

Post-Medieval and Later

by Paul Gilman, Jenny Glazebrook, Shane Gould
and Sarah Green

I. Introduction

by Jenny Glazebrook

The apparent ubiquity of post-medieval remains and the richness of the documentary record generates uncertainty amongst archaeologists about the degree to which archaeology could or should be involved in research directed at this period. To what extent will archaeology deepen our understanding of the region in the years after 1500, rather than simply providing illustration of what is already understood?

Crossley (1990, 1) argues that the number of national and county journals now publishing post-medieval material, in addition to the coverage provided by the period journal *Post-Medieval Archaeology*, indicates a general recognition that an archaeological approach is just as valid for this period as for earlier ones. Despite increased record-keeping from the 16th century onwards, documentary coverage is neither complete nor particularly informative in some respects. Much of the written record is quantitative rather than qualitative, and the mass of ordinary people hardly figure at all. An interdisciplinary approach should be the basis for interpretation of the historical past, in which archaeological evidence enhances and enlivens documentary sources, resulting in a fuller, wider picture.

This chapter, arguably the most difficult one to produce, began as a section on industrial archaeology (see Buckley, above), and has evolved in a rather piecemeal way since. Perhaps this in itself reflects something about the current state of post-medieval archaeology in the region. A number of major aspects are not covered in this chapter, such as the rural landscape before Parliamentary Enclosure, vernacular building, and pottery industries centred on Harlow and Lowestoft in the 17th and 18th centuries. Such omissions are the result of a lack of expertise within the archaeological establishment of the region rather than a disregard for their value. Crossley (1990, 2) comments on the 'compartmentalized specialization' of post-medieval archaeology, and the fragmentary nature of the discipline may account for the difficulty in finding an author prepared to contribute a general overview of the period.

The world heartland of the Industrial Revolution may lie in the midlands and northern England, but East Anglia was in the forefront of the 'Agricultural Revolution' of the 18th century, and communications and many industries were developed to serve the farming economy (see section IV below). Information supplied by the five counties indicates that much of the recording and researching of industrial remains and vernacular buildings is carried out by local societies, and that only some of this information has been transferred onto the SMRs. Despite the fact that the region has a wealth of farm buildings dating from the medieval period onwards, only a few of these are protected as Listed Buildings, and very little work has been done to

survey this resource. East Anglia's 'front-line' position relative to the Continent has meant that the region is well-endowed with military remains but these have also been poorly covered in SMRs, although recent survey initiatives will improve the situation (see section II below). Archaeology has made a considerable contribution to the study of designed landscapes, and there is increasing recognition of the importance of interpreting parks and gardens in social terms (see section III below). Recent survey initiatives in the region will augment the English Heritage Register of Parks and Gardens, published in the 1980s.

II. Fortifications

by Paul Gilman

Introduction

With a long and low-lying shore facing the continent, East Anglia was often considered to be at risk from raiding and invasion during the post-medieval and modern era. As a result, the region contains examples of most, if not all of the major types of defence adopted from the time of Henry VIII onward. There is, therefore, great potential for the study of the development of fortification during this period.

From the 16th to the 19th centuries defences were almost entirely located on the coast, at points considered most vulnerable to seaborne attack. Ports and harbours such as Harwich, Great Yarmouth and King's Lynn received particular attention, as did the Thames Estuary since this provided direct approach to the capital. Indeed, some sites retained their strategic significance for most, if not all of the period under consideration and contain evidence for several periods of activity. Towards the end of the 19th century and especially during the World Wars attention was given to providing more systematic defence in depth as well as the need to counter airborne attack. The latter requirement continued after World War II but with the rise of airborne and in particular missile-based attack methods the importance of artillery waned and formal coastal defence was brought to an end in 1956. However, the presence of important airfields in the region meant that it continued to play a key part in the strategic defence of the country. With the threat of nuclear attack, civil defence also remained a priority, with the construction of early warning and command bunkers. Following the end of the Cold War, many airfields and other structures have become or are becoming disused, thereby adding to the stock of structures available for study in East Anglia.

16th century

East Anglia was included in the first comprehensive scheme for national defence introduced by Henry VIII in 1539. Most of these structures were relatively insubstantial blockhouses and small forts, few of which have survived, a rare example being the blockhouse at



Figure 12 Location of places mentioned in the text: post-medieval and later

Cudmore Grove, East Mersea in Essex (Priddy (ed.) 1983). The next major threat to the country was posed by the Armada in 1588 but on the whole this resulted in the refurbishment of the existing fortifications rather than new works.

17th century

After the Armada scare was passed, few new fortifications were constructed, notable exceptions being the new forts at Landguard Point to defend Harwich harbour and a new fort at King's Lynn. During the Civil War the region was held firmly for Parliament, providing a rare requirement for defence from within England. The region's defences were again refurbished, notably at King's Lynn, but relatively few new fortifications were built, for example earthworks at Earith and Horsey Hill, near Peterborough (Kent 1985, 238–239). Ironically, the only significant military actions were the sieges of King's Lynn in 1643 and, in 1648, of Colchester by Parliamentary forces. At Colchester, elaborate siege works were constructed but these appear to have survived only in contemporary plans.

Later in the 17th century, following a Dutch incursion into the Thames, one of the region's most impressive defences, Tilbury Fort, was built. This was subsequently much modified but excavations in 1973 and 1980 have helped to establish the original layout (Wilkinson 1983). The value of the region's fortifications was proved in 1667, during the Second Dutch War, when Landguard Fort withstood an attack by a substantial Dutch force (Kent 1985, 105–107).

18th century

Few new defences were added during the 18th century, the significant exception being Landguard Fort, rebuilt in 1715 and again in 1744.

19th century

The Napoleonic wars saw the next great threat of invasion and the resultant need for major new coastal defences. A chain of martello towers was added to the south and east coasts, including Essex and Suffolk. New artillery batteries were introduced, notably the large redoubt at Harwich. Inland, defensive earthworks were also constructed including extensive emplacements around Chelmsford (RCHME 1992).

Later in this century, the increasing pace of technological innovation led to an arms race between the development of warships and shore-based artillery. For example, large casemated fortifications were built in the 1860s and 1870s at Coalhouse and Landguard Forts but these rapidly became obsolete. Therefore, new, more low-key batteries had to be commissioned, at Coalhouse Battery at East Tilbury and Beacon Hill Fort at Harwich. Inland, a scheme for the defence of the capital was finally introduced in the late 19th century based on the 'London Defence Positions', of which North Weald Redoubt in Essex is a fine example. These were defended storehouses to be linked with trenches by the army in the event of a serious threat of invasion.

20th Century

During World War I there was little threat from large-scale invasion, although additions were made to the coastal defences in the form of gun batteries and pillboxes, and the major forts were again put into readiness. This conflict

was also marked by the introduction of airfields and anti-aircraft batteries.

Following the outbreak of war in 1939, belated efforts were made to bring the region's defences to readiness. However these pale into insignificance compared to the colossal scale of the works put in train following the fall of France in 1940. The General Staff faced the prospect of attempting to resist highly mobile armoured formations, supported by paratroops and airpower, with relatively little by way of tanks and heavy weapons. The solution which was adopted was that of a system of 'stop lines' consisting of gun emplacements, pillboxes and anti-tank obstacles. These would, it was hoped, contain an invading force, giving sufficient time for the regular army to assemble and deal with the threat. A number of these stop lines cross the region, beginning with the coastal 'crust', bolstered by gun batteries and minefields, and ending with the London defence rings. There was a considerable RAF and American Air Force presence in the region throughout World War II, resulting in the construction of many airfields and air bases for fighters and bombers. After 1945, the Cold War meant the continued maintenance of major air bases and the need for a network of Civil Defence structures, to act primarily in the event of a nuclear attack.

Archaeological research to date

The most comprehensive account of post-medieval defence sites in East Anglia is that by Kent (1985), although this does not include Hertfordshire and is restricted to artillery fortifications. As with industrial sites, the region's Sites and Monuments Records have been relatively poor in their coverage of military archaeology. However, this is gradually being improved by survey initiatives. In some counties, extensive surveys of World War II defences have been carried out or are underway, notably in Essex (Gilman and Nash 1996, Thorpe 1996) and Hertfordshire. Military works are also being recorded by the National Mapping Programme (Ingle and Strachan 1996) which should eventually cover the whole region. Assessment of documentary sources by the CBA for English Heritage is resulting in much more comprehensive knowledge of the total numbers of works of various types which were actually built during both World Wars (Dobinson 1996). By way of contrast, there has been relatively little detailed survey, exceptions being the recording exercises by the RCHME at Beacon Hill, Harwich; Bowaters Farm in Thurrock (RCHME 1994a), and Stow Maries in Essex.

III. Parks and Gardens 1540–1960

by Sarah Green

Introduction

Parks and gardens are worth assessing separately because they form such a frequent, distinctive and significant part of the English landscape. They occupy an appreciable proportion of the land. On the other hand, from a cultural and historical point of view they can not be considered separately from country houses, architecture and the social and economic conditions necessary for their existence.

The scope of this assessment also includes a very cursory glance at open spaces whose primary function was not that of a pleasure garden or private park, *viz* churchyards cemeteries, physic gardens and botanical gardens, that contain some element of design to please the eye.

Other spaces that deserve some consideration, but have been excluded through lack of time or by the rather arbitrary selection of the date span chosen for this report, include warrens, deer parks, allotments — not only for fruit and vegetables but as ornamental, detached pleasure gardens — nursery and market gardens, urban and cottage gardens.

The aim of this assessment is to pick out good examples in the region of fashion, influences and innovation; to enable people to identify deficiencies in registration and set priorities for further work; and to provide a bibliography.

The starting point, *c.* 1540, can be used to explain some of the less visible factors that underlie and should inform study of gardens (but all too often don't). The decade of the 1530s saw the Dissolution of the Monasteries and other religious houses in England and Wales. At a stroke a major institutional patron of gardens, and element of continuity ended a tradition that was characteristically medieval, and a lot of land passed into private ownership.

A persistent problem reflected in the literature until relatively recently is that this subject is dominated by aesthetics, local and subjective points of view. Analytical studies that relate these spaces to the social economic and political context are rare (a notable exception is Tom Williamson's *Polite landscapes*, 1995).

The two main journals for this topic are *Garden History*, the journal of the Garden History Society, and *Journal of Garden History*. Items of interest are also to be found in *Landscape History*, the newsletters of the County Gardens Trusts and the Victoria County Histories. Elliot (1986), Lambert *et al.* (1995), Jacques (1983) and Thacker (1979) provide a useful background to the subject. Other publications such as Taylor (1979), Brown ed. (1991) and Jacques ed. (1997) reflect the growing relationship between archaeology and garden history.

Chronological and typological overview

This section outlines the main developments and characteristics of English gardens, as exemplified in the five counties.

By the 1540s Renaissance ideas and motifs were in fashion at court, and garden design was one aspect of this important development. The new fashions were overlaid on medieval traditions of garden layout, and medieval styles and habits lingered, forming a backdrop and basis for new experiments. Knots and allees were the most obvious features of these early Renaissance gardens, and they remained important elements until long after the Tudor period. The square knot remained fashionable in smaller gardens until the end of the 17th century although by this time the elaborate 'parterre de broderie' was a standard feature in larger, more up-to-date gardens. No original Tudor knots survive, however, and documentary and pictorial evidence dates only from the later Tudor period (Harvey 1988). Towards the end of Henry VIII's reign (died 1547) religious and political refugees and scholars from the Continent began to have an appreciable influence on English horticulture, and the recognisably scientific study of botany began.

The great gardens of Elizabeth's reign (1558–1603) tended to be divided into a privy garden for family use and more public grounds for the conspicuous display of status (*e.g.* Theobalds near Cheshunt, Herts). Sir William Cecil, Elizabeth's great chief minister, later the first Lord

Burghley, created this courtyard house in 1575–85. Its garden was inspired by French design, and the very large scale of its layout was to have great influence subsequently. Theobalds comprised a privy garden in the form of an open knot, and a 'Great Garden' subdivided into nine knots, the central knot containing a fountain.

Good cartographic evidence backed up by documentary research exists for Thorndon Hall, Brentwood, Essex, the seat of the Petre family. John Walker's map of 1598 covers 2,585 acres and shows the formal but asymmetric garden layout which includes an orchard and the surrounding estate providing a detailed account of the land management. The subsequent history of the site is mentioned below. There are of course numerous examples of parks and gardens whose origins can be traced back to medieval deerparks. One example is Childerley Hall, near Cambridge, where the probably 16th-century moated gardens were restored and replanted in the 1950s. Other examples of 16th-century gardens are Kentwell Hall (Suffolk), where remains of 17th-century fruit espaliers and avenues survive; Stiffkey Old Hall (Norfolk), where fragments of 16th-century walled garden survive, and Melford Hall (Suffolk).

As the 17th century opened, continental influences steadily increased. Grottoes, fountains, terraces and highly elaborate parterres — the latest fashion in knot gardens — were typical of this style (Anthony 1972). A good example are the gardens of Hatfield House (Herts), which were remodelled when the house was rebuilt in 1607–12 for Robert Cecil, Earl of Salisbury (related to William Cecil, Lord Burghley, and like him, the king's chief minister). The garden remained basically an enclosure, within which large-scale naturalistic, or exaggerated, water features such as lakes, islands, artificial rivers and cascades became increasingly important.

Gentry at all levels were affected by these trends in garden fashion, indicated by sites surviving as earthworks and by literary and documentary evidence. The influence of garden-makers such as William Lawson was immense, leading to the widespread adoption of raised walks, viewpoints, mounts (or mounds), towers, and moats. Isaac de Caus was possibly influential in the design of the garden created by Lucy Harrington, Countess of Bedford, at Moor Park, Rickmansworth (Herts), and remade in the 18th and 19th centuries.

Gardens developed a classical simplicity in plan, based on squares and rectangles, usually with a raised terrace on the side of the garden opposite the house. Such a terrace might incorporate a banqueting house, grotto or arcade, or a combination of these, and might extend along the other sides of the garden, as for example at Much Hadham (Herts). Many of the gardens of the period are illustrated in birds-eye perspective views by Kip and Knyff (1714–15). Although nearly all the best early 17th-century gardens have disappeared or been transformed, pictures, map-views and descriptions of them survive and a few examples of their planting are extant, where they have been incorporated in later gardens. At Gorhambury, St Albans (Herts), Sir Francis Bacon created an elaborate water garden in the early part of the 17th century, using medieval fishponds. It is possible that he wrote his essay *Of Gardens* here in 1625.

Following the restoration of the monarchy in 1660, the most striking and innovative designs were typically in the grand French style of Le Notre (1613–1700) who

designed the gardens at Versailles, characterised by canals and avenues aligned on the central axis of a symmetrical house front, or else laid out in a so-called goosefoot, in which several avenues radiated from a single point. These avenues provided long and symmetrical vistas, comparable to the Baroque architectural vistas being created in certain continental cities at this time. A great enthusiasm for planting trees was fostered by John Evelyn, the diarist, among others. He designed Euston Park (Suffolk), later remodelled by Brown and Kent. Cassiobury Park near Watford (Herts) was one of these great gardens, designed by Moses Cook for the Earl of Essex, and notable for its avenues of wild cherries and fine woods.

The accession of William III (previously the Dutch head of state) in 1689 set the seal on Dutch influence on English culture. A distinct style of Dutch garden had developed, characterised by its formal but smaller scale, greater intimacy, the use of clipped evergreen topiary, sunken rectangular water gardens, pergolas, rectangular moulded lead flower and water butts, and so on. The Dutch style, relatively intimate, domestic, modest and bourgeois, remained popular in smaller gardens to the end of the 18th century, despite the ridicule of articulate leaders of fashion like Addison.

In the 18th century new garden design was to undergo fundamental changes in both philosophy and practice. Rather than the hand of man being seen to impose order on nature, the garden came to be seen as an opportunity to idealise nature. The integration of the garden and its surrounding rural landscape was the logical result. English garden plans in the first half of the 18th century were still markedly architectural and geometric, but they became progressively more naturalistic, largely at the hands of professional landscape gardeners and designers such as Lancelot 'Capability' Brown and other designers of national or regional fame.

Excellent intact examples of early 18th-century formal gardens are Houghton Hall (Norfolk), designed by Bridgeman in the 1720s for Sir Robert Walpole, the prime minister, and St Pauls Walden Bury (Herts), where avenues are aligned on suitable landmarks, including temples and statues all set very exceptionally in woodland. Sometimes traces of such geometry can be detected underneath later more naturalistic landscaping, as at Burghley House (Cambs). Earthwork remains of a formal garden with successive terraces and ponds, are visible at Gamlingay (Cambs). Blickling Hall (Norfolk) is basically late 17th/early 18th-century with later additions.

Between 1715 and 1760 gardens showed considerable individuality, as landowners built up stocks of newly introduced and exotic plants, which superseded clipped evergreens. An excellent example of this enthusiasm and knowledge is to be found in the eighth Lord Petre (1713–1742) at Thorndon Hall (Essex), whose plant collections and methods of cultivation were the envy and wonder of his contemporaries. The grand scale of the designed landscape at Thorndon Park is typical of French influence.

An indication of the explosion in new plant varieties and growth in foreign trade is provided by the estimate that by 1700 some 1400 plants had been introduced, a figure that had risen to 14,000 by the end of the 18th century. Trade catalogues show what was available and being grown.

Classical idiom still had an eminent role to play in the design and enjoyment of even the biggest gardens and garden-landscapes. The Palladian ideal, very influential in England in the first half of the 18th century, was to integrate the rural landscape and the country house (or 'villa', explicitly recalling its Classical prototype). Away from the house, the presence of temples, nymphaea, 'sacred groves' and 'sylvan glades' lent verisimilitude to a recreated, semi-mythological, pastoral landscape. Holkham Hall (Norfolk), one of England's principal landscape parks, had both house and park designed by Kent in the 1720s and 30s (with help from Lord Burlington and Thomas Coke, Lord Leicester, the landowner).

Town gardens, meanwhile, even in a fashionable centre of design such as Bath, might be formal and geometrical as late as the accession of George III (1760).

Much has been written about 'Capability' Brown whose vast earth-moving exercises and characteristic use of water and immense sweeps of trees epitomise the English landscape style. Some landscape parks and woodlands whose 'capabilities' were realised include: Copped Hall (Essex) in the 1740s; Burghley House, (Cambs) in the 1750s; Audley End (Essex), where Bridgeman and Richard Woods also worked, Wimpole Hall (Cambs), Euston Park and Ickworth Park (Suffolk), Kimberley Hall, Holkham Hall and Melton Constable (Norfolk), and Thorndon Hall (Essex) from the 1760s onwards; Youngsbury near Ware (Herts) in the 1770s; and Heveningham Park (Suffolk), in 1781.

The final phase of Georgian park and garden design was dominated by Humphry Repton, though he died in 1818 some 12 years before the end of this period. This was another turning point in that gardens had begun to be seen as 'works of art rather than of nature'. Examples of Repton's work can be seen at Catton Park (Norwich), thought to be Repton's first landscape commission; Wimpole and Milton (Cambs), Sheringham Hall, Norfolk, (which he called his most favorite work), Ashridge and Cassiobury (Herts) (Malins 1976). Smaller commissions include Riffhams, Saling Grove and Spains Hall in Essex.

A new social consciousness was emerging, manifested in many ways: in the opening of the first public botanical garden in 1802 (in Liverpool); in the appearance of gardening journals in the 1820s and 30s spreading the new ideology of gardening to the middle classes (John Claudius Loudon, 1783–1843, a leading figure in this field, was responsible for the landscaping at Stradsett Hall, and Gillingham Hall, Norfolk). In addition, industrialisation and urbanisation began to cause enormous economic, social, cultural and, eventually, political changes. In the countryside, fortunes founded on the exploitation of mineral rights or trade and industry were as important as those founded on agricultural land-ownership. The more extensive parks and gardens could rarely exclude the public, as they were often crossed by highways and public rights of way. In all there was a reaction against the great landscape park which had removed all evidence of human industry or occupation.

The 19th century saw a wide variety of fashions in vogue, both successively and simultaneously. At Audley End, Essex, the parterre was designed in 1830–31. The gardenesque style which embodied the theories of J.C. Loudon and so called as being appropriate for gardens and pleasure grounds, became popular, mixing the formal and the informal (Loudon 1822). Also in the 1830s studies of

past architectural styles led to a revival of Elizabethan and Jacobean gardens with low box hedging, coloured gravels and parterres of great complexity.

The Italianate style was influenced by the Grand Tour as travellers who observed the great surviving continental geometric gardens produced the set pieces of terraces, gravel, statues, clipped laurel and tazzas at home — as at Copped Hall near Epping, Essex. Shrublands Park, Suffolk, has elaborate and extensive Italianate terrace gardens by Charles Barry 1848–52; one of the most famous 19th-century gardens of its kind. Another good example of a formal garden was created at Somerleyton Park, Suffolk, between 1844–62 which included a maze and winter gardens.

The rustic style evolving from the 1790s remained in vogue into the 1850s with its rustic furniture, the cottage ornee and thatched summerhouses. The term villa was attached to suburban houses with relatively small gardens, the houses rarely isolated but often set back from the road, at least symbolically.

In the 1840s the removal of a glass tax and repeal of a window tax led to a boom in the building of glasshouses and conservatories. This encouraged the rapid development of a taste for bedding-out schemes and the potential to produce a riot of colour in intricate patterns.

Before the 1840s publicly accessible urban gardens and open spaces had comprised generally the gardens of inns, tea-houses and pleasure gardens, graveyards and burial grounds, and the gardens of botanical and horticultural societies. These latter, and also zoological gardens, increased in number during the early years of the century. The Botanic Garden in Cambridge, opened 1846, was laid out as a formal landscape by its first curator. It was also the site of one of the first rock gardens in the country (Taigel and Williamson 1993).

During the 1840s recreation grounds and public parks began to be provided for the public good by local benefactors (Conway 1996). A fine example, rather later in the century, is the Braintree and Bocking Public Gardens (Essex) which was given to the town by the Coutauld family in 1888; a Trust Fund was established by them for the upkeep of the gardens. Also in the 1840s the General Inclosure Act of 1845 provided for land to be set aside for recreation when commons and wastes were enclosed. Improving land-owners made provision for gardens in the model cottages they had built for their labourers, to encourage a sober and provident workforce. By the end of the century municipal public parks had become a recognised expression of civic pride, boasting bandstands and regimented flower beds. During the 20th century new parks continued to be created. They were designed both by well-known garden designers and landscape architects but more commonly by borough engineers and park superintendents. The five registered sites which form a set of public parks laid out in Norwich in the 1920s and 30s were designed by the parks superintendent Captain A. Sandys Winch.

The rapidly expanding population of 19th-century Britain meant that the question of the disposal of the dead became critical. The Rosary Cemetery in Norwich is the first English burial ground that can properly be called a cemetery, set up privately by a nonconformist minister in 1819 on market gardens outside the walls of the medieval city. J.C. Loudon was involved with both urban parks and cemetery design, writing prolifically on the appropriate

layout, planting design and ultimate cultural and environmental value of each. Histon Road Cemetery in Cambridge was designed in the year of Loudon's death (1843) and was implemented much as he had planned. This was among the first of the cemeteries set up as a public utility available to all. As a result of the Burial Acts of 1852–7 a national system of public cemeteries was created. Burial Boards set up throughout the country and public competitions were advertised through journals like *The Builder* for the design of cemeteries and cemetery buildings. These included in 1854 Bury St Edmunds (Suffolk), 1855 Soham (Cambs), Ipswich (Suffolk), Braintree, Colchester, Harwich and Saffron Walden (Essex), 1865 Rickmansworth (Herts). Cemetery design continued to flourish throughout the 19th century and up until the Great War. Unfortunately many of these designed landscapes, like the public parks, have not reached their full maturity due to neglect or destruction (Brooks 1989).

The last quarter of the century saw at least two influential developments evolve: the arts-and-crafts movement, with its emphasis on the use of local materials, and the Japanese style. Examples of the latter include gardens at Fanhams Hall near Ware and the Garden House, Cottered (Herts), both early 20th-century (Symes 1993).

The influence of William Robinson (1838–1900, who wrote among other inspirational works *The Wild Garden* (1870) and indeed added one to Shrubland Park in 1888) and Gertrude Jekyll (1843–1932) was strong on 20th-century gardens. Knebworth and Putteridge Bury (Herts), were among many Lutyens-Jekyll early 20th-century designs. The Pleasaunce, Overstrand, Norfolk, is a small formal, architectural garden designed early in the 20th century by Edwin Lutyens.

The garden city and the National Trust were started at the turn of the 20th century: popular movements to open and preserve 'natural countryside' for public enjoyment, inspired by the arts-and-crafts appreciation of the moral effect of the aesthetic environment (Waterson 1997). In this context, 'natural countryside' was a new term, defined as a public good in reaction to unplanned industrial and urban despoliation of the land. Letchworth Garden City, the first of these, was designed by Ebenezer Howard and development began there in 1903.

During the Edwardian period golf courses appeared in the (suburban) countryside. Their major elements, the broad expanses of grass with belts and clumps of trees, were exactly the same as those of the 18th-century landscaped park.

Regional examples of work by well-known 20th-century designers include gardens by Lanning Roper (Abbots Ripton (Cambs) for Lord de Ramsey in the 1950s and 60s, also Ickworth (Suffolk) and Sainsburys Centre for the Visual Arts at Norwich, though these are outside our period) (Brown 1987); Ellen Willmott (the wild garden at Warley Place near Brentwood, Essex, from the 1890s to WWI); Harold Peto (Easton Lodge, Essex, Italianate and Japanese gardens for the Countess of Warwick in 1903); Frederick Gibberd (The House, Marsh Lane, Harlow and Harlow Water Gardens). In addition to this group of internationally famous designers and writers there are many noteworthy gardeners who have created perhaps one or two gardens. Beth Chatto's gardens and nursery at Elmstead Market near Colchester in Essex is a good example.

State of knowledge

It is only relatively recently that designed landscapes and historic gardens have been recognised as being equal in importance for our cultural heritage as buildings and sites which have been granted statutory protection and a recognition in the planning process. Only since 1995 have the Garden History Society been statutory consultees when planning applications affect a historic garden.

The English Heritage Register of Parks and Gardens was compiled and published between 1984 and 1988, now subject to updating and augmentation. However it has been estimated that 'in England...the 'national' list includes approximately 10% of significant gardens in any given area' (Dingwall and Lambert 1997). This situation is now being remedied by surveys undertaken by a combination of local authorities, county gardens trusts and by consultants. However, inclusion in the Register has no definite implications for planning decisions (unlike the listing of buildings, on which it is modelled). PPG15 advises Local Planning Authorities to pay heed to the inclusion of a garden on the Register, and to consider its setting, but this is exhortatory only.

In Norfolk and Suffolk a survey of the non registered parks and gardens has been undertaken by UEA. The Norfolk survey results, compiled by Tom Williamson and shortly to be published in *British Archaeological Reports*, have been added to the SMR (info T. Williamson and E. Rose). A similar process is happening in Suffolk although this is at an earlier stage (info T. Williamson and C. Pendleton).

In Essex, the county gardens trust is beginning a desk-top, systematic cartographic survey to identify all potential parks and gardens of historic interest (info F. Cowell) This done, a second stage will identify sites worthy of survey and more detailed work. The trust liaises with local authority conservation officers and English Heritage. An unofficial list of parks and gardens worthy of further research is held by the planning department. The Cambridgeshire gardens trust are also at an early stage of an area by area survey (info E. Stazica).

Hertfordshire County Council have already completed a rough survey. A map and aerial photograph search revealed 430 possible sites of which c. 40 were deemed to be of listable quality. This list is the subject of scrutiny by English Heritage and some of these sites will go onto the Register. Hertfordshire Gardens Trust are adopting an area based approach to a more detailed study of the initial list of sites and have already published their findings from one area (info M. Vollard and A. Mallinson).

Both Essex and Hertfordshire County Councils have recorded the registered parks and gardens on a GIS as part of the planning process. A move towards the integrated recording of landscapes which include archaeological sites and buildings is evident in this development.

In the English Heritage Register for the five counties there are 173 entries. This compares with Ray Desmond's *Bibliography of British Gardens* in which he lists a total of 570 sites in these counties. His bibliography does not always include gardens that were subsequently identified and included in the Register.

In this table, the SMR categories of parks, gardens and garden features are not necessarily exclusive, and a single site may be represented in more than one of these categories. Sites are counted only once, however, to make the SMR total.

county	Desmond	Register	SMR parks	SMR gardens	SMR garden features	SMR total
Cambs	64	33	21	18	6	45
Essex	143	36	34	63	-?	76
Herts	136	39	39+40	-	-?	79
Norfolk	120	46	124	94	-?	?
Suffolk	107	16	-	-	-?	?

Urban Parks have been specifically targeted by the Urban Parks Programme of the Heritage Lottery Fund whose aim is to regenerate existing urban open spaces whether parks, pleasure gardens or historic cemeteries. The criteria for funding is based not only on the heritage merit of each space but also on its public amenity benefits and its importance in a local, regional and national context.

IV. The Archaeology of Industrialisation and Manufacture 1750–1960

by Shane Gould

Introduction

The period 1750–1960 is one of enormous socio-economic and technological change, and these effects have had a profound impact on the historic landscape of Essex, Cambridgeshire, Hertfordshire, Norfolk and Suffolk. In the mid-18th century East Anglia was at the fore-front of the so-called 'agricultural revolution' with the creation of great estates based on the best available scientific advice; model farms were a completely new concept often transforming many of the more traditional agrarian practices. The introduction of turnpike roads and improvements to inland navigations were closely allied to the growth of farming and the need for effective and efficient communications primarily with London. Ironworks and foundries were established to serve the farming industry and rural produce supplied a growing number of maltings, breweries and corn mills.

The use of lime as a fertiliser and for building purposes was widespread throughout the region during the 18th and 19th centuries, and lime kilns were often located on the floor of chalk pits or beside ports and creeks. Brick manufacture was also an important industry, but many of the quarries have subsequently been infilled. In the 16th century East Anglia was a major centre of the woollen industry and although this declined in the face of growing competition from Yorkshire, the manufacture of certain yarns and products came to be concentrated during the 19th century within parts of Essex, south Suffolk and Norwich.

Many of the old traditional industries began to decline in the early decades of the 20th century and these were replaced by those based on chemical, electrical, vehicular and other new technologies. Chelmsford was a major centre for telecommunications and electrical manufacture, and in Hertfordshire, Elstree and Borehamwood were important sites for the British film industry. Health facilities, education and tourism have become important attributes of post-war industrial society and concerns over future chemical, missile and nuclear war led to the establishment within the region of several governmental research bases.

Alderton and Booker's *Batsford Guide to the Industrial Archaeology of East Anglia* remains the definitive introduction to the subject. Published in 1980 the book provides an overview of the historical/ technological development of the region and a gazetteer gives details of the most important surviving remains; Hertfordshire is however, excluded. More detailed county accounts are provided in J. Booker's *Essex and the Industrial Revolution* (1974), W. Branch Johnson's *The Industrial Archaeology of Hertfordshire* (1970) and R. L. Hodrien's *Cambridge's Industrial Relics* (1976). Articles of interest also appear in the *Industrial Archaeology Review*, *Journal of the Norfolk Industrial Archaeology Society*, *Journal of the Suffolk Industrial Archaeology Society*, *Essex Journal* and *Essex Archaeology and History*.

East Anglia's Major Industries

The following account is not intended to be a definitive list; the major industries are described together with the current state of knowledge. Modern 20th-century industry and in particular post-war developments are an acknowledged weakness.

Transport

Given the importance of farming and the need to move perishable goods, East Anglia was well served with turnpikes. One of the first, the main road to Harwich, was turnpiked in 1696 and road improvements continued throughout the 18th century. Toll houses, mile posts, mile stones and coaching inns are important surviving attributes of the turnpike era.

Inland navigations were equally important and a number of parliamentary acts for the improvement of rivers had been passed before the end of the 17th century. There were many navigations within the region, but few true canals; a formal Trust was created in 1739 to maintain and improve the Lee Navigation, the Stort Navigation was opened in 1769 and the building of the Grand Junction (Union) Canal was completed in 1800. A number of industries including maltings, cement works and chemical works were located on estuarine or coastal sites, and many of the pumping stations on the Fens received fuel by water. Warehouses, quays, granaries, maltings and ironworks were often established in towns served by navigable rivers or canals, and limekilns and small storage sheds were often erected at the head of creeks.

Coastal and estuarine transportation were closely linked, and barges, coasters and other vessels would move goods between the sea and the narrow creeks. King's Lynn was an important port in the medieval period and Lowestoft, Parkeston Quay (Harwich) and Ipswich emerged as important centres during the 19th century.

By 1862 most of the region's rail services were under the control of a single company, the Great Eastern Railway. Its only serious competitors were the London, Tilbury and Southend Railway in the extreme south, and the Midland and Great Northern Joint Railway in the extreme north. Decline and the Beeching cuts in the 1960s led to the closure of approximately half the track and many of the minor routes. Features of interest survive on both abandoned and working lines; these include the stations, signalling and engineering features. The towns of Southend on Sea, Clacton, Lowestoft and Southwold are of particular interest being established as seaside resorts transporting families by train from the capital. Melton

Constable, Norfolk, is the region's only example of a railway town. It was erected on a greenfield site for the Midland and Great Northern Railway and has been designated a Conservation Area.

Air travel has become increasingly important since the 1950s, but few of the surviving sites and the supporting manufacturing firms have been adequately studied. The aircraft and aircraft component industries are particularly important in Hertfordshire. De Havilland established their works in Hatfield in 1930 and by the 1960s the industry had become the largest employer in the county. The aircraft and manufacturing complex at Hatfield has recently been surveyed, but several other sites need to be recorded.

Most of the general books on the industrial archaeology of the region have sections on transport. More specific works include *The Turnpike Roads of Norfolk* (Cossons 1952), *The Canals of Eastern England* (Boyes and Russell 1977) and *A History of the Chelmer and Blackwater Navigation* (Came 1976). Much has been written on the railways of East Anglia, but these are essentially historical narratives and few consider the surviving architectural and technological features; key texts include *The Great Eastern Railway* (Allen 1961), *A Regional History of the Railways of Great Britain vol 5 Eastern Counties* (Gordon 1968), *The Midland and Great Northern Joint Railway* (Wrottesley 1970), *A Guide to the Midland and Great Northern Joint Railway* (Digby 1993), *Forgotten Railways: East Anglia* (Joby 1977) and *The Mid-Suffolk Light Railway* (Comfort 1963).

Farming

Farming was for many centuries the most important industry in East Anglia and its monuments have had a profound impact on the landscape. The importance of farming during the medieval and post-medieval period is attested by the many surviving timber framed barns, but ideas and practices were beginning to change in the mid-17th century on the back of rising prices and a growing population. Whilst many timber-framed barns in Essex and Suffolk are late medieval, in Norfolk the 17th century represents a period of rebuilding, with further replacement of timber framing by brick in the 18th century. The period 1750–1820 has been described as an 'agricultural revolution' and East Anglia and Norfolk in particular, were at the forefront of these enormous changes.

The enclosure movement (by act or agreement) encouraged new scientific practices and 'improvements' to be adopted. Plans of model farmsteads and advice on farm buildings were published from 1770 and new crop rotations, manure and the use of artificial fertilisers became widespread. The large landowners, notably Thomas Coke of Norfolk, were very influential; Coke's estate included 70 farms spread over 42,000 acres.

A second boom, the period of the Victorian 'High Farming', took place between 1840 and 1880. Principally based on the rearing of stock, especially cattle, many of the model farms were reorganised in order to accommodate more animals. Interest in the arrangement of farm buildings peaked in 1850 and this was reflected by the growing application of steam power.

The results of the Historic Farm Buildings Project set up within the University of East Anglia have recently been published (Wade-Martins 1991) and a booklet entitled *The East Anglian Farms* is being prepared by English Heritage in their *Understanding Listing* series. Further research is



Plate IX The massive eight-storey, seventeen-bay malting at Mistley, Essex. Erected in 1896–7 by the firm of Free, Rodwell and Co. the Grade II listed building incorporated many important technological innovations.

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being undertaken by the RCHME and a major book on the evolution of farms and farm buildings is expected to be published shortly. However, none of the RCHME's sample areas were within East Anglia. Other relevant texts include Brunskill (1982), Brigden (1986), Robinson (1983) and Darley (1988).

Many of the buildings associated with the pioneering farms are already listed, but coverage of the lesser monuments is patchy; Susanna Wade-Martins is currently undertaking a major national survey of model farms for English Heritage. Although much work has been done within the region, it is held by many disparate organisations and individuals, and needs to be collated so that a representative sample of sites can be put forward for statutory protection.

Brewing and malting

East Anglia was the most important barley-growing region in England and this is reflected by the large number of surviving malthouses. The industry dominated several towns including Saffron Walden and Bishop's Stortford (both served by the Stort Navigation), Halesworth, East Dereham, Yarmouth Southtown, Mistley and Ware. Maltings were also a common feature on farmsteads especially during the period 1750–1850.

By the end of the 19th century many of the smaller malthouses had ceased working as a response to the growing rationalisation of the industry, this contraction continued into the 20th century. Many of the surviving examples are listed (predominantly grade II), but this does not preclude their conversion into housing, flats or light industrial units.

A recent survey of the Essex malt industry (Gould 1996) has shown that of the 42 standing examples

identified, 27 (64%) had been converted to alternative uses and only 15 retain potentially important internal technological features. A similar pattern occurs in Suffolk where the last floor maltings in the county, Thingoe Maltings at Bury St Edmunds, recently closed and the site is now cleared. Most of the large maltings to the south of the river in Ipswich have also gone, with the survivors very derelict, and what was claimed to be the largest maltings in the world at the time of its construction, in Beccles, is subject to a demolition order. A recent survey of industrial sites in Hertfordshire recorded a similar pattern of decline and reuse.

Brewing was closely associated with malting and the two processes were often found on the same site or in close proximity to each other. Again each town would have had at least one brewery predominantly serving the local market, but their numbers fell as the industry became increasingly centralised during the 20th century. Many have been lost (Norwich for example, had several very large breweries until the 1970s), several listed examples have been converted and only a handful now survive.

The most remarkable brewery to survive in working use in Suffolk is Tolly's turn of the century Cliff Brewery at Ipswich, though Greene King at Bury St Edmunds has some late 18th-century buildings and Adnams at Southwold has a fine 19th-century brewhouse on much older cellars. The Hartford End and Little Coggeshall breweries (Essex), also retain many important 19th-century features; the latter has been fully recorded before being converted into flats. The Hertfordshire survey identified/revisited 36 breweries of which only three survive largely intact and only one (McMullen's) is still used as a brewery. A typical but now rare example of a county brewery survives at Furneux Pelham in East Hertfordshire.

Little has been written on the archaeology of brewing but the best introduction to the Essex industry, albeit from an historical perspective, is Peaty (1992).

Paper-making and printing

Paper-making was initially a mainly rural industry which became widespread in the 18th century although some mills were urban. The earliest documented, at Hertford, was making paper for William Caxton in 1494. The industry was revolutionised in the early 19th century by the introduction of machinery that could produce paper in an endless roll instead of single sheets. In Hertfordshire the industry became a major employer and still retains this status today. In the 1960s it was the third largest employer in the county and several 19th-century mills still operate albeit modernised.

Milling

Much has been published on the study and investigation of East Anglian wind and watermills. Hervey Benham (1976) covers the eastern part of Essex and Reid (1989) provides further information for parts of western Essex. Suffolk windmills are described in Dolman (1979) and A. C. Smith has published books on windmills in Cambridgeshire (1975), Huntingdon and Peterborough (1977). An extensive survey of Essex windmills, their history and technology, was achieved by K. G. Farries and was published in five volumes in the 1980s. Steam-powered mills and in particular roller-milling has received much less attention. These mills were built to serve urban markets, being located beside a railway or docks and their use became widespread towards the end of the 19th century.

The listing of wind and watermills is greater than for any other category of industrial monument in East Anglia. Many have been converted into dwellings, public houses and offices, but the RCHME, local industrial archaeology societies and other interest groups undertook measured surveys of a large number in advance of these works. Conversely, surprisingly few earthwork sites or those with suspected below ground remains have been investigated.

Leather

The manufacture of leather and leather goods was a by-product of the farming industry and tanneries were evenly distributed throughout the area. From the mid-19th century Norwich had a growing boot and shoe industry initially based in small workshops, but these became larger and increasingly mechanised as the century progressed.

Textiles

East Anglia was one of the leading woollen manufacturers in England during the 16th century, but this importance declined as a result of growing competition from the Yorkshire industry. The manufacture of woollens was mostly organised on a domestic basis within small loomshops or dwellings, and large scale capital investment in multi-storey factories only took place when the industry was already stagnating. Certain areas survived by diversifying into the production of specialist fabrics; in Essex, Hertfordshire and south Suffolk silk was manufactured and part of the listed 1818 New Mills at Braintree now houses a working silk museum. Yarn mills were established at Norwich in an attempt to stem the flow of weavers to Manchester. The two most important

survive, one as Jarrold's print works and the other as Duffields flourmill; both are now threatened with closure. Loomshops also survive in Haverhill and Sudbury. Horsehair furniture coverings were produced in Glemsford, Ipswich became a home of the corsetry trade and brush-making was undertaken in Norwich and Wymondham.

Apart from brief references in the general industrial archaeological literature (cited above) little else has been published on the East Anglian textile industry and because of this lack of basic information few additional sites would have been protected during the recent thematic review of the industry undertaken by English Heritage. Many of the most important sites are already listed, but further research is needed on the surviving field monuments especially those from the earlier domestic period.

Extractive industries

East Anglia lacks any major mineral deposits and most of the workings were relatively small often serving local needs. The more substantial industries included flint knapping on the Norfolk/Suffolk border, the Norfolk carstone industry, the working of coprolite along the Deben Estuary and in south Cambridgeshire, the sand and gravel workings of Essex, Cambridgeshire and Hertfordshire, and the Cambridgeshire clay pits. The remnants of flint mines can be numbered in their thousands at Brandon and Santon Downham in Suffolk, and at Santon and Thetford in Norfolk. In west Norfolk silica sand extraction was also an important industry and the workings had their own railway system. Chalk extraction and its associated cement industry was particularly important in the Purfleet/Thurrock area of Essex.

The manufacture of lime for agriculture and building purposes was however, more widespread. Kilns could be found on the floor of chalk and cement quarries, on farms, beside towns and ports, and along creeks. Their use was widespread especially in Essex, Cambridge, Norfolk and Suffolk and most of the surviving examples appear to date from the period 1810–1850. Those in Norfolk have been investigated by the Norfolk Industrial Archaeology Society, and a recent survey in Essex (Gibson forthcoming) has found only one intact example; this is being surveyed by the RCHME and will be recommended for scheduling as part of English Heritage's Monuments Protection Programme on the lime industry.

Brick making was also an important East Anglian industry, but many of the works remained relatively small-scale using intermittent kilns (Suffolk, Scotch, Newcastle) until the advent in 1856 of the continuous Hoffman kiln. Principal centres of production included Sudbury, Peterborough, Catton near Norwich, Stourbridge by Cambridge and Great Wakering, Essex. Although several sites remain in operation the majority have closed and a representative sample should be studied in order to understand the historical and technological development of the industry.

Iron Manufacture

Foundries and engineering works came in a variety of shapes and sizes; the majority being located in the towns. Iron for the cupolas or air furnaces was received as ballast in the coasters that traded between London and the north east or in the form of scrap metal. Their trade was predominantly geared to the production and repair of



Plate X Bulbourne canal works and boat lift at Tring, Hertfordshire. *Copyright: Hertfordshire County Council*

machinery for the agricultural industry, but some companies specialised in the manufacture of small portable steam engines, diesel engines or domestic goods; notable firms included Ransomes, Sims and Jefferies of Ipswich, Peter Brotherhoods of Peterborough, Richard Garrett of Leiston and Bentalls at Heybridge. Major factories constructing steam engines for road and rail were at King's Lynn (Dodmans and Savage's) and Thetford (Charles Burrell, now a museum). Site survival is generally poor, many including Bentalls and Ransomes have largely been demolished (though part of Ransomes 20th-century Waterside Works is used for warehousing) and those that survive merit detailed investigation.

Fishing, oyster farming and boat building

An important, but much neglected and poorly studied industry in East Anglia. Many of the coastal towns had fishing fleets with associated harbours, trans-shipment sheds, sail lofts and boat repair yards. Herring were landed at Yarmouth, shellfish are caught from North Norfolk and Essex, and the oyster industry flourished in Essex. The latter is currently being investigated using aerial photography, but more information is needed on the degree of survival elsewhere. There are also many abandoned boats associated with these activities around the extensive creek systems. Their condition is deteriorating and they merit further study.

Drainage

The drainage of coastal areas in Norfolk, Suffolk and Essex was first instigated by the Romans. In the mid-17th century Dutch engineers began major schemes of reclamation using windmills (smock and tower mills) in conjunction with drainage channels and in some areas this practice continued into the 20th century. Windmills were gradually replaced from the 1820s, by steam powered drainage pumps. The use of oil engines became widespread

at the end of the 19th century and these were superseded in the early 20th century by automatic electrical pumps.

Several windmills that were used for pumping have been renovated, others survive as empty shells, but in most instances only the mill mound remains; a similar pattern of survival exists for steam pumping engine houses. Many of those that were originally erected for diesel engines have been converted to electrical power.

Darby (1940) and Hinde (1974) describe the draining of the Fens and the use of steam power; the application of wind-driven pumps on the Norfolk Marshes is covered by Smith (1978).

Explosives manufacture and military testing

Essex was a major centre of the late 19th/early 20th-century explosives industry and several sites including Bramble Island and Pitsea Hall Farm have important surviving remains. The Royal Gunpowder Mills, Waltham Abbey, Essex has been described by English Heritage as the most important site for the manufacture of explosives in Europe. Gunpowder production began in 1660 and this was replaced in the late 19th century by chemically based materials including guncotton and nitro-glycerine. Explosive manufacture ceased in 1945 and the site was then used as a government research establishment for the testing of rockets and other propellants. Following a detailed survey by the RCHME (1994b), a large part of North Site has been afforded statutory protection. Cocroft (forthcoming) will be the definitive work on the subject.

The emergence of the cold war during the 1950s and 1960s led to various explosive, missile and nuclear test programmes taking place within the region; major sites include Orfordness and Foulness.

Public Utilities

This category includes several disparate industries whose importance has increased considerably during the late

19th and early 20th centuries. Growing concerns over public health led to the provision especially in towns of a clean water supply; water storage towers being the most visible landscape feature. Predominantly built of brick, many of the Victorian examples are architecturally elaborate and are either listed (normally grade II) or form part of a Conservation Area. Steam powered pumping engines were used to draw water from the ground and several important examples have been protected. Much less however, is known about the history of water purification and sewage treatment plants. A Step I Report on the water industry has been prepared as part of the Monuments Protection Programme by English Heritage (see Stocker (1995) for a detailed description of English Heritage's approach to industrial archaeology within the Monuments Protection Programme), but more basic fieldwork needs to be undertaken if a representative sample of the surviving monuments in East Anglia are to be considered for statutory protection.

The provision of town gas was another major mid-19th/early 20th-century industry. Every town and many villages would have been served by a gas works, the gas being produced in retorts. The gas works at Fakenham and Lavenham have both been scheduled as ancient monuments but few other surviving sites have been identified.

Electricity dominates late 20th-century society, but surprisingly little work has been done on the typological and architectural evolution of the industry. Alderton and Booker (1980, 21) identify three power stations of different ages at Peterborough as being especially interesting and recent work by the RCHME as part of the Thames Gateway Project has included surveys of the Tilbury A and West Thurrock power stations (RCHME 1994c; 1995). The industry has also been examined as part of the Monuments Protection Programme and English Heritage will shortly be deciding which sites merit statutory protection.

In recent years the oil industry has had dramatic impact on the landscape of southern Essex. Terminals were erected at Thurrock and Canvey Island; the latter was never completed and may shortly be demolished.

Existing State of Knowledge and Research

For many years most of the pioneering work within this field has been undertaken by individuals and local amateur groups; these include the industrial archaeology (IA) societies for Suffolk, Norfolk and Cambridgeshire. Attempts to create a similar body in Essex have unfortunately failed, but John Boyes and John Booker are the leading county experts. Representatives from the IA societies report on current initiatives, casework and threatened sites to the CBA East Midlands and Eastern England Industrial Archaeology Panel and the CBA East Anglian Industrial Archaeology Panel. The Historic Farm Buildings Group has undertaken research on surviving farm buildings within the region and the Centre of East Anglian Studies at the University of East Anglia maintains the archive of the Norfolk Farm Buildings Survey. Various other disparate groups have been examining railways, canals, and wind and watermills.

The county council Archaeological Sections have only recently become involved in the recording and curation of the archaeological remains from the past 200 years and this reflects the arbitrary separation between below ground archaeology and historic building conservation. Fortunately,

this division is beginning to break down as the counties move towards integrated databases for the management of historic buildings and archaeological sites; coverage for the modern period however, remains variable. In all counties stronger links between the Archaeology and Historic Buildings Sections should be developed.

A recent survey undertaken as part of the Association for Industrial Archaeology's Index Record of Industrial Sites and Monuments gives the following figures for the five counties.

<i>SMR region</i>	<i>Total no. of records held on SMR</i>	<i>Total no. of industrial period records on SMR</i>	<i>% of SMR records of industrial period</i>
Cambridgeshire	14800	46	0.3%
Essex	c. 14000	c. 532	3.8%
Hertfordshire	c. 7200	c. 1400	19.4%
Norfolk	31746	c. 2000	6.3%
Suffolk	16300	c. 1000	6.1%

Industrial archaeology is poorly covered within the Cambridgeshire Sites and Monuments Record. The Archaeology Section hopes to undertake an enhancement program (funding permitting) in due course and as a first stage a strategy document will be produced.

The Archaeology Advisory Group of Essex County Council have produced a strategy document for the industrial heritage of the county (Gould 1995). Current initiatives include adding the old CBA industrial archaeology cards compiled by John Booker between 1969 and 1971 to the SMR and information from the Ordnance Survey 1st Edition six inch series is also being mapped. Thematic surveys have been and are being undertaken for the malt and lime industries, and increasingly sites are also investigated/recorded as part of the development control process.

A major survey of the industrial archaeology of Hertfordshire has recently been completed by the Archaeology Section of Hertfordshire County Council and the RCHME. Based on initial work undertaken by William Branch Johnson in the early/mid 1960s, the survey aimed to rapidly input data and assess rates of attrition. Where possible sites were visited by the surveyor, (95% in practice, although internal access was rare); modern 20th-century industry however, remains problematic. Several sites have already been recorded/ investigated as part of the development control process and it is hoped that these will increase. Hertfordshire does not have a county industrial archaeology society, but there is a group in Watford and members of the Greater London Industrial Archaeology Society have also offered expert advice.

Industrial Archaeology and 18th/19th-century farm buildings are well covered on the Sites and Monuments Record for Norfolk. The county has very strong links with the Norfolk Industrial Archaeology Society who have undertaken surveys of iron foundries, lime working, brick making, malting and brewing. In addition the society responds to requests from the various councils, local and county, to report on sites threatened by the planning process. There is still, however a reluctance at county level to attach recording conditions to 18th/20th-century sites affected by development.

Industrial sites and buildings are poorly represented on the Suffolk Sites and Monuments Record. The Suffolk Industrial Archaeology Society are asked to comment on

the potential importance of sites threatened by development, but in recent years there has been little input into the SMR.

For most counties the lack of basic information and specialist knowledge remains a major problem for the modern period. This is further compounded by the existing information being held in several disparate and unrelated locations. Allied to these problems is the total absence of any theoretical agenda. Industrial period monuments form part of a broader social landscape that encompasses housing, religious sites, shops, and buildings and spaces associated with leisure activities. If culture is a determinant of architecture then these buildings reflect the dynamic attributes and values of the society that erected them, and if these concepts fail to be grasped then an important and irreplaceable element of that past is being thoughtlessly destroyed.

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