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East Midlands Archaeological Research Framework: Resource Assessment and Research Agenda for the Post-Medieval Period (1500-1750)

An Archaeological Resource Assessment and Research Agenda of the Post-Medieval Period in the East Midlands (1500-1750)

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I. Introduction

I. i The Period 1500-1750

The period c.1500-1750 is generally seen as a period of a transition between the Medieval or feudal world and the Industrial Revolution (Holton 1984). The Reformation and Dissolution were revolutionary events whose significance we now tend to underrate in a secularised society (Gaimster and Gilchrist, *forthcoming*). The population of England nearly doubled between 1541 and 1651, followed by a period of stagnation or slow growth before the accelerating take-off of the late 18th century (Wrigley and Schofield 1981). Population growth and inflation in the 16th century was accompanied by an increase in the landless or near-landless poor. However, for the 'middling sort' consumer goods became more available and probate inventories point to growing standards of living especially after c.1650 (Weatherill 1988; de Vries 1993 and 1994).

The debate over the nature of social and economic change from the 13th to the 19th centuries, and the relative roles of evolutionary and revolutionary change, is still ongoing and complex. This was demonstrated by the *Age of Transition* conference held at the British Museum in Nov. 1996 (Courtney 1997a; Johnson 1997; Verhaeghe 1997). Indeed,

whether there should be a period-based division between Industrial and post-medieval archaeology is the subject of current debate, though practitioners from both camps are increasingly collaborating (Cranstone, *forthcoming*). A major problem is the continued lack of archaeologists without formal training in the period. However, the creation of a number of university posts in post-medieval or industrial archaeology over the last decade has seen a major step forward though more posts are desperately needed. The number of textbooks on this period is growing rapidly (Crossley 1990; Johnson 1996; Newman 2001).

The archaeology of the last four centuries is a major growth area in world archaeology. In particular, the USA has seen an enormous explosion in the number of trained historical archaeologists working in academia or the cultural resource field over the last two decades (Courtney 1999). Scholars are increasing aware of the international dimension of the subject, as represented by the joint USA/UK conferences held in 1996 by the Society for Historical Archaeology and the Society for Post-medieval Archaeology (Egan and Michael 1999). Post-medieval or historical archaeology also promises to replace prehistory as the hotbed of theoretical development with its fusion, or sometimes collision, of archaeology, anthropology and history and worldwide perspective (Orser 1996; Johnson 1996; Courtney 1996a; Tarlow and West 1999). Certainly, it is becoming increasing evident that post-medieval or historical archaeologists have a major contribution to the origins of the modern world through their studies of landscape and material culture.

1. ii The region

Landscape historians fall between the environmental determinists who believe one can divide regions satisfactory on physical characteristics (Phythian-Adams 1993) and those who see environment, economy and culture as geographically overlapping spheres or networks whose relationships shift over time (Courtney 1994, 111). The East Midlands is essentially a political creation though much of it shares similar characteristics. It lacks a leading urban metropolis and is physically dominated by its east-west rivers, though its economy is increasingly ruled by its north-south road-links. However, it lies beyond the area most directly orientated to the needs of London' economy in this period. The East Midlands presents a complex mixture of rich agricultural land alongside wood-pastoral or upland areas associated with proto-industry. Two areas present particular problems, the High Peak and the Lincolnshire Fens, in that our political boundaries cleave them from their wider ecological and economic zones. In both cases flexibility in applying a regional approach is needed.

There are no regional archaeological manuals for this period but Chamber's (1932) pioneering study of Nottinghamshire in the 18th century, Thirsk (1957) and Hoskins' (1950) respective studies of Lincolnshire and Leicestershire farming, Steane's (1974) Northamptonshire landscape volume, the Lincolnshire county history series (e.g. Beastall 1979 and Holmes 1980), and Beckett's (1988) regional history of the East Midlands all offer useful frameworks. The *Agrarian History of England and Wales* Vols. 4 and 5i (Thirsk 1967 and 1984) and the *Cambridge Urban History* vol. 2 (Clark 2000) also contain useful regional syntheses. *The Historical Atlas of Lincolnshire* has many useful

maps (Bennett and Bennett 1993) and Northamptonshire Heritage's GIS database of mapped historical data will also hopefully be published in due course. The introductory chapters of the *VCH* (*Victoria County History*) series sometimes provide useful, if often now dated, syntheses on such topics as agriculture, transport and industry. Derbyshire, Nottinghamshire and Northamptonshire also have county record societies who have published many useful primary documents.

II. Urbanism

II. i Urban Networks

The urban hierarchy of the East Midlands is headed by county towns dating to the pre-Norman period but none of which has dominated the region. Below them are numerous small market towns most of which were creations of the 12th and 13th centuries. Lincolnshire also has a number of towns, notably Stamford and the port of Boston, which had formerly competed with the county towns. Industry played an increasing role in the development of a number of both county and small towns in the early-modern period, for instance the leather and shoe industry at Northampton, framework knitting at Leicester and weaving at Kettering. The economic and demographic success of the small towns is particularly varied and was often dependant upon their location in relation to major trade routes. Ashby de la Zouche (Leics) is thought to have suffered when its resident lords did not return after the Civil War (Moxon 1971, 351-3). Innkeepers and tradesmen normally formed the elite of small towns. Urban inns, often clustered around the market-place, became the favoured location for making commercial transactions (Everitt 1973). There

as also a growth in the number of itinerant traders, carriers or hawkers in the early-modern period (Everitt 1967 and Spufford 1983).

II. ii The Urban Resource

The quality of the documentary resource, notably in the form of borough records and deeds, is undoubtedly greater for the county towns and such larger centres as Stamford and Boston. However, survival of deeds even at this level can be patchy. The voluntary *Survey of Ancient Buildings* in Lincoln has constructed tenement histories for buildings in the Cathedral Close and Castle Bail (Jones *et al* 1984-96). Its successor, the *Survey of Lincoln* is currently working on the rest of the town. Nottingham and especially Lincoln, with its Dean and Chapter archives, are particularly rich in their early modern deed collections. The larger centres have also received the greater degree of attention from historians. The urban development of the region from a historical perspective is newly synthesised in the Cambridge History of Urbanism (Palliser 2000 and Clarke 2000). The extensive urban survey of Northamptonshire towns will form the basis of a publication (Foard, *forthcoming a*) and several other counties await surveys as part of English Heritage's extensive urban program. These offer the opportunity the synthesise the growing 'grey literature' and shed light on urban development through comparative analysis. Important studies on the social and economic history of small towns and their rural hinterlands include those for Melton Mowbray and Lutterworth in Leicestershire (Fleming 1980; Goodacre 1994). Goodacre's (ibid., 21-34) study includes a detailed analysis of the marketing infrastructure in the Leicester-Coventry-Northampton triangle, from small towns to villages with inn accommodation. Everitt (1967) has published data

nationally on markets and fairs in the period 1500-1640, while the Centre for Urban

History at Leicester University has compiled population data for all earl-modern English

small towns (Clark and Hosking 1996).

Post-medieval archaeology faces a number of specific problems within towns. The build-

up of archaeological soil deposits in most towns in northern Europe ceases around 1300

as a result of improved building construction and the urban government's organising

waste disposal to the surrounding countryside. As a result buildings from the late-

medieval period onwards stand at the same level as do modern buildings. Re-used stone

foundations and cellars from the late-medieval or early modern period are thus often very

difficult to date and susceptible to damage during demolition. Nottingham also faces the

particular problem that successive rebuildings start by scraping down to the sandstone

bedrock (G. Young, *pers. comm.*).

Much post-medieval archaeology in towns has therefore been dominated by the study of

standing buildings or the ceramics or other finds recovered from cut- features like pits

and ditches in gardens. Unfortunately, permanent brick or stone-lined cesspits which

have proved such a rich source of dateable assemblages on the Continent are relatively

rare in British towns. Another major problem is that though the population of many

towns rose in the early-modern period this is rarely reflected in urban growth. Rising

populations seem to have been absorbed by infilling empty plots and adding extensions

existing buildings or sub-dividing them (Taylor 1992). Nevertheless more sensitive

approaches to machining may enable post-medieval house plans and sequences to be

recovered. Recent excavations at Bonner's Lane in the south suburb of Leicester and an evaluation excavation in the urban centre at St. Nicholas Place in Leicester have both proved productive (Finn 1994 and Marsden 2000)

A surprising amount of architectural evidence still survives in both the larger and smaller towns from the late medieval and early-modern period, often encased within later brick facades. Such remains in small towns are particularly susceptible to loss without recording. Recent survey work in Hinckley has identified a number of timber-framed houses, often hidden behind later facades (Finn 2000 and Ryder 2000). Particular attention needs to be paid to modifications of buildings in the early-modern period which might shed light on the emergence of greater privacy and/or more crowded urban living. Evidence of early-modern infilling and industrial activity was found on abandoned medieval plots in the market settlement of Mountsorrel (Leics) (Lucas 1988). The yards or passages south of the market place in Newark (Notts) have been shown to be a Georgian development (Fairclough 1976; Todd 1977). It is important to reconstruct the social history of individual buildings where they can be tied into documentation though this is likely to be restricted to higher status structures especially in the less well documented boroughs. Important case-studies of urban inns include include the Peacock Inn in Chesterfield and the Old Flying Horse in Nottingham (Borne *et al* 1978; Douglas *et al* 1987). Buxton Hall (Derbies) and the long demolished Lords' Place in Leicester are both examples of 16th century aristocratic town houses (Thornes and Leach 1994; Courtney 2000). Ongoing work includes the Lincoln urban survey and Trevor Fould's work on Nottingham Castle.

Systematic analysis of probate inventories can shed light on building development, for example, Alan Dyer's (1981) analysis of inventories from four midland Towns. His analysis concluded that some towns had renewed their housing stock in the late Middle Ages ahead of Hoskins' 16th century 'Great Rebuilding', followed by a second phase of rebuilding in the late 17th century. He also found evidence in some towns for single storey construction and division of larger houses into 'maisonettes' in the early 17th century. Evidence for subdivision into 'tenements' was found in the survey of the Peacock Inn, Chesterfield (Borne *et al* 1978). This kind of adaptation to a rising population ought to a main concern of structural research in towns. In contrast to Dyer's results, a recent survey of timber-framed buildings in Newark suggests a phase of re-building in the 16th rather than the 17th century (Samuels 1995a). It would be interesting to compare these results with the documentary evidence.

II. iii Research Agenda

The demolition of suburbs in the Civil War as was the fate of Leicester's poorest suburb outside the south gate also provides a potential dated marker horizon in urban development (see also section V: military). Unfortunately buildings revealed in the Bonner's Lane excavation were only partly excavated, but totally destroyed when the contractors failed to abide by the agreed boundaries of destruction. Documentary evidence suggests its rebuilding was prolonged and piece-meal. The build-up of garden soils noted in the less developed parts of towns (e.g. north east Leicester) is still poorly

understood (see Foulds 1999 on medieval gardens). Evidence for the introduction of market gardening is evident in many towns from the 16th century through the appearance of bedding trenches presumably for such root crops as turnips (Cooper 1996, 32-3; Courtney 1994, 14-5). It might be possible to locate extra-urban civic rubbish dumps such as those documented at Leicester in a document of 1508 (Courtney 1998, 116; see also Jones *et al* 2000, 98 for Northampton). Indeed, a 17th century dump has been excavated at Castle Street, Plymouth (Gaskell Brown 1979). Another area of potential research is urban water management (mills, flooding, industrial location, piped water supplies, wells, pumps), following the pioneering work in André Guillerme (1988) in northern France.

Of prime importance must be any finds or environmental assemblages which can be related to individual households whether or not they can be identified in the documents. The material culture of the urban poor, sometimes concentrated in poorer suburbs, is also a national priority. The lack of archaeological study of the urban and rural poor despite the fact it is often well preserved, and is disappearing rapidly, is a major indictment of the lack of focussed research design in archaeology. Other important aspects of town's in this period are the emergence of a professional class (lawyer's, doctor's etc) with their concomitant architecture. The building and adaptation of public buildings to meet changing administrative and other need such as school's, prison's, almshouses, town/guild/market halls is of major importance (e.g. Chorleton 1993 and Courtney 1996b). The changing use of social space within such buildings is a growing field (e.g. Giles 1998). Stocker's (1997) study of the inconography of the Lincoln Stonebow

suggests that the rebuilding of this gate in the early 16th century was linked to the town renegotiating its fee farm obligations with its feudal overlords. Courtney (1996b) has utilised the changing locations of civic buildings as evidence of changing urban social space in Leicester.

To make effective use of the smaller scale interventions most common under PPG16 it is vital to treat sites as part of a wider urban landscape and to fully understand the processes of deposit formation and destruction. The integrated use of physical remains, documents and old photographs and drawings is also essential perquisite to understanding post-medieval urban landscapes. At Nottingham, for example, the eastern side of the English Borough was abandoned c.1350 and not reoccupied until c.1600 or later (G. Young, *pers. comm.*). Most of all we need to have intelligent research designs if archaeology is to shed light on this technically demanding period. The study of urbanisation is a major key to understanding both the region and nation. However, the high cost of urban excavation means that it is often difficult to raise adequate funding for post-excavation and publication through the PPG16 process. There seems little prospect, for example, of the important series of recent excavations in the south suburb of Leicester, including important post-medieval finds and environmental assemblages, being published. Synthetic publication of such important 'grey literature' is highly desirable.

III. Rural Landscapes

III. i Towards a holistic approach

For convenience this section is broken down into landscapes of display (country houses and gardens), agrarian landscapes and woods and commons. However, in reality they all form part of a highly integrated rural landscape. The aesthetic landscaping of country houses (for example, the use of lines of trees to shape views) often extended into the lands of the surrounding tenant farms. Indeed, a combination of economic and aesthethic motives underlay the improvement of both farm-land and parks. Furthermore, much industry in this region is located in the countryside and its seasonal nature entwined with the seasonal rhythms of the agricultural year in a dual-economy. Patterns of landownership and tenancy as well as the varying agrarian regimes of the region are important underlying factors in understanding the uneven pattern of improvement and modernisation in the rural landscape.

III. ii. Landscapes of Display

The distribution of great houses and their gardens in the landscape is far from random. Alan Everitt (1966 and 1969), for example, noted that 17th century Leicestershire was a county dominated by gentry and village manor houses while Northamptonshire was notable for the many stately houses of the newly rich. He suggested that sales of royal forest in the latter county played an important role in creating this pattern. Certainly a concentration of grand houses and gardens is also found in the Sherwood area of Nottinghamshire where the sale of Sherwood Forest offered similar opportunities (Baddeley 1994 and 1996).

There are many surviving aristocratic and especially gentry houses across the region though many have also been destroyed over the last century. The surviving examples are mostly listed in the Pevsner volumes and some are covered by articles in *Country Life*. Published surveys of country houses exist for Northamptonshire (Heward and Taylor 1996) and at a more popular level for Derbyshire (Craven and Stanley 1991), Leicestershire (Cantor 1998) and Lincolnshire (Leach 1990-1; Leach and Pacey 1990-3). The rural gentry houses of Nevill Holt and Quenby (Leics), Beeston manor house and Grove Hall (Notts) have recently been the subject of detailed architectural study (Hill 1999; Green and Schadla Hall 2000; Johnson and Cox 1985; Wallwork 1982). Nevill Holt has also been the subject of an estate study (Broughton 1985).

Some monasteries such as Lenton Priory (Notts) were totally abandoned after the Dissolution (Barnes 1987). Other monastic buildings, both conventual and granges, were converted to secular dwellings in the 16th century. An integrated study of buildings and gardens was undertaken by Field and Clark (1991) at Langtoft Hall Farm (Lincs), a former monastic grange, ahead of redevelopment. Ongoing research at Leicester Abbey, utilises it as training project for Leicester University students and is aimed at developing it as a general educational resource. The project has already shed light on the conversion of the abbey gatehouse to a residence for the Hastings family in the 16th century. It combines the use of limited non-destructive excavation alongside the use of building and geophysical survey and documentary research (Buckley 1997). Building and geophysical

survey has also been used at Laund Abbey (Leics) to identify the former monastic components within the later house and gardens (Beavitt 1995).

There has been a lack of regional research on the post-Dissolution land market in the East Midlands apart from Cameron's (1975) article on Nottinghamshire and Hodgett's (1975, 39-62) chapter on Lincolnshire. Most monastic granges and demesnes appear to have been leased to secular farmers prior to the Dissolution. This enabled some enterprising individuals to build up estates with the freedom to create parks and gardens if they wished, as did the sale of the royal forests. At Anstey (Leics) the former land of Leicester Abbey was not sold off until the reign of Elizabeth when it was granted as freehold to the sitting tenants. As a result the village became a classic open settlement with squatters, sub-divided housing and framework knitters (Courtney, *in progress*)

One of the advantages of studying great estates are the often rich estate archives especially the availability of estate maps. Among published sources are the series of survey maps by William Senior of the Chatsworth estates in Derbyshire of c.1600-28 (Fowkes and Potter 1988). Nichols (1980 and 1987) catalogued the local maps available for both Nottinghamshire and Derbyshire prior to 1770 from both local and national repositories. Broughton (1984) has catalogued the estate collections of Leicestershire and Rutland which are held by the county records office. The National Register of Archives computerised catalogue is invaluable in tracking down estate archives across the country and the manorial index for the Midland counties will hopefully be added in the future (http://www.hmc.gov.uk/main.htm). The Public Record Office

(http://www.pro.gov.uk/default.htm) and British Library manuscript catalogues

(http://www.bl.uk/collections/manuscripts/) are also available on computer though these

work better for some categories of records than others. Other useful web databases are

the Vernacular Architecture Group's list of dendrochronological dates and volumes III

and IV of their bibliography, both of which are archived on the Archaeological Data

Service (http://ads.ahds.ac.uk/catalogue/)

Northamptonshire has the best studied gardens and many are recorded in the Royal

Commission Survey volumes (RCHME 1975-82). A recent English Heritage funded

project to enhance the Register of Parks and Gardens has identified about 150 gardens in

the county (Hall 2000). Cantor and Squires 1987) have published a useful book on

historic parks and gardens in Leicestershire. Steane (1977) has also published a paper on

Tudor gardens in Northamptonshire including details of an elm pipe and pottery spigot

from the water supply system of an 18th century fountain at Boughton. Brown and Taylor

(1972) have also published an in depth study of the garden earthworks at Lyveden

(Northants.). Garden ponds, though sometimes cleaned, may have potential

environmental evidence, such a fish bones and pollen.

The Royal Commission survey of West Lindsey has also recorded gardens and parklands,

mostly of the 16th-17th centuries (Everson *et al* 1991). Several garden earthworks were

also surveyed in Leicestershire, for example Kirby Bellars, as part of the earthworks

survey program in the 1980s (Hartley 1987, 10-1 and fig. 26). Many deserted villages

across the region, for example Staunton Harold in Leicestershire, became incorporated

within parks. The recent discovery of a late medieval/Tudor detached garden at Southwood (Derbies) on National Trust property by Janet Spavold and Sue Brown (*pers.comm*.) indicates there is much work on basic identification still to be undertaken. Baddeley (1994 and 1996) has studied the gardens and parks of north Nottinghamshire and Gillot (1979) examined the running of a royal deer park, Bestwood in Sherwood, prior to its sale in 1697.

Is clear that over much of the East Midlands the recognition and recording of gardens is a priority not least because of their susceptibility to destruction without recognition (see Brown 1991 and Taylor 1983 for general background). Documentary and map sources are clearly much less rich for the gentry than aristocracy but we must recognise the value of garden remains across the whole social range. Basic surveying of garden remains complemented by geophysical survey where possible is a priority. The value of excavation and environmental evidence in shedding light on gardens has been demonstrated by such projects as Kirby Hall in Northamptonshire (Dix *et al* 1995). More comparative excavation is needed across the region if we are to understand how gardens were modified as fashions, and individual family fortunes, changed.

Gardens need to be understood as part of the wider manipulation of the landscape by landowners including parks and the creation of tenant landscapes (Bettey 1993). They also need to be understood in relation to their function as places of upper class display and ostentation. Williamson (1995), for example, has demonstrated how the 18th century garden reflected the rise of 'polite society' marked by increased social interaction between the aristocracy and gentry and professional classes below them. In particular the use of space in gardens needs to be regarded as an extension of space within the elite house. A major trend in modern scholarship has been the study of how landowners manipulated the wider landscape both to provide suitable views from their house and

garden but also to impress and delight the approaching guest (*ibid* ; Upton 1988; Locock 1994; West 1999).

Excavation is an important tool in both dating earthwork features and in uncovering sequences of garden development. The moat at Bulwell, Nottingham proved after excavation to be a nineteenth century landscape feature rather than medieval as first thought (Drage 1979). Excavation can also potentially shed light on garden features, planting beds, structures such as orangeries and greenhouses for forcing plants. Gardening tools, flower-pots, glass covers and garden ornaments are all recovered in garden excavations (Noël Hume 1974). Environmental evidence such as soil structure and pollen can shed light on soil preparation and on both the species of plant and how they were utilised in parks and gardens (For techniques see Currie and Locock 1991; Kelso and Most 1990; Pattison 1998; Dix 1997 and 1999). Many gardens had elaborate water management and drainage systems as at Kirby Hall (Northants). Recent work for English Heritage in the fountain garden at Little Castle, Bolsover Castle (Derbies) has uncovered remains of the piping feeding the Venus fountain in (Dix 1999).

As well as possessing ideological and spatial aspects polite houses and landscapes were also functional. Masters, servants and tenants lived, worked and interacted in these landscapes. We need to know more about the material culture of all the inhabitants of the polite landscape. Even resistance might just be discernible in this landscape of lordly domination, for instance, in the material culture of servants and tenants (see McGuire and Paynter 1991). It is also important to understand the geography of elite landscapes across

the region and the interaction between aristocracy, gentry and an emerging middle class. Some of these social patterns have very ancient roots, while others will be more modern in origin.

III. iii. Agrarian Improvement

Overall, the period 1500-1750 is marked by gradual, but not revolutionary, change at in he agrarian economy and landscape, though change in the form of enclosure could be revolutionary for individual communities (Overton 1996 a and b). In particular it is marked by growing regionalisation and early experimentation with improvements such as enclosure, water meadows and new crops like clover. However, many scholars would now place the roots of both improvement and regional diversification back into the late medieval period (Dyer 1997). Two main periods of desertion linked with livestock enclosure have been recognised reflecting rising wool and leather prices, c.1450-85 and c.1504-19. It is now apparent that desertion was often through gradual amalgamation of holdings (engrossment) in already vulnerable townships rather than through enforced eviction (Beresford and Hurst 1971, 11-6). Early general enclosures and desertions tend to concentrate on the clay soils of the East Midlands watersheds or wolds (Fox 1989).

The historical work of Finch (1956) and Martin (1983) on Northamptonshire is relevant for the rise of Tudor sheep farming and its role in the nascent capitalism debate. Kerridge (1967) is still an important source on Tudor and Stuart improvements but needs to be read alongside other work, which takes a more evolutionary line to this period (Thirsk

1967; Glennie 1991; Overton 1991; Campbell and Overton 1993). In contrast, the sheer scale of agrarian, demographic and industrial change in the 18th and 19th centuries, despite various revisionist attacks, still stands cumulatively as a true revolution in human history (Overton 1996; Berg and Hudson 1992). However, change in both periods is cyclic, regional and sectoral; and periodisation, while a practical necessity, has to be treated with caution (Courtney 1997a).

Crucial to any understanding this period is the tentative map of farming regions for the period 1500-1640 produced by Joan Thirsk (1967, fig. 1; see also the chapters in Thirsk 1984 for the period 1640-1750). All three of her broad farming types occur across the East Midlands: mixed farming, wood pasture and open pasture. The most widespread regime was mixed corn and stock farming. Livestock bred in the fens and uplands (from as far away as Wales and the Lake District) was moved into the mixed farming regions for fattening before supplying London and the other growing urban centres. Corn was shipped out along the rivers into the coasting trade or even across to Holland. Variations in this regime occurred on the clay watersheds or wolds and on the chalk/limestone uplands of Lincolnshire, the latter supporting a sheep and barley husbandry.

The main wood pasture regions were the royal forests of Rockingham, Salcey and Whittlewood in Northamptonshire, Sherwood Forest in Nottinghamshire and the non-royal Charnwood and Leicester 'forests' in Leicestershire (see Pettit 1968; Fox and Russell 1948 and Crocker 1981 for important local/regional studies, though widely

differing in approach). The main areas of open pasture were the Pennines and the Lincolnshire Fen. Piecemeal enclosure of open fields and from the waste and commons occurred across the 16th and 17th centuries, especially in the wood pasture regions. Resident lords also sometimes bought out tenancies in order to create enclosed landscapes of improvement.

Socially the period was marked by growing stratification. At the bottom was a landless class which increased with the inflationary decades of the 16th century and the disruption of the mid 17th century. Enclosure generally tended to have a depopulating effect. In Northamptonshire forest areas some villages trebled their size between the 1524 lay subsidy and 1670 heath tax (Pettit 1968). This contrasts with the deaneries of Nottingham, Retford and Newark in Nottinghamshire whose population appears to have fallen slightly between Archiepiscopal visitations of 1603 and 1676 (Wood 1942). By the 17th century a distinction between open and closed villages had emerged (Goodacre 1994, 225-40). Open parishes or townships with multiple freeholders tend to be associated with concentrations of squatters and labourers, domestic rural industries and nonconformity. By contrast dominant lords in closed parishes restricted cottages and squatting in order to stop them claiming on the poor rates and/or restrict non-conformity and radicalism. (Holderness 1972).

Major sources for studying the landscape include estate records, especially maps and deeds. Probate inventories may record livestock and crops as well as often giving room names and contents. There is also the physical evidence of the countryside in its

surviving field shapes, woods, roads, farms and dwellings. Estate maps and nineteenth century tithe maps area vital source for the changing landscape. However, there is a danger in concentrating on places with good estate records and maps, which are likely to be those areas most subject to capitalist landlords and improvement. Field systems, especially open fields, have been studied most intensively in Northamptonshire (see Hall 1993 for a recent synthesis and reference to local surveys). Studies on the Peak include Wrightman's (1961) work on open fields, Somerville's (1977) study of 'Newland' encroachments upon the wastes, and Shimwell's (1974) paper on blanket peat erosion resulting from sheep grazing. Jackson (1962) and Carr (1963) have also published fields on the extent and types of open fields in Derbyshire. Ridge and furrow has been sketch plotted in Leicestershire and Lincolnshire (Hartley 1984, 1987 and 1989; Field 2000). A recent project of English Heritage and Northamptonshire Archaeology has been mapping ridge and furrow in the south Midlands east of Birmingham and assessing parameters for preservation as part of the Monument Protection Program (Hall 1993 and 2000)

Enclosure in Leicestershire in the period 1485-1607 was the subject of a pioneering Ph.D thesis by Parker (1948), and although never published a copy is available in the county records office (see also Parker 1946-7). The Parliamentary enclosure acts and awards of the second half of the 18th century strictly lay outside the period range of this paper but need to be understood within the longer time-frame of agricultural improvement. The acts are nationally listed by Tate (1978) who also discussed the Derbyshire records in more detail (1944-5). The Russells have made a notable contribution with their numerous township studies of parliamentary enclosures in Lindsey (Russell and Russell 1987; see

also Tyszka *et al* 1991 for full bibliography). Other local studies include those of

Hartshorne and Eddinton in Derbyshire (Spavold 1984 and Dalton 1996). Doctoral

theses have been written on the Parliamentary enclosures of Nottinghamshire and

Leicestershire (Brown 1995; Hunt 1955; see also Hunt 1957). Yelling (1977, 46-58) has

used SE Leicestershire as a regional case study to study the long-term history of

enclosure and its associate debates. Hall (1997) has written a paper assessing the long-

term enclosure history of Northamptonshire from the 15th century (see also Neeson 1979

and Anscomb 1988-9). Barnes (1999) article on Orston (Notts) and Doe's (1973) paper

on Beeley (Derbies) are useful local studies indicating the gradual evolution and

adaptation of open field systems. Reclamation, not all entirely successful, of the

Lincolnshire marshes and peat fen began in seventeenth century and became more intense

in the following century (Darby 1982 and Holmes 1980, 121-30).

Whether or not enclosure had a negative or neutral impact on the economy of the small

landholder has been the centre of a long standing debate. Certainly many small holders

left the land during or after the process of pre-parliamentary enclosure, whether freely or

by coercion, and improving landlords were quick to demolish empty tenements. Two of

the most significant modern studies have both argued that cottagers suffered as a result to

the Parliamentary enclosures through both loss of common rights and the paucity of wage

labour (Snell 1985 and Neeson 1993). Different villages also had differing experiences

depending on land-ownership structures and opportunities for other work. In the

Mountsorrel area of Leicester, a mining area, the decline in small holders after

Parliamentary enclosure was probably considerably less than in North Northamptonshire

(Joyce 1999; Colyer-Moore 1997 and 1999) The loss of the cottagers in the population was often partly made up by the use of servants who lived in the farmer's house. However, people were often servants for only part of their life cycle. Service on farms was generally dying out by the early 19th century but the construction of tied cottages sometimes created a new dependency.

III. iv. Woodland, Common and Squatting

The larger areas of woodland in the East Midlands were concentrated on the poorer soils. Many disappeared in the post medieval period while others were largely exploited as sources of coppice wood, which were cyclically cut to produce wood for charcoal burning or handcrafts such as chair making. Tony Squires' studies of medieval and later woodlands in Leicestershire are a notable regional contribution (Squires 1983; Squires 1994; Squires and Jeeves 1995). Of some importance are the woodland surveys of the crown which as well as giving valuable information on the changing extent of woodland also often shed light on the surrounding woodland-pasture countryside. Perhaps the most impressive single source is the recently published edition of the 1609 crown survey and map of Sherwood Forest (Mastoris and Groves 1609).

Many maps and other records also survive for the Northamptonshire crown woods (Pettit 1968; Hall 2000). The studies by Pettit (1968) of Northamptonshire's royal forests and an excellent amateur history for Passenham by Brown and Roberts (1973) make good starting points for research on the woodland pasture landscapes of Northamptonshire. A major problem is the difficulties is actually dating the origins of settlement in these areas

(Hall 2000; Bishop *et al* 2000). The current research project under the auspices of thee Medieval Settlement Research Group into the settlement of Whittlewood Forest area may shed further light on the post-medieval as well as medieval evolution. There is a need to study woodland features such as lodges, wood and park banks, charcoal pits and ponds (note potential environmental deposits). Many of these features are highly susceptible to destruction through forestry, agriculture or development. The integrated use of documentary, archaeological and ecological evidence has proven a useful approach to woodland history (Rackham 1981 and 1987). Woodward's (1984 and 1992) studies of the evolving ecology of Groby and Swithland woods in Charnwood (Leics) offer useful local case-studies.

Commons and waste also played an important source of pasture for many townships. The practice of temporary cultivation or 'brecks' in Sherwood Forest continued into the 18th century (Fowkes 1977). Concentrations of squatters are frequently found around the wastes, commons, woodlands and roadsides of the woodland pasture regions. Squatting benefited the farmers by keeping the landless off the poor rates, often gave their own children a start in life and benefited the crown or rarely resident lords who collected the fines (*de facto* rents) from the squatters. However, pro-active lordship, as in the Charnwood area of Leicestershire, could keep such landscapes free of squatters. Many wastes and commons suffered partial or complete enclosure, initially through stealth or agreement and later by Parliamentary Act.

The mixture of nucleated and dispersed settlement found in the wood-pasture regions and their tendency for fields to be under grass offer particular problems to the settlement archaeologist. A desktop study by Clay and Courtney (1995) highlighted a possible squatter or industrial settlement on the edge of waste at Cloud Hill in Leicestershire. This case highlights both the potential and problems of such sites. Most of the cottages had already been demolished but subsequent field-walking produced pottery of the 15th century onwards (Liddle 1995a). Unfortunately a single surviving cottage-ruin was subsequently destroyed by the laying of an electricity cable (P. Clay, *pers. comm.*). Such sites are disappearing rapidly from the edge of woods and commons through erosion by every day agricultural and forestry activity. A more pro-active approach is needed to locating and dating settlement sites in wood pasture regions. The American rapid survey system of shovel-pit testing has a potential role (Schaffer and Cole 1994)

III. v Vernacular architecture

Another major source for understanding the countryside is vernacular architecture both of housing and agricultural buildings. The largest systematic survey is that published by the RCHME (1984) for north Northamptonshire and, for the present, it must serve as a benchchmark for comparative analysis across the East Midlands region. The late Maurice Barley's (1961) *The English Farmhouse and Cottage* also has many examples from the north of the region and demonstrates the value of glebe terriers and probate inventories for studying housing. Some of the introductions of the second editions of the *Pevsner Buildings of England* series also provide brief introductory essays on vernacular architecture, notably those for Nottinghamshire, Leicestershire and Lincolnshire (Barley

and Clifton-Taylor 1979; Smith 1984; Roberts 1989). Mud or cob-built buildings are found across the Midland clay lands (e.g. Seaborne 1964 and Samuels 1980). However, the technique of combining with timber studs appears to be unique to Lincolnshire, especially Lindsey. Rodney Cousins (2000) has recorded over 700 examples, about half demolished, in his recent study of this house type, dating from at least the late 17th into the mid 19th century. However, only a few examples have been the subject of detailed survey (Roberts 1974b and 1975; Field 1984; Miller 1991). Roberts has suggested that the lack of investment shown by this method and associated 'archaic' framing techniques in early modern Lincolnshire may reflect a lack of investment due to the prevalence of short leases (Roberts 1974a; 1974b and 1975).

Surveys of buildings in North-east Derbyshire by Bob Hawkins and others showed a transition from timber-framing to stone in the 16th century and improvements over the 17th and 18th centuries. Derbyshire County Council, the Peak National Park and the RCHME formerly funded a dendrochronological dating project. This concentrated on cruck buildings, especially farm buildings, in the national park and demonstrated a preponderance of dates in the 15th and 16th centuries with few after 1600. Barbara Hutton (1991 and 1992) has published surveys of timber-framed buildings in South Derbyshire which suggest that the improvement of farm houses is concentrated in the 17th and 18th centuries. Such chronological variations in the 'great rebuilding' originally proposed by Hoskins can probably be found across the region and class based divisions are also likely. The desire to invest in new buildings probably relates to a complex mixture of factors such as population increase and patterns of wealth and consumption. The investor's

feeling of economic security is also important and may reflect tenurial as well as economic conditions (Hoskins 1953; Machin 1977; Taylor 1992). Another major interest in vernacular architecture has been the use of building materials (see also industry section). Northamptonshire is especially rich in its variety of building stones (Hudson and Sutherland 1990; Parry 1987). Brick was known in the region from the 15th century in high status buildings such as the castles of Kirby Muxloe (Leics) and Tattershall (Lincs) but even in the clay lands brick only becomes the norm in the 18th and 19th centuries (Barley and Clifton-Taylor 1979; Smith 1984).

A growing field is the social history of houses, for instance, Matthew Johnson (1993 and 1997) has linked changes in the plans of yeoman houses to changing patterns of family relationship. It is often difficult to tie probate inventories to lesser status buildings but in any case they give valuable information on the use of rooms and the material culture within them. Buildings also need to be understood within their landscape settings, for instance, some villages show social segregation with 'chapel ends'. At Anstey green (Leics) cottages appear only on the north side of the green opposite the large farm houses on the south side (Courtney, in progress). Alcock's (1993) seminal and interdisciplinary study of Stoneleigh (Warwickshire) is an example of what can be achieved in an admittedly, exceptionally well documented village with good vernacular survival. Another important field is the study of cultural regions. Leicestershire is an area, for example, where both cruck and timber-framed building techniques coincide and a wide range of timber-framing styles is found in Leicester (Smith 1984; Webster 1954). In Lincolnshire there is a strong Dutch influence (Neave 1994).

III. vi. Research Agendas

An understanding of agrarian landscapes is clearly essential for conservation and heritage management purposes. A major problem is that the agrarian landscapes often present a superficial image of timelessness hiding the constant attrition of relic landscape features caused by changing faming techniques. Many classes of evidence may be lost entirely because they are being slowly eroded by agricultural practice rather being the subject of large-scale redevelopment. A major firsts step is to characterise the landscape. Characterisation mapping needs to be extended especially using GIS (geographic information systems). The county-wide Derbyshire project which has now been completed shows the potential of this method. This project created a series of time slices based on the surviving historic map evidence (Barrett 2000). It has great potential to shed light on the complex relationships between arable, wood, common, waste and industry in the wood pasture regions. However, it is not without its value in the champion regions. Such an approach offers a useful planning and analytic tool. However, it is no substitute for the detailed documentary and topographic reconstruction of localities. There is also a need to include heritage conservation issues in such agri-environmental schemes as the Countryside Stewardship.

More work needs to be done on the ecology of hedgrerows and woods, for instance to shed light on original planting schemes (Woodward 1984 and 1992). The 1997 Hedgerow Regulations offer new opportunities for preservation (Hall 2000). We also tend to record and preserve examples of such endangered features in the landscape as wood and park

boundaries. Environmental evidence has an important role in the study of improved animal husbandry and the introduction of new plants, as well as reconstructing of specific rural and urban environments (Giorgi 1997 and 1999; Albarella 1997 and 1999; Armitage 1984). The sheep of Leicestershire and Lincolnshire were said to the largest in the country by Daniel Defoe, and the 'Old Midland longwool' is said to have been large-boned, long-legged and hornless (Armitage 1984, 139-40; Trow-Smith 1957, 165). However, environmental work in Leicester has failed to show indications of size improvement before the 18th century (Thawley 1981; Gidney 1999). Baxter (1998, 59) has suggested that this disparity may reflect the selective purchase of non-improved sheep (useful for their horns) for consumption within the borough.

Early enclosure often led not entirely to desertion but to the occupation by tenants. Evidence for such 16th-17th century occupation has been recognised on recent deserted village excavations at Eye Kettleby and Brooksby in Leicstershire (N. Finn and D. O'Sullivan, *pers. comm.*). Dairy farming also emerged in the same period especially in the wood pasture regions but it also accompanied enclosure in champion areas. This offers possibilities for studying its material culture (buildings and ceramics) through excavation. The Ticknall kilns in S. Derbyshire were major producers of dairy ceramics (D. O'Sullivan*, pers. comm.*). There is also much scope for comparing the material culture and consumption patterns of different classes and sub-regions. There is a major need for more detailed recording and dendrochronological dating of houses of all classes. A major concern is the number of historic buildings being demolished or radically altered

across the region without detailed survey. There is also a lack of regional and sub-regional synthesis. Excavation of abandoned farms or cottages is an urgent priority as they offer enormous potential for the material culture of individual households.

IV. Industry and Communications

IV. i. Dual Economies

A seminal essay by Joan Thirsk (1961) on industry in the English countryside emphasised the sociological patterns associated with different agrarian regimes. In particular she noted that wood pasture regions tended to be associated with weak manorial controls, rising early modern populations and early industrial growth in the early modern period. She argued that the low labour demands of pastoral orientated economies allowed workers to practice by-employments, essential craft or industrial labour in the summer. The regional model of early industrialisation was given a more theoretical and European perspective by Franklin Mendels (1972). However, a number of his ideas, for example, that proto-industrialisation led to a fall in the age of marriage and thus stimulated a rise in family size and population are controversial. Many areas where British industry was located saw rising population through immigration and such responses as a falling age of marriage were also a feature of non-industrial agrarian areas, perhaps a reflection of the growth of capitalist agriculture (Houston and Snell 1984).

Another central problem is also how the economy progressed from proto-indutrialisation to full industrialisation. Areas like Leicestershire developed urban steam-powered textile factories in the 19th century alongside a continuing rural and domestic-based framework-knitting industry. Other areas of proto-industry like N.W. Northamptonshire deindustrialised. This suggests the futility of divorcing regional analysis from an understanding of structures and processes at the national and international levels. There is

also growing interest in the way that some regions and even nations, notably the

Netherlands, modernised without undergoing industrialisation.

A major recent development in the study of early industrialisation has been the interest in

the role women and children played in the work force (Hudson and Lee 1990). Jan de

Vries (1993 and 1994), for example, has suggested that the Industrial Revolution was

preceded by a consumer-led industrious revolution. He has argued that the period c.1650-

1750 was marked by increased standards of living as women and children became more

actively involved in the labour market in order to buy the new consumer goods, many of

them direct or indirect products of Colonialism. This he argues was an important start to a

supply-led Industrial Revolution in which producers fuelled growth by technical

innovation and organisation change to push down prices. An example that illustrates that

such phenomenon can be observed in the archaeological record is provided by the polder

boat wrecks in Holland which show a shift from dependence on male labour to family

workforces in the 17th century (Courtney 1997a, 11; van Holk 1997)

IV. ii. Some Key Industries

The furnaces of the charcoal iron industry was concentrated in the Chesterfield region

though spread to south Derbyshire after 1650. The iron forges were more geographically

widespread (Riden 1991; Johnson 1960). Lead mining was the dominant industry in the

High Peak and has been the subject of a great deal of documentary research and field

recording (e.g. Kiernan 1989; Crossley and Kiernan 1992). Other industries in north

Derbyshire included millstone manufacture and sickle/scythe making at Eckington

(Radley 1963-4; Polak 1987 and Battye 1999). The archaeology of the coal fields of Derbyshire, Nottinghamshire and Leicestershire is of national importance. These coal fields were exploited from medieval times and there are considerable surface remains in many areas (Owen 1984). Fred Hartley (*pers. comm.*) has plotted the Leicestershire bell pits onto SMR maps. Derbyshire county council is currently plotting remains from air photographs associated with coal mining in an English Heritage funded project. Extensive remains in west Nottinghamshire have yet to be surveyed (Bishop *et al* 2000). The most important finds have been the surveying of 15th-17th century coal workings during open cast mining at Coleoton (Leics) in 1985-95. Some mines were over 100 feet deep by 1500 and reached by timber-lined shafts. Artefacts recovered includes miner's tools and stools and even a 16th century jacket (Hartley 1994a and b).

The wool textile and leather industries were of some importance in the East Midlands. From the late 17th century, framework knitting was widespread in towns like Leicester and the villages of west Leicestershire, south Nottinghamshire and east Derbyshire. It was especially associated with 'open' villages. (Chapman 1972; Rogers 1981; Mills 1982; Palmer 2000). Broadcloth making in Northampton as elsewhere was probably in decline by the late 16th century. This was due to the shortage of domestic short wool as enclosure led to larger animals with longer fleeces (Dyer 1980, 76; Bowden 1971, 41-56). Worsted manufacture using long wool prospered from the late 17th century in parts of Northamptonshire. Wool combing was concentrated in the clay lands of N.W. Northamptonshire, especially at Long Buckby, while weaving was concentrated in and 1around Kettering (Randall 1970 and 1971; Hatley 1967-8 and 1973, xvi -xvii; Hall

2000). The leather trades were important in the towns of Leicester, Ashby de la Zouche and Northampton with the latter emerging as a major shoe making centre in the Civil War period (Shaw 1996, 112; *VCH, Northants*, ii, 310-30; Edwards 2000, 132, 136 and 153).

Many of these early industries were domestically organised and did not utilise specialist buildings at this date. They are often difficult to detect from excavation though tenterhooks, for example are, sometimes recovered from excavations. Of national importance was the excavation of the late 15th-17th century tanning complex at the Green, Northampton (Shaw 1996). This site also highlights the potential of chemical and animal bone analyses (Harman 1996; Evans 1996). Animal bone analysis suggests that excavated wood-lined pits of the late 15[th-]/early 16th-century in Bonner's Lane, Leicester were for tawing, that is tanning sheep-hides (Finn 2000 and Baxter 1998). Excavated post-medieval horse bones from a site in Market Harborough (Leics) probably indicate a horse knackers yard (Baxter 1999)

Documented urban industries include tanning, dyeing, fulling, smithing, pewter manufacture, pin-making, gold- and silver-smithing, brewing and malting amongst many other crafts (e.g. Charman 1949; Dyer 1980; Chinnery 1986). Tanning pits and a malting kiln of 15th-16th century date have been excavated in sandstone caves at Nottingham (Waltham and MacCormick 1993). In Newark a mid 17th-century lime kiln was excavated on the back of the medieval southern rampart (Todd 1974). Further post-medieval lime kilns on the site of the levelled northern rampart are less clearly dated but it has been suggested may have built for the post siege reconstruction (Kinsley 1993).

In the countryside quarries and brick making on the clay lands are widespread. The Ketton/Weldon quarries in Rutland/Northamptonshire border have been studied (Best *et al* 1987). The Nottinghamshire alabaster carving industry continued into the 16th and early 17th centuries (Barley and Clifton-Taylor 1979, 47-8). Quarrying and digging was also undertaken in suitable locations as a source of marl for fertilising soils, clay for bricks, tiles and pottery, and limestone for lime manufacture. McWhirr (1997) has surveyed the Leicestershire brick making industry before 1610 and Robinson (1999) listed the early brick buildings of Lincolnshire. Salt making continued on the Lindsey Marsh into the early 17th century and excavations of salt pans at Wainfleet St. Mary have produced 15th or 16th century pottery (Sturman 1984; McAvoy 1994). Tile production is known from documentary evidence in Boston and Lincoln and a 15th-16th century kiln excavated at St Marks, Lincoln (Field 200). Early-modern brick clamp-kilns have been excavated at Anstey (Leics) and Flintham (Notts) (Beamish 1995 and Alvey 1982). Mills were used not just for grinding corn but for drainage and industrial purposes such as fulling and oil manufacture. They often changed their function many times. Many local gazetteers list mills but little academic analysis or synthesis has been undertaken. However, Steve Dobson is currently undertaking doctoral research at Leicester University on Northamptonshire post-medieval water-mills. An example of the benefits of detailed architectural study is the survey undertaken on Norbury Mill in Derbyshire, which indicated the adaptations made to a 17th century mill (Drage *et al* 1989)

Glass making is documented at Nottinghamshire in the early 17th century at Wollaton and Awsworth and at Nottingham by 1675 (Parker 1932; Smith 1962; Samuels 1995a). It is conceivable that archaeological evidence might extend the known distribution of this industry. Earthenware production centres in the early-modern period include Nottingham, Ticknall (Derbies), Plumpton and Grafton Regis/Potterspury (Northants) (Brears 1971; Parker 1932). In Lincolnshire wasters suggest a large number of centres producing similar glazed red-wares including Old Bolingbroke, Bourne, Boston, Grimsby, Kirkstead, Toynton, Old Bolingbroke, Fiskerton, Coningsby and Bicker (Brears 1971; Field 2000). Other local potteries in the region probably remain to be identified though documented urban 'potters' were often makers of pewter pots. The major Ticknall ceramic industry has been the subject of a long-term documentary study by Janet Spavold and Sue Browne (*pers. comm.*). They have identified 28 kiln sites in the area through field walking. Their work on the regional probate inventories, when published, should shed major light on ceramic trade and consumption patterns. Deirdre O'Sullivan of Leicester University has also recently excavated a kiln dump at Heath End (Leics) near Ticknall. Alan MacCormick (pers. comm.) is working on a field-walking assemblage from Peate Place which has close parallels with some of the highly-decorated Cistercian wares excavated in the Dissolution drain deposit at the Austin Friars in Leicester (Woodland 1984).

Excavation has uncovered three kilns respectively of medieval, 16th and 17th century date at Potterspury and a 17th-century kiln from Paulerspury in S.W. Northamptonshire (Mayes 1968; Woodfield and Ivens 1998-9; Hall 1974). The recently excavated 16th

century kiln suggested experimentation with down draught technology possibly influenced by Rhenish stoneware kilns. There has been unpublished excavations of kilns at Boston and Old Bolingbroke in Lincolnshire. The evidence of ploughed–out kilns and kiln dumps around the latter village points to large scale production (Coppack 1976, 21-2; see also *Lincs. Hist. and Arch.* 1 (1965), 49; 3 (1968), 31; and 11 (1976), 57). All the major earthenware production centres in the region declined in the 18th century.. Stoneware manufacture had begun at Nottingham and in Derbyshire by the late 17th century but no kilns have been excavated. As a result little is known of this industries technological development (Oswald *et al* 1982; Parker 1932). The threat to surviving ceramic production-sites of all types by development is of major concern

IV. iii. Communications

The early 18th century saw the first major investment in the transport infrastructure since the 13th century (Harrison 1992). The new trusts enabled the first of a wave of turnpike roads and bridges to be built. Parliamentary enclosure also often involved new road construction and the straightening of routeways. The best studied routes of the pre-turnpike area are those of the Peak district (e.g. Radley 1963 and Hey 1980). Roads and bridges were maintained locally through the institutions of parish, borough and county. Ferries and fords were also important means of crossing rivers. Even on the Trent virtually everywhere was within 2 miles of a crossing (Courtney, *forthcoming* a). It is noticeable that the line defining easternmost limit of surviving cruck-construction crosses the supposed barrier of the Trent at right angles (Smith 1981, fig.2)

The maritime trade of Lincolnshire declined in the post-medieval period due to silting and changing economic patterns. However, the Trent continued to be a major trading artery (Wood 1950). In the early 18th century, William Wooley described the shipping of lead, salt, pitch and from the customs house at Wilne Ferry (Derbies) by 20 ton barges to Gainsborough (Lincs.). Elsewhere he describes the shipping of Derbyshire lead by horse from Wirksworth to Wilne Ferry, Sawley and Derby as well as Bawtry (Yorks.) on the R. Idle (Glover and Riden 1981, 57 and 177). An act to make the Trent navigable from Wilne ferry to Burton on Trent was passed in 1699 but obstructed by the vested interests of wharf and boat owners. However, the Derwent was made navigable to Derby in 1721 (Wood 1950, 20-6; Williamson 1936; Willan 1936, *passim*). Archaeological evidence of river use includes a 17th-century kid weir, for preventing erosion of river banks, excavated at Dove Bridge in Derbyshire (Southwood and Salisbury 1999). The iron fittings from boating poles, dated to the 16th century, have been recovered from former water courses of the Trent in Nottinghamshire (Salisbury 1997). Sunken boats or quay remains of this period should be given a high priority if encountered,

IV. iv Industry in Context

Industry is highly regional in its location and not only natural resources such as raw materials and fuel played a part but they were both sometimes moved considerable distance. Another key factor was the availability of labour which was highly dependent on agrarian regimes, social structure and demographic patterns. These are intimately interlinked though it would be foolish to reduce such patterning to environmental determinism (see McGlade 1995). Much variety occurs at the local level. Most industry

in this period was domestic and seasonal in organisation, part of a dual rural-industrial economy. The development of industry is also central to many historical debates about economic growth, demography, social change and consumption. Gender relations in the workplace is also emerging as a key element. Lace–making, for example, being a female domestic-industry was able to easily fit into the rhythms of the mixed farming areas of the South Midlands including parts of Northamptonshire. Archaeologists particularly through their long-term perspective on landscape change can contribute to the study of early industry, its origins, location and demise. As well as looking at technological invention, the study of patterns of capital investment and the adaptation of technology are also extremely important. Some industries like the pottery industry were transformed through changes in organisation and marketing, and numerous micro-innovations, rather than by the adoption of a single macro-invention such as the steam engine (Courtney *forthcoming* c and Barker *forthcoming*).

IV. v Research Agendas

The lead, coal and tanning industries are of national importance. Also of note are the regionally important ceramic industries, especially Ticknall and the emerging Nottinghamshire/Derbyshire stoneware industries. Many other industries existed across the East Midlands in this period though not all have left obvious archaeological traces behind. This is a need to continue mapping and characterising industrial landscapes especially in the wood pasture and upland regions. It is especially important to understand the changing balance between arable, woodland, waste and commons and industrial use. There is a case for selective preservation of these landscapes notably in

areas like N.W. Leicestershire which are heavily threatened by urban and rural development.

GIS (geographic information systems) has an enormous potential in this field both for research and in aiding conservation policy. However, this needs to be supplemented by more detailed local studies utilising documents, landscape and material culture if we are to understand the processes at work. The work of Nevell and Walker's (1998 and 1999) work in the Manchester area is a seminal example of the integration of landscape history and material culture. Their work also emphasises the need to understand changing patterns of land ownership and social structure. Ongoing research questions include the relationships between agrarian regimes and industries and the linkages between different industrial sectors. Chemical water pollution, for example, meant that fulling had to be located upstream of tanning (Guillerme 1988, 99).

Excavation also has a role of adding knowledge on industrial processes and work organisation. Attention needs to be given to understanding work sheds and storage facilities as well as the main production plant. Scientific analysis, for example of slags and residues, also has a key role to play in understanding industrial processes. There is also need to understand the origins of specialist industrial settlements and the living conditions and material culture of industrial workers.

V. Battles and Fortifications

A permanent army only emerged after the Restoration and there was continued resistance to having it stationed at home. The militia formed in 1588 in response to the Spanish threat have also left few physical traces from this period often utilising gentry homes as armouries. The main area of interest to the military archaeologist in this period in the East Midlands is the period of the English Civil War (Sherwood 1974; Holmes 1980, 141-99). This period saw fortification of a number of its towns (e.g. Leicester, Nottingham, Northampton and Towcester) and almost certainly many of its gentry houses. Major sieges took place at Leicester (1645), Newark (1646) and the decisive battle of the first Civil War took place at Naseby (1645). Not surprisingly, studies made in this region have played an important role in pioneering battlefield archaeology in Britain.

The Royal Commision surveyed what are the best preserved the Civil War siege works at Newarke (RCHME 1964). Small-scale excavation has take place on the mo over the years (e.g. Manning 1958 and other reports in the *Transactions of the Thoroton Society*). Currently the state of the monuments is being reassessed with the aim of producing a new conservation plan (e.g. Holyoak 1997). Little remains at Leicester other than the musket loops in the north wall of the Newarke precinct. A major study by Paul and Yolanda Courtney (1992) reinterpreted aspects of the siege using archaeological, architectural, topographic and documentary evidence. More recently PPG16 excavations and a watching brief for a new water main system have produced traces of ditches on the south side of the walled town, probably representing more than one phase of Civil War defence (Finn 1994 and Gossip 1998). The Civil War provides potentially a useful dating horizon

in re-occupied castles or in destroyed suburbs. Artefacts from excavation or fieldwork are also useful in that they contrast with the higher quality material fund in armouries (Courtney, *forthcoming* b).

Documentary and topographic research has also shed new light on the defences of Northampton (Foard 1994). The work of Glen Foard (1995 and *forthcoming b*) with metal detectorists at Naseby has led to a major reinterpretation of the battle. Foard has combined a topographic reconstruction of the battlefield with analysis of military finds (musket balls, lead powder holder and flask tops) plotted by detectorists. Similar analysis is also ongoing at the minor rural siege at Grafton Regis in Northamptonshire (Foard, *forthcoming b*). The main need is to conserve battlefield sites or at least to study them on the Naseby model. The finite resources of archaeological patterning on such sites is very susceptible to long-term unrecorded collecting.

VI. Churches, chapels and burial

There are only few new Anglican churches built in this period, for example, Staunton Harrold (Leics) and All Saints, Northampton. As well as demolitions associated with the Reformation, many minor churches and chapels were demolished in the earlier part of this period for economic reasons, for example, St Peter's and St Michael's in Leicester. A few redundant churches are also currently under threat from redevelopment or decay and vandalism. Areas of research interest include the various liturgical rearrangements of the interior, the vandalisation of anything seen as ostentation by puritans, and the

monumental evidence for changing views to death and society (e.g. Duffy 1994;

Lllewellyn 1991; Hickman 1999; Tarlow 1999). Stocker's (1996) pioneering analysis of

the re-use of building materials after the Reformation in Lincoln could be complemented

by studies in other towns. The adaptation of such buildings as guidhalls for new functions

can also be studied through architectural or documentary evidence (Giles 1999; Courtney

in press). Churchyard stones also need detailed recording as they face threats from

natural erosion, subsidence and vandalism. Several schools of decorative gravestone

masonry exist in the East Midlands, for example, the Swithland slate school in

Leicestershire (Herbert 1941-5). Healey (1992) has drawn attention to the special

vulnerability of the small and plain gravestones of the 17th century. A major problem is

the lack of standardisation in practice of recording gravestones and the need for

centralised collection of records (see Mytum 2000 for recording guidelines).

The Royal Commission published an outline inventory of chapels in the Midland counties

but excluding Lincolnshire. Full recording was undertaken of the relatively few chapels

dating to before 1800 (Stell 1986). The recording of any Lincolnshire chapels of this

period is thus a priority. There is a growing interest in the material culture associated

with burial, for example, coffin furniture (Litten 1994; Cox 1998). Also of considerable

research interest is the potential of post-medieval burials in revealing information on diet,

demography and health. In a recent overview of the study of post-medieval skeletal

remains, Mays (1999, 331) noted that the only published example of a 'full osteological

study of a substantial assemblage' from the post-medieval period is that from the

Spitalfields crypt.

VII. Material Culture

All of the county towns and a few others have produced post-medieval pottery from excavations though often from small pit groups or residual contexts. Key ceramic/general finds groups from the region include the Dissolution deposit in the drain of the Austin Friars, Leicester (Mellor and Pierce 1981), late 17th-century well assemblages from Nottingham and Lincoln (Alvey and MacCormick 1978 and Mann, *forthcoming*), and a late 17th-/early 18th-century cesspit assemblage, including vessel glass, from the High Pavement in Nottingham (Alvey 1973). Other published material includes several 16th- and 17th-century pit and well groups from Full St., Derby (Coppack 1972), two early 18th- century pit groups from Lincoln (Coppack 1973) and a group of nine 17th century tygs, used as as paint pots, from Roughton church in Lincolnshire (White 1980). A publication on the medieval and post-medieval glass from Lincoln is due out shortly (Henderson, *forthcoming*). The clay pipes from Lincoln excavations of 1970-74 (Mann 1977) have also merited a volume to add to the many local studies across the Midlands (e.g. Hammond 1985). Published rural collections of finds are even rarer but include the material from Bolingbroke Castle and Eresby manor house (Lincs), Strixton manor house (Northants) and Donnington Hall (Leics) (Drewett 1976; Marjoram 1984; Hall 1975; Liddle 1977-8). Andrew White (1989) has produced a doctoral thesis on Lincolnshire pottery between 1450 and 1850. He has also published a paper on earthenware pancheons, stamped with potters' names, from the same county (White 1982). Much

potential data on rural pottery useage must exist within field-walking collections but this material has been rarely classified and quantified by ceramic specialists.

More finds groups will be published as the urban backlog proceeds, notably in Lincoln. A number of important sites/assemblages look likely to remain unpublished including the Mountsorrel (Leics) pottery, the 18th century inn assemblage from the Bowling Green, Leicester and the early 18th-century pit group from Halifax Place, Nottingham. The latter group, probably representing a house clearance, is of national significance (G. Young, *pers. comm.*). Hurst (1991) has summarised the current state of knowledge on imported ceramics in Lincolnshire but it would be useful to have similar information for other counties. In particular it would be interesting to measure the penetration of imported wares into the region as an indication of the growing inland trade. However, there is a pressing need for urban and regional syntheses generally.

Major gaps in our knowledge include our poor understanding of rural material culture and of the urban and rural poor in particular. The non-dating uses of ceramics and other artefacts needs to be more widely appreciated. They have the potential to look at stratigraphic formation, trade, changing dietary and social habits, and the rise of consumer fashion (Moorhouse 1986; Cumberpatch and Blinkhorn 1997; Courtney 1997b). Any material culture or environmental deposit which can be tied down to an individual household is of national importance. We need to follow the American example in developing an archaeology of the household and its life-cycle, a key social and economic unit which is capable of being recognised through both archaeological and

documentary sources (Deetz 1982; Beaudry 1999). Finally we should aim to integrate material culture with landscape history to produce an archaeology that seriously tackles the changing relationships of political, social and economic power, which underlie the genesis of capitalism and the modern world. However, the study of large-scale socio-economic structures and cycles needs to be balanced by the study of the changing patterns and rhythms of everyday life as experienced by communities, families and individuals.

East Midlands Archaeological Research Framework: Resource Assessment and Research Agenda for the Post-Medieval Period (1500-1750)

VIII A Research Agenda for the Post-Medieval East Midlands

General

* Post-medieval archaeology is an interdisciplinary subject combining archaeological, historical and scientific methodologies as well as economic and social theory. It has increasingly developed a global perspective.

* The interplay of documents and physical evidence leads to more sophisticated interpretation

* An understanding of the changing social and economic structures of life is vital to understanding the archaeology of this period.

* It is necessary to find ways of linking the recording of mundane everyday archaeology to larger national and global research agendas.

Urban

* There is a need to treat towns as entities rather than being site specific in our approach

* It is necessary to understand the survival patterns of archaeological deposits, buildings and documents

* There is a need to recover post-medieval building plans by more sensitive approach to machining urban sites

* Importance of cesspits and well groups for material culture and environmental analysis.

* Threat to built-heritage especially in small towns where structures are unrecognised behind later facades. Need for more buildings surveys as undertaken at Hinckley and Newark, especially if dendrochronological dating used.

*Need to understand suburban archaeology- sometimes poor and industries located there

* Research objectives include- The role of towns as social, administrative and market centres, new public buildings (e.g. town halls, prisons, almhouses and schools), the use of symbolic architecture, the emerging middle class and growth of wage-labour. The changing social space of towns. Infilling of empty plots and subdivision of housing to meet population rise, water management, urban industries e.g. tanning. Impact of Civil War (see also Military). Material culture of various urban classes from emerging middle class to poor. The importance of towns as trading centres- markets, market halls, inns,

relation of towns to routes of communiction. The study of changing regional marketing systems from county and market towns to rural settlements with markets, inns or shops.

Rural Landscapes (general)

* The need to look at landscapes holistically combining study of houses, parks, gardens, farmland, wastes and commons, woodland and rural industry.

*Importance of working with ecologists and environmental archaeologists on ecological change and conservation.

*It is important to recognise and evaluate potential sources of environmental evidence .e.g. buried soils, pond deposits etc

*The need to characterise landscapes at county level. Important role of GIS.

* Large scale mapping needs to be supplemented by more local documentary and topographic studies but major problem over funding in commercial archaeology. Desktop analysis too superficial and documentary research being degraded to a few hundred pounds in budgeting of even major excavations and left to non-specialists.

* Importance of understanding agrarian regimes in interpreting industrial location. Most industries in this period seasonal and part of dual industrial-agricultural economy.

* Need to plot lordship and landownership patterns and understand social background to enclosure.

* Role of heritage in enironmental/agricultural schemes- 1997 hedgerow regulations, Countyside stewardship scheme; also urban regeneration schemes should give opportunities for work on urban periphery.

Country Houses and gardens

* It is important to extend identification and recording across region of gardens to identify further sites before they are destroyed (use of documents, air photographs and site visits).

* Recognition of value of geophysical survey, excavation and environmental analysis in shedding light on garden development especially when gardens threatened by destruction or restoration.

* Ecology of gardens and estate landscapes needs further specialist work

*Research objectives- Social use of space within buildings and across landscapes, manipulation of vistas, changing fashions and their diffusion from courtly society downwards. Continental influences important in garden design. Horticultural methods e.g glass-houses, bedding and selection of plants. Drainage and water management schemes. Material culture of people living in elite landscapes including tenants and servants. Need to record and preserve mundane features of elite landscapes such as outbuildings and tenant's houses.

Agricultural Landscapes/Vernacular architecture/Commons

* Need to understand archaeology of household from excavation and standing buildings. The changing household economy is one of the major keys to economic lift off. Need to compare and contrast work on probate inventories with standing buildings and dateable archaeological finds/environmental assemblages.

*Need for regional synthesis on vernacular architecture to complement RCHME's work on North Northamptonshire.

*New trends towards social interpretation of housing and landscapes- including symbolic aspects. Need to integrate documentary and architectural sources.

*The importance of recording enclosure landscapes and preserve features like hedgerows.

* A major problem exists over demolition and erosion of built heritage. Only a small percentage of buildings destroyed or heavily altered receive detailed recording. PPG15 is barely used in most areas.

*The archaeology of the poor e.g. abandoned squatter sites being rapidly eroded though agriculture and forestry with little archaeological intervention.

*There is a need to record and preserve woodland features such as ponds (note potential of environmental deposits), wood banks and charcoal pits which are easily destroyed. Also ecological aspects important in understanding woodland evolution e.g. coppicing

*Importance of wastes and commons as former sources of pasture, squatting, mining, quarrying and cottage industries.

* Importance of excavating abandoned cottages/farms to shed light on architectural development, rural economy and material culture

*Need to experiment with new methods of settlement research in wood pasture regions e.g. American-style shovel testing surveys

*Research Areas- Early Landscapes of enclosure and improvement, rise of dairy farms, new tenant farms after enclosure e.g. on DMV sites. Historical ecology of enclosure and changing woodlands (e.g. possibility of using plants to locate former cottage sites). There is a need to understand the inter-relationship between arable, woodland, commons and waste and rural industry. Investment in farms and farm buildings. Few farm buildings of this period survive above ground apart from barns. It is important to understand both the regional and chronological patterns of rebuilding cycles and their underlying causes, e.g. patterns of wealth and saving, economic stability and tenurial patterns. The poor in the rural landscape are currently completely neglected.

Industry and Communications

*Much of earl-modern industry in region was rural and seasonal- part of dual economy.

*Mapping and analysis of industry needs to be integrated with mapping of agrarian landscape including distribution of farm-land, woodland and waste/commons as well as landownership patterns.

*Lead and coal industries are of national importance. Other regionally important industries include iron, leather-related industries (e.g. tanning and shoe manufacture), textiles, malting and brewing, pottery, brick and tile production. Technology of early stoneware potteries is a major priority- especially influence and divergence from Rhenish and London industries. There is a need to assess below ground survival of ploughed-out features on regional kiln sites like Potterspury, Bolingbroke and Ticknall. Any evidence of adaptation of domestic buildings for textile industry in this period should be given highest priority.

*Change and stagnation in communications network –roads, rivers, river crossings (bridges, fords and ferries). Relationship of routeways to changing urban and market hierarchy and distribution of urban and rural inns (see also urban).

*Improvements in transport infrastructure at end of period is important in understanding industrialisation at regional level.

*Importance of sunken boats, wharfs etc

Research Areas- Need to use scientific methods in industrial archaeology to understand processes. There is also a need to excavate outbuildings etc to understand organisation of workplace. The material culture of workers is also important. It is also important to study failed as well as successful industries- importance of competitive and other economic cycles

Eccclesiastical

*Archaeology of reformation in both towns and countryside. Destruction and adaptation of medieval buildings.

* Need to record in detail redundant chapel sites, especially Lincolnshire.

*Graveyard recording is a priority

* Need for more large skeletal assemblages from this period for analysis.

*Material culture of burial

Military

* Need to record and study battlefield sites which are under threat from indiscriminate collecting of artefacts diluting archaeological patterning.

* Need for listing of Civil War garrison sites in SMRs and assessment of any possible Civil War earthworks, damage and repair of buildings etc.

* Awareness needed of suburbs demolished in Civil War as a prime dating horizon, also importance of redevelopment and possibility of finding suburban defences.

Material culture

* Need to publish key post-medieval finds groups especially Halifax Place, Nottingham and 16th century Potterspury kiln. There is a major lack of rural finds assemblages. Pressing need for regional synthesis of post-medieval pottery and clay pipes.

Material Culture research areas- Examine inland distribution of ceramic imports as guide to developing inland trade. Also need to understand competition between regional potteries (including Staffordshire). Need to study material culture and archaeology of everyday life of differing classes from aristocracy to poor. Changing

patterns of consumption and spread of fashion are key elements in explaining economic growth. Differing patterns of consumption between town and countryside and between agrarian regions needs further work.. Symbolic use of material culture- social competition, affirmation, dominence and resistance. Creation of everyday habitat/environment (approaches influenced by Pierre Bourdieau's concept of *habitus* and German *alltagsgeschicte* or history of everyday life).

Acknowledgements

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