scheduled monument (MK98; Faulkner, 60-70)

The importance of this lies in the fact that the temporary works are still traceable on the ground, and have recently been the subject of archaeological investigation (Brian Giggins, pers. comm.). These types of works are important wherever they occur, as they can provide answers to questions about the construction of the canals in their earliest phase, before two centuries of modifications and improvements have removed any evidence.

The canal system is generally well understood, but one aspect that receives relatively little attention is the organisation of the workforce. In December 1793 3,000 men were engaged on the construction of the Grand Junction, which must have had an impact on the predominantly rural economy of Georgian Buckinghamshire, and yet little seems to be known about their standard of living or accommodation (Faulkner, 28). This is a subject of enquiry where archaeology is well placed to provide answers, if sites are known, and the importance of this in an understanding of the early industrial working class must be emphasised (Morris 1994).

**Railways** are of particular importance in Bucks. Their development in the county is outlined in a useful article by F. G. Cockman (1974) and this will not be repeated here, but the main points can be summarised.

Two of the most important lines of the early railway period ran through the county. Robert Stephenson's London and Birmingham opened throughout in September 1838, and the company bought land at Wolverton, approximately halfway along the line and established their engine and carriage works there. New Wolverton expanded and became one of the county's most important industrial settlements (see below). From this line a branch was built to Aylesbury, which was the earliest branch line in the country (the Act received its assent from William IV): the line has now closed (Simpson 1989, 1)

In the south of the county, Brunel's Great Western was built to Bristol via Taplow and Reading. This section of the route has recently had particular study as a result of the proposed Crossrail route, and has been proposed as a World Heritage Site.

In the Railway Mania years dozens of lines were proposed, but most failed. The ruthless logic of the free market prevailed to ensure, for example, that the Wendover gap had no line through it until the 1880s, Windsor got two separate termini, and there has never been a direct link between the two county towns of Oxford and Aylesbury.

Throughout the middle years of the nineteenth century the network filled up. One curiosity was the Wotton Tramway, a private enterprise built by the Duke of Buckingham in the 1870s and intended to be a horse tramway. This closed after sixty-four years, but earthworks remain to demonstrate the construction and maintenance of a very simple and rare form of transport in a rural context (Jones 1974).

In respect of the impact upon the settlement pattern and landscape of the county, it is the later nineteenth century railways that had the greatest effect. The Metropolitan Railway, under its legendary chairman Edward Watkin, pushed northwards through Harrow and Amersham to reach Aylesbury in 1892, as part of his plan to break through the 'iron barrier' he believed that other companies had contrived to contain his ambition (Cockman, 166; Day 1979, 23). This was the origins of Metro-land, although there was little suspicion of this in the mind of the journalist from the Financial News who travelled the line as it was being built in the late 1880s, considered Amersham a rural backwater and pronounced the whole project 'sheer madness'. The company held land under a sub-company, the Metropolitan Railway Country Estates Ltd, who sold estates to the upper middle classes who wanted to be in the countryside for teatime in the week (Hepple and Doggett, 212-214). The joint Great Western and Great Central provided a new route to Birmingham from Marylebone, and in so doing passed through Beaconsfield, which had been something of a backwater since the loss of the coaching trade, and Gerrard's Cross, an obscure Chilterns hamlet which underwent a dramatic transformation in its socio-economic fortunes. To an extent, the development of the late nineteenth and early twentieth century is well understood and documented, but in terms of urban characterisation the result has been a late medieval dispersed pattern of hamlets, overlain with some Georgian development in the coaching age, suddenly overlain by Metro-land, with relatively little in between from the Victorian period. The precise form this has taken varies, and there is potential for understanding this within the Extensive Urban Survey work proposed for Bucks.

The effect of the railways on settlement patterns is discussed below, but as with the canals, there is the potential to provide information on the lives of the people who built them. The London and Birmingham, for example, employed 15,000 men over three years, and it is not clear where these men came from, nor where they were housed (Coleman 1965, 26). The large number of rural lines closed in the 1960s are also archaeological remains now, and there is the potential to understand the changes in technology in railway construction from the 1830s to the 1900s.

## 12. Legacy

It would be an interesting debate as to whether the post-medieval period has ended, and if so, when this happened, but it is not one for the Solent Thames Research Framework. Some very broad trends can be suggested, and some important turning points noted.

The influence of London on the landscape of the county is inescapable, and this continues a trend that has continued for centuries. The twentieth century has been, and the twenty-first century probably will be, marked by the change in the landscape caused by the development of large areas of housing. Beginning in the last years of the Victorian era and lasting to WWII, there was a massive expansion in the areas of land devoted to housing, and this was as marked in south Buckinghamshire as almost anywhere else, as noted in the discussion of Metro-land above. The output of houses between 1934 and 1938 nationally was not exceeded until the 1960s, and outside the old industrial districts the process was largely

unchecked by the 1929-31 depression. Following the war, and the period of austerity that followed, the process continued, but its form and location has been different for reasons that are particularly relevant to Buckinghamshire. The success of the Soviet Union in avoiding the crashes to which capitalism seemed prone in the 1920s and 30s, and of the war economy, gave governments faith in planning, and a popular movement had begun in the pre-war years to control the unplanned expansion of housing around London. The protection of what was felt to be a rapidly disappearing Chiltern landscape in particular caused concern, and contributed to the development of post-war planning legislation. Any alien visitor observing the Buckinghamshire countryside over the twentieth century would wonder why the expansion stopped at Amersham in the '30s, and then started again in the quiet North Buckinghamshire countryside in the late 1960s. Clearly something happened in between the two dates, and it is related to an increased influence of the state and local authorities in the control of where development takes place.

Although de-industrialisation obviously affected the county less than parts of the Midlands and the North, towns like High Wycombe and Aylesbury clearly have been affected, with large out-of-town retail developments, supermarkets and car parks where once there were factories and railway sidings. On a smaller scale than elsewhere, consumption has replaced production as the driving force behind change.

It is perhaps in the countryside where the changes since the war have been more subtle, but more significant. Villages have become the homes of the affluent rather than of agricultural workers, and even humble barns have acquired block paved drives and gates operated by keypads. This would have been incomprehensible to people from even the early twentieth century. Thanks largely to the influence of the motor car, whose imprint on the land would be unmistakable to the alien visitor, rural Buckinghamshire is no longer a landscape in which capital is invested in factories, fences and farms, but is now a place where the owners of capital (and those workers involved directly in its investment and movement) return to take their leisure, and is a place where they consume, rather than produce.

#### Bibliography (CMW and BG)

Allen D 1986 Excavations at Bierton, 1979 *Records of Bucks* **28**, 1-120

Beckley, R 2005 *Extractive Sites of Buckinghamshire*, unpubl. MSc dissertation, Univ. Sheffield

Braudel F 1982 *Civilization and Capitalism; Vol. 2 The Wheels of Commerce* (Collins London)

British Geological Survey 1996 *British Regional Geology ; London and the Thames Valley Fourth Edition* (London, HMSO)

Buckinghamshire County Museum Archaeological Group 1975 Buckinghamshire Windmills *Records of Bucks* **20, 1**, 516-524

Buckinghamshire County Museum Archaeological Group 1982 Buckinghamshire Watermills *Records of Bucks* **24**, 34-45

Cockman, F. G. The Railway Era in Buckinghamshire *Records of Bucks* **19**, 1971-1974

Cocroft, W D Two Post-Medieval Pottery Kilns and Associated Products from Prosser's yard, Brill, Buckinghamshire, *Records of Bucks* **27**, 72-93

Coleman, T 1965 *The Railway Navvies* (Penguin)

Crossley D 1990 *Post-medieval archaeology in Britain* (LUP)

- Day, J 1979 *The Story of London's Underground* (London Transport)
- Dobb, M 1963 *Studies in the Development of Capitalism* (London, Routledge)
- Edmonds, K., Elding, J., and Mellor, J 1995 Turnpike Roads of Buckinghamshire, *Records of Bucks* **35** (1993), 31-48
- Evans, R 1994 Building Stone, in Pevsner, N and Williamson, E *The Buildings of England; Buckinghamshire* (2nd ed, Penguin, London)
- Eveleigh, S 1996 The Building of Padbury Bridge *Records of Bucks* **36** (1994), 165-172
- Farley, M 1979a Pottery and pottery kilns of the post-medieval period at Brill, Buckinghamshire *Post-Medieval Archaeology* **13**, 127-152
- Farley, M 1979b A Bell-Pit or Chalk Well at Lane End, *Records of Bucks* **21**, 135-140
- Farley, M and Lawson, J 1990 A Fifteenth-Century Pottery and Tile Kiln at Leyhill, Latimer, Buckinghamshire, *Records of Bucks* **32**, 35-62
- Faulkner, A. H 1972 *The Grand Junction Canal* (David and Charles, Newton Abbot)
- Galloway, J.A et al 1996 Fuelling the City: production and distribution of firewood and fuel in London's region, 1290-1400 *Economic History Review* **49**, **3** (1996), 447-472
- Havinden, M A 1974 Lime as a Means of Agricultural Improvement: The Devon Example, in *Rural Change and Urban Growth 1500-1800* (eds Chalklin, C.W. and Havinden, M.A.)105-134 (Longman)
- Hepple, L W and Doggett, A M 1994 *The Chilterns* (2nd ed, Phillimore, Chichester)
- Hilton, R 1976 *The Transition from Feudalism to Capitalism* (NLB, London)
- Houston, R and Snell, K 1984 Proto-industrialisation? Cottage Industry, Social Change, and Industrial Revolution *The Historical Journal*, **27**, **2**, 473-492
- Hutchings, N and Farley, M 1989 A Fifteenth to Sixteenth-Century Pottery Industry at Tylers Green, Penn, Buckinghamshire *Records of Bucks* **31**, 105-110
- Jones, K 1974 The Wotton Tramway (Brill Branch) *Locomotion Papers* **75** (Oakwood)
- Miller M 2004 *High Wycombe Furniture Town* Unpub. MSc dissertation Oxford Brookes University
- Miller M *Housing in the New Towns and Expanded Towns; Consultants Report for the English Heritage Post-1939 Listing Programme* (Unpub. report, June 1994)
- Morris, M 1994 Towards an archaeology of navy huts and settlements of the industrial revolution *Antiquity* **68**, 573-584
- O'Connor, B 1990 The Coprolite Industry in Buckinghamshire *Records of Bucks* **32**, 76-90
- Pevsner, N and Williamson, E 1994 *The Buildings of England; Buckinghamshire* (2nd ed, Penguin, London)
- Pike, A 1980 *Gazetteer of Buckinghamshire Brickyards* (Bucks County Museum)
- Poornan, P 2006 The Great Fire of Buckingham 1725. An assessment of the Damage, the Loss and the Process of Recovery *Records of Bucks* **46**, 19-51

RCHM 1986 Nonconformist Chapels and Meeting Houses; Buckinghamshire

Reed M 1978 Markets and Fairs in Medieval Buckinghamshire *Records of Bucks* **20**, pt 4, 563-585

Simmons H 1977 *Watermills of Buckinghamshire* Typescript copy in Bucks RO (original in Science Museum?)

Simmons H 1977 *Windmills of Buckinghamshire* Typescript copy in Bucks RO (original in Science Museum?)

Simpson, B 1989 *The Aylesbury Railway; the First Branch Line* (Haynes)

Smith A 1986 *The Wealth of Nations; Books I – III* (Penguin, London)

Victoria History of the County of Buckingham 1908 vol ii (ed. William Page, London) (VCH Bucks)

Wilson G V *Milestone Survey November and December 1995* (Bucks County Council; Typescript copy in Bucks RO)

Wordie, J.R. The Chronology of English Enclosure, 1500-1914 *Economic History Review* **36**, 4 (November 1983), 483-505

Yeoman, P 1988 Excavation of an early Post-medieval kiln at Temple Street, Brill, 1983, *Records of Bucks* **30**, 123-155

Youngs F A 1979 *Guide to the Administrative Units of England: Vol 1 Southern England* (Royal Historical Society, London)

#### Bibliography (DG)

Andrew, M. 2005 *High Wycombe: A History and Celebration* (Francis Frith)

Barrington, M. 1995 *Stowe the Garden and the Park* (Capability Books)

BCM, 2004 *Buckinghamshire in the Civil War* (Buckinghamshire County Museum)

Beresford, M.W. 1951 'Glebe Terriers and Open Fields of Buckinghamshire Part 1', *Records of Buckinghamshire* Vol. **XV** No.5 pps. 253-298

Broad, J. 1973 *Sir Ralph Verney and his Estates 1630-1696*. (Unpublished PhD thesis, University of Oxford).

Broad, J. & Hoyle, R. Eds. 1997: *Bernwood: the Life and Afterlife of a Forest*

BRO 1995 *Wartime Buckinghamshire 1939-1945*

BRO 1871 *County of Buckingham: Landowners in 1871* (BRO)

Brooks, R. 2000 *Thames Valley Airfields in the Second World War Berkshire Buckinghamshire*, (Countryside Press)

Buckinghamshire County Museum: Archaeological Service 1998 *Historic Parks and Gardens (Buckinghamshire) (Stage 1)* Report 508 Buckinghamshire County Museum

Cantor, L.M. & Hatherly, T. 1977 'Medieval Parks of Buckinghamshire' *Records of Buckinghamshire* **20** Part 3 431-50

- CAT 2001a *Princess Mary Hospital RAF Halton Buckinghamshire Cultural Heritage Assessment for the Defence Estates* (Cotswold Archaeological Trust) unpublished report.
- CAT 2001b *Princess Mary Hospital RAF Halton Buckinghamshire Archaeological Evaluation for the Defence Estates* (Cotswold Archaeological Trust) unpublished report.
- Chibnall, A.C, 1965 *Sherrington Fiefs and Fields of a Buckinghamshire Village*
- Cocroft, W. 2000 *Dangerous Energy* (English Heritage)
- Coppock, J.T. 1957 'The Changing Arable in the Chilterns' *Geography* **42** pp.217- 229
- Croft, R.A. & Maynard, 1993 *The Changing Landscape of Milton Keynes* (Buckinghamshire Archaeological Society Monograph Series 5)
- Dawson, D. 2005 'A Better 'Ole': A Comparative Evaluation of a Twentieth Century Military Landscape in Buckinghamshire (unpublished MSc Dissertation Oxford University)
- Devereux, B.J. *et al.* 2005 'The potential of airborne LiDAR for detection of archaeological features under woodland canopies', *Antiquity* Vol. **79**, 305 pp 648-660.
- Dobinson, C., Lake, J. & Schofield, A. J. 1997'Monuments of War: Defining England's twentieth-century defence heritage', *Antiquity* **71.272**, 288-99
- English Heritage 2005 *The National and International Value of Bletchley Park* (English Heritage)
- English Heritage 1994 *National Register of Parks and Gardens* (English Heritage)
- Everson, P. 2001 'Peasants Peers and Graziers: The Landscape of Quarrendon, Buckinghamshire, Interpreted *Records of Buckinghamshire* Vol. **41** pp. 1-45
- Farley, M. 1974 'Aylesbury – A Defended Town?' *Records of Buckinghamshire* Vol. **19** pps.430-436
- Green, D. & Kidd, S. 2006 *Buckinghamshire Historic Landscape Characterisation Project* (BCC)
- Green, D. 2004 *The Landscape Archaeology of Fox Hunting: Whaddon Chase A Case Study* (Unpublished MSc dissertation, Oxford University)
- Green, D. 2003 *Buckinghamshire Historic Landscape Characterisation Methodology* (BCC)
- Green, M. 2005 'Medieval Tile Industry at Penn' *Records of Buckinghamshire* **45** pp 115-161
- Green, M. 1999 *The History of Penn Wood*
- Gulland, P. 2003 'Open Field Enclosure and Village Shrinkage at Aston Sandford' *Records of Buckinghamshire* Vol. **43** pp. 127- 142
- Hall, D. 2001 *Turning the Plough: Midland Open Fields: Landscape Proposals for Management* (English Heritage/Northamptonshire County Council)
- Hepple, L. & Doggett, A. 1994 *The Chilterns* (Phillimore)
- Hughes, D.P. 1988 *Buckinghamshire Inventory of Ancient Woodland* Nature Conservancy Council

- Jones, R & Page, M. 2006 *Medieval Villages in an English Landscape: Beginnings and Ends* (Windgather Press)
- Lamb, G. 2001 'Aylesbury in the Civil War' *Records of Buckinghamshire* Vol. **41** pp. 183-189
- Lewis, C., Dyer, C., & Mitchell-Fox, P. 2001 *Village Hamlet and Field: Changing Medieval Settlements in Central England* (Windgather Press)
- Lipscomb, G. 1847 *The History and Antiquities of Buckinghamshire* Vols **1-4** (London)
- Owen, J.H. 1983 *Hill & Vale: Enclosure in Buckinghamshire 1550-1865* Unpublished BA dissertation (Gonville & Caius College Cambridge)
- Page, M. 2005 'The Deserted Medieval Village of Stowe' *Records of Buckinghamshire* Vol. **45** pp.
- Matthews W.L. & Wainwright, A. 1990 *Bradenham* (National Trust Thames and Chilterns Region) unpublished report
- Mansfield, A. 1952 *The Historical Geography of the Woodlands of the Southern Chilterns 1600-1947* (Unpublished MSc thesis) University of London
- Macrae, Col. S. 1971 *Winston Churchill's Toyshop* (Roundwood)
- Mead, W. R. 1954 'Ridge and Furrow in Buckinghamshire'. *Geographical Journal* **120** pp.34-42
- Mead, Y. 1987 *Parliamentary Enclosure of Padbury and Quanton Advocates, Opponents and Consequences* (Unpublished MA Thesis Hull University)
- Moir, J. 2001 *The Canadian Red Cross Memorial Hospital, Cliveden* (Unpublished Report)
- Morris, J.K. 1999 *History in Chilterns Woods: A Guide to the Identification and Management of Woodland Archaeological Features* The Chilterns Woodlands Project
- National Trust 2003 *Report Describing the Results of Archaeological Excavations Undertaken at the Aviary Garden, Waddesdon Manor* (Unpublished document)
- Pevsner, N. & Williamson, E. 1994 *The Buildings of England: Buckinghamshire* (Penguin)
- Phibbs, J. 2006 *The Langley Park* (forthcoming)
- Records of Buckinghamshire 1854 'Notes from the Minute Book' *Records of Buckinghamshire* Vol. **1** p.39
- Reed, M. 1993 *A History of Buckinghamshire* (Phillimore)
- Reed, M. 1979 *The Buckinghamshire Landscape* (Hodder & Stroughton)
- Reed, M. 1968 'Buckinghamshire Charter Boundaries' in Gelling, M *Charters of the Thames Valley*
- Rees, N 2005 *The Czech Connection* (Longman)
- Rigby, L. 2000 *Stoke Poges A Buckinghamshire Village Through 1,000 years* (Phillimore)
- Roberts, B. & Wrathmell, S. 2002 *Region and Place: A Study of Rural Settlement* (English Heritage)

- Roberts, B & Wrathmell, S. 2001 *An Atlas of Rural Settlement in England* (English Heritage)
- Robinson, J.M. *Temples of Delight: Stowe Landscape Gardens* (National Trust)
- Roden, D. 1973 'Field Systems of the Chilterns and their Environs' in *English Field Systems Baker Butlin eds* Ch. 8 (Cambridge University Press)
- Roden, D. 1969a 'Enclosure in the Chiltern Hills' *Geografiska Annaler* 51B pp.115-126
- Roden, D. 1969b *Fragmentation of Fields and Farms in the Chiltern Hills* (Toronto, Pontifical Institute of Medieval Studies)
- Roden, D. 1969c 'Demesne Farming in the Chiltern Hills' *Agricultural History Review* Vol. 17 Pt 1 pp. 9-23
- Roden, D. 1966 'Field Systems in Ibstone during the later Middle Ages' *Records of Buckinghamshire XVIII Part 1* pp43-57
- Roden, D. 1965 *Studies in Chiltern Field Systems*: Unpublished PhD Thesis, (University of London)
- Roden, D 1964 Woodland and its management in the Medieval Chilterns *Forestry* 41 (1968), 64
- Rothschild, M. 1996 *The Rothschild Gardens* (London)
- Sheahan, J. 1861 *History and Topography of Buckinghamshire* (Longman)
- Solik, M. Ed. 2003 *New Perspectives on Chilterns Landscapes* (privately printed)
- Stell, 1986 'Non-Conformist Chapels & Meeting House: Buckinghamshire (RCHME offprint)
- Thomas, R.J.C. (forthcoming) *Twentieth Century Military Recording Project: Prisoner of War Camps (1939-1948)* (English Heritage)
- Trench, J. C. 1983 'The Houses of Coleshill: The Social Anatomy of a Seventeenth Century Village' *Records of Buckinghamshire* Vol. 25 pp61-109
- Turner, M.E. 1973a *Some Social and Economic Consequences of Parliamentary Enclosure in Buckinghamshire 1738-1866* 2 Volumes Unpublished PhD (University of Sheffield)
- Turner, M.E. 1973b 'The Cost of Parliamentary Enclosure in Buckinghamshire' *Agricultural History Review* 21 p.33-46
- Turner, M.E. 1973c 'Enclosure Commissioners and Buckinghamshire Parliamentary Enclosure' *Agricultural History Review* 25
- Tate, W.E. 1946 *A Hand-List of Buckinghamshire Enclosure Acts And Awards* Buckinghamshire County Council
- VCH 1969 *The Victoria County History of Buckinghamshire Vols 1 to 4* ed. Page (Dawson Press)
- Williamson, T. 2003 'The Genius of Place: Designed Landscapes in the Chilterns' in Solik, M. ed *The Chilterns Landscape Research for the Future*.
- Wise, J. 1991 *A Survey of Prehistoric and Later Earthworks at Princes Risborough* Records of Buckinghamshire Vol. 33 pp. 108-113

## **On-line Resources**

Buckinghamshire Historic Landscape Characterisation:

[http://www.buckscc.gov.uk/archaeology/hlc\\_and\\_mksm/index.htm](http://www.buckscc.gov.uk/archaeology/hlc_and_mksm/index.htm)

[http://www.buckscc.gov.uk/archaeology/hlc\\_and\\_mksm/hlc\\_draftconsultation.htm](http://www.buckscc.gov.uk/archaeology/hlc_and_mksm/hlc_draftconsultation.htm)