

Post-Medieval and Modern

by Paul Gilman, Shane Gould and Sarah Green

I. Introduction

Following the format of the resource assessment this section considers the research agenda for three specific elements of the archaeology of the last five centuries; Fortifications (II below), Parks and Gardens (III below) and Industrial Archaeology (IV below). The reasons for this partial coverage and some key omissions are described in the *Resource Assessment* (Glazebrook ed. 1997, 67), for convenience the main points are reiterated here. The post-medieval and modern coverage in this framework grew out of an initial contribution which dealt solely with industrial archaeology. Crossley (1990, 2) has noted the ‘compartmentalized specialization’ of post-medieval archaeology, and it has proved impossible to find an author prepared to contribute, or co-ordinate, a general overview of the period. Both parts of the framework therefore have a rather piecemeal approach to post-medieval and modern archaeology. This is not the result of any disregard of their importance but rather stems from a lack of expertise within the archaeological establishment. The creation of a fully comprehensive research agenda which can address the different aspects of post-medieval archaeology, whilst avoiding an artificial split with the medieval period, is a clear priority for the region. It will also be necessary to co-ordinate this with conservation officers and other specialists on the historic built environment in the region.

For the eastern counties, perhaps the key development of the post-medieval period is the Agricultural Revolution. In this context the importance of post-medieval rural assemblages of faunal and plant remains cannot be over-estimated. At present these are extremely poorly represented but essential for an understanding of the development of a modern agricultural economy. The 16th century was probably a key time and has seen little archaeological investigation. Bone preservation on rural sites tends to be poorer than at urban excavations, and it will therefore be particularly important to identify and fully excavate features including high densities of bone/plant remains. Alongside these important changes in crops and livestock, changes affecting the wider landscape, including drainage, consolidation of fields, enclosure of commons and so on, need to be studied to achieve an improved understanding of agricultural development in economic, social and landscape terms. Aspects of farming practice in the 18th and 19th centuries are considered in more detail below (IV).

II. Fortifications

by Paul Gilman

Introduction

East Anglia is rich in post-medieval and modern military remains, principally because of the location of the region close to the continent and, therefore, to potential enemies. However, the current state of knowledge of the location, survival, condition, and importance of many of these

remains is uneven both across the region and throughout the different episodes of defence construction represented. Much of this can be explained by the fact that it is only within the last few years that the significance of many of these remains has been recognised, and this is particularly so for 20th-century fortifications. Moreover, the scale of destruction, especially for the most recent, Cold War, era is often so rapid that there is insufficient time for assessment and recording before sites are demolished. This means that the scale, range and nature of the resource are still imperfectly understood. As a result, the research agenda presented here must be considered provisional and subject to change as survey work is advanced and with the progress of assessment of the various defence types.

Gaps in knowledge

For much, if not all, of the post-medieval era the place of East Anglia in the national scheme of defence is relatively well understood (Kent 1985; Dobinson 1996). Similarly, the broad stages of development at the major forts are generally well known from documentary records, although some of the details remain to be elucidated. What is lacking across the whole period and for many different types of fortification, is consistent information on both their original location, their current state of survival and their significance. Some parts of the region (for example Hertfordshire and Essex) are relatively advanced in terms of survey of Second World War defences (Nash 1994; Ingle and Strachan 1996; Gilman and Nash 1996; Nash 1997; Thorpe 1996; Nash 1998) and the development of SMR coverage. Other areas have hardly begun the location and assessment of military remains. The Defence of Britain project, working largely through volunteers, has collected information on hundreds of 20th-century defences (Foot 1998). However, this information has not yet been assimilated and assessed by the region’s SMRs. Even for those phases of defence that have received relatively more in the way of study, such as those from the Napoleonic era, the extent of survival of some sites is not known and detailed investigation is required.

Assessment of documentary sources by the Council for British Archaeology (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). This work has also resulted in the creation of nationwide distributions for some defence types as originally built. However, anti-invasion defences have been excluded because of the sheer numbers involved. The Royal Commission on the Historical Monuments of England (RCHME) have also been carrying out a survey of important remains from the Cold War and recently-relinquished Ministry of Defence establishments. By way of contrast, there has been relatively little detailed survey of specific defence sites, notable exceptions being the recording exercises by the RCHME at, for example, Beacon Hill (RCHME 1998a), Bowaters Farm (RCHME 1994), and Stow Maries, in Essex (RCHME 1998b).

Potential of resource

16th–19th centuries

Most of the defences constructed within the region during these centuries were coastal fortifications since the main requirement was protection from foreign raiders and invaders. Of these, a number of the key sites, such as Landguard and Tilbury Forts were occupied continuously until the end of the Second World War. Such strategic points were often modified and updated to bring them into line with changes in fortification design and advances in artillery technology. As a result, the region as a whole is particularly well placed for the study of the development of fortification and of coastal artillery. Although much has been lost, it is probably true to say that, at the least, examples have survived of most, if not all the types of defence constructed in East Anglia. These include some of the earliest artillery fortifications, as at Great Yarmouth and King's Lynn, as well as the later, more grandiose 19th-century coastal forts.

Of the inland defences, since those from the Civil War were never intended to be more than temporary works, few have survived, usually as relatively slight earthworks. Nevertheless, they are potentially useful for the study of fortification during this important period of English history (Society for Post-Medieval Archaeology 1988). This also applies to the earthworks constructed during the Napoleonic period, since they are rare examples of the application of contemporary techniques of land defence in Britain.

20th century

East Anglia as a whole is exceptionally rich in monuments from both World Wars. However, it must be emphasised that the scale of this resource is far from being understood and is potentially vast. As well as the fortifications themselves, monuments of the modern era will include training grounds, firing ranges, Prisoner of War camps, manufacturing sites, and many more. Priorities for investigation and recording need to be established, based on explicit criteria such as amenity value, condition, group value, rarity and threat.

First World War: there was little danger of invasion during 1914–1918, but some precautionary measures were taken, for example construction of pill boxes and some trench systems. However, there is a need for an assessment of the extent to which they represent a strategic regional defence or more localised responses. Naval operations were conducted from ports such as Harwich, and from Osea Island where substantial remains of a motor torpedo boat station have survived. The First World War also saw the introduction of new forms of warfare, including aerial attack, at first from airships and later from fixed wing aircraft. To counter this new threat, both airfields and anti-aircraft gun batteries were built in East Anglia. However, it must be emphasised that the extent of survival of these remains is not well known for this period and it is likely that survey will uncover many more monuments than are known at present.

Second World War: East Anglia was regarded as a potential landing area for the German invasion expected after the fall of France in 1940. As a result, the region was provided with the whole range of fortifications available to counter this threat. Where survey has been undertaken, many of these defences have been shown to survive. East

Anglia was also a base for naval and, especially, air operations and extensive evidence of the latter still remains (e.g. Thorpe 1996). The need to counter aerial bombardment was constant throughout the war and Dobinson (1996) has shown how East Anglia was integrated into the national scheme of anti-aircraft defence. Towards the end of the war, the region also formed an important part of the so-called 'Diver' sites that were installed to counter the threat from the V I flying bombs. A number of these can be identified from aerial photographs (Ingle and Strachan 1996) although the extent of survival of these is uncertain, especially for those emplacements that were of a relatively temporary nature.

Cold War: East Anglia was particularly important for the airbases used by both the RAF and USAF. In addition, but less well known, are the underground posts built for both local and central government, to be used in the event of a nuclear war. Alongside these was a network of underground Royal Observer Corps positions, for use in monitoring the radioactive fall-out should a nuclear attack occur. This period also saw the establishment of key weapons testing sites within the region, notably at Orford Ness and Foulness. The former is now in National Trust ownership, the latter is expected to be released for disposal in the near future. As a consequence of the government's Options for Change policy, the Ministry of Defence is currently disposing of military and naval sites throughout the UK.

Survey and excavation

Overall, as relatively few sites have been excavated, it is difficult to assess the potential contribution that excavation could make to the study of post-medieval defences. At Harwich excavation of the Napoleonic Bathside Bay battery revealed, unexpectedly, extensive remains, including evidence for changes in design during construction and for the technology employed to provide coastal artillery emplacements at this time (Godbold 1994). It is likely therefore, that similar investigation, especially on the more ephemeral and/or short-lived fortifications, could prove similarly productive. Even at the larger, more complex defences, excavation can provide useful and possibly unique information on their original form and the construction techniques employed (Wilkinson 1983).

The potential contribution of earthwork and building survey cannot be over emphasised. Such exercises are essential to establishing the extent and survival of what are now relatively slight earthworks, as has been done for the Napoleonic defences near Chelmsford (RCHME 1992). Survey, in combination with documentary and cartographic investigation, can also provide a cost-effective way of understanding the development at more complex installations. Aerial survey also has an important part to play in the location of now vanished fortifications. It is likely that the extensive investigation of aerial photographs being carried out as part of the National Mapping Programme (NMP) will uncover a significant number of sites for all periods. At the time of writing, Hertfordshire has been completed and Essex is being mapped and it is to be hoped that the NMP will eventually cover all the counties of East Anglia. A recent instance of the value of this is the possible identification of part of the siege works erected around Colchester in 1648 (Strachan pers. comm.).

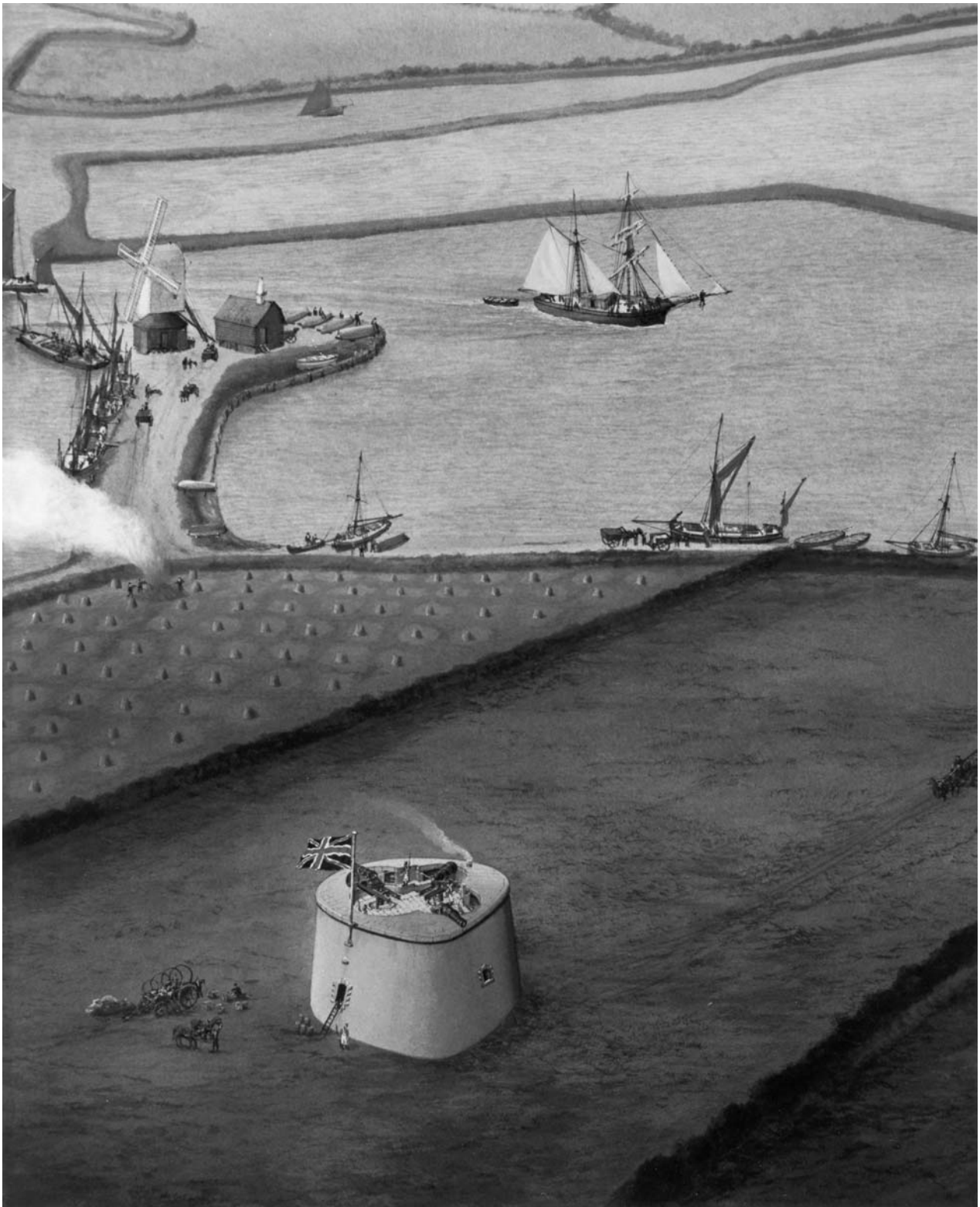


Plate VIII Martello tower at Walton-on-Naze, Essex, as it may have appeared in the mid 19th century. The tower defended the town hard, with its windmill and tide mill shown in the background. (*Watercolour by Frank Gardiner*)

Threats to the resource

The coast in much of East Anglia is undergoing erosion and some sites have already been lost. The so-called ‘peace dividend’ following the end of the Cold War has provided an impetus for the disposal of government defence properties, such as at Shoeburyness in Essex, and many of the region’s airfields. Although this is providing the opportunity to study sites that were formerly off limits, such investigations must be carried out urgently to ensure important features are not lost before their significance is fully understood. This need is all the more pressing when it is considered that relatively few defences, especially those from the 20th century, enjoy statutory protection. Moreover, there are almost no public records of many of these sites because of their sensitive nature.

Research topics

The most pressing need is for extensive survey projects to add to our understanding of the resource itself throughout the region and to bring all the SMRs to a common standard. Such projects would be best carried out on a thematic basis, for specific monument types, such as airfields, or specific periods, for example the Civil War. A related requirement is that for the development of methods of assessment of the significance of military monuments, especially for those of the most recent past. This work is hampered by the fact that, to date, relatively few Monument Protection Programme class descriptions have been produced for post-medieval defences. There is also a need to explore possible approaches to the protection of defence sites, including the use of Conservation Areas, listing and scheduling as well as non-statutory approaches such as the use of local designation by local councils. Encouraging appropriate forms of re-use could assist with the protection of some site types such as pill boxes which can be used as, for example, bat shelters and bird hides.

Interesting topics for research would also include study of the development of fortification techniques in the region, in the overall context of the technical development of artillery and fortification design. At the site specific level, for the most important monuments, there is a need for detailed surveys, on the lines of those carried out by the RCHME. A particular feature of such surveys should be comparison on individual sites between the field and documentary evidence, *i.e.* what was actually built and why. A related subject, especially for Second World War anti-invasion defences, is that of classification. Although designs were often by the Army headquarters, in practice there was sometimes a degree of variation when they were actually constructed, as well as the introduction of local designs (Dobinson 1996). Typological studies are therefore needed, combining documentary and field survey, both for research into the way in which the defences were constructed and to help characterise the resource for management purposes.

Wider topics of research, particularly for the major forts that were occupied for long periods, include the relationship of fortifications to local politics, society and economy. There is also scope for study of the development of specific building types (such as barracks, stores) within or attached to fortifications. Such research should include the architectural aspects of military buildings and their impact, both nationally and on local communities. However, this should also be accompanied by analysis of the use of space within forts and within individual

buildings, as has been employed successfully in the survey of industrial buildings in Essex.

Finally, it should also be stressed that there is a great public interest in post-medieval defences, especially those from the Second World War. The potential for involving local amateur groups and keen individuals in this type of work is enormous.

III. Parks and gardens 1540–1960

by Sarah Green

Introduction

The *Resource Assessment* (Green 1997, p.69–70) defined ‘historic parks and gardens’ as open spaces that had been laid out, planted and maintained mainly in order to please the eye, and for various forms of leisure and recreation. This definition therefore embraces not only the obvious pleasure garden or designed landscape, but also extends to a wide variety of other open spaces created for comparable non-utilitarian purposes. Logically the resource might ultimately be considered to contain the designed landscapes of various 20th-century housing, industrial and leisure developments. The registered historic parks and gardens in the region vary considerably in style and type, and some of the gardens and designed landscapes cited in the assessment are among the first or most remarkable of their kind in the country.

Archaeology assists the study of parks and gardens mainly by elucidating the physical evidence for their development. However, other sources of evidence, mainly documentary, are at least as vital to this study. Historic parks and gardens lend themselves to many different kinds of investigation. Until quite recently most studies were relatively local in scope, by enthusiastic amateurs, or they concentrated on big sites, famous names and aesthetics (often proving unoriginal, superficial and snobbish). This research agenda emphasises the information value of this particular historical resource, rather than, say, its modern amenity value (whether public or private), or the desirability of its preservation or reconstruction. The understanding of parks and gardens must include the context in which they were created and existed. All sources of evidence should be used so as to place parks and gardens firmly in their historical context, as particular cultural phenomena affected by, and possibly influencing, a variety of social, economic and political forces. From this point of view the study of parks and gardens is in a rather less advanced state than that of many other subjects, although the situation is improving rapidly. The points made below under the three headings (gaps, potential and research topics) are not exhaustive, nor necessarily in order of importance.

Gaps in knowledge

Mapping the resource

The most serious defect is that there is no comprehensive inventory of parks and gardens, covering all the five counties in a consistent and effective way. There are models and systems which could help rectify this, such as the NMR, EH Register, the UK Database on Historic Parks and Gardens, MPP, and so on. Accurate mapping and systematic application of attribute data are the twin essentials here. The first priority must be to identify and map historic parks and gardens (the resource). Ideally

there would be a single classified inventory of these parks and gardens, compiled consistently throughout the region. This could well be the SMR, but each county's SMR is in a different state. It would be counter-productive to set up an alternative to the SMR except as an interim or pilot measure. This task includes the systematic and consistent application of basic historical attributes to the parks and gardens identified. These attributes serve to define a site as an historic park, garden, or public open space, and enable it to be further studied, in combination with other sites and sources of information. Organisations like the County Gardens Trusts in collaboration with other local and national bodies are energetically addressing this problem.

Defining parks and gardens

A subtle difficulty is defining parks and gardens suitably for research purposes. On the one hand, parks and gardens are simply one element in the total landscape, and their study is but one aspect of whole landscape history. This has direct importance when, as was typical of the 18th-century ideally naturalistic designed landscape, the view beyond the individual park and garden is characteristically included in its design; in any case we may assume that many houses and gardens were meant to provide a landowner with a good view over his or her land; and uses such as riding and hunting would frequently spill over the park and garden boundary. On the other hand, what is the lower limit of the definition when discussing for instance vernacular gardens? In effect, what is not worth studying? In this respect would it be right to suggest some minimum coefficient of size, age and condition? (see Research topics below). The early modern rural landscape as a whole is a reasonable subject for study, in which the exploration of the designed landscape would be an integral element, along with the effects on the landscape of post-medieval agriculture.

Differential survival

Older parks and gardens are inevitably less likely to survive without material alteration, and all early phases in multi-period sites are likely to be hidden or superseded, and are more like 'normal' archaeological sites. They are also less likely to be known and identified, and if identified, their extent and character are less likely to be known. Paradoxically it has been pointed out that 'Gardens of the early 20th century have proved less durable than those of earlier centuries. Most gardens which have developed in the 20th century, relying on plants rather than expensive architectural features for their structure, vanish or are greatly simplified as soon as the presiding genius of their maker dies' (Hertfordshire Gardens Trust 1996, 27).

Bias in documentation

Documentation is crucial to a comprehensive, contextualised history of parks and gardens. Unfortunately documentation is patchy, unpredictable, and inconsistent; it rarely covers every development of a particular park and garden; and in general is less in evidence lower down the social scale. This last bias in the evidence is one reason for the disproportionate attention paid hitherto to the grander, larger parks and gardens. We do not seem to know just what parks and gardens existed and what they were typically like. As Tom Williamson has said (1996), pointing out some misconceptions and areas

of ignorance even in such a well-known field as the designed landscapes of 1650–1850: 'in the 18th century... geometric gardens retained their popularity for far longer in many parts of England than most conventional accounts allow.' There are parks and gardens that survive now, without documentation; and documentary evidence for parks and gardens that are now no longer extant.

Latter-day institutional patronage

There is a general lack of information about and research into the more institutional patrons of parks and gardens (not private houses), with honourable exceptions, such as the documentation of Letchworth Garden City, Hertfordshire.

Potential of resource

Physical evidence of parks and gardens

Widespread physical evidence of parks and gardens exists, and is often conspicuous in both town and country. Its individual appearance in such an agenda as this might be due to this physical prominence rather than its true historical importance. It is important to appreciate that gardens are usually composite, that is, comprising elements of different dates and origins. This will inevitably be so if the land has been used as a park or garden continuously for any length of time; even if the land form is unchanged, vegetation will grow and die however it is managed. If there has been a change of land use the previously existing park and garden may be altered, degraded or entirely hidden. Evidence exists (as in more 'normal' archaeological sites) for parks and gardens that are no longer obvious on the surface of the ground or in use as parks and gardens.

Documentary evidence for parks and gardens

Documentary sources are of many kinds, varying in coverage and quality. They range from garden designs (which, of course, may not have been executed as drawn, nor indeed executed at all), estate plans, financial accounts, correspondence and incidental descriptions, to seedsmen's and nurserymen's catalogues, public maps and APs. Despite this wealth of documentary material, most of it may be uncatalogued, rather inaccessible and matters relevant to parks and gardens may be mixed up with other things. This is a problem (see Cost-benefit calculation, below). On the other hand much of the work entailed in identifying parks and gardens is documentary, without physical intervention in the field.

Architectural aspects of parks and gardens

Architectural aspects, especially in the matter of the house (in the case of the paradigm country house with park and garden), are well known, well researched and well recorded. The social history of the country house has been especially well researched since Mark Girouard's study of the Victorian country house (1978); previous accounts tend to be anecdotal, subjective and too little quantified.

Cost-benefit calculation

Very useful archaeological results can be achieved relatively cheaply by way of ground survey, botanical survey and other non-invasive techniques. Documentary sources are likely to be less tractable than this (for a cautionary example of self-limitation, see RCHME



Plate IX Leicester Square Farm, South Creake, Norfolk. Designed by Samuel Wyatt and built by Thomas Coke on the Holkham estate in the 1790s. (Photo: D.A.Edwards, 3 March 1986, TF8633/C/AZN14, copyright Norfolk Museums Service)

surveys which state that they draw only on documentation that is 'readily available'). A continuing aim will be to reconstruct and understand the form and history of individual parks and gardens, and classes of parks and gardens. A long-lived park and garden is usually an historical composite, as explained above. Study may require non-invasive fieldwork (such as topographical survey, botanical or geophysical survey), and intervention on the ground (especially archaeobotanical, ecological and environmental study), as well as documentary research. An archaeological contribution is most apt in the case of obtaining, sorting and evaluating evidence for date, successive phases of use, sampling, making deductions from fragmentary evidence and reconstructing previous plans, comparing physical with documentary evidence, and providing data in the absence of documentation.

Representativeness of the sample

There is a general archaeological problem of knowing how representative is the sample of data we have. Many research topics could do better with a large dataset, which means that results would be unreliable unless a great deal of preparatory work and survey had been accomplished.

Consistency, standards, publication

To be properly realised the areas of potential need coherent, centralised setting of standards and criteria for recording and inventory; effective distribution of effort according to need (where this research framework can help); and efficient, timely collation of data and dissemination of results.

Research topics

Historical context

Particular social and economic circumstances were vital to the formation and development of the rural landscape, including the most highly designed parts of it, the park and garden. Williamson writes, '...the development of capitalism had a fundamental effect on the structure of the vernacular countryside...' (Williamson 1995, 9). By comparison with other European countries in the early part of the period (to say 1800 or even later) the English legal and political framework strongly endorsed a market economy in land and rights of land ownership: it was relatively easy to buy and sell land as if it were a commodity, to concentrate and augment land-holdings, change land uses, move tenants around or off an estate,

and demolish and construct buildings; agriculture was highly commercialised and market-led, within a fully cash economy and with wage labour; cash surpluses were bankable, and credit could be made available anywhere. These facts had distinct and measurable consequences for the rural landscape, and facilitated the creation and management of designed landscapes, country house parks and gardens. We should not concentrate a disproportionate effort on 'important', 'attractive' or even 'obvious' parks and gardens. The inventory should include all examples of this land use, or at least sufficiently representative examples, and we should try to understand them historically.

Historical implications of parks and gardens

Plotting the development and survival of different kinds of park and garden may provide an index of the dissemination and adaptation of fashion, social stratification, distribution of wealth and disposable income. Is the historical geography of parks and gardens comparable with that of *e.g.* vernacular buildings? Brunskill's thesis, that historical development of buildings isn't geographically uniform (older forms that were once common everywhere survive only away from the cultural and economic mainstream) and that there may be a kind of historical horizon, nothing surviving from before a certain time (Brunskill 1971, 25), may be applicable. The year 1540 may be suggested as an historical horizon in this sense for parks and gardens. Relatively fine parks and gardens are well represented in the region presumably because it's near London, the seat of court and government, financial and mercantile centre, and rich and fashionable society (it is notable how many country houses belonged to prime ministers or the equivalent). Examination of the relationship between parks and gardens on the one hand, and architecture, other aspects of fashion, leisure, aesthetics and philosophy on the other, is important.

'Vernacular gardens'

Is it useful to talk about 'vernacular gardens'? Like vernacular buildings, these would be the creations of owners or tenants themselves, or at least not the work of named architects. These creators would be unexceptional people; their designs would be in a 'received tradition' (or its equivalent in local fashion), relatively economical and modest. Actually 'vernacular gardens' in this sense probably came in when the small domestic garden no longer had to be used predominantly for raising vegetables and chickens. Even the big parks and gardens cannot be studied in isolation from the house and people at their centres (*cf.* Williamson 1995).

Botanical history

We probably have more archaeobotanical data about early modern parks and gardens than about early modern agriculture, despite the immense economic importance of improvements in farming (Murphy and Scaife 1991). This 'non-utilitarian' sector was a channel for many botanical introductions and much plant breeding.

Previous limitations and bias in studies

Types of study traditionally undertaken should continue, but with additions and changes of approach. For example, multi-period studies of individual sites should include the

relationship between patron and designer; reference to area or regional studies. Biographical studies, usually of designers, sometimes of patrons, are appropriate. Both these types of study are well-worn subjects, often the same places and people being investigated repeatedly. More general or thematic studies (social, economic, botanical, and so on) require more preparatory analysis. Whilst cemeteries of the recent past have become something of a scholarly niche; municipal parks, sports grounds and botanical gardens are less favoured; hospitals, asylums and schools, hardly touched on yet (see Lambert and Dingwall 1998; Rutherford 1998).

Inventory still required

An English county parks and gardens trust (not in the region) recently advertised for volunteers to help research the following subjects: medieval deer parks, walled gardens, glasshouses (after *c.* 1840), conservatories and urban greenhouses, nursery gardens, allotments, and two specific fine ornamental grounds (Shropshire Parks and Gardens Trust 1998, 4). In general basic examination, recording and inventory is still required.

Reinterpretation of recorded sites

Parts of an early post-medieval garden have been identified in excavation at Cressing Temple Essex (Robey 1993, 44–5). Reinterpretation of what has already been recorded is always possible, the form and meaning of a few medieval gardens, no longer clearly extant, have been conjectured by this means (Everson 1996).

IV. The archaeology of industrialisation and manufacture 1750–1960

by Shane Gould

Introduction

Unlike most other subjects within the research agenda, the period 1750–1960 continues to occupy 'a conceptual no-man's land on the margins of archaeology, historical geography, social and economic history, and the history of technology' (Grant 1987, 110). Although considerable strides have been made in the last twenty years, 'industrial archaeology' still lacks a coherent framework; it is rarely taught within university departments, much of the research remains rooted in the amateur tradition and a systematic reliable database has yet to be formulated. As Johnson (1996, 12) rightly points out 'most of the work in this area so far has concentrated on the archaeological elucidation of the technologies involved rather than the social and cultural parameters of industrial development'.

Within the five counties, many of the publications cited in the *Resource Assessment* (Gould 1997) are essentially historical narratives and those that describe the field remains rarely move beyond the scope of the manufactory. Much of the information continues to be held by a myriad of organisations or private individuals and as a research tool, the SMRs are woefully inadequate. Any future archaeological research agenda must therefore start at a relatively low threshold with questions framed around the development of particular industries, but this academic weakness is acknowledged and wider cultural issues on the social use of space, symbolism, hierarchy and control will also be considered.

Olivier (1996, 17) in the English Heritage 'review of research frameworks, strategies and perceptions' notes that those by the period societies (Society for Post-Medieval Archaeology and the Association for Industrial Archaeology) are generalised and should only be considered as a 'first step in the development of research frameworks for industrial archaeology'. The English Heritage research agenda (forthcoming) is equally vague, lacking clear priorities; the section headed 'The Industrial Revolution' merely re-stating an industry wish-list first set out in *Exploring Our Past* (English Heritage 1991, 37).

Having accepted the international pre-eminence of Britain's industrial heritage and the ever present threat to the resource, national agencies and local authority curatorial staff have been plagued by a lack of comparative data; there is an urgent need to establish what exists and where, and its comparative importance, so that priorities can be properly formulated. Palmer and Neaverson (1996, ix) note that in some instances 'knowledge of the typology of classes of structure [have been] greatly added to as in the cases of textile mills, limekilns, canal structures, steam engine houses, and the brick and fireclay industries', but many themes have yet to be addressed.

Much of the recent thematic work by the Royal Commission on the Historical Monuments of England (RCHME) has helped redress the imbalance and for the first time it has been possible to understand the stages of technological development, architectural form, spatial evolution and regional variation for particular industries. The subsequent publications on English farmsteads, potteries and textile mills set an important academic benchmark and further surveys are urgently needed (Barnwell and Giles 1997; Baker 1991; Calladine and Fricker 1993; Giles and Goodhall 1992; Williams with Farnie 1992).

The single most important initiative in the past ten years is the industrial archaeology component of English Heritage's Monuments Protection Programme (MPP). Essentially based on the need to protect a representative sample of industrial monuments, the methodology has been outlined by Stocker (1995); having defined the nature and scope of an industry, a short-list is compiled and field visits undertaken culminating in recommendations for/against statutory protection. Utilising Raistrick's (1972) definition, those currently being tackled include the metal-based industries, coal, stone quarrying, salt, gunpowder manufacture, public water supply and electrical power generation (see Appendix, 63). A similar approach has been adopted as part of the thematic list review and having considered textile mills in Greater Manchester (English Heritage 1995), national surveys have been initiated for model farmsteads (Wade Martins, Lake and Hawkins 1997) and malthouses.

Although the prime objective behind these projects is to recognise and protect sites of 'major national importance' they also have a key research role; as summed up by Olivier (1996, 12): 'The MPP Industry Reports are similar to Single Monument Class Descriptions, and the level of detail is universally high. Many also contain sections on priorities and recommendations which, although concentrating on management issues, do highlight potential areas for future research'. The strategic importance of the approach is also acknowledged in the English Heritage research agenda (forthcoming, 53);

'Vitaly important thematic surveys commissioned by the MPP have done much to develop this sphere and attention will be devoted to expanding these surveys and using them as the basis for exploring detailed landscapes and periods, and developing new research frameworks for the management of this important resource'.

Gaps and potential

At present there are no research priorities for the industrial period within the East Anglian region; the current position for each county being summed up in the *Resource Assessment* (Gould 1997). Archaeological and Historic Building Conservation Officers are well aware of the lack of knowledge, but within the development control process research questions remain poorly defined. Because primary sources exist in vast quantities, there is fundamental misconception as to what, if anything, the archaeological resource can contribute to a debate which has been dominated by economic, social and technical historians. Recent work during the past 20 years has started to seriously challenge these assumptions for the following reasons:

- The documentary record is patchy and incomplete; contemporary encyclopaedias often emphasise 'best practice', proposed plans may not have been fully implemented, and the minutiae contained in ledgers, letters and catalogues rarely help in understanding the various component parts within a site.
- Documents often fail to provide a detailed picture of how an area was exploited, the supply of raw materials, transport networks, the location of industry and the degree of change through time.
- Documents were often written by the more powerful members of society, and their assumptions, beliefs and prejudice will be reflected in the text. The surviving built environment may offer new insights into the living and working conditions of a largely illiterate and unrecorded working class.

Research topics

An holistic approach which considers all forms of evidence is therefore essential to understanding both the technical and social transformations that occurred during this period of history. If interrogated in the right manner, the archaeological remains can make an important contribution, but these findings must be integrated with those from other disciplines including economic and social history, geography and the history of technology. The following are suggested as general topics that merit future study:

- The creation of typologies for each class of industry noting differences from the established historical view-point. Each survey would consider change through time, regional diversity, architecture, methods of construction, spatial organisation and power arrangements. Essentially based on the MPP approach, subject areas could be selected from those cited in the *Resource Assessment* (Gould 1997, 74–78). At first, these should be based on industries that had a significant impact on the region where the field remains may enhance or even challenge existing knowledge. A start has already been made in Essex with major surveys being completed for malthouses (Gould 1996a, and Gould, Crosby and Gibson 1997), military airfields (Thorpe 1996 and Doyle 1997),



Plate X Hospitals, workhouses, prisons and schools are important but poorly studied building types. They form part of the broader industrial landscape and require investigation if the agenda is to move beyond the scope of the manufactory into a consideration of the social parameters of industrial development. Southend Municipal Hospital, Rochford, was designed in the International style and was largely complete by 1940. Highly significant in terms of hospital design, it was intended as a model complex. (Photo: Essex County Council, Field Archaeology Group)

limekilns (Gibson 1996), iron foundries (Garwood 1997) and Poor Law buildings (Garratt 1998); Gould (1996b) provides a summary of the methodology.

- Detailed geographical study of navigable rivers, canals, railways and ports. Using established historical narratives and cartographic information as the basis for selection, the archaeology of these important arteries would be investigated: earthworks, bridges, tunnels, signalling, trade installations, company housing and the influence on settlement morphology.
- Key sites of major academic importance representing significant technical or cultural phases will be identified from the above and should be examined in considerable detail; the approach being framed around explicit questions. The English Heritage research agenda acknowledges that 'site-specific studies are still needed' (forthcoming, 53).
- An understanding of the information derived from excavating, to the highest professional standards, specific classes of industrial monument. How will the structural/artefactual information contribute to the existing state of knowledge? This approach will be especially useful in historic towns and on sites which ceased operating before 1850 where there are fewer upstanding remains.
- A general improvement in field techniques: sampling process residues, the use of dendrochronology, artefact analysis, understanding former structures from excavated foundations/footings, *etc.*

- The detailed investigation of particular settlements, building types and the location of industry in order to examine social use of space, access, symbolism and evidence of segregation or control. Based on the need to regulate a growing work-force within a man-made environment the sample will consider settlements in rural/urban locations, variability in house size, the position of the factory, architecture as imagery and the manipulation of space. A large geographical spread and time/depth component will be essential.

Data acquisition

In order to pursue the themes outlined above, the five counties need to embark on a major programme of SMR enhancement based on site identification. At this stage the information simply needs to be gathered and accurately plotted so that it can be assessed in the field at a later date. Obvious sources include:

- Ordnance Survey first, second and third edition maps together with the 1830s tithe award
- MPP Step 3 Reports
- Holdings of the National Monuments Record Centre, Swindon
- Statutory list of buildings of special architectural or historic interest
- Published guides on industrial archaeology
- Local societies and individuals

Specific research topics which may enhance our understanding include:

The East Anglian farmstead 1750–1914

Farms of this period are a crucial, but understudied component of the East Anglian landscape. The area was of major international importance in the development of innovative practices especially during the ‘agricultural revolution’ and Victorian ‘High Farming’ when new ideas culminated in significant alterations in the design and layout of buildings. Apart from the work done by the Centre of East Anglian Studies, little is known about the development of the farmstead; they are a cherished element of our landscape heritage, but each year increasing numbers are lost due to redundancy, demolition and residential conversion. Drawing on recent work by the RCHME, English Heritage and the Centre of East Anglian Studies, pilot areas should be selected that represent different farming regimes, soil types and estate size. All farmsteads within the sample would be plotted from the Ordnance Survey first edition six inch map series and assessed with the completion of pro-forma record cards; the following research questions forming the basis of the survey:

- The development of the farmstead 1750–1914
- Buildings on the farm
- Regional diversity
- The influence of contemporary model plans on design
- The role of improving landlords
- Adoption of modern practices including water-power, steam and internal tramways
- Farmstead as status symbol, architectural embellishment and competitive emulation

Planned industrial settlements

Several settlements were newly created or experienced major growth during the period 1750–1939 as a direct response to the introduction or expansion of industry. Many factories became prominent landscape features with the company providing housing for both managers and employees together with public amenities including libraries, community centres, schools and parks. Although the documentary history of a firm may be well established, comparative research on the physical dimension is often explained in terms of benevolence or paternalism. By acknowledging the dynamic property of the material culture attention should focus on the way in which architecture, social use of space and routes of access were being used either overtly or covertly to reinforce existing social relationships. Chronological depth and an examination of the impact of different industries on settlement morphology will form the basis of selection for further study with the following being investigated:

- The site and buildings of the factory
- Provision, location and alterations in the supply of company housing
- Public buildings
- Settlement morphology
- The use of architecture and routes of access for display and control
- Common themes and the use of alternative strategies through time and space

The various topics outlined above are suggested as a general guide and these will need to be developed as the results of further research become available. All investigations need to move away from a low-level descriptive narrative by considering the contribution of

the field remains to historical, technological and, most importantly, cultural questions. As an academic discipline this period is relatively young, but the quantity and quality of data provide an exciting opportunity and challenge to archaeologists working within this field.

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