

Conservation

bulletin

Saving the Age of Industry



In a globalised world it is all too easy to forget that England was the cradle of modern industry. The monuments to our extraordinary industrial past are all around us – but they are fragile and we neglect them at our peril.

There were 79,000 looms in and around Burnley in the 1890s. Queen Street Mill is all that remains, the last working steam-powered weaving shed in the world. Built in 1894, its 308 looms today offer post-industrial audiences a vivid insight into the workings of a typical Victorian mill. Here is industrial-strength heritage at its most challenging – a site of world importance taking its chances in a climate of harsh economic choices. © Neil Cossons

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ENGLISH HERITAGE

Editorial: Stewards of a Global Legacy

England's Industrial Revolution shaped the modern world, but its irreplaceable legacy of historic mines and factories is at serious risk.

England's industrial heritage belongs not just to its own people and the present generation – it belongs to the world. Its primacy, as the cradle of global industrialisation, is internationally recognised but it is a legacy that is fragile and very much at risk. This issue of *Conservation Bulletin* reviews the efforts being made to safeguard that legacy and examines whether they combine to provide adequate stewardship. The jury is still out on that verdict.

There are many past and present achievements to laud and numerous mechanisms have been put in place to protect and interpret our industrial heritage. Other challenges have not been met, however, and the sustainability of those parts of the heritage that have been preserved is seriously in doubt.

England's industrial heritage is also a steadily diminishing resource. The reasons for this are compelling – industry at the beginning of the 21st century is very different from that at the start of the 20th century. The staples of the 'Great Age of Industry' – coal, textiles, heavy engineering, shipbuilding – have largely gone. Their infrastructures – canals, railways, docks – are greatly changed and their support industries, such as food and drink, revolutionised. The statistics of contraction are staggering. In 1913, at the peak of the coal industry, 2,600 deep mines employed more than a million miners; at Nationalisation in 1947 a thousand collieries came into public ownership, but now only a handful are still operating. Before the Second World War there were more than 2,000 cotton mills in Lancashire alone; today, hundreds of them lie empty, under-used or converted for other uses. The great engineering and shipbuilding complexes are similarly things of the past, while maritime trade, though thriving, has forsaken historic docks and employs scarcely a hundredth of its former workforce. In 1870 1,000 large and 15,000 local breweries were supported by hundreds

of maltings; now there are just over 40 historic breweries, a score of modern super-breweries and a couple of traditional floor maltings.

The response over the past 50 years has been more *ad hoc* than strategic. It has partially recorded the change; it has preserved some parts of the heritage but not others; it has created industrial museums; it has had six World Heritage Sites inscribed, and it has made necessary sacrifices of integrity to allow the re-use of historic buildings. The contributions to this issue detail and review these responses – what has been, and is being, done by official agencies, commercial partners and the voluntary sector.

These many contributions combine to demonstrate an increasing appreciation of the resource, the committed involvement of a wide range of interests and an inspiring array of notable achievements. But they also expose inadequate resourcing, a worrying lack of vision and strategic thinking, and an impending crisis in sustaining those parts of the heritage that are already preserved. Sir Neil Cossons in his introduction throws down the gauntlet over these issues and challenges the sector to pick it up.

English Heritage recognises that, in partnership with the sector, it has to face up to these challenges. Together we must employ our diminishing resources as effectively as we can to manage this vulnerable heritage and to make sure that we pass on a legacy of historic industry that is worthy of its past. English Heritage has designated 2011 as the year of Industrial Heritage at Risk to inspire the sector to even greater effort – the measures put in place now must outlast this generation.

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Conservation Bulletin is published twice a year by English Heritage and circulated free of charge to more than 5,000 conservation specialists, opinion-formers and decision-makers. Its purpose is to communicate new ideas and advice to everyone concerned with the understanding, management and public enjoyment of England's rich and diverse historic environment.

When you have finished with this copy of *Conservation Bulletin*, do please pass it on. And if you would like to be added to our mailing list, or to change your current subscription details, just contact us on 020 7973 3253 or at mailinglist@english-heritage.org.uk

The Age of Industry

England was the home of the Industrial Revolution, but its heritage is at risk of neglect and decay. If we don't use it, we lose it.

Saving the Age of Industry

Sir Neil Cossons

*Director of the Science Museum, 1986–2000, and
Chairman of English Heritage, 2000–2007*

The world's economic centre of gravity is moving inexorably east. That progression is driven in the main by the industrial revolution taking place in China. There is an inevitability about this. For some three hundred years industrialisation has been the crucial prime mover of global economic and social change as one country after another has sought to lift itself out of agrarian poverty and find a place in the growing confederacy of world powers. Only industrialisation enables nations to enter this premier league. Put another way, since the middle of the 19th century there has been no leading world economy that is not an industrial power. And there is growing evidence that existing industrial nations that neglect their manufacturing capability, and the technological innovation that underscores it, will fall back in terms of national and per-capita GDP and long-term economic sustainability.

So, given the overwhelming significance of industrialisation it would seem obvious that its heritage should be a prime concern in our desire to care for England's past. But that is not the case. Indeed, it is only in the last 50 years or so that industrial heritage – a valuing of the material evidence of industrialisation – has begun to figure in our national consciousness. There are a number of reasons for this. Most of the initial interest in what is today called heritage grew out of curiosity about the history and archaeology of the pre-medieval. Indeed, the emergence of antiquarian sentiments in the late 17th and early 18th centuries well pre-dated the period of major industrial transformation (the Society of Antiquaries of London was already some two years old when the Quaker, Abraham Darby, first smelted iron with coke in 1709). But by the end of the 19th century such had been the impact of industrialisation on British society, the economy and the landscape that heritage priorities had become firmly focused on saving what was left of a rural, or at least pre-industrial, England. Some would argue that such

Papplewick Pumping Station



Papplewick Pumping Station in Nottinghamshire is the epitome of late 19th-century civic water supply engineering at its finest. Two rotative beam engines by James Watt & Co, 1884, have been preserved by a volunteer group since 1974 and are open regularly to the public. Steam pumping stations have generally fared well in volunteer preservation.

© Neil Cossons

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has been our cultural antipathy to industrialisation that this has turned us as a nation against it; others that here lie the roots of national economic decline.

The irony is that many of our great national institutions – not least the National Trust and what is today English Heritage – in part grew out of this aversion, to become secure havens for sites and landscapes untainted by industry and the urbanisation that went with it; that, and as retreats for people longing to escape industrial towns and cities for respite in the countryside. Today, we understand the outstanding significance of the great age of industry in the nation's history. The question now is, are we prepared to pay more than lip service to saving the evidence of that history – of the world's first industrial revolution, the engine of the nation's power and influence over two centuries, and all that has arisen from it?

England's industrial heritage is special in a number of ways; in particular, its primacy in world terms and, secondly, in the manner that as a nation we have chosen to care for it. At the heart of the portfolio are sites and landscapes that reflect the origins, worldwide, of the great age of industry. They are the places that defined Britain as the first industrial nation. Many are household names. The most significant are World Heritage properties – the Ironbridge Gorge in Shropshire, Derbyshire's Derwent valley mills, Titus Salt's great textile community of Saltaire in Yorkshire, the heart of mer-

cantile Liverpool, Cornwall's mining landscapes, the Llangollen Canal on the Powys/Shropshire border with its spectacular aqueducts at Chirk and Pontcysyllte.

It was the recognition and valuing of places like these that formed the mainspring for the growth of industrial archaeology from the mid-1950s. Today, there are more than 700 industrial sites preserved, the majority in the hands of locally based charitable trusts and run largely by volunteers. Their dynamic sprang from a burgeoning public interest, encouraged by the media, and especially television, and enthusiasm for what was seen as a new and egalitarian form of heritage reflecting new interests and in which people could participate personally. This movement, for such it was, stood largely discrete and independent from the wider preservation establishment. That is still the case.

Crofton, Kew Bridge and Papplewick pumping stations and many more like them, hundreds of miles of restored canals and railways, dozens of wind- and water-mills, the *ss Great Britain* and projects like Ironbridge and Cromford have all been secured through the efforts of a vibrant voluntary sector. The Heritage Lottery Fund has recognised the extraordinary value to history and the nation that this enterprise represents by investing, since 1994, £782 million in industrial, transport and maritime heritage projects. And today this spirit of self-help and social entrepreneurship still thrives. Shortly, British Waterways will emerge

Bowes Railway

The Bowes Railway is a scheduled monument managed by the Bowes Railway Trust. A substantial element of the track bed and associated buildings survive as a visitor attraction centred on the Springwell Colliery site near Washington. English Heritage has supported the Bowes Railway Company for many years with both advice and grants. Having completed the repairs to the Black Fell Hauler House last year the BRC are now carrying out investigations on the Wagon Shed (pictured) with our support to prepare a detailed repair scheme. However, there is still much to do, and vandalism is a serious issue. © English Heritage



Ditherington Flax Mill



Britain's most significant Georgian building at risk, Ditherington Flax Mill, Shrewsbury, 1796–7, is the world's first iron-framed building, marrying for the first time cast-iron columns with cast-iron beams, supporting the brick jack-arches of this five-storey spinning mill. Adapted as a maltings in the 1880s it has stood empty for 30 years, the subject of a number of failed proposals for re-use. Too precious to lose, too fragile to use, it is now owned by English Heritage. Its future remains in question.

© Brian Bracegirdle/Ironbridge Gorge Museum Trust

from Nationalisation to join this circle, as a new public charity, at one stroke democratising its capacity to engage with and serve directly its multiplicity of client groups.

Redefining heritage

How have we arrived at this situation and what are the issues for care of the industrial heritage today? The 1960s and 1970s saw the definitions and boundaries of what was acceptable as heritage expanded to embrace buildings and sites of the 18th and 19th centuries, beyond the architecturally polite; of the Industrial Revolution and later, and, ultimately, those dating from after the Second World War. The threshold in time of what we cherish is constantly advancing – at a faster rate than time itself – progressively telescoping our chronological perspectives and recalibrating our definitions of value. By 1991 Norman Foster's innovative Willis Faber building in Ipswich was listed. Built in the mid-1970s it was less than 30 years old, then the youngest to be designated Grade I.

The Department of the Environment had recognised the importance of the industrial heritage in the early 1960s. It did two things. First, it put in hand a programme of designation of the

most important sites. Second, it determined, as a matter of policy, not to take industrial sites into the guardianship of the state, to be added to what are now more than 400 places in the direct care of the nation. Industrial heritage was to be left to the voluntary sector.

Four factors influence the nature and pace of the advance of heritage: a sound foundation of scholarly knowledge; determined, evidence-based, advocacy; the public's willingness to embrace novel notions of what matters to them and to do something about it; and political will to support innovative and often challenging ideas. Of those four, the fire in the belly of the public has been the most influential and effective at realising the idea of a valued industrial heritage.

Issues

So what are the issues? There are a number. In the last 30 years the wider world of conservation, in terms of policies, philosophies and practice, has moved forward. Many of the voluntary industrial heritage bodies, and especially the smaller ones, have not. Strategic approaches to conservation planning, new standards of site management and interpretation, more refined techniques of fundraising and the running and rejuvenation of voluntary bodies, have passed many of them by. Failure to renew trustees and lack of clarity on aims and purposes has added to the problems. Having said this, some of the best practice in all of these fields can be found in voluntary heritage conservation.

We have moved from an era where the public sees government as the solution to every problem to a more pluralistic age in which the public sector has to become the servant, its policies defined by needs and projects and people on the ground. This is where English Heritage comes in. It needs to declare, as a principle, support for these outstanding industrial places and the organisations that run them. It can then back that principle with crisp and focused help, its role to complement individual initiative. To this can be added access to expertise, training, and on occasion nursing back to health those sites in need of special care. And, with some sites, mainly large and beyond the capacity of voluntary bodies, it will need to demonstrate influence and leadership.

Priorities

There are six.

First, powerful advocacy in promoting the cause of this wider portfolio of industrial places, irrespective of who owns them.

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Second, working with the voluntary advocacy organisations, supporting their campaigns, endorsing their visions, however unfashionable these might at first appear. Here English Heritage has to demonstrate real leadership, or accept that others will assume this position.

Third, securing the future of those sites preserved by the voluntary sector. This will be a good investment of limited resources. Support staff and access to – relatively modest – moneys and expertise for revenue and conservation will make all the difference.

Fourth, a focused programme to secure the future of those long-outstanding conservation conundrums, the key industrial buildings and sites at risk. Chief among these is the 1797 Ditherington Flax Mill in Shrewsbury, the world's first iron-framed building (illustrated p 5) and by far the most significant Georgian building at risk in Britain. It has stood empty for 30 years. There are others. Some are scheduled: Chatterley Whitfield, Britain's first million-ton colliery is one (illustrated p 7); another is the Bowes Railway in the North-East (illustrated p 4). A list of the top 20 industrial at-risk cases should be reviewed each year and progress on their care and conservation reported to the public.

Fifth, a determined programme to designate the invisible industrial heritage. Most important here is industrial workers' housing, the most prolific surviving evidence of the industrial years, the least understood, least researched, and most vulnerable.

Sixth, to press the case for designating post-war industrial buildings. A good start has already been made, with for example the Post Office Tower, Jodrell Bank (now a candidate for World Heritage inscription) and Birmingham New Street Signal Box. But what about Preston Bus Station (illustrated p 21)? Here English Heritage needs to unsheathe its campaigning sword.

English Heritage's initiative to identify and prioritise the industrial heritage at risk is a brave one. It demands the support of us all. It is one of the toughest conservation challenges the nation faces, tough because in its nature and scale it demands more than conservation agencies are yet able to deliver. Nor is it for the faint-hearted. But, get this one right and much else falls into place. And, perhaps as important, here may be the exemplar for how we manage all heritage tomorrow, with new roles and relationships between the public and the places they cherish. ■

Whitefield, Lancashire

The Whitefield area of Nelson in Lancashire, an intact 19th-century industrial townscape in which terraced workers' housing is intimately associated both with the former textile mill and the social amenities of church, school and shops. Following the area's reprieve from demolition English Heritage has been working with the local authority and other partners to secure the group repair of properties and the enhancement of the conservation area.

© English Heritage



Industrial Heritage at Risk

Shane Gould

Industrial Heritage at Risk Project Officer, English Heritage

English Heritage has identified the industrial heritage as the theme of its 2011 Heritage at Risk programme. In recent decades it has been large-scale economic changes that have posed the greatest challenge to this vital but too-easily neglected part of our national inheritance. Entire landscapes associated with England's unique industrial heritage have been lost, while much that remains is under active threat. The Heritage at Risk programme is an opportunity to take stock of the risks and assess the effectiveness of possible solutions.

Adaptive re-use has been the salvation for many redundant industrial buildings, provided that it is underpinned by a proper historical understanding of the site and its contribution to the overall character of its surroundings. Dean Clough Mills (Halifax) and Salts Mill within the Saltaire World Heritage Site were among the first sets of buildings to demonstrate how the determination of visionary individuals could transform negative perceptions of the industrial past. Since then large numbers of others have been converted into offices, housing, hotels, shops and new working



Chatterley Whitfield on the outskirts of Stoke-on-Trent is the most complete example of a large-scale colliery in England from the peak years of the British coal industry. After the mine closed in 1977 the site was designated a scheduled monument and temporarily became a museum. Although some of its buildings were restored in 2006 for office use, the search continues for a financially viable solution for the rest of the site and its important but functionally redundant structures and surviving machinery. © English Heritage

spaces, including recently Bradford's Lister Mills – as 'breathtaking as Versailles' according to *The Times* when they were built in the 1870s. Michael Stratton's *Industrial Buildings: Conservation and Regeneration* (2000) and the influential SAVE publication *Bright Future: The Re-use of Industrial Buildings* (1990) list many others.

The high costs of conversion and decontamination nevertheless remain a deterrent to developers, added to which the majority of redundant industrial buildings tend to be located in areas where property values are low. The threat of the wrecking ball therefore remains ever-present, and for too many investors the easiest option is simply to clear the site and build anew.

After three challenging years for the economy the property market remains weak in many parts of the country and significant numbers of regeneration schemes have effectively been put on hold until conditions improve. For some long-vacant historic industrial sites completion of their refurbishment schemes may take several more years; in the meantime it may be necessary to consider the possibility of phased re-development, interim uses or water-tight mothballing. At the Albert Dock in Liverpool, for example, it took a long time for the site to become fully occupied once it had been repaired.

Research undertaken as part of the Industrial Heritage at Risk project has identified that one of the best ways to retain the character of former industrial buildings is to start by doing no more than make them structurally sound and weather tight. At Birmingham's Custard Factory and the Bristol Paintworks this minimalist approach has encouraged enlightened developers to refurbish significant groups of Victorian buildings rather than sweep them away.

For redundant industrial buildings where there is no apparent commercial solution the answer may lie with building preservation trusts, although until now there has been little coherence in the way they tackle industrial sites. They also differ in what they do at the end of their projects; while some lease out the finished buildings, others prefer to sell them on in a completed form or as a shell repair.

Industrial sites that survive as un-roofed monuments or redundant engineering structures can pose particularly difficult conservation issues. Grants from English Heritage, Heritage Lottery Fund and others have in the past been used for the repair of industrial monuments, but large numbers still remain to be tackled. Many of the mine engine

houses that symbolise the Cornwall and West Devon Mining Landscape World Heritage Site have been conserved with improved public access, while others like the Newland Blast Furnace in Cumbria have been acquired by local trusts or volunteer groups.

During the 1960s and 1970s, many important historic industrial sites were saved from loss by charitable trusts and local authorities, while the creation of the Heritage Lottery Fund in 1994 has enabled others to be set up. Some were founded specifically to ensure the survival of historic and sometimes working machinery. The Bowes Railway in Gateshead, Queen Street Mill in Burnley and the Kew Bridge Steam Museum in London are notable examples of places where a post-industrial public can experience at first hand the sight, sounds and smells of historic working processes. Many adopt exemplary standards, but the loss of skills, succession planning and financial viability are raising concerns about the long-term future of England's preserved industrial sites. A report by Sir Neil Cossons (2008) and an earlier 1998 survey examine these issues in detail and have helped shape the present project; both reports will be available from the website.

What then will English Heritage be doing in its Industrial Heritage at Risk initiative for 2011?

Our new Industrial Heritage at Risk website contains details of our research, analysis and other resources, with separate pages for each of its key audiences (www.english-heritage.org.uk/industrial-heritage-at-risk). Existing English Heritage advice and guidance will also be made more easily accessible on the professional pages of the website for those involved in the management and conservation of industrial sites.

We are working with the Council for British Archaeology and the Association for Industrial Archaeology, who are preparing a *Handbook on Industrial Archaeology* for publication in 2012. Aimed at professionals and volunteers, including those involved in planning and development work, it will provide a guide to the key buildings and excavated features associated with the industrialisation of Britain.

For building preservation trusts the Architectural Heritage Fund (www.ahfund.org.uk) has established, with the support of English Heritage and others, a three-year grant scheme to encourage local groups to take on industrial buildings.

For historic industrial sites preserved for public access an Industrial Heritage Support Officer

will be appointed within an outside organisation to help build capacity in the sector.

For owners and developers, guidance has been prepared on temporary uses, maintenance and mothballing of vacant historic buildings. Our research has shown that many developers are unaware of the help and advice that is already available from English Heritage, which is why we have created a special new developers portal on the English Heritage website covering all types of historic site (www.english-heritage.org.uk/developers).

We will continue to address the risks to industrial sites and enhance our understanding of those that are under threat through the National Heritage Protection Plan. The industrial heritage features in a number of the plan's activities and these will collectively help to shape future industrial designation.

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Lying beside the Leeds and Liverpool Canal in Burnley, the Weavers' Triangle is one of the most important industrial heritage districts in the north of England, but at severe risk from neglect and decay. Securing the future of outstanding landscapes such as this, in areas of fragile economic fortune, requires special measures. Here Burnley Borough Council, the North West Development Agency, British Waterways and the Prince of Wales' charities are working with private developers to transform this run-down conservation area into a vibrant new inner-urban neighbourhood. © English Heritage

Understanding the Legacy

The evidence of past industry is all around us, but looking after it depends on knowing how to read its stories and understand its significance.

Understanding is fundamental to appreciating and managing our industrial heritage. From an initial focus on the evidence of technological advances it has gradually evolved to embrace all aspects of industrialised society. Throughout, the role of expert volunteers working closely with official agencies has been a distinguishing feature of the sector. Thus the 8,000 record cards compiled in the 1960s by the Council for British Archaeology's pioneering National Record of Industrial Monuments laid the foundation for the present industrial holdings of the NMR – information on 45,000 industrial sites, more than 60,000 photographs and plans and 12,000 records of survey and excavation events.

Many tools have been developed to refine and translate this understanding into the more effective management of the resource. The role of historic environment records is discussed by Norman Redhead, the value of historic landscape characterisation and historic area assessment by Roger Thomas and Colum Giles and the contribution of national and regional thematic surveys by John Cattell. But maintaining the quality of all these records and the site investigations that underpin them depends on nurturing an expert workforce and the transfer of skills and knowledge. Accordingly, Marilyn Palmer looks at the provision of specialised educational and training, where the achievements are certainly countered by the developing challenges.

Skills and new blood in industrial archaeology

Marilyn Palmer

*Emeritus Professor of Industrial Archaeology,
University of Leicester*

The conservation of industrial heritage was first championed in the 1960s by the eminent archaeologists then prominent in the Council for British Archaeology (CBA). Consequently, it came to be seen in the UK as a branch of archaeology, although many practitioners have in fact come from a variety of backgrounds including architectural studies, history, geography, engineering and planning.

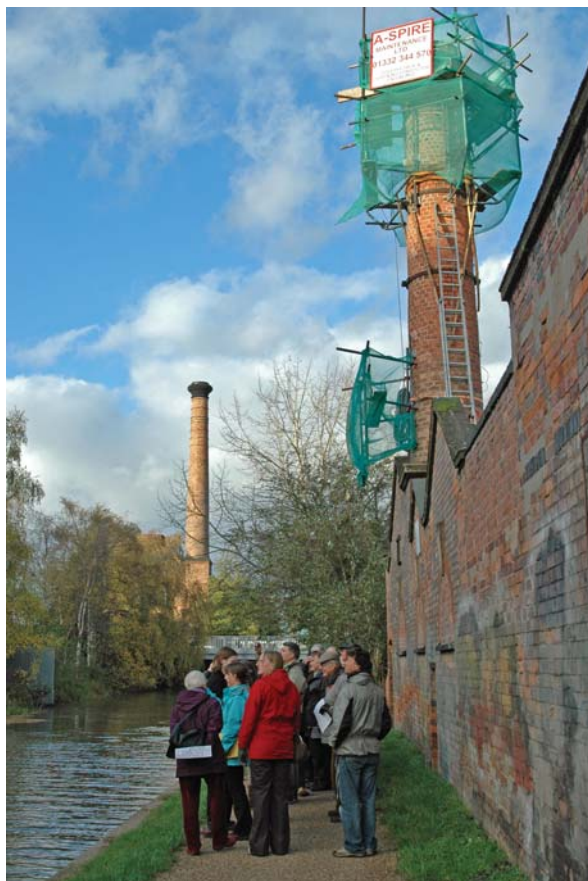
The basic skills needed are common to many disciplines and include a capacity to study maps and documents, an understanding of topography and the ability to survey sites and record standing

structures. Work on industrial sites also requires some understanding of the technology and economic background of particular industries, not just to make an adequate record but also to interpret sites in their regional, national or even international context.

Despite its origins, though, most academic archaeologists rejected industrial archaeology as a discipline on the grounds that it was concerned only with technological paradigms and heritage interpretation rather than contributing to a broader understanding of the development of human society. This dichotomy between the academic and public perception of industrial archaeology is now shifting as the discipline itself has matured. In 2003, the All Party Parliamentary Archaeology Group pointed out that 'there is an urgent need to establish centres of excellence in universities for industrial archaeology', while the report on Archaeology following the Research Assessment Exercise in 2008 gave an *imprimatur* to what was seen as an expanding field 'concerned with the past in the present: the theories and methods relating to interpreting, conserving, and managing the archaeological heritage, a broad field with significant opportunities for public engagement and knowledge exchange'.

How far are these official statements having any effect on the provision of new blood into work on the industrial heritage, which is generally recognised as a key element of Britain's contribution to world culture? Many university-based archaeology courses now include some industrial archaeology, usually under the broader term of historical archaeology, as in the universities of Bristol, Leicester, Newcastle, Manchester, Sheffield and York. Of greater concern is the perceived discontinuity between the undergraduate archaeology curriculum, which lecturers feel should impart understanding of the past within a theoretical and methodological framework since few of their students will actually continue in archaeology, and the practical needs of archaeological employers of those students who do decide to stay within the profession. This is a disjunction that has been repeatedly stressed by the Archaeology Training Forum.

Yet urban development, until very recently, has led to a massive increase in the amount of archaeological work being undertaken on brownfield sites,



Volunteers from an AIA/CBA day school on the Erewash Canal in Derbyshire, November 2010.

© Marilyn Palmer

requiring practitioners who can both draw up the necessary briefs on the curatorial side and field-workers who can recognise the remains of different types of power sources or industrial processes and understand the human context of industry in terms of workers' housing and social institutions.

Equally, changes in planning policy, notably the advent of PPS5, have created a greater need for specialists trained in building recording who can understand the significant features of industrial structures. More focused training therefore has to be delivered at the postgraduate level. Graduates from the Master's degree in Industrial Archaeology at the Ironbridge Institute of the University of Birmingham, first offered in 1984, can be found in many senior positions in the UK. The Institute's postgraduate courses in Heritage Management and Historic Environment Conservation include case studies in industrial heritage and probably still offer the best postgraduate training in the field.

Elsewhere, postgraduate heritage management courses have proliferated, but few include specific elements on industrial heritage, despite its importance in cultural tourism. Courses in buildings

archaeology often tend to focus on earlier periods, although those at York and Leicester do include industrial buildings, and a new part-time Master of Studies course in Building History at Cambridge, established in association with English Heritage, will offer a module on industrial heritage.

Nevertheless, archaeological work in the industrial period, whether in excavation or building recording, is now recognised to have value and there are means outside the mainstream university sector to acquire the necessary skills, particularly some knowledge of industrial processes. Useful data were assembled for a variety of industries in the course of the Monuments Protection Programme and are available to aspiring practitioners in the National Monuments Record, the Ironbridge Institute Library and many HERs. The English Heritage 2006 publication, *Science for Historic Industries*, is also far wider in scope than its title suggests (www.helm.org.uk and follow the links to English Heritage guidance library).

Distance Learning courses can supply training without loss of salary, notably those available through the University of Leicester and the Ironbridge Institute. CPD courses in industrial heritage and buildings archaeology can be invaluable in providing the necessary skills, but the lack of funding for Continuing Education, together with the poor salaries most archaeologists receive, have been stumbling blocks. The support provided by English Heritage for a range of short courses at the Oxford University Department for Continuing Education, including an introduction to industrial architecture for archaeologists, was accordingly welcomed.

The national period societies, with their mix of

Ironbridge post-graduate students inspecting the interior of the world's first iron-framed building, Ditherington Flax Mill near Shrewsbury.

© David de Haan



professionals and volunteers, can also help with CPD: for example, the Society for Post-Medieval Archaeology recently organised a useful seminar on PPS₅ and the last 200 years of London's archaeology, aimed at professionals who define the significance of heritage assets, are engaged with the planning process, and carry out fieldwork and research in the historic environment. Support from English Heritage's National Capacity Building initiative enabled the Association of Industrial Archaeology and CBA jointly to run a series of day schools in each of the English Heritage regions on local types of industrial sites and structures for a similar group of people, but also included many volunteers who comment on listed building applications.

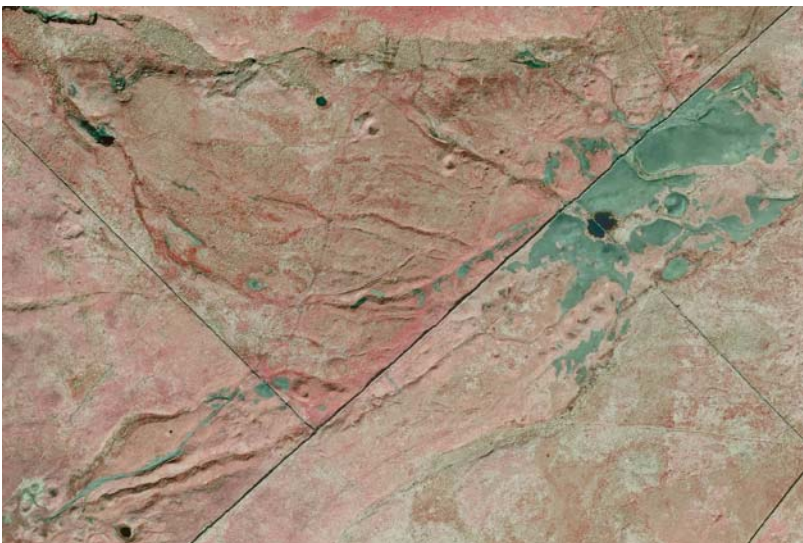
The provision of some funding and direction to channel the volunteer enthusiasm that has long characterised industrial archaeology in Britain remains important, given cuts to professional staff, but postgraduate training, probably in the form of CPD, is key to ensuring that the necessary skills are available for the future management of England's internationally important industrial heritage. ■

Surveying industrial heritage

John Catell

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Industrial sites and landscapes have for many years been the focus of a significant proportion of the applied research undertaken by English Heritage.



Colour infra-red aerial photography highlights areas of lead-mining waste and other features around Fletcheras Mine in the North Pennines AONB.

Infoterra Ltd © English Heritage

The physical remains of our historic industries are disappearing at an alarming rate; yet there is still a great deal, above and below ground, that we do not yet understand or even know exists.

Once upon a time industrial recording tended to focus on individual sites and industries, but increasingly the emphasis has shifted to multi-disciplinary investigation of entire landscapes, whether rural or urban. For example, our current project on the Miner–Farmer Landscapes of the North Pennines Area of Outstanding National Beauty is shedding light on an upland area almost entirely shaped by two contrasting activities: the extraction of the rich mineral resources (principally lead) and traditional sheep farming. Carried out in partnership with a wide range of national and local agencies, the project is testing innovative hi-tech approaches to the rapid recording of an extensive rural landscape and analysis of its sensitivity to change.

A similar project is focusing on the Mendip Hills AONB, another area where mineral extraction has helped shape the present-day landscape. As in the North Pennines, our enhanced understanding of the area's industrial history is helping to formulate new strategies for the protection and management of this important landscape. Further to the east, in Kent, the Hoo Peninsula Historic Landscape Project is opening new windows on to the 19th and 20th-century industrialisation of the Thames estuary and demonstrating the major impact industry has had on the area's distinctive and increasingly threatened landscapes and seascapes.

Others of our thematic projects shift their focus from the content of a whole landscape or townscape to particular types and classes of vulnerable industrial building. At the national scale, our Car Project is revealing the profound effect the car has had on people's lives and on the environment, and includes an overview of English car factories, very many of which have been entirely cleared away in recent years.

At a more local level our survey of the buildings and landscapes of the textile industries of the South-West of England is nearing completion. Its aim is to assess the national significance of the distinctive regional types of vernacular buildings, structures, townscapes and landscapes associated with the industry, and to promote greater awareness of their historical importance and conservation. It has so far proved remarkably difficult to attract viable new uses for some of the larger textile mill complexes in the region. One example, Tone Works, near Wellington in Somerset, was recently



Traditional coach-building at the Morgan Motor Company factory in Malvern in 2011.

Peter Williams © English Heritage

the subject of an award-winning report by the project team. While the future of the site is still far from secure, gaining agreement on its heritage value and significance is a vital first step in securing an appropriate outcome.

In Luton, English Heritage investigators have carried out an assessment of the buildings associated with the area's hatting industry within the Plaiters Lea Conservation Area, a former industrial quarter under intense pressure from the proposed expansion of the town centre. The findings of the project are feeding into developing strategies for town-centre regeneration.

The Luton work forms part of the 'Industry' activity within the National Heritage Protection Plan (NHPP), while the other projects highlighted here are brigaded under a number of other NHPP activities, emphasising the cross-cutting nature of much of our industrial heritage research. On a broader stage, English Heritage's in-house projects complement the vitally important recording work carried by other national organisations and numerous voluntary groups. As such, they reflect our shared commitment to securing the long-term future of some of the most important aspects of this country's unparalleled industrial heritage. ■

Understanding industrial landscapes

Roger M Thomas, *Head of Urban Archaeology, English Heritage* and Colum Giles, *Head of Urban Research Policy, English Heritage*

Seeing things in their wider context, and understanding the relationships between different parts of a whole, are signs of maturity in any field. In the case of industrial heritage, great advances have been made in the past decade or so by English Heritage and others through programmes of area-based research. The most important of these have been Historic Landscape Characterisation (HLC) for major industrial conurbations and a series of area assessments of particular industrial or mercantile city quarters. These are often among the most vulnerable parts of England's heritage, but powerfully redolent of our history.

HLC defines and maps the present-day character of places and its historic origins. The work is GIS-based, draws heavily on historic mapping, and is carried out by local authorities' historic environment services with funding from English Heritage. Projects have been completed or are in progress for most of the former metropolitan counties such as South Yorkshire and the Black Country; the results are available through the relevant Historic Environment Records and, in some cases, on-line.

This systematic mapping of the past and surviving distributions of particular types of buildings and land-use across large areas is yielding important insights into industrial history and provides an essential context for understanding the significance of individual sites or structures. For example, the HLC mapping of the Black Country has depicted its evolution from a largely rural area, to one dominated by industry, to the largely residential region of today. As well as revealing the amount that survives of different industries (leather in Walsall, locks in Wolverhampton and so on) it has demonstrated that coalmining, generally considered to have been dealt a death blow in the 1980s, was in serious decline in the West Midlands a century earlier. HLC has also highlighted the influence of the dense network of canals (many now vanished) on the development and character of the whole area. One of the benefits of such HLC studies is that their results can immediately be used to inform local planning policies and regeneration strategies (for a practical example see Boland and Wilson, below, pp 20–1).

HLC provides context and understanding on a broad scale. By contrast, 'Historic Area Assessments' deepen our understanding of more localised

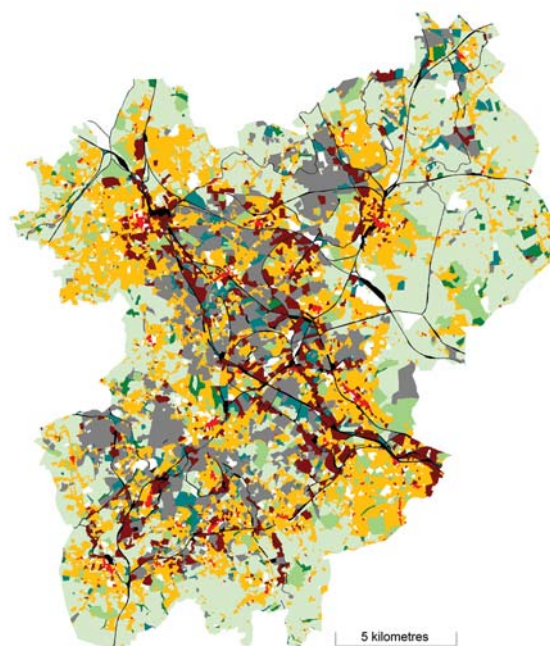
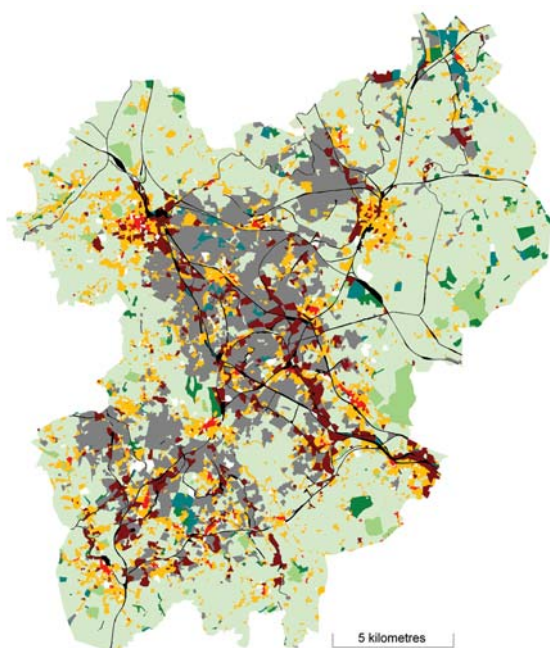
industrial zones by focusing on the detail of their fabric (English Heritage 2010). They demonstrate how an area's development is represented in built form and establish common building types and the relationships between them. For example, a much better understanding of the building types in Birmingham's Jewellery Quarter (Cattell 2000) has resulted in dramatically increased levels of protection in this important area.

Further to the north, surveys of warehouses in Manchester and Liverpool have revealed how very different the two cities were, each having highly

distinctive warehouse types reflecting the nature of their trade and producing contrasting urban landscapes (Taylor *et al* 2002; Giles and Hawkins 2004; see also Cattell, below, p 15). Appreciation of the importance of these buildings in the history of the two cities has encouraged an approach to conversion and re-use which respects their characteristic features. This in turn helps to reinforce the distinctiveness of the areas in which they sit.

HLC and historic area assessments are vital tools in establishing character and in understanding the dynamics of change. Operating at different scales, they are complementary, each helping to determine what is important and how industrial areas can absorb change while retaining their historic identity. ■

Historic Landscape Characterisation shows how the landscape of the Black Country changed between 1885 (top) and 1938 (below). Notice in particular the expansion of 20th-century housing (orange) around the core areas of 19th-century industry. Paul Quigley and the Black Country Archaeology Service © Crown copyright. All rights reserved. 100019537 2011



For more information about the Black Country HLC project go to:
http://ads.ahds.ac.uk/catalogue/archive/blackcountry_hlc_2009/

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Recording industrial heritage for the Historic Environment Record: an example from Greater Manchester

Norman Redhead
 County Archaeologist, Greater Manchester
 Archaeological Unit

It is no surprise that the Greater Manchester Archaeological Unit (GMAU) has always had a keen interest in recording the industrial heritage of the area. In the first half of the 19th century Manchester and its hinterland grew to become the world's leading manufacturing centre. The development of the factory system in Manchester has left an internationally important historical legacy; much of this takes the form of physical remains both in the historic built environment and below ground.

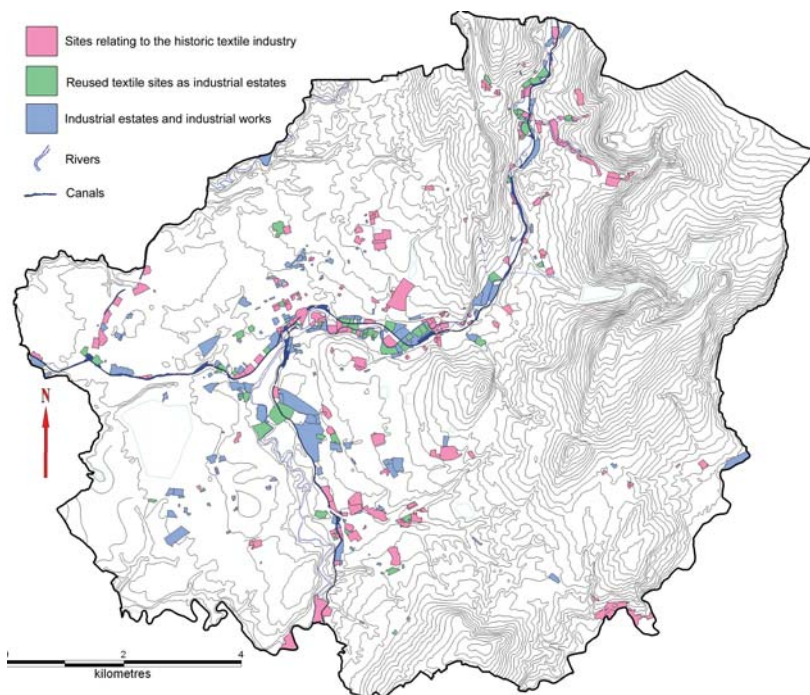
SAVING THE AGE OF INDUSTRY

The focus on recording industrial sites for the Historic Environment Record (HER) began in earnest around 1990 and was stimulated by several factors: a greater understanding of the significance of Manchester's industrial legacy, a growing awareness of how vulnerable this resource was to development pressure, the need to enter on to the then-SMR more than 1,000 records from the recently completed Textile Mill Survey, and technological advances in database software.

By the mid-1990s 96 textile mills were listed but the rest, often iconic buildings within local landscapes, remained very vulnerable to destruction. Entry on to the HER has provided a link between the survey archive and the planning system, as GMAU uses the HER to inform planning comments. Many mills have been lost to demolition (only around 650 survive today), but some have been sympathetically converted to new uses, while our understanding of this important heritage resource has been boosted by around 200 archaeological investigations undertaken through PPG16 and PPS5 and triggered by the HER. The location of the HER within a university environment means it also acts as a stimulus for academic research projects, the results of which come back into the HER to enhance the existing data.

Today, the Greater Manchester HER holds some 18,000 records. Of these, 14,500 fall within the 18th to 20th-century date range, 3,900 of which relate to different types of industrial monument. Coverage across the 10 boroughs that make up Greater Manchester is quite patchy, depending on where archaeological surveys have taken place. Stockport MBC have the most reliable dataset as a result of a HER enhancement survey specially undertaken to identify the heritage resource for the borough's Conservation and Heritage Strategy. The survey included systematic analysis of historic maps, documentary research and site visits, all of which allowed a greatly increased understanding of the borough's industrial archaeological resource. As well as identifying the existence of industrial sites the survey was also able to establish their degree of rarity and vulnerability, an important factor in applying PPS5 criteria to planning applications.

The Greater Manchester Historic Landscape Characterisation Project is recording all of the county's landscape as it appears today, using historic mapping to show how the landscape has evolved over the last 200 years. A strong emerging theme is the development of industry along river valley floors and around urban centres between the late 18th and early 20th centuries.



Map of Tameside Borough showing the survival of historic textile industry sites, and the influence of river valleys and canals on their location.

© GMAU

As resources for paid staff decline the role of volunteers is becoming increasingly important in helping us to map and understand industrial remains. The Greater Manchester Archaeology Federation comprises 16 local archaeology groups, several of which carry out research surveys and excavations on industrial archaeological sites or undertake thematic surveys. The Manchester Region Industrial Archaeology Society is particularly active and many members have specialist knowledge of aspects of industrial technology. Among their recent projects has been a study of textile finishing works in the Rochdale area to identify sites with below-ground archaeological potential. They and the other societies liaise with GMAU to lodge their results with the HER. ■

Types of industrial monument represented in the Stockport Borough HER

Type	recorded	surviving	Type	recorded	surviving
hat works	30	18	silk mills	22	3
cotton mills	93	25	cotton-weaving mills	23	10
dye works	11	5	bleach works	11	4
print works	4	1	woollen mills	4	2
engineering works	15	8	weavers' cottages	14	9
tram depots	3	0	gasworks	5	1
waterwheels	11	1	coalmines	7	0
lime kilns	5	1			

Spreading the word: disseminating English Heritage industrial research

John Cattell

Divisional Manager (Investigation and Analysis),
English Heritage

The results of English Heritage’s industrial research are disseminated in a variety of ways. These include monographs and accessible syntheses, titles in the Informed Conservation series, reports published in hard copy and via our website in the Research Report Series, and professional guidance documents that use case studies to promote best practice.

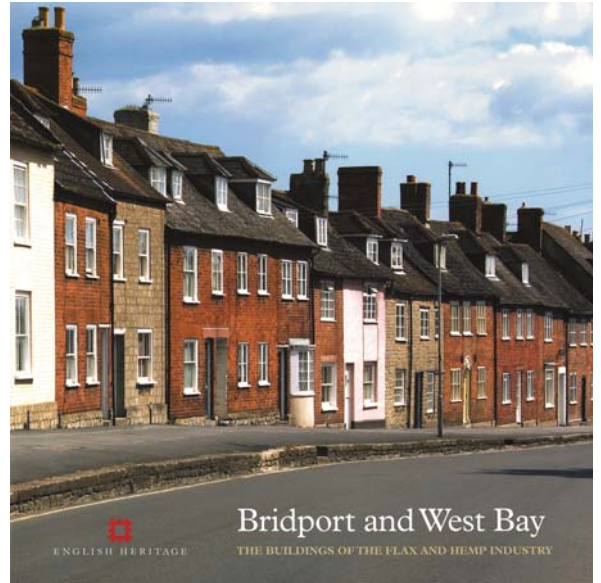
Research Reports

Historic industrial landscapes have recently been the focus of a number of major English Heritage projects. Forthcoming titles in our Research Report series will include large-format volumes on the industrial landscapes of Dartmoor, the Lake District, and of the ‘miner–farmer’ economy of the North Pennines AONB. Others will highlight the various branches of the South-Western textile industry, the mining and metal-working industries of the Mendip Hills and the 18th-century introduction of structural steel in London and its far-reaching consequences for Victorian and Edwardian metropolitan architecture.

At a national scale our groundbreaking investigation into the impact of the car on the English landscape will result in two publications, a major Yale University Press monograph in 2012 and an English Heritage book of aerial photographs illustrating England’s motoring heritage from the air.

A few industrial buildings are of such importance that they warrant a separate publication in their own right. For example, a team of experts has been commissioned to produce a monograph to inform the ongoing conservation of Ditherington Flax Mill, widely recognised as the world’s first internal iron-framed building.

Honister slate quarries in the Lake District.
James O Davies
© English Heritage



Informed Conservation

This popular series of small-format publications now runs to 24 titles. Many of the books deal with areas shaped by industry (see the leaflet enclosed with this issue of *Conservation Bulletin*). They are attractive and accessible publications written in an engaging style and lavishly illustrated. Most are written by English Heritage authors and derive from area-based assessments or thematic research projects. The series aims to highlight the special character of important historic areas, towns and building types that are often under-appreciated and facing development pressures.

Virtually all of the titles have been produced in partnership with the relevant local authority and other local organisations. Some of the books have had tangible protection outcomes in the form of revised conservation area boundaries, new designations or the formulation of supplementary planning documentation. Above all, the series is about encouraging people to view historic areas in a new light, to understand what is special about their surroundings, and to help ensure that their distinctiveness is protected and nurtured.

Guidance documents

A number of our guidance documents are designed to assist those working on industrial sites. For example, *Science for Historic Industries* (2006) provides advice on the archaeological investigation of post-medieval industries while *Archaeological Evidence of Glassworking* (in press) describes what to expect at glassworking sites from the Bronze Age through to the early 20th century. ■

The Power of Protection

Designating the best of our industrial past is not about fossilising it but raising awareness of its potential to add value to our modern lives.

Protecting industrial heritage can take many forms, of which statutory designation is just one. Tony Calladine begins by outlining the powers of protection that operate at a national level, where the vulnerability and wanton destruction of historic industrial sites in the past, as witnessed by the Euston Arch and the Firestone Building, led to a strengthening of the conservation sector and an acceleration of designation programmes. At the local level, Pete Boland and Gareth Wills show the effectiveness of local listing while Mike Taylor discusses the role of conservation areas.

The drastic contraction of all the traditional industries has rendered much of their building stock redundant and only a representative sample, identified in the past through a series of programmes of thematic selection, can be protected. While securing the legacy of traditional 19th-century industries is difficult enough, Barry Trinder suggests that the remains of 20th-century industry can be even more problematic – they are often very large in scale, lowly regarded, built with a short life expectancy and subject to drastic operational change. English Heritage's National Heritage Protection Plan recognises these challenges and over the next four years will be using an array of some 40 industrial projects to provide a fuller understanding of the resource to inform a new programme of strategic designation.

The challenge of the 20th century

Barrie Trinder

Writer on industrial and social history

There are two contrasting interpretations of the history of industry in England during the 20th century. One emphasises decline, caused by a rejection from the mid-Victorian years of enterprise culture. The other sees Britain as a world power that used its substantial manufacturing capacity and technological expertise to fight two world wars, and until after 1945 to manage an empire on which the sun was accustomed never to set. Our appreciation of the historical role of industry is inevitably influenced by the collapse since 1979 of many of the staples inherited from the Industrial Revolution – textiles, shipbuilding, locomotive construction, coalmining, and the manufacture of many kinds of consumer goods.

Much of 20th-century industry used technology and forms of organisation already familiar in 1900. England's principal source of energy was coal. Many collieries working in the 1980s dated from before 1900 but their coal-washing plants, power stations, electric winders and pithead baths were of 20th-century date. The Dukeries and Kent coalfields only developed from the 1920s. The former Royal Commission on Historic Monuments provided a photographic record of the last phases of the industry, before it was almost eradicated after the Miners' Strike of 1984–5 (Thornes 1994). In 1995 the colliery at Caphouse, West Yorkshire, which had been the Yorkshire Mining Museum since 1988, was recognised as the National Coal-Mining Museum for England. Most of what visitors see there was installed after 1900. The scale of some 20th-century mines is demonstrated by the 3300 hp steam winding-engine of 1912 preserved by voluntary effort at Astley Green Colliery, Tyldesley, and the soaring steel headstock alongside it, as well as the surface buildings at Chatterley Whitfield that still stand after the frustration of several conservation projects.

The Sapphire car production line at the Armstrong Siddeley car and aircraft engine works in Coventry, photographed in 1954.

John Gay © English Heritage.NMR



Trencherfield Mill of 1907, conserved with its engine as part of Wigan Pier, illustrates the continued growth of the Lancashire cotton industry, which ended with Elk Mill, Oldham, constructed in 1926 and demolished in 1999. The machinery and separation mill buildings of the barytes mine at Force Crag, Cumbria, conserved by the National Trust, are also of 20th-century date.

The size of some 20th-century industrial plants, power stations, chemical works, gasworks, iron and steel plants, car factories and brickworks precludes their preservation and is a deterrent to recording. Vast 20th-century blast-furnace complexes are preserved at Duisburg-Meiderich and Völklingen in Germany, but no such project appears feasible in England. Collins and Stratton in 1993 identified the large-scale car-manufacturing plants in England, many of which, in Birmingham, Coventry and Luton, have since closed. Most were conglomerations of individually unremarkable buildings, in which machinery was replaced when new models went into production. Listing has accorded protection on grounds of architectural merit to some administrative buildings, such as the Clement-Talbot factory in west London, which provide evidence of the development of the motor industry, but manufacturing facilities have not

been afforded a similar degree of protection.

Some industrial concerns employed complex technologies housed in structures that are not conventional buildings. Hundreds of acres on Humberside, Teesside and Merseyside and in the Thames estuary were and are dotted with stills, crackers, pump houses and storage tanks linked by pipelines. Kirk, in his study of the ICI coal-to-oil plant at Billingham in 1998, set a model for the recording of such sites by explaining the technology and the ways in which the plant was modified, providing a photographic record, and detailing the deposit of documents and artefacts in archives and museums.

Military and manufacturing activities were intertwined during the two world wars and the Cold War. Some of the National Factories of the First World War are now only earthworks, although the National Machine Gun Factory near Burton upon Trent, completed in 1919, remains an imposing monument. There are substantial remains of Royal Ordnance Factories of the Second World War at Thorpe Arch, Leeds, and Swynnerton in Staffordshire, while others have been supplanted by new industrial buildings. The factory at Rotherwas, south of Hereford, provided munitions for both world wars and its history and archaeology have

The Stanlow oil refinery in Ellesmere Port, Cheshire.
Reproduced by permission of English Heritage.NMR



been chronicled by Edmonds (2004). English Heritage has recorded the monuments of the Cold War ranging from the concrete ruins of the rocket-testing site at Spadeadam Moor north of Brampton to the missile-manufacturing new town of Stevenage (Cocroft and Thomas 2003).

Many 20th-century industrial buildings were set in planned environments. Ebenezer Howard's views on the separation of industrial and residential zones were put into practice in Letchworth Garden City from 1903, but the principle of designating areas specifically for manufacturing had already been demonstrated at Trafford Park from 1896, and was developed on the Rushenden Estate, Queenborough, from 1904, and after the First World War on the former military sites at Slough and Park Royal. The principle was applied by government from 1938, with the establishment of industrial estates in areas of high unemployment, such as Team Valley, Co Durham. After the Second World War industrial estates were planned in the New Towns, on the edges of most other towns, and on the sites of redundant military bases, railway stations, mines and quarries. A few of these estates may contain important buildings, such as that at Trafford Park used by Ford for a moving assembly line in 1911–14, but most consist of unremarkable structures continually adapted for new purposes.

The history of transport reminds us of the transitory nature of certain kinds of structure. Large railway marshalling yards scarcely existed before 1900 but they multiplied in the 20th century. The few that remain recognisable, such as Bescot in the West Midlands, are used only for the storage of wagons. Bus and coach stations flourished and declined. The symbol of motor-coach travel, the Associated Motorways station at Cheltenham, built in 1932, has been demolished, Durham's bus station is part of Beamish Open Air Museum, and Preston's of 1968–9 is threatened. The energy that went into the establishment of municipal airfields in the 1930s is scarcely acknowledged, although 'streamlined' buildings remain at Gatwick, Birmingham and Shoreham.

The 20th century may be interpreted in the long term as the end of a curious interlude in English history during which society was shaped by mining and manufacturing. The memory of that interlude deserves to be fostered. ■

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Designating the industrial heritage

Tony Calladine

Designation Department, English Heritage

English Heritage and its predecessors have a notable record in the statutory designation of industrial archaeology. Richard Arkwright's Cromford Mill, Derbyshire, was listed in 1950, Temple Mill in Leeds, West Yorkshire, in 1951 and the famous Flatford Mill at East Bergholt, Suffolk, in 1955. Wortley Top Forge, an 18th-century ironworks near Barnsley, Yorkshire, was scheduled in 1952. However, it was not until the Industrial Monuments Survey was established in 1963 following the demolition of the Euston Arch that there was a concerted programme of work in this area: one that was re-energised after the loss of the Firestone building in 1980. The Monuments Protection Programme (MPP), established in 1989, added further momentum by combining targeted research with archaeological field assessments, and followed through with designations (listing as well as scheduling).

Industrial assets have traditionally been both scheduled and listed: just where to draw the line has recently proved a testing ground in the debate surrounding heritage protection reform. Although there is now a preference to list industrial buildings, scheduling will still be the more appropriate approach where archaeological potential is a major factor.

In the mid-2000s a number of pilot studies were used to test our traditional approaches to protecting industrial heritage, including Sheffield's Darnall Steel Works, Cornish bridges, the tube stations on

the Piccadilly Line and the Foxton flight of canal locks in Leicestershire. One of the most valuable outcomes was the drafting of a series of Heritage Partnership Agreements with the owners, which laid the foundations for a more positive and mutually respectful approach to site management.

National designation activity currently tends to be driven by applications made to English Heritage by heritage-sector professionals and interested members of the public. Other designations are made on a more strategic basis, however, as a result of formal surveys of particular areas or themes: the sort of work we intend to do more of in the future. Every year English Heritage deals with around 2,000 applications for designation on behalf of government. Between 2005 and 2011, this resulted in the scheduling of 15 industrial sites and the listing of 130 others, and of all designations made between 2006 and 2010, 8% were industrial in character.

Recent listings cover the whole range of industrial assets, from the Tank House water-bottling plant at Colwall in Herefordshire to the fan and winder house at Snowdown Colliery in Kent; from the Lowood Clock Tower Works saltpetre refinery in Cumbria to the upgrading to Grade II* of Taylor's Bell Foundry in Loughborough. Industrial designation can also include 20th-century buildings, such as the Bata Shoe factory in Tilbury, Essex, or the recent listing of the administrative

block at the Rolls Royce factory in Derby, and parts of the Spode factory at Stoke-on-Trent.

A return to a more strategic approach to designation has long been desired. Comprehensive national surveys can lack focus, but a more selective approach can be usefully incorporated into the wider designation programme. Over the past two decades a significant number of thematic projects have been focused on specific aspects of the industrial heritage, notably work on railways, textiles (including Manchester cotton, West Yorkshire woollens, East Cheshire silk, East Midlands lace and hosiery and West Country wool), furniture manufacture (Shoreditch), metalworking (Birmingham Jewellery Quarter and the Sheffield metal trades), warehousing (Liverpool and Manchester), leatherworking (Northamptonshire boot and shoe-making), maltings and, very recently, work undertaken for English Heritage on the brewing industry by the Brewery History Society. Highly regarded publications have been one among the valued fruits of this plethora of investigative work.

Some of the earlier of these projects were not designed to include a built-in designation element and success in following up on such work with designation has been varied. Recent projects have been much more integrated, however, and point the way towards a new approach. Several strands of the National Heritage Protection Plan (NHPP), which was launched by the Heritage Minister, John Penrose, in May 2011, will address specifically industrial themes. In parallel, closer partnership between English Heritage and other sectoral bodies will also help to improve our understanding of this country's industrial heritage and the best ways of protecting its significance.

National designation can never be other than selective: for many sites local recognition may be a more appropriate answer. It is also essential that significance is clearly established and we must be wary of the 'stamp-collecting' tendency. We must focus on the innovatory and seminal, on design quality, on rarity and sites where there is a good level of survival. Weighing up competing claims is not straightforward, particularly for modern industrial sites, but once national significance has been identified, English Heritage is absolutely committed to its protection. The NHPP will help us bring this about. ■

Access to information about every designated site in the country is now available through National Heritage List for England: www.heritage-gateway.org.uk or <http://list.english-heritage.org.uk>



Taylor's Foundry, Loughborough. One of only four bell foundries surviving in Europe and one of two in England. Bells are cast in the medieval manner, in the floor of the foundry.

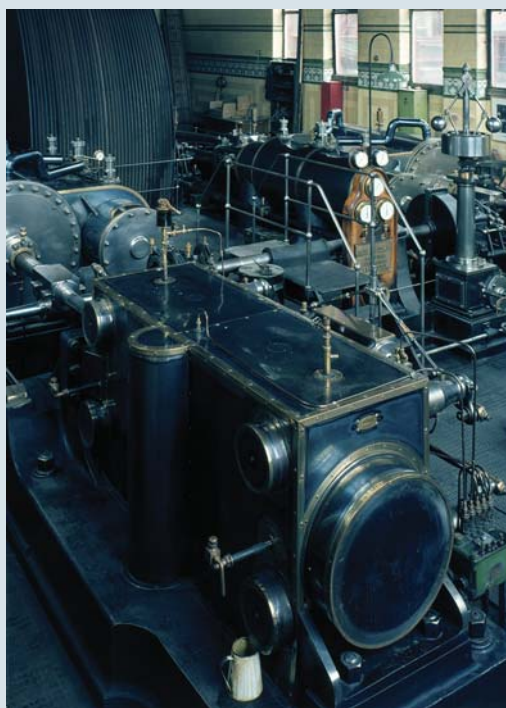
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Dee Mill Engine

Sir Neil Cossons

Dee Mill Engine, Shaw, Lancashire, was one of the finest examples of a Lancashire mill engine, a twin tandem compound built by Scott & Hodgson of Guide Bridge in 1907. It was reserved and run by volunteers and scheduled as an ancient monument until changes in ownership led to demolition of the adjacent mill, followed by vandalism. The engine was eventually scrapped in the 1990s. Here failure to grasp the essentials of preservation resulted in a proposal to move the engine elsewhere for preservation being thwarted by its scheduled status while vandals took their toll. Many industrial sites are in areas of high risk.

© Brian Bracegirdle/Ironbridge Gorge Museum Trust



Local heritage lists and the management of industrial sites

Pete Boland, *Principal Conservation Officer and Borough Archaeologist, Dudley Metropolitan Borough Council* and Gareth Wilson, *Heritage Protection Department, English Heritage*

The purpose of local heritage lists is to identify buildings, sites and spaces that are valued by local people and worthy of some degree of protection in the planning system, even though they may not be covered by statutory national listing or scheduling. Structures and locations associated with former places of work are likely to feature particularly strongly in such lists, especially in parts of the country with strong historical links to traditional extractive and manufacturing industries.

Adding an asset to a local list does not of itself bring any additional consent requirements over and above the requirement for planning permission (with the exception of those located within conservation areas). However, under PPS5 their status as heritage assets will mean that their conservation and contribution to the area will be a material consideration when making planning decisions that directly affect them or their setting. Indeed, English Heritage considers local heritage lists so important that it is in the final stages of preparing a good practice guide that will encourage a more transparent and consistent approach to their creation

and management across England.

Dudley, a large urban unitary authority in the industrial Black Country, adopted its own Local List of around 400 buildings as long ago as 1996. Based on selection criteria that accorded closely with current English Heritage draft guidance, it was compiled with the extensive involvement of the public. Locally listed buildings are recorded in the Dudley Historic Environment Record and on the council's website, and in addition prospective owners are notified of local list status in all standard pre-purchase council 'searches'.

Crucially, the Dudley Local List has always been supported by a specific development plan policy that commits the council to resist demolition (or damaging alteration) unless it can be demonstrated that retention is not feasible, when an appropriate level of archaeological recording will be required. This is reinforced by strong historic environment policies in the overarching Black Country Core Strategy.

The existence of these supporting policies takes us much further down the road than merely affording a site the status of a PPS5 'heritage asset', whose significance would require further assessment should it be affected by development proposals. Significance has already effectively been considered and assigned through the Local Listing process and this provides a degree of certainty for developers and a strong platform from which to negotiate.

Perry and Brooks Ltd, wrought nail and chain makers, Cemetery Road, Lye, became the first in the area to introduce automated nail-making machinery. The premises are now vacant but planning approval for residential conversion is about to be implemented.

© Dudley MBC



As a result, many Locally Listed buildings that would otherwise undoubtedly have been lost have been retained and put to beneficial use.

Dudley Borough was forged by the Industrial Revolution but the iconic industrial complexes associated with metal manufacture, coal and iron-mining, brickmaking and glassmaking have now largely disappeared beneath housing and industrial estates. It is therefore ironic that these are the current focus for statutory protection since what actually remains are the distinctive but largely unprotected industrial townships that provided the supporting infrastructure of the industrial revolution. Its components include civic buildings, worker housing, chapels, pubs, shops, urban parks, cinemas and workshops, including highly vulnerable remnants of ‘backyard’ industries such as nail and chain shops, any of which may warrant

Local Listing on the grounds of their individual significance.

However, Dudley Council’s overarching strategy, again backed by development plan policy, has always been to conserve the overall local distinctiveness of these historic settlements. The preferred approach to the conservation of such assets therefore focuses on Historic Characterisation such as is provided at an extensive level by the Black Country Historic Landscape Characterisation (see also Thomas and Giles this issue, pp xx–xx). To narrow the focus, more intensive and Dudley-specific characterisation has also been undertaken. For Area Action Plans this reaches a level of detail that allows for the identification and mapping of individual heritage assets, which are also assigned varying degrees of relative significance. This gives at once a context and a justification for the addition of assets to the Local List, but importantly the approach equally allows for the creation of a range of other locally derived policy designations, including Areas of High Historic Townscape and Landscape Value.

In conclusion, the Dudley experience is that the Local List is a highly effective vehicle for highlighting the significance of particularly distinctive assets with individual resonance to the locality. However, the wider context should always be borne in mind, recognising that Local List structures are components only of the historic landscape as a whole, which, at root, is what we are trying to manage and conserve. ■

Preston Bus Station

Sir Neil Cossons



Preston Bus Station, built 1968–9 to designs by Building Design Partnership and Ove Arup, was voted the favourite building of the people of Preston in a *Lancashire Evening Post* survey in May 2010. English Heritage proposals for listing were opposed by Preston Borough Council and turned down by the heritage minister. Postwar structures remain contentious designation issues although the Post Office Tower in London and Jodrell Bank Radio Telescope (now on the United Kingdom list of proposed World Heritage sites) were both popular listings.

© Neil Cossons

Made in the West Midlands: industry in conservation areas

Michael Taylor

*Historic Areas Adviser, West Midlands Region,
English Heritage*

By 1708, when Abraham Darby I moved to Coalbrookdale and began his world-changing innovation in smelting iron with coal, the West Midlands already had a strong industrial base. The region has been shaped by some of the greatest names in England's industrial history and the range of products and brands made in the West Midlands was, and remains, vast. The West Midlands' industrial heart beats more slowly today than it did a century ago but manufacturing is still a vital part of the region's economy.

Both of the region's World Heritage Sites, Ironbridge Gorge and part of Pontcysyllte Aqueduct and Canal, celebrate its industrial tradition. Conservation-area designation has also recognised the region's industrial history with longstanding designations of industrial areas like Union Mill in Wolverhampton. Until the 20th century industry was often freely mixed with other uses and this pattern is recognised by many conservation areas, including Birmingham Jewellery Quarter. Canals were crucial to the development of industry in a landlocked region and much of the canal network, including the canal port of Stourport-on-Severn, is covered by conservation area and other designations.

The trades now surviving in the Birmingham Jewellery Quarter are a vestige of their early 20th-century peak. Then 60,000 skilled and specialised craftspeople worked, and many lived, in the 100 hectares or so of the present conservation area, the boundaries of which were re-established in 2000. But even today the area produces 40% of Britain's jewellery products and, at its heart, the School of Jewellery trains some of the country's most talented young craftspeople. English Heritage's J W Evans project tells a Birmingham story of artistry, craft and enterprise. But the future of the Quarter may lie with the graduate designer-makers who stay to acquire further skills at the City Council's Design Space centre and to launch their careers in the area.

Famous Potteries names like Spode and Royal Doulton have closed or moved production abroad over the last 10 years. Decades will elapse before the fractured industrial landscape of North Staffordshire resembles the sylvan arcadia of today's Ironbridge, but conservation-area designation of the main industrial centres and canals plays a major



part in retaining something of the character of this tough, unique sub-region. Longton Conservation Area contains the town centre, the Gladstone Museum and a range of working and vacant pottery buildings along with The Hot House centre for technology and design. English Heritage and Stoke-on-Trent City Council are in the second year of a Partnership Scheme aimed at funding repairs to historic buildings so that Longton can continue to embody the best of the past, present and future of the Potteries.

The Black Country is a polycentric network of contiguous but diverse industrial towns and villages to the north-west and west of Birmingham. Conservation-area designation has an important role in protecting, for example, the oddly rural character of a hamlet like Mushroom Green. The Canal Street basin of the Stourbridge Branch Canal was identified as a Conservation Area at Risk in 2009: it remains so but development proposals along the length of the canal promise a more secure future. The most frequent vehicle for investment in the Black Country is big-shed retail but perhaps what the area needs more is a model of low-key, steady-state regeneration.

Some of the West Midlands' industrial conservation areas will be progressively greened. There will continue to be a need to find new uses for buildings like Shrewsbury's Grade I-listed Ditherington Flax Mill and large factories in the Union Mill Conservation Area. But in the Jewellery Quarter planning policy since 2002 has sought to recognise the historic character of the area's industrial activity and to protect its core from residential incursion. Conservation cannot hold back the effects of wider economic forces, but the Jewellery Quarter demonstrates that managing industrial conservation areas does not necessarily mean ushering them into a post-industrial future. ■

Galton Valley Conservation Area, Smethwick. Chance's Glassworks (a scheduled ancient monument with Grade II listed buildings) made the glass for the Crystal Palace and exported lighthouses in kit form to many parts of the world. It stands at the intersection of the West Coast mainline railway, the Birmingham Canal and the M5.

Michael Taylor
© English Heritage

The Power of Stewardship

England's industrial legacy is not just the stuff of museums – it is part of the living landscape and that is where it needs to be conserved.

Industrial sites pose particular challenges of stewardship. Continuing sustainable use may involve considerable change to their integrity, while the alternatives – conservation as preserved sites, restoration to an earlier form, or conversion to a new use – are equally problematic. As Peter White outlines, the response to these challenges has been largely *ad hoc*. The remarkable harnessing of voluntary skills in the 1960/70s was at first pre-occupied with steam engines and processes; only later did the focus shift towards people and the contribution of their oral and filmed testimony.

Official agencies play their part. As Jonathan Smith and Anthony Streeten show, local authorities are in the front-line, aided by English Heritage's role as advisor, facilitator, protector of buried remains and even last-resort owner. In similar vein, John Hodgson details the management of industrial landscapes by the National Parks and AONBs, while on pp 34–35 we look at how other central government agencies are managing their industrial and transport heritage.

Beyond the public sector, David Thackray discusses the industrial interests of the National Trust, while Fred Taggart shows how the Prince's Regeneration Trust has punched well above its weight by pooling resources. Lastly, George Ferguson eloquently demonstrates, from the perspective of an architect and developer, how passion and vision can kick-start area enhancement.

Industrial heritage – a different challenge?

Peter White

Chair, English Heritage Industrial Archaeology Panel

For 50 years discussion has waxed and waned on the issue of the distinctiveness – or not – of the material legacy of industrialisation. It is an ongoing and inconclusive debate that continues to shape our attitudes to the preserved sites and structures that comprise the diverse portfolio of this inheritance. Over the past dozen years two English Heritage reports have examined the nature and sustainability of this portfolio and it is clear that important and complex challenges remain if we are to hand on intact our preserved sites to future generations.

During the pioneering days of the 1960s some key characteristics of the industrial heritage were already acknowledged: much of potential interest was located in urban or derelict areas; the scale and diversity of its components were unprecedented in heritage terms; and much of the hardware was still 'working', thereby creating obstacles to conventional methods of protection and preservation. But a matter of perhaps greater importance was not fully acknowledged. The cultural background and training of the conservation agencies' staff, with the exception of some museums, were not appropriate for an understanding of the origins and operation of industry, or of the consequences of industrialisation. To characterise it crudely, the agencies were focused on structures associated with *people* – the spaces where they had lived, fought, worshipped, worked and were buried – during the pre-industrial era. The industrial heritage, by contrast, required an understanding of structures associated with *process*, where the machine increasingly dominated; that required relationships with individuals and organisations beyond the prevailing conservation constituency.

Half a century ago the predecessors of English Heritage grant-aided the Council for British Archaeology (CBA) to engage Rex Wailes, a retired engineer, to undertake a rapid survey of industrial sites and identify candidates for preservation. This initiative proved to be a rapid and effective response to an urgent problem, but the mechanism adopted to secure preservation equally rapidly became part of the problem. Instead of direct state intervention,

Stott Park Bobbin Mill



Stott Park Bobbin Mill, built in 1835, remained largely unchanged for a century until its closure in 1971. Its buildings and machines have been carefully preserved by English Heritage, and the process is demonstrated to small parties of visitors, but it is virtually impossible to replicate the working conditions shown in the photograph.

Source: Peter White

SAVING THE AGE OF INDUSTRY

which can be time consuming and expensive, it was decided to continue to harness the knowledge of skilled ‘outsiders’: those engaged in or who knew about industrial processes and the structures associated with them. Many of these individuals became trustees of a multiplicity of local charities, which were then grant-aided to secure the preservation of sites and to make them available to the public. In some places, like Sheffield, such voluntary bodies had been actively on the scene since the 1930s. In most other cases, new trusts were formed, and funded. For some, enthusiasm for ‘messing about’ with a machine was the motivation; for others a perception of de-industrialisation was the catalyst. Others still lent their administrative skills. All in all, this amounted to the creation of a distinctive branch of the conservation movement, harnessing a new and diverse range of skills for the public benefit. Many of those involved went on to found the Association for Industrial Archaeology.

By this means it was possible to advance on a broad front, rapidly, at relatively low cost and without long-term commitment by the tax-payer. As a strategy it also appealed to local communities and to those industrialists whose premises were targets. But while the physical remains were secured, this solution masked a longer-term problem – the fragility of the ‘process knowledge base’: what did this place produce, and how did it make and market it? Because the hardware was in the capable hands of those who knew all about it, little effort was directed to the creation of a structured record of process information.

There were notable exceptions, particularly in the north-west of England where Ken Howarth established a sound archive, and the Lancashire Textile Project used still photographs and tape-recorded interviews to support English Heritage’s Stott Park project. But no national strategy comparable to the Imperial War Museum’s oral-history project emerged. In only one sector was the knowledge base very secure indeed – the world of steam. The operation of steam engines, both locomotives and stationary, has continued, apparently seamlessly, throughout. However, it is clear from English Heritage’s research that the knowledge handed on, often by word of mouth, by the founding trustees of many preserved sites is a rapidly diminishing resource.

Why is knowledge of process so important? Fifty years ago few people outside industrial areas would have known much about what went on in the steelworks, textile mills, gasworks or shipyards. The rest of the population would have seen these



massive and complex installations only from a train window or in a photograph. In today’s post-industrial society even fewer people have experience of any operational industrial activity at all, let alone those which are obsolete. They now visit preserved industrial sites as true outsiders, and they want to learn about them.

Preserved industrial sites are likely to present two major physical constraints, however: first, space is at a premium; secondly, in many cases they lack animation.

Here we return to our crude distinction between spaces for ‘people’ and ‘process’. Houses, big and small, castles, abbeys, cathedrals and churches were built with the circulation of people, often in large numbers, in mind. Mills, mines, forges and furnaces were built for process; the spaces beside the machines and equipment were often minimal, cramped and dangerous. On occasion they could be used by workers only when the machines or the furnaces were idle. Admittedly there are ‘showpiece’ steam-engine houses built to impress, inside and out. But at the other extreme there are structures – those for smelting, for example – where access was virtually impossible. Most sites fall between these extremes, of course, but it remains a fact of life that many preserved industrial sites have little revenue-generating capacity because the spaces where people can circulate are very limited.

Animation is critical to an understanding of process: here again, the preserved and operational steam engine makes the point – you can smell it, hear it, and above all see what it does. But working machinery needs a trained operator and may require explanation to the visitor; safety factors

Built in the 1750s on the north bank of the River Severn between Ironbridge and Coalport, the pioneering Bedlam blast-furnaces were probably used to make components of the Iron Bridge, yet are presented in a way that does nothing to capture the interest of a public attuned to live animation.

© Peter White

may also limit the numbers of visitors that can be allowed and increase the need for supervision, both contributing to higher running costs per visitor. The result is that without a hefty subsidy, few preserved industrial sites can adequately demonstrate what they were originally for.

Is there some other way? For some years there has been a tendency to deflect visitors away from the monuments themselves and towards suitably informative revenue-generating ‘exhibits’. Often newly built (and therefore adding over time to maintenance costs), their purpose is to subsidise the ‘monuments’. A recent example is the multi-million-pound Victorian Street at Blists Hill in Ironbridge, cheek by jowl with the inanimate ruined blast furnaces from which the site is named. The Street exploits the ‘people’ space admirably with staff in period costume – but how many visitors understand the industrial structures that are the reason for the museum’s location, if indeed they even notice them?

There is a way forward. Film can be both a repository of knowledge and, if exploited innovatively, bring animation to the visitor experience. The British Film Institute’s *This Working Life* project now has on its database thousands of films of industry, made over the years for training, information and record purposes. The potential of this resource as a tool to secure our knowledge base and to make our preserved sites more interesting and sustainable attractions should not be underestimated. ■

Local authorities and the management of industrial heritage

Jonathan Smith

City Archaeologist, Gloucester City Council

Local authorities have played an important part in the management of England’s industrial heritage since they first began to employ archaeologists and conservation officers in the 1960s and 1970s. From the start, Sites and Monuments Records (SMRs) included information about historic mining and manufacturing sites, which continues to make up a significant part of today’s Historic Environment Records (HERs) – between 31% and 49% of heritage assets according to a survey of 25 HERs.

Because they lack the protection of designation, the overwhelming majority of historic industrial sites have to be managed through the planning process. Every authority possesses at least one industrial monument of its own and many are partners in urban regeneration programmes. In today’s

climate of austerity, however, authorities up and down the country are facing a future of significantly reduced resources. Some 20 archaeological and 100 conservation staff in local government have already lost their jobs, and the cuts are certain to bite deeper still in 2012.

Heritage assets from the industrial age have always been more difficult to protect than those from earlier periods. They frequently fail to meet the conventional criteria for designation and it has been too easy for both planners and the developers to underrate their significance – not least because, as monuments to a period of unprecedented technological change, they often exhibit evidence of continual modification.

In theory, industrial-age heritage should be under no greater threat from government spending cuts than any kinds of historic sites. In reality, local authorities are under increasing pressure to become strategic and commissioning bodies with reduced in-house capacity for conservation of the historic environment. In such circumstances, how can they continue to provide appropriate management of the industrial heritage?

The first crucial requirement is for continued development of the evidence base that informs all strategic and tactical planning decisions. In recent decades HERs have collated vast amounts of evidence gathered in the course of investigations by antiquarians, academics, community activists and local societies as well as through rescue archaeology and the planning process. More recently PPS5 has strengthened the position of undesignated heritage assets, the category that covers most historic industrial sites.

Looking ahead, local authorities will need to work in partnership with English Heritage, national amenity societies and local community groups to institute further surveys where evidence is still sparse, as it often is for industrial-age heritage; historic environment characterisation, research agendas and local listing will all be important tools.

In the world of localism and the Big Society it is similar partnerships between local authorities, business interests, voluntary bodies and the local community upon which heritage assets of all kinds will depend for their survival. Few of the concepts within these agendas are new: local-authority heritage services have been promoting localism for decades. At Gloucester City Council, for example (where we are partners in a *heritage* urban regeneration company), we provide a menu of heritage opportunities to our communities. Once a local



Provender Mill, Baker's Quay, Gloucester. This 19th-century grain warehouse is designated as a listed building and on the City Council's Buildings at Risk Register.

© Jonathan Smith

group has selected a site it wants to be involved with we are able to help them with professional guidance, training and equipment.

After a while, many groups become self-sustaining, while others go so far as to win commercial projects within the planning process. They consistently deliver to professional standards, and add significant value not only to the participants themselves (in the form of heritage knowledge and more general skills) but also in terms of the important new information they gather. This has particularly been the case for industrial heritage, where participants have often had personal experience of a site because either they or a family member once worked or lived there. One such project involved the investigation of a 19th-century waterworks; 18 months after fieldwork, the HER is still receiving valuable information from the recording group.

If the historic environment sector is to continue to manage our industrial-age heritage in the way it deserves, local authorities will have to actively support the enablement of communities and deepen their strategic partnership with English Heritage. Commercial units will also have an increasing part to play in delivering community enablement. Characterisation will remain crucial. From a local authority perspective, the industrial focus of this year's Heritage at Risk campaign is a positive move, and particularly welcome is the imminent guidance on undesignated assets. Sectional thinking is no longer an option; the pooling of dwindling resources is our only recourse. ■

Advice and grants for industrial heritage

Anthony Streeten

Planning Director, Eastern Midlands, English Heritage

People have high expectations of the staff in English Heritage's local offices. They are regarded as the source of trusted advice on the sustainable management of the historic environment. A survey carried out in mid-2010 by consultants bdrc continental highlighted the value ascribed by local authorities to the independent, objective, national view provided by English Heritage when considering proposals for change in historic places.

Industrial buildings present some of the greatest challenges, yet English Heritage's *Conservation Principles* and our approach to 'constructive conservation' are equally relevant to the nation's inheritance of industry as they are to all aspects of the built heritage. The archaeology of industry, too, has left an indelible imprint on both urban and rural landscapes. English Heritage staff around the country give planning advice for the nation's most important heritage assets and develop strategic approaches for Heritage at Risk. Over the last decade industrial sites have been added to the World Heritage List, with consequent need for advice on conservation and management.

Conservation Principles in practice

Industrial heritage is not just concerned with sites, structures and architecture; it is also about technology, motive power and manufacturing. The most valuable places are 'historic entities' comprising both buildings and their contents – sometimes engines in their engine-houses, and occasionally buildings with surviving equipment, machinery and even examples of the products themselves.

For more than 40 years, these important survivals have been identified and protected through statutory designations. Local management is preferred and there is an impressive record of English Heritage repair grants that have helped volunteers and local authorities to safeguard good examples of England's industrial past. Achievements range from the preservation of Queen Street Mill in Burnley, producing plain cotton calico, to Southorn's clay-pipe manufactory at Broseley in Shropshire, now managed by the Ironbridge Gorge Museum Trust.

Exceptionally, a handful of 'industrial monuments' has been taken into guardianship on behalf of the nation. These sites now form part of English Heritage's 'national collection' including Stott Park Bobbin Mill in Cumbria and Berney Arms

The J W Evans silver factory in the Birmingham Jewellery Quarter. Essential repairs have been completed employing a 'conserve as found' conservation philosophy. Access is already available for pre-booked guided tours and discussions are in hand for a local trust to take on the day-to-day management of this remarkable survival.
© English Heritage



Windmill in Norfolk. Local management for 'historic entities' has become less certain now than it was at the height of activity by preservation trusts and local authorities in the 1970s, so English Heritage has stepped in to acquire the J W Evans silver factory and its fascinating contents in Birmingham's Jewellery Quarter.

English Heritage has also supported the Prince's Regeneration Trust in acquiring Middleport Pottery at Stoke-on-Trent (pictured on p 29) to secure this last surviving working Victorian pottery, while ensuring a viable future for the traditional processes of manufacture. This innovative approach has been recognised by an award from the Regional Growth Fund and the project will benefit from partnership funding, including private sponsors.

The value of historic industrial sites is defined not only by their physical survival but also in terms of their meaning to the people who worked there, and in turn for their families and descendants. The memories of former employees often play a vital part in bringing the sites alive for visitors. Planning for the transfer of knowledge about the maintenance and operation of equipment is just as important as looking after the buildings themselves.

In other circumstances, however, protecting industrial heritage may seem incongruous to a community still grieving the loss of its major local employer. Arguing for the preservation of the scarce

remains of England's industrial past can seem at odds with much-needed economic renewal in former coalfields or on sites once occupied by the chemical industry. Sometimes the delicate role of English Heritage is to anticipate the interests of future generations by emphasising the communal value of industrial heritage.

Advice to owners, developers and local authorities

Historic buildings and places deserving curatorial protection and public access are rare. English Heritage staff are usually engaged in safeguarding the evidential and communal value of industrial heritage – whether the buried remains in a former industrial landscape now reclaimed by nature, or industrial buildings stripped of their machinery yet retaining vital clues to their history and former uses. Assessing and protecting significance is fundamental to the work of the English Heritage teams.

Robust industrial buildings lend themselves to new uses and developers have become the saviours for a good deal of England's industrial Heritage at Risk. Our staff are seasoned facilitators in finding creative solutions, but opportunism and capitalising on unexpected coincidence also play their part. The former railway works at Derby is a striking example of 'constructive conservation' – matching the needs of an educational institution with the opportunity to rescue an important group of buildings that had been 'at risk' for many years.

Funding for industrial heritage

English Heritage is now rarely able to make substantial grants to unlock the potential of industrial heritage – such as the £1 million offered in 1988 for the repair of Ribbleshead Viaduct, which was instrumental in securing the future of the Settle–Carlisle railway line. Nowadays, our investments typically seek to arrest deterioration, allowing time for the property market to yield a solution through sustainable new uses. Occasionally, English Heritage may help with underwriting the costs of statutory intervention to prevent the loss of important industrial heritage at risk; local authorities, however, are not always willing to use their statutory powers in this way.

Experience at the cotton mills of Ancoats in Manchester and the silk-spinning complex at Manningham Mills in Bradford demonstrates how timely intervention with urgently necessary repairs coupled with sound advice can pave the way to safeguarding some of the nation's most iconic industrial architecture. Until recently, Regional



Originally built in 1854, the pumping engine above Robinson's shaft at the South Crofty tin mine in Cornwall was brought to the site in 1903, where it remained in use until the 1950s. This photograph was taken before the start of a major restoration project sponsored by Big Lottery, the Homes and Communities Agency, Cornwall County Council and the EU Convergence Fund. Barry Gamble © Cornwall Council

Development Agencies were instrumental in securing much good heritage-led regeneration in former industrial areas – notably in the north of England and in the South-West.

Major public funding has safeguarded Robinson's Shaft at South Crofty Mine in Cornwall, while the local authority remains committed to preserving the Lion Saltworks at Marston in Cheshire. Successful schemes for Heritage at Risk are increasingly likely to involve imaginative opportunities for learning and community participation of the kind that may be supported by the Heritage Lottery Fund. Meanwhile, English Heritage staff work tirelessly within local partnerships to identify opportunities where industrial heritage can contribute to the confidence and vitality of these distinctive historic places. ■

The Prince's Regeneration Trust

Fred Taggart

Projects Director, The Prince's Regeneration Trust

The Prince's Regeneration Trust (PRT) entered the public eye in 2005 but it incorporated two initiatives created by HRH The Prince of Wales in 1996, Regeneration Through Heritage (RTH), which assisted community groups develop proposals for the re-use of redundant historic buildings, and the Phoenix Trust, which acquired and restored large redundant industrial buildings.

Community projects supported by RTH secured £50 million in capital and revenue and

helped restore 20 redundant listed and mainly industrial buildings, including Sowerby Bridge Wharf, Halifax (pictured on p 53); Houldsworth Mill, Stockport; Navigation Warehouse; Wakefield, and Harvey's Foundry in Cornwall.

The Phoenix Trust successfully regenerated a large part of Stanley Mill, Perth, and Anchor Mill, Paisley, which brought derelict landmark mills into residential use. This involved traditional Building Preservation Trust work and ground-breaking partnerships with private-sector organisations.

PRT draws on this experience and is now one of the best-placed regeneration charities in the UK. It has 12 staff, trustees from the business and heritage worlds, and an expert volunteer Advisory Group. It provides free support to communities, undertakes consultancy, and acquires and regenerates important historic buildings at serious risk.

In 1998, local people in Hayle, Cornwall asked us to help put together proposals for the regeneration of the derelict Harvey's Steam Engine Foundry. A charitable trust was created and the first phases of conservation and construction cost £4.28 million of public, Heritage Lottery and European money. The project created employment space for 112 people who paid, using government figures, £3,030,438.32 in tax and contributions over the period 2003–2010. The businesses also paid Business Rates of £151,388. Much of the 'after-tax income' circulated in the local economy, generating further tax to HM Treasury. Heritage regeneration makes cultural, social and economic sense.

Community groups are willing to tackle even the largest industrial or commercial buildings, but to be successful they need ongoing technical support from a capacity-building organisation like

In less than nine years the restoration of Harvey's Steam Engine Foundry at Hayle in Cornwall will have generated the £4.28 million it cost, proving that if government takes a longer-term view it will get its money back as well as creating extensive social benefits.
© The Prince's Regeneration Trust



Middleport Pottery

This year a PRT subsidiary bought the Grade II* Middleport Pottery in Burslem, Stoke-on-Trent, the last working Victorian pottery using hand-applied techniques and with a treasure house of historic ceramic moulds and archives. It assembled a funding package of £7.5 million to conserve and regenerate the site for new craft businesses, and the existing pottery will remain as a tenant. There will be new visitor facilities so the public can see a working pottery making a traditional quality English ceramic product. The project will catalyse wider regeneration in the area.

© The Prince's Regeneration Trust



PRT and the local authority. Harvey's would not have succeeded without support from Penwith Council, and Stockport Council underpinned the regeneration of Houldsworth Mill.

Sadly, there are local authorities and public bodies that encouraged community trusts to prepare very expensive options appraisals and business plans only to shift support to the private sector half-way through the process. Ironically, in many cases private-sector promises evaporate and the building eventually falls into the hand of the community, as with the Grade II Baily's Mill in Glastonbury.

Finding money for options appraisals and capital work is increasingly difficult. Funders can be bureaucratic and slow, and the European Regional Development Fund and the requirements to advertise in the Official Journal of the European Union (OJEU) are a nightmare. Application procedures should be simplified and co-ordinated across grant-giving bodies. If funding programmes are not about delivering projects what is the point?

Clarity at the outset about ownership of buildings is also critical, particularly those in public ownership. A model agreement between community groups and the public sector to set out mutual obligations would help.

Co-ordinating different grant requirements and

timescales is also a challenge. Lomeshaye Bridge Mill in Nelson, owned by the Heritage Trust for the North West, has stalled for 11 years because of the impossibility of getting all the grant offers lined up. So a perfectly sound mill in charitable ownership, with a viable business plan for new uses, still stands vacant. It cost the Heritage Trust £300,000 for technical work for an abortive £2 million project!

The ability to act quickly to acquire buildings at risk is crucial. PRT has intervened to acquire several, including the nationally important Victorian Grade II* Middleport Pottery in Burslem, and is bringing them back into use. Interventions like this take vision, technical skills and determination; the preparatory work to acquire Middleport cost £400k and took two years.

There are still large redundant buildings available for regeneration and PRT is approached regularly for help. It is currently supporting a local trust in Grimsby to acquire the iconic Grade II* Ice Factory, in which a successful project could regenerate a neglected port and fish-smoking district. Local people everywhere see the potential these buildings offer.

PRT experience indicates that the heritage sector needs more and larger charities with conservation, regeneration and, crucially, commercial skills to tackle big projects, and that needs government support. ■

Industrial heritage in protected landscapes

John Hodgson

*Senior Archaeology and Heritage Adviser,
Lake District National Park*

The protected landscapes of England – National Parks and Areas of Outstanding Natural Beauty (AONBs) – largely owe their existence to industrial development. The National Parks Act of 1949 was conceived as a response to the needs and desires of the populations of the industrial cities to escape to the fresh air and openness of the countryside. The Act provided the framework for the creation of National Parks and AONBs in England and Wales and also made provision for public rights of way and access to open land. While these premier landscapes are prized for their scenic beauty, they are in fact cultural landscapes that have been shaped by millennia of human activity, including significant industrial activity in the post-medieval period (English Heritage 2005, 2006).



High Rake Mine in the Peak District National Park, photographed from a kite as the excavations were virtually complete, with safety railings in place to protect visitors from the 5m to 8m-deep interior of one of the engine houses.

© Peter Neville

There are 9 National Parks in England plus the Norfolk Broads, which has equivalent status, and 34 AONBs (including one shared with Wales). The first National Parks were established in marginal agricultural areas in the north and west of England and most have an abundance of natural resources which had been utilised for industrial production, including woodland, plentiful running water and rocks and minerals. The landscapes and distribution of the AONBs are more varied, but many of these have also been the locations for a variety of industries.

All the National Parks and some AONBs employ historic environment staff and partnership working is crucial in harnessing available resources. Both National Parks and AONBs have established joint accords with English Heritage and other statutory agencies in the UK to promote a partnership approach to the understanding, conservation and enjoyment of the heritage. Partnerships also extend to major landowners such as the National Trust, Forestry Commission and utility companies together with local communities. This harnessing of skills and resources from a variety of organisations has resulted in many high-quality projects involving survey, management and conservation, outreach and interpretation.

The industrial heritage of protected landscapes has been intensively studied over the past 20 years,

including pioneering surveys of alum and limestone mining in the North Yorkshire Moors National Park and Nidderdale AONB, and of iron production in the Lake District National Park. Although carried out first and foremost to inform conservation strategies, this research has also shed new light on the industrial exploitation of these landscapes. Such work is also often multi-disciplinary in its scope – for example, a study of the lead rakes of the Peak District National Park was concerned with both their archaeological and ecological significance (Barnatt and Penny 2004). Current surveys include English Heritage's Miner-Farmer project, which is examining the lead-mining landscapes of the North Pennines AONB and the threats they face from erosion and climate-change (see also Cattell this issue, pp 11–12).

Major conservation projects in protected landscapes have ranged from the consolidation and display of individual monuments, such as Duddon blast furnace in the Lake District and the Hardley windmill in the Norfolk Broads, to management and conservation of monuments at a landscape scale, including lead-mining remains in the

Gayle Mill



Gayle Mill, in the Yorkshire Dales National Park, was successively used as a water-powered cotton mill, woollen mill, sawmill and hydroelectric power station. It was eventually rescued and restored by the North of England Civic Trust with funding from Heritage Lottery Fund, English Heritage and the Yorkshire Dales National Park Authority. In 2004 the mill won second place in the BBC2 Restoration series and is now managed by the volunteer-led Gayle Mill Trust. © Rob White, Yorkshire Dales National Park Authority

Yorkshire Dales and the extensive legacy of hard-rock mining in the Cornwall AONB, parts of which have now been inscribed as a World Heritage Site.

Providing information is also an important part of managing the industrial heritage and has been achieved through a combination of publication, on-site interpretation and outreach events. At High Rake Mine, owned by the Peak District National Park Authority, a programme of excavation and conservation by the Peak District Mines Historical Society (2000–2008) engaged large numbers of local people and school parties as well as visitors from further afield. Indeed, it was so inspiring that it prompted the local community to develop their own guided trail and book sponsored by the Local Heritage Initiative.

Future work in our protected landscapes will undoubtedly be affected by budgetary pressures and will rely even more heavily on partnerships and external funding from agri-environment schemes (see Hunns and Holyoak this issue, pp 54–6) and the Heritage Lottery Fund. Survey work will need to focus on the 24 least-well-understood protected landscapes identified in the English Heritage research strategy (2009). We also need to know much more about the effects of climate change and extreme weather events on industrial and other archaeological features, and in turn about the impact of climate-change mitigation measures, including reduced grazing and the creation of new native woodland. Innovative conservation projects are likely to include the re-use of industrial sites, particularly those able to produce sustainable energy. Recent examples include the re-commissioning of the hydroelectric equipment at Linton and at Gayle Mill at Hawes (see opposite, and www.gaylemill.org.uk), both in the Yorkshire Dales National Park. ■

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Industrial heritage at risk – the National Trust's role

David Thackray

Head of Archaeology, National Trust

Industry is and always has been a vital function of society, has always involved large parts of the population, and has always been subject to change, development and decline. Together with agriculture, industry has been among the most significant activities in the development of the modern landscape. So why is industrial heritage not recognised and promoted more widely? And just as importantly, what are the issues that this raises for the National Trust as one of its largest owners?

There is a general perception that the Trust is not directly involved in industrial heritage. Yet the Trust has recorded almost 10,000 industrial archaeological sites on its Historic Environment database, the HBSMR – almost 15% of all its recorded sites. Again, the perception is that, if the Trust is involved in industrial heritage at all, it is through the more picturesque of our rural industries, especially water and windmills featuring in its promotional literature. However, to challenge this perception, we need think only of the extent of the Trust's involvement in wider landscapes: for example, the Cornwall and West Devon Mining World Heritage Site, where it has substantial ownership of metalliferous mines in West Cornwall, or the Lake District or the Pennines, landscapes shaped substantially by their industrial past.

The Trust's understanding of the extent and significance of its responsibilities in industrial heritage is being addressed through programmes of survey, research and analysis on Trust properties, which are in turn feeding through into the conservation management plans of its individual properties. For example, the former steam-powered cotton mill at Quarry Bank Mill, Styal, Cheshire, which includes the mill village, mill owner's house and garden and surrounding land, is now recognised as a unique record of technological and social development in the 18th and 19th centuries.

In other areas, such as Cornwall, the significance of the industrial heritage is already well understood. It was the subject of an important programme of acquisition in the 1990s, during which the Trust took on the management of significant areas of former tin and copper mining around Zennor and St Just, and which was followed by substantial investment in repair and public access. The consolidation of the coastal engine houses at Trewavas in Mounts Bay is a recent example of

high-quality conservation work.

In the Lake District, the conservation of the almost ephemeral mine buildings and vulnerable machinery at Force Crag Mine has proved similarly innovative. But elsewhere much work remains to be done on both the conservation of important industrial structures and landscapes and on their presentation to the public. While we wait for resources for the implementation of consolidation programmes, the sites themselves remain at risk.

The promotion of industrial heritage is centrally relevant to the Trust's strategic programme of 'Bringing Places to Life'. Indeed, given the importance of industrial heritage to so many people, it is something that should and will be actively promoted. The Trust's Neptune Coastal Campaign is similarly helping to showcase the importance of sites associated with coastal trade and commerce, including the fishing industry, communications and coastal protection (including a number of lighthouses). But what of the boats themselves? A highly vulnerable and diminishing part of the coastal vernacular, they generally remain outside integrated conservation programmes. In this, as in so many areas, appropriate partnership is the key to making real achievements.

Another important aspect of the Trust's strategy is to extend its outreach, especially in urban areas, so that 'everyone feels like a member of the Trust by 2020'. Given the importance of the industrial story to so many of our cities and towns, a focus on the surviving industrial heritage is an obvious route to capturing the interest of urban populations. Raising awareness of industrial heritage should be a key part of sustainable cultural tourism and can take the Trust into areas that until now it has only dreamed of.

The achievement of these programmes of research, conservation, access and outreach requires resources. In the countryside, Higher Level Stewardship from Natural England has been important and productive (see Hunns and Holyoak, pp 54–6). In urban areas funding for the acquisition, protection and presentation of important industrial buildings and structures is much harder to come by. Once again, partnership with others with a similar commitment to the heritage of our industrial communities should be a powerful way forward. There is so much to do, but the rewards could be enormous – which is why the National Trust is determined to help make Britain's industrial past a vital part of its future. ■



A view of the scaffolding and access stairway on the Engine House on Old Engine Shaft during consolidation work at Trewavas in West Cornwall.

© Mike Hardy, National Trust

The ex-factory – a case for 'slow architecture'

George Ferguson

Chairman, Ferguson Mann Architects

Chocolate factory, cigarette factory, warehouse, brewhouse, paintworks, transit shed and mill – all opportunities, or obstacles to development, depending on whose eyes they are seen through.

These building types have been prominent in our portfolio of projects, and all have one thing in common: clients with imagination and generally with trendy names, such as Verve, Urban Splash, Under the Sky or Media Office.

In tackling these projects we have been able to draw on my own direct experience over the past 15 years with the 'Tobacco Factory', a 4-storey, 4,000-sq-m, 4m floor-to-floor, century-old, red-brick Imperial Tobacco factory in South Bristol.

The 1910 building, designed by Sir Frank Wills, a member of the Wills tobacco dynasty, is unlisted but important for its robust architectural quality and its pivotal place in Bristol's industrial and social history. Subsequently it has become important as an example of transforming an abandoned relic of Bristol's manufacturing past into the economic and cultural heart of its community. It now houses a well-known theatre, studios for dance and voice, creative industry workspace, a gymnasium, conser-

The Bristol Tobacco Factory, originally built in 1910 and one of the city's industrial landmarks, was transformed to a mix of new uses between 1994 and 2003.

© Ferguson Mann Architects



vation studio, places for eating and drinking, and I live at the top in one of its loft apartments.

The secret of the Tobacco Factory is one of responsive, economic slow development over seven years, occupying the building in stages as demand dictates, but saying 'no' to those uses that did not fit the form of the building or my vision for a creative mixed-use community. The outcome is a project that has been credited not only with saving a small but significant part of Bristol's built heritage, by private 'listing', but also in kick-starting the regeneration of an area that had been badly affected by the loss of its traditional industries.

The Tobacco Factory building is one of the few left standing on Imperial Tobacco's vast Raleigh Road estate of bold brick buildings, most of which, without the protection of conservation area designation or listing, was sadly cleared for a much

lower-density redevelopment in the mid-1990s. The re-use of these lost buildings could have produced five or six times the area and infinitely more character, meaning and sustainability than the dull accommodation that replaced them.

Retaining such buildings may pose an energy efficiency challenge but it also offers particular opportunities, such as the 'saw-tooth' north-lit factory roof, which presented perfectly orientated south-facing slopes for the photo-voltaics that power the cooling and lighting of the theatre, and the massive brick walls, which moderate the heating and cooling through thermal storage.

A far more sophisticated project to the 'rough and ready' Tobacco Factory is the transformation of John Rennie's magnificent 1820's granite and limestone Royal William Yard in Plymouth. As the Royal Navy's principal victualling depot the buildings were designated as scheduled monuments but were conveniently 'de-scheduled' to Grade 1 listing to enable conversion to residential and other uses for our clients, Urban Splash.

The key again was to 'go with the flow' of this historic place and its buildings without trying to force unsuitable forms into the formidable structures, and to allow them to be 'read' internally through the formation of generous circulation spaces. This requires a close and creative working partnership between client, architectural practices and English Heritage as the Yard develops into Plymouth's most remarkable new quarter, steeped in our naval history.

The last example I call on is one yet to be executed since it fell foul of the credit crunch. It is the old 'Elizabeth Shaw' chocolate factory in the Easton area of Bristol. Here is a range of five factory buildings dating from 1901 that lend themselves to the creation of a mixed live/work community. As with the Tobacco Factory they are unlisted and yet form the historic core to the residential area of Greenbank, to which they gave birth. Their removal would be a tragedy but the threat is that with the banks' reluctance to lend to our more adventurous developers, these 30,000 sq m of Bristol's industrial history will be lost to the volume house builders, from whom they were initially saved.

We may think that we are more enlightened and that most of the chances have been taken, but the opportunities and threats remain as ever, and in times of austerity it makes great sense to make the most of what we have got, and to develop slowly as demand dictates rather than to replace with instant pop-up housing. ■



Plymouth's Royal William Yard (1826–35), one of the great monuments to England's naval history, is being slowly transformed into a remarkable new residential and commercial quarter.

© Ferguson Mann Architects

Public industrial heritage

Government departments and other public bodies are some of the largest owners of England's industrial heritage. At a time of unprecedented pressure on public finances it is all the more important that they recognise their duty of stewardship towards the irreplaceable heritage assets in their care.

British Waterways

Owned and managed by British Waterways, the inland waterways network of England and Wales comprises 3320 km of historic canals and river navigations, 2772 listed buildings, 98 scheduled monuments and 81 linear conservation areas. It employs eight Heritage Advisers and publishes an annual *State of the Waterways Heritage* report. Prominent industrial sites that have been removed from the Heritage at Risk Register thanks to British Waterways, action include the Navigation Warehouse, Wakefield (listed Grade II*) and the Foxton Inclined Plane in Leicestershire (scheduled monument). On 1 April 2012 British Waterways will become a charity, with a strengthened duty to maintain and preserve the priceless waterways heritage.

The award-winning conversion of this Grade II Georgian grain warehouse on the Calder and Hebble Navigation was co-sponsored by British Waterways.

© Derek Kendall, English Heritage



Lydney docks and harbour, on the north bank of the Severn estuary, date from about 1810 to 1821 but are now at risk from neglect and decay.

© Alan Johnson, English Heritage

Environment Agency

The Environment Agency owns numerous historic structures associated with water control, including some designated sites. Many continue to perform water-control functions: for example, flood banks, sluices and pumping stations. The Agency employs three archaeologists in its National Environmental Assessment Service but is only now in the process of creating a GIS tool that will allow it to identify designated heritage assets in its ownership. At present, the EH Heritage at Risk Register includes just one industrial site on the Environment Agency estate – the inner basin of Lydney Harbour in Gloucestershire.

Network Rail/Railway Heritage Trust

Network Rail owns all the infrastructure of the national railway system of England, Scotland and Wales. Most of its 2,500 stations are looked after by the Train Operating Companies, but Network Rail directly manages 18 of the largest and busiest, of which 14 are listed structures. More than 250 of the stations are designated as listed buildings, alongside numerous signal boxes, tunnels, bridges, warehouses and viaducts. Network Rail does not employ any specialist staff of its own for the care of its extensive historic estate, though some part of this duty is fulfilled through the Railway Heritage Trust, an independent limited company sponsored by Network Rail. Network Rail maintains no central list of its own heritage assets, but several of its structures have been on the Heritage at Risk Register for many years, including Kew Bridge Station (Grade II).



Kew Bridge station, built in 1850 by Sir William Tite for the London and South Western Railway, has been on the Heritage at Risk Register since 1998.

© Alan Johnson, English Heritage

Ministry of Defence

The MOD's estate in England includes historic industrial buildings in ordnance yards, on airfields and at the naval dockyards of Devonport and Portsmouth. One notable example, the Block Mills at Portsmouth (listed Grade I and a scheduled monument), was removed from the Buildings at Risk Register following a major repair project completed in 2008. However, 22 other Grade I and II* MOD buildings and structural monuments remain on the national register, while a further 33 Grade II or curtilage buildings are noted as being at risk in the Government Historic Estates Unit's *Biennial Conservation Report*. During the past four years the employment of a Buildings at Risk Officer by the Defence Estates (now the Defence Infrastructure Organisation) has resulted in considerable progress towards improving the quality of information about Buildings at Risk cases and agreeing solutions to them.



The Grade I Block Mills at Portsmouth, one of the most important buildings of the Industrial Revolution, has at last been removed from the Heritage at Risk Register; although its long-term future has still to be agreed.

© English Heritage

Alan Johnson, *Historic Buildings Architect, English Heritage*

The Power of People

England's industrial past matters hugely to people – and it is their voice and voluntary effort that must remain its most powerful advocates.

The public values the nation's industrial heritage! This assertion is not just the pious belief of the converted but, as Laura Clayton has found, the conclusion of a recent survey of public attitude. While immensely encouraging overall, the same survey found demographic differences that are of some concern. The young, ethnic minorities and the metropolitan population are not so enthused – a conundrum echoed throughout this section. As Ian Ayris's shows, many of the astonishing array of 700 historic industrial sites visited by the public are run on a knife-edge by a voluntary staff made up mainly of ageing white males. Similarly, as Tony Crosby and Gill Chitty point out, the AIA and the CBA champion threatened sites, award good practice, encourage the creation of memory banks and Flickr sites but still find it hard to attract the young.

Building Preservation Trusts are another expression of intense local interest whether, as Ian lush explains, caring for a single site in perpetuity or using revolving resources to provide a stream of preserved properties. But in all this there is still a difficult balance to be struck, as Mathew Slocombe reminds us, between the conservation principles of William Morris and the preservation of industrial sites, and especially those of the 20th-century.

Public attitudes towards industrial heritage

Laura Clayton

Head of Social and Economic Research, English Heritage

Industrial heritage is part of the fabric of our communities. New research shows that just under half of the English population (43%) state they live in an area well known for a particular type of historic industry. It is valued by us all – for its role in shaping our national identity, for its educational potential, and even for its beauty.

There are challenges, though. Young people (by which we mean younger than 45) are significantly less likely than older age groups to agree that 'it is important that we value and appreciate the industrial heritage of this country'. The heritage sector will therefore need to work hard to make sure that industrial heritage has relevance to a generation that has never lived in an industrial or manufacturing age.

This short article outlines key findings from research commissioned by English Heritage on public attitudes towards industrial heritage. The work was undertaken by BDRC Continental in February 2011 and involved an online survey of 2,007 adults, with results weighted to be representative of the total adult English population.

Do individuals value industrial heritage?

The resounding answer is yes. Of the respondents, 85% agree that 'it is important to identify industrial heritage sites of significance, so they can be protected'. The research also shows that industrial heritage is not a poor relation to other types of heritage: 80% agreed that 'it is as important to preserve our industrial heritage as our castles and country houses'.

Proximity to industrial heritage assets seems to make a difference to the value attached to them. In regions with a greater concentration of industrial heritage assets (North-East, North-West and Yorkshire and the Humber) a higher proportion of respondents agreed that 'it is important to value and appreciate industrial heritage' than with a statement about the value of heritage in general.

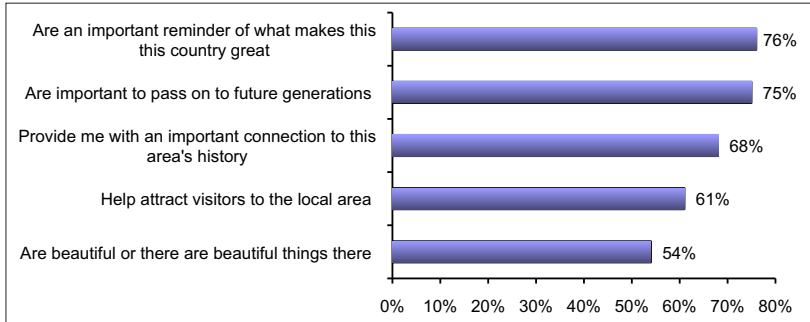
Why we value industrial heritage

Britain has exported the industrial miracle around the world and has the duty to preserve it for the next generation.

(Quote from respondent)

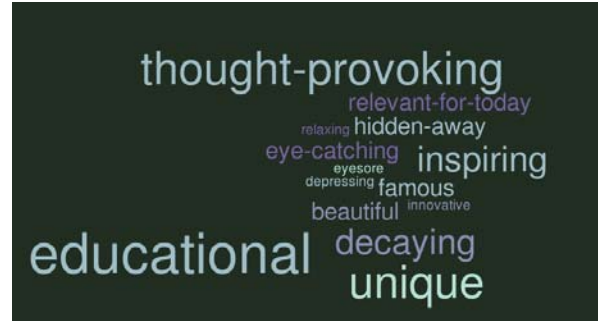
For the majority of respondents, the industrial revolution defines what Britain is today. Two-thirds (64%) agreed with the statement 'the industrial revolution is the most important period of British history'. For the public, industrial heritage is central to both national and local identity and provides opportunities for learning or understanding about our past. Respondents also agreed that industrial heritage brings economic and social benefits to local areas.

The research challenged existing negative connotations of industrial heritage. Only 9% agree that industrial heritage 'put people off visiting the local area', 9% that 'local industrial heritage is something of an embarrassment to me' and 8% that 'it reminds me of times I would rather forget'.



Percentage of people who agree with these statements about the industrial heritage sites in the local area in which they live.

Source: Industrial Heritage at Risk public attitudes survey, February 2011, BDR Continental for English Heritage



Words that people associate with industrial heritage.

Public support for industrial heritage

Encouragingly the research shows high levels of support from the public for getting more involved in industrial heritage: 52% agree that ‘they would like more opportunity to give my opinion about the industrial heritage sites I think are important to identify and protect’ and only 8% disagree. Another 10% would be very interested in ‘getting involved with helping to protect the industrial heritage through volunteering or fundraising’ and a further 34% would be fairly interested. Those aged 25–34 were particularly interested in getting more involved.

Currently only a fraction of the English public is actively engaged in looking after our industrial heritage. One challenge to the heritage sector is to identify different or new ways for the public to get involved in their local industrial heritage.

Attitudes towards the conservation of industrial heritage

If left un-restored the buildings will become derelict and over time will have to be pulled down. By giving them a renewed purpose they will stay standing for many more years while still retaining the character that makes them historically interesting. As much as turning buildings into museums is a nice idea, there's only so many ‘mill museums’, ‘factory museums’ you can have. It's often the look of the building that's so important to preserve, what happened inside can be recorded elsewhere if necessary. Once a building/feature is gone, it's gone for good.
 (Quote from respondent)

Overwhelmingly the English public want our industrial heritage to be kept and maintained. The research shows that 85% agree that industrial heritage should be preserved as conserved monu-

ments or museums, and 71% that its buildings should be re-used for modern-day purposes making sure that their character is preserved. They reject options to re-use without preserving their character (only 17% agree with this option) or demolish (8% agree) or left exactly as they are to decay naturally (12% agree).

Maintaining industrial heritage as visitor attractions can be a sustainable option. In 2009/10 8.6 million adults in England (21% of the population) visited an industrial heritage site – significantly more than visited a site of archaeological interest (15%) (DCMS Taking Part survey 2009/10). Public presentation is not the solution for all industrial heritage buildings, however – something that is recognised by respondents to this survey. For them the overriding concern was to ensure that the buildings and monuments were retained for future generations, and they recognised this could mean re-use.

Challenges to the heritage sector

The industrial North always comes second to the stately home South. The great factories were the palaces of the working classes, less elegant, less cultured, but just as much a part of the British way of life.
 (Quote from respondent)

While individuals valued industrial heritage highly, respondents felt that as a country we care less about our industrial inheritance than most of our other historic sites (59% agreed with this statement, only 15% disagreed). There was also less interest in industrial heritage among younger people (those aged below 45) and respondents from black and ethnic minorities.

The last two points show that there is still work



Visitors exploring Bancroft Mill at Barnoldswick in Lancashire during a Heritage Open Day event. Last year more than 8 million people visited an industrial heritage site in England – one in five of the adult population. © ZUMA Media

to be done by the heritage sector to promote our industrial heritage, but the overriding message from this research is that the public want us to do this. They value their industrial heritage and want it protected. The Industrial Heritage at Risk project is a step in the right direction.

The complete set of research results is available at www.english-heritage.org.uk/heritageatrisk. ■

Preserved and publicly accessible industrial sites

Ian Ayris

Urban Design and Conservation Team,
Newcastle City Council

In 1998 the *Survey of England's Preserved Industrial Heritage* provided a comprehensive audit of publicly accessible industrial heritage sites and analysed their cultural resource management. Almost half of a national portfolio of 610 such sites provided information about their visitor numbers, the roles and ages of their volunteers, and their approaches to conservation and business planning.

Almost 15 years later the results of the survey still bear scrutiny. It established that 50% of the sites were wind or watermills; that 50% of them received fewer than 5,000 visitors a year; that more than 60% had no full-time employees; and that 40% of sites the volunteers were of retirement age or older. Heart-warming testimony to the nation's enthusiasm for its heritage though it was, this over-dependency on volunteer effort had left England's ensemble of preserved industrial sites in serious peril. How has it fared since 1998?

Against the odds, many sites have survived and remain open for public enjoyment. While a rapid re-survey of the health of the 610 sites identified in 1998 would be welcome, informal evidence suggests that most have survived. There have, however, been some major casualties, and others have significantly reduced their operating timetables. Sadly, the number of industrial sites on the Heritage at Risk Register grows and the future of major monumental structures remains as unfathomable as ever.

Local government restructuring and ever-more stringent reductions in funding capacity mean that previous financial support for operational running costs have now largely gone by the board. While the increased willingness of the Heritage Lottery Fund to support industrial heritage sites is extremely welcome, it has to be recognised that their priority is capital investment rather than the day-to-day continual revenue costs involved in keeping sites open. Preserved industrial sites are nevertheless well placed to meet HLF funding criteria and imaginative managers will need to remain adept at assembling viable and interesting projects to garner support and funding for their sites.

The need to pass knowledge on to a new generation of volunteers and site workers grows as the skills time-gap increases. Projects that have recorded processes such as bobbin-making at Stott Park or jewellery-making in Birmingham have helped preserve skills as well as buildings of what are now lost trades. That the Heritage Skills Initiative, administered by the North of England Civic Trust, has engineering heritage courses running alongside the more traditional ones such as dry-stone walling will have long-term benefits for sites such as the Bowes Railway.

It remains unclear, however, whether industrial heritage sites have the capacity to move with the times and capture the interest of new, specifically younger, volunteers and audiences. Mainstream heritage sites now look to offer event-based activities such as battle re-enactments and medieval fayres in which the audience can interact with their heritage. Progressive heritage managers are also looking at introducing new media to capture younger imaginations – QR codes and Bluetooth applications giving access to information via mobile technology, digital imagery and even parametric sound to provide exciting on-site experiences. The lure of industrial sites, once seen as offering something distinctive in the form of working machinery, is now in danger of being left behind as interpretative tools become more sophisticated.



The Bowes Railway, Tyne and Wear, where buildings and rolling stock have been preserved by volunteers since the 1970s.

© Ian Ayris

Heritage Open Days – promoting industrial heritage to new audiences in the Tyne Swing Bridge Motor Room in Newcastle upon Tyne.

Andrew Heptinstall © English Heritage

Furthermore, there is no evidence to suggest a surge in interest among young people willing to spend their leisure time volunteering on industrial heritage sites. The sense of wonder in the power of engines has little impact on a generation more used to smart phones and the internet.

One bright spot has been the increasing popularity of Heritage Open Days, which have generated new audiences for industrial heritage. In Newcastle, for instance, tours of the Victoria Tunnel and the Swing Bridge are the first events to be fully booked.

Overall, however, the nation's preserved industrial heritage remains on a knife edge. Trusts and volunteers, who form the backbone of the movement, are a tremendous asset, but every aspect of site management is now highly complex and specialist. A national initiative is needed to help



vulnerable sites address continuing issues regarding audience development, fundraising, conservation management, business planning and modern interpretative techniques to increase their financial viability and to secure a sustainable future for England's preserved and publicly accessible industrial heritage. ■

The Association for Industrial Archaeology

Tony Crosby

Chairman, Association for Industrial Archaeology

The Association for Industrial Archaeology (AIA) was formed in 1973 with the coming together of those who pioneered the study of industrial archaeology as an academic discipline, and the many volunteer-led local groups and preservation societies which had been caring for Britain's historic industrial sites, buildings and machinery. Nearly 40 years on the AIA continues to be managed by volunteers and represents the interests of 60 local groups as well as more than 500 individual volunteer and professional industrial archaeologists. During this time the AIA has matured as an organisation and greatly enhanced its national profile and that of the subject.

The formal aims of the Association reflect two related themes – increasing our knowledge and understanding of past industrial activity and using that expertise to define and conserve what is significant in our industrial heritage. As well as providing services for its individual members and affiliated societies – the bi-annual *Industrial Archaeology Review*, which is international in scope and readership; a quarterly newsletter; a website (www.industrial-archaeology.org); and an annual conference – two other aims encapsulate this twin track approach: 'to promote the study of industrial archaeology and to encourage improved standards of research, recording, and the publication of research results'; and 'to promote and support the conservation and interpretation of significant industrial heritage for present and future generations to learn about and enjoy'.

The first is achieved through the awards the Association makes annually to promote good practice in industrial archaeological research, recording and publication undertaken by professionals, local societies and also students. One of the key purposes of these awards is to draw new blood into the discipline, and alongside them a recent legacy has allowed us to make an annual award for

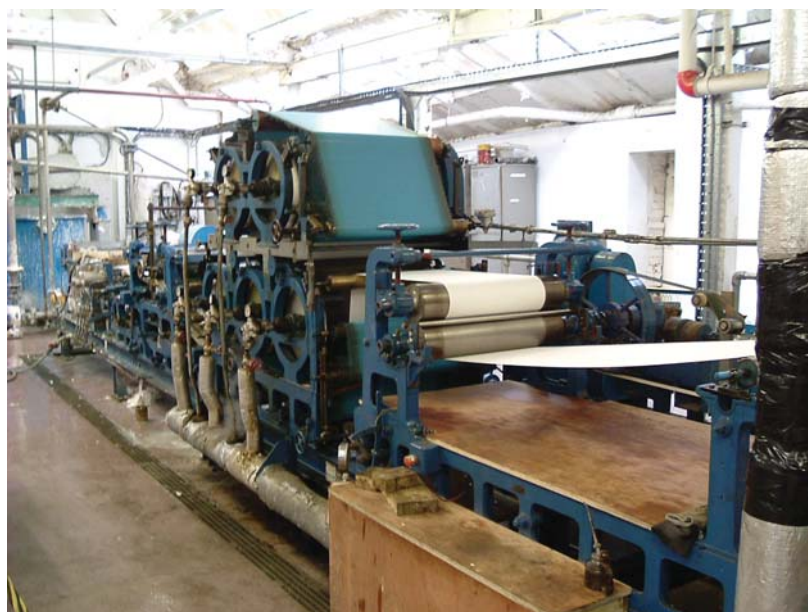
SAVING THE AGE OF INDUSTRY

outstanding scholarship in industrial archaeology. The Association's second area of focus, conservation, is supported through the grants that we award for the restoration of buildings and artefacts associated with the industrial past. Alongside this financial support our Conservation Awards acknowledge outstanding voluntary conservation work on sites and artefacts of industrial and agricultural importance.

As well as awards and grants we provide specialist advice, both on our own and in partnership with the Council for British Archaeology (CBA), to local planning authorities on development proposals that involve industrial sites. The AIA and CBA have also recently collaborated on the organisation of 11 Day Schools, which were held across the English Heritage regions and were funded by the English Heritage National Capacity Building Programme. These were aimed primarily at the CBA's network of historic buildings volunteers (more than 200 attended in all), but also attracted local authority conservation officers and professional archaeologists. The main purpose of the Day Schools was to increase the number of people capable of identifying and assessing the significance of former industrial buildings, and the material on the different building types presented by AIA volunteers at the sessions will soon be published as a handbook on industrial buildings. In future, we hope that anyone assessing development proposals will consult it to ensure that significant former industrial buildings are not lost and that conversions to new purposes are sympathetic to their original design and function.

At a more strategic level the AIA's statements on research priorities published in 1991 and 2005 have influenced the development of English Heritage's own Research Frameworks in the field of industrial heritage. We also took an equal part with English Heritage and the Heritage Lottery Fund in the development of the joint *Strategic Vision for the Effective Stewardship of the Industrial Heritage 2008–13*. Given our commitment to the strategic preservation of the most significant parts of Britain's industrial heritage we welcome not only this year's Industrial Heritage at Risk initiative but also the launch of the new National Heritage Protection Plan (NHPP). We were pleased to have been consultees on the NHPP and are delighted that the plan explicitly includes historic ports, harbours and dockyards as well as the buildings of 20th-century and small-scale traditional industries.

The AIA welcomes the commitment in the new English Heritage Corporate Plan to work closely

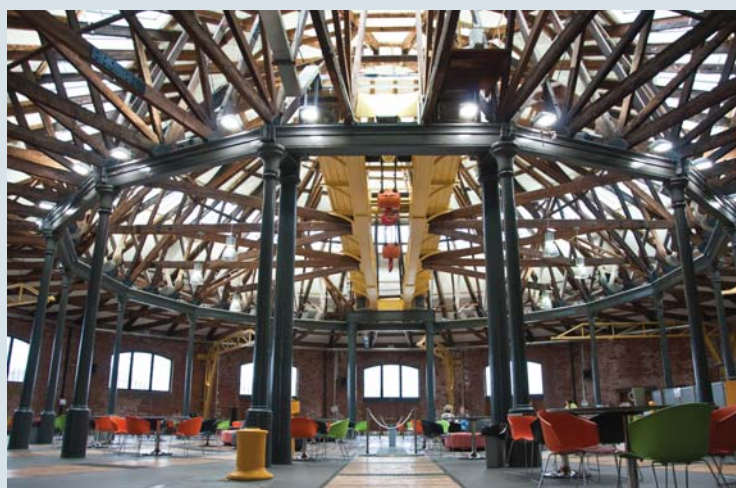


Frogmore Mill, Hertfordshire. Hemel Hempstead's last surviving paper mill is now home to the Apsley Paper Trail museum, to which the Association for Industrial Archaeology recently awarded a grant to help restore their pilot paper-making machine.

© Tony Crosby

and effectively with volunteer-led organisations such as ours, and we look forward to discussing how the knowledge and expertise of our professional and volunteer members can best contribute to the aims of the plan. ■

Derby Roundhouse



Derby's former railway works have been transformed into the campus of Derby College. Thanks to substantial investment from the education sector, East Midlands Development Agency and the Heritage Lottery Fund, this hugely successful scheme allows visitors and students to appreciate the engineering works that once lay at the very heart of the Midlands railway network. © Maber Associates Ltd

Industrial heritage as contemporary context

Gill Chitty

Head of Conservation, Council for British Archaeology

The Council for British Archaeology, founded in 1944, was among the early adopters of industrial archaeology as a specialist discipline, setting up the first Industrial Archaeology Research Committee in 1959. It chose not to limit this to the ‘archaeology of the industrial age’, which would have constrained it to a specific period, but made a conscious decision to adopt an inclusive approach to industrial archaeology (‘historic, technical, architectural and educational interest’). Like other national amenity societies, the CBA was active in campaigning to save and find appropriate new uses for early industrial structures and buildings during the clearance and rebuilding of the post-war era. It urged the need for systematic survey on the Royal Commissions and worked closely with the Ministry of Works and its successors to protect industrial structures through scheduling as well as listing. It was as problematic in the 1960s, as it can be now, to use designation as an ‘ancient monument’ to protect the legacy of innovative technologies from the 19th and 20th centuries.

To mark the half century since then, during which the study and protection of industrial heritage has matured, the CBA asked Professor

Marilyn Palmer to deliver the 2009 Beatrice de Cardi lecture and to reflect on the evolution of industrial archaeology and the archaeological community in the post-war period and the challenges it still presents (Palmer 2010). Among the most significant of these is that the industrial heritage of the modern period provides, in effect, the infrastructure of contemporary Britain: its communications, manufacturing centres, housing for working people, warehouses and engine houses, drainage systems, transport by canal, rail, road, sea and air. Much of the rural landscape is dramatically shaped by quarrying and mining, processing from extraction industries, power generation and transmission, and management of catchments for the water industry. The whole notion of what comprises the heritage of industry has evolved dramatically during this time – from a specialist sub-discipline of archaeology, concerned with understanding the physical remains of early technologies, to the much broader investigation and characterisation of the context of industrial development at a landscape scale, including the plurality of meanings it may have in a locality.

Moreover, there is no ‘end date’ for the construction of an industrial legacy in archaeological terms. The heritage of a reinvigorated nuclear power industry and the impact of housing pathfinder schemes on the survival of the 19th-century terraced housing of the northern textile communities are of equal concern. For that reason, the CBA invested heavily with English Heritage, SAVE and other amenity societies to defend the terraced houses of Whitefield, Nelson (Lancashire) at public inquiry and in the continuing battle to overcome prejudice against retaining workers’ housing as homes for the future (Walker 2006).

An important aspect of industrial heritage is the personal legacy of working people and their families, something to which many communities remain highly sensitive. Industrialisation is a process with a global context: its archaeological interest lies in the material evidence of people at work, a culturally integrating activity, both common to all communities and highly specific to each locality. The history of industry and its fabric in the lives of working people should become, as we move into an era of community-led planning, a rich integrating context for regeneration and neighbourhood planning. The CBA will continue to work with groups to identify at the local scale what is significant now and why. In a ‘risk society’, our knowledge of dynamic change and conflict opens up new possibilities for action.



Paradise Street, Macclesfield. Built for home-working silk weavers, the houses had a basic two-up-and-two-down layout but the very top floor was completely open. ‘I can remember hearing a loom working in one of these in the mid-sixties. My grandfather was born in one of them in the late 1880s. I like the way they have been built to accommodate the slope.’

© D G Bailey



Cutler Stuart Mitchell carries on the tradition of cutlery-making at the Grade II* Portland Works in Sheffield. In 2010 the Works were threatened by closure but since then a Community Benefit Company has been formed to buy, renovate and save them for the city. 'No one will make any money from this, everyone's a volunteer; but a priceless piece of Sheffield's heritage will be saved.'

Sophie Smith © CBA

As part of this year's Industrial Heritage at Risk event, the CBA and the Association of Industrial Archaeology joined English Heritage to run a Flickr Group, where people can share images and stories of the industrial places that matter to them as part of the historic fabric of our cities, towns and countryside. Some of the compelling images from that shared visual resource illustrate this article, with grateful thanks to the contributors for permission to include their pictures and comments here. ■

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Building Preservation Trusts and industrial heritage

Ian Lush

Chief Executive, The Architectural Heritage Fund

Building Preservation Trusts (BPTs) are specialist charities devoted to restoring historic buildings at risk. BPTs have existed since the 1930s, but most were formed after 1976, when loan finance was made available by the Architectural Heritage Fund (AHF). The introduction of Heritage Lottery Fund support in the 1990s saw more BPTs set up to tackle specific buildings, and growth has continued, with around 250 throughout the UK now on the AHF's database and in membership of the Association of Preservation Trusts.

There are two main types of BPTs: those which are formed to tackle just one building or group of buildings, known as 'single project' BPTs, and those which exist to restore buildings in an area or of a particular genre on an ongoing basis, recycling any surpluses from one project into the next. These latter are known as 'revolving fund' BPTs and some employ full-time staff, while most single project trusts are wholly voluntary, bringing in professional expertise when appropriate on a freelance basis but run by trustees who are volunteers, often local people who have got together to save and find a new use for an important historic building in their area.

Revolving fund BPTs usually have a geographic remit, such as a region – Heritage Trust for the North-West, North of England Civic Trust; a county – Somerset BPT, Heritage Trust for Lincolnshire; or a town/city – Heritage of London Trust, Birmingham Conservation Trust. Others concentrate on a particular site, and these include several whose remit is largely around industrial buildings, such as the Arkwright Society, restoring Sir Richard Arkwright's mills and associated buildings in and around Cromford in Derbyshire, and the Ironbridge Gorge Trust, giving new life to buildings in Ironbridge and Coalbrookdale. Finally there are trusts which concentrate on a specific end use or building type, including the Vivat and Landmark Trusts, creating holiday accommodation from buildings at risk, and the Industrial Buildings Preservation Trust.

The Arkwright Society was formed in 1972 by a group of local enthusiasts keen to preserve and restore the industrial heritage of the area. It purchased the main mill site in Cromford in 1979 and has been working there ever since, tackling successive buildings and running the site as a profitable

social enterprise. Its work has extended to nearby locations, including a former water mill in Slinger Woods now restored as a holiday cottage; the Gothic Warehouse on the wharf at Cromford Canal, providing conference facilities; and most recently Cromford Station, no longer in railway use (although the line is still open) but successfully converted into office accommodation.

The success of the society's work contributed to the designation of the Derwent Valley World Heritage site and has attracted visitors from all over the world. However, the economic downturn has increased financial pressure on the society; it is responding by producing a masterplan for the whole Cromford Mill site, looking to increase its visitor numbers and, in the Society's own words, to 'link the industrial heritage ... with a sustainable vision for the future'. Like many such projects, one of the biggest challenges is viability, finding the right mix of uses to maximise income and provide first-class facilities for visitors as well as the businesses based there.

Further north the Heritage Trust for the North West has restored a number of industrial buildings. Working throughout Lancashire, Greater Manchester, Merseyside and into Cheshire and Cumbria, the Trust's projects include Higherford Mill, successfully converted into 36 studios for local artists; and Lomeshaye Bridge Mill in Nelson, a former spinning works which will be given a mix of uses. Also in the North West, Heritage Works,

formerly Ancoats BPT, led the restoration of a number of key buildings in the Ancoats area of Manchester, including the fine Murrays Mills.

All these examples show that BPTs can offer sustainable solutions for former industrial buildings and can provide the expertise, enthusiasm and patience to make projects work that commercial developers would not attempt. ■

The National Amenity Societies and industrial heritage

Matthew Slocombe

Secretary, Joint Committee of National Amenity Societies

Pioneering building conservationist William Morris famously attacked 19th-century industrialisation, prophesying that small-scale skilled craftsmanship would be 'speedily and steadily crushed out by it'. Despite this, industrial buildings both large and small have long concerned the movement he helped establish.

The National Amenity Societies of the Joint Committee – the Ancient Monuments Society, Council for British Archaeology, Georgian Group, Victorian Society, Society for the Protection of Ancient Buildings (SPAB) and Twentieth Century Society – must be notified of listed building applications that include an element of demolition in England and Wales. Our seventh member, the Garden History Society (GHS), is informed when a planning application affects a Registered park or garden. Although the GHS might seem detached from the industrial world, links exist. A garden like the Grade I Belcombe Court in Wiltshire was developed with wealth from the woollen cloth industry, industrial activity and an arcadian landscape existing side-by-side in the 18th century.

While some redundant industrial buildings have made successful transitions to alternative uses, others have passed from disuse into decay. The First White Cloth Hall in Leeds has been of particular concern to the SPAB. Despite the importance of the building to the city's history this Grade II* listed structure has been in severe disrepair for many years. The SPAB protested at the beginning of 2011 when part of the surviving structure was lost during the emergency demolition of an adjoining building, and the society continues to argue for conservation-led re-use.

Residential conversion is often seen to offer the most viable future for redundant industrial buildings, but is not necessarily the 'optimal' use sought by Planning Policy Statement 5. In the case of



Slinger Woods, Cromford, Derbyshire. This former water-powered bobbin mill has been restored as a holiday cottage by the Arkwright Society, an educational charity devoted to the rescue of industrial heritage buildings in and around Cromford.

© The Arkwright Society

SAVING THE AGE OF INDUSTRY

maltings, which have been a particular interest of the Ancient Monuments Society, the low floor-to-ceiling heights – sometimes as little as 1.5m – can pose immense challenges. Equally, the presence of machinery can be an obstacle to re-use. The Mills Section of the SPAB views the whole building as a machine with its working parts essential to its significance. The Mills Section therefore sometimes finds itself in conflict with owners whose plans for change would harm the machinery or power source. But wherever possible the section aims to assist with management and is sometimes able to offer grants from its Mill Repair Fund. It has also begun to train young craftspeople in millwrighting skills as part of the SPAB's William Morris Craft Fellowship scheme. Additionally, in partnership with English Heritage, the Mills Section hopes to be involved in investigation of the further potential for better protection of mills in areas where they are under-designated, such as Herefordshire.

The Twentieth Century Society (C20) has many industrial losses to lament such as the Silhouette Corset Factory in Market Drayton, but can claim successes: Tate Modern and the Paddington Goods Yard included. Bankside's conversion to Tate Modern has allowed Sir Giles Gilbert Scott's work to survive on the fast-changing Thames riverside. But the success of the conversion has produced new challenges. C20 has recently commented on proposals for more display and education space, urging against over-assertive new design.

Some of the Victorian Society's recent efforts have concerned Liverpool's docklands, the world's greatest 19th-century seaport, where the substan-



tial Liverpool Waters scheme has been felt to be unsympathetic. The Society has supported the regeneration of the area but, like English Heritage and CABE, has criticised the present scheme. The Georgian Group's interests have embraced smaller industrial sites such as the Tredegar Ironworks in Monmouthshire, established in 1800. The Group has argued that the building is capable and worthy of rescue, not least because of its close connection to one of the world's first planned industrial towns. Fortunately, Blaenau Gwent council has successfully served an Urgent Works Notice.

Beyond casework, the societies encourage appreciation of industrial sites through lectures and visits and even by direct management. SPAB has recently repaired a small forge at Chiddingfold in Surrey, which it leases to a local blacksmith, allowing the building's historic use to continue. ■

A SPAB William Morris Craft Fellow learns millwrighting skills.
© SPAB



The Forge at Chiddingfold, Surrey, owned and recently repaired by the SPAB for a continuation of its historic use.

© SPAB/Philip Venning

Crossing Continents

England exported its industrial revolution around the world – and in turn the world can teach us important lessons about its conservation.

Britain was the first country to experience the full effects of industrialisation and appropriately it was the first nation to study, record and preserve the legacy of that industrialisation. It shared both these experiences internationally and now, as Miles Oglethorpe elaborates, the industrial heritage sector in this country is part of an international network (TICCIH) exchanging knowledge and championing historic industrial sites.

The interest is truly global, as Stuart Smith's personal reminiscences demonstrate and as the inscription of so many industrial sites as World Heritage Sites also proves. Keith Falconer and Christopher Young chronicle that recognition, discuss the shift in focus from individual iconic sites to entire cultural landscapes and point out that the new UK Tentative List contains still further industrial entries.

Flourishing international interest is further proven by the burgeoning European Route of Industrial Heritage (ERIH) as David de Haan shows in his review of the creation, operation and expansion of ERIH across Europe. Strangely, it is only in England that enthusiasm is lukewarm amongst the established anchor points.

Industrial heritage beyond England

Stuart B Smith

Secretary, The International Committee for the Conservation of the Industrial Heritage (TICCIH)

Odda, at the end of the Hardanger Fjord in Norway, was the playground for the crowned heads of Europe at the end of the 19th century. The combination of majestic scenery, waterfalls and glaciers, and the opportunity to ski, shoot and fish, were irresistible for such people as the German Kaiser, who came for 10 seasons. However, along with the independence of Norway from Sweden came the idea from engineers that the waterfalls could provide electricity, resulting in the magnificent hydropower station at Tyssedal near Odda in 1908. In those days it was not possible to transfer power very far, so a number of electrochemical and metallurgical plants grew up in Odda itself, some of which survive to this day. The major site in the centre of the town was designed to create calcium

carbide, which could subsequently be converted into artificial fertiliser, funded by British investors in London in 1906. This site still survives, together with the power station at Rjukan (in the next valley) with its settlement in Vemork. The railway line from here to Notodden featured in the film *The Heroes of Telemark* because Vemork was where the Germans had been creating heavy water during the Second World War.

The Norwegian government accepted that this series of sites with their transport systems should be included on the World Heritage Site tentative list but a question mark still hangs over the chemical works in the centre of Odda. The local pressure is for building supermarkets whereas the international community sees the restoration and reinterpretation of this site as a fantastic opportunity to show the importance of the electrochemical industry in world terms. No similar site exists anywhere in the world.

When I apologised to the Mayor of Odda for British investors and engineers despoiling his town he said that without the introduction of industry everyone would now be living in America. The introduction of industry in the 20th century had also given the newly emerging country a sense of nationhood.

This is a sort of colonial industrial archaeology, which can be compared to what happened in Japan. Here in 1851 Lord Shimadzu, the head of the Satsuma clan in Kagoshima, the most southerly City in Japan, was concerned that an otherwise largely unknown place called Britain had beaten China, their larger neighbours, in the Opium Wars. He immediately started to build, next to his summer-house, an industrial estate, the Shuseikan, where blast furnaces, reverberatory furnaces and numerous other buildings would be used to create armaments to repel the foreigners.

Japan had been a closed, feudal society for some 350 years and did not want to be occupied like most of its Asian neighbours. Over the next 50 years Japan industrialised with astonishing speed; western technology was adopted in almost every branch of life and the significant remains of this industrialisation still survive in the southern island of Kyushu and the neighbouring prefecture of Yamaguchi. The sites of the early introduction of industrialisation are now on the Japanese World Heritage Site tentative list. An exhaustive survey of



The pioneering Tyssedal hydropower station, built in 1908, stands at the head of the Hardanger Fjord and has recently been nominated by the Norwegian government as a part of an industrial World Heritage Site based on the theme of hydroelectric generation.

Harald Hognerud © NVIM, Norsk Vasskraft- og Industristadmuseum www.nvim.no

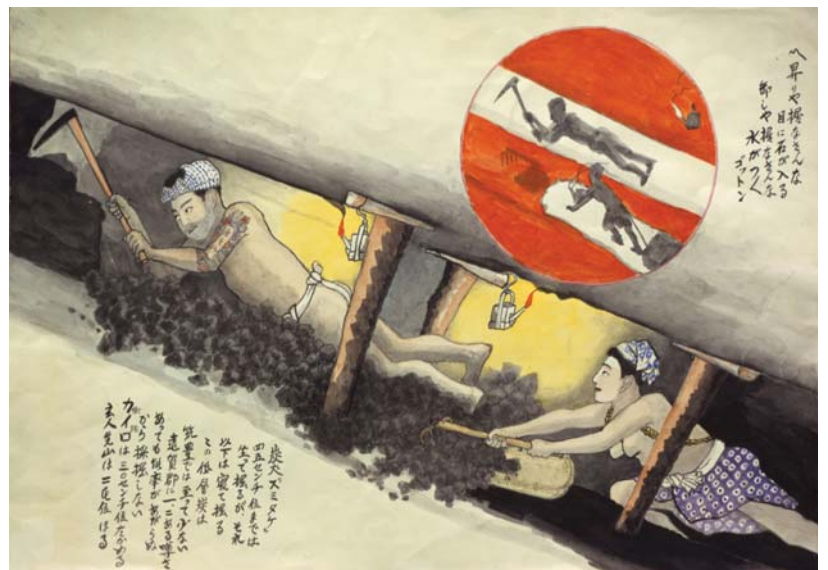
hundreds of candidate sites in the whole of southern Japan, led by a team headed by Sir Neil Cossons, former Chairman of English Heritage, and myself, have narrowed the number to be included in the designation to about 25.

At one site at Tagawa, in Chikuho, the mining remains themselves were fairly sparse but there was a fantastic mining tradition that included dances and songs, and in particular a museum holding hundreds of drawings by Sakubei Yamamoto (1892–1984), a miner who in 1955 became a security guard at a mine and started to paint his memories of life underground. This collection has just been accepted as a valuable archive by Memory of the World, a UNESCO project that evaluates important archives – although this is probably the first time that it has recognised the memories of the working man.

As a result of our work in Japan we also want to include in the World Heritage Site nomination a working shipyard (Mitsubishi, in Nagasaki), a working ironworks (Nippon Steel Yawata Plant, in Kitakyushu) and a working coal port (Miike, in Omuta). The Cultural Heritage Department of Japan have no previous experience of including working sites within their Cultural Properties list – which is otherwise confined to places that are beautifully preserved and earthquake-proofed (now we know why) but are left as fossilised static sites, frozen at a single point in time.

Experience elsewhere has shown that industrial

sites greatly benefit from the continuation of industry at or around them. The Japanese government has now recognised this and is therefore modifying its laws to make sure that these working sites can be preserved under existing legislation by the land, property, ports and other authorities who care for such sites. As they have no guidance in these matters, the Japanese government has



Japanese miners working by lamplight. This evocative industrial image is one of more than 580 in the Sakubei Yamamoto collection in the Tagawa City Coal Mining Historical Museum, which has just been added to UNESCO's Memory of the World Register.

© Tervo Yamamoto

accepted the TICCIH/ICOMOS Principles first put forward at Nizhny Tagil in Russia and which are due for formal approval by ICOMOS in Paris at the end of this year.

It is refreshing to look at the industrialisation of other countries from a totally different viewpoint from our own; in Japan, for instance, commercial profit was less of a consideration than strategic defence, while in Norway the need to retain population in the face of emigration was a major factor.

TICCIH will be holding its General Assembly in Taiwan from 4 to 11 November 2012, where the major theme will be colonialism and technology transfer (for further details see www.ticcih.org). While there delegates will also be able to see how the Taiwanese have carefully preserved their cultural history from China, Japan, Holland, Germany and England in perfect harmony. ■

Industrial World Heritage Sites: a shift to cultural landscapes?

Keith Falconer, *Head of Industrial Archaeology, English Heritage*, and Christopher Young, *Head of International Advice, English Heritage*

World Heritage Sites celebrating industrial heritage and agricultural landscapes have proliferated in the last decade – in 1999 there were just 20 while now there are some 48, with the British share rising from 1 to 8. In this article we outline the chronological development of the List to give a flavour of its composition and of the shifts in perception shown by the range and diversity of the sites, as well as previewing possible future industrial nominations from the United Kingdom.

The first industrial site – the iconic Wieliczka salt mine in Poland – was inscribed on the World Heritage List in 1978, followed by the Royal Saltworks of Arc-et-Senans in 1982 and the Roman mining site of Las Medulas in Spain in 1997. In 1986 the inscription of Ironbridge Gorge introduced the concept of extensive industrial landscapes and in the next decade a further 14 industrial WHS were inscribed, many of which were also landscapes. These included Rammelsberg, a metal-mining town in Germany, the Engelsberg ironworks complex and settlement in Sweden, Volklingen ironworks in Germany, Crespi D’Alba textile mills and settlement in Italy, the Canal du Midi, the four Canal du Centre lifts in Belgium, Karlskrona Naval Dockyard in Sweden and the Semmering and Darjeeling railways.

In 1997 the World Heritage Committee flagged up a number of under-represented categories on the World Heritage List, including both industrial sites and cultural landscapes. In Britain, consequences for the industrial heritage were immense – no fewer than 11 of the 21 UK mainland sites promoted in the 1999 UK Tentative List were industrial as a result of a deliberate decision by the UK government to focus on under-represented categories of heritage. In 2000, Blaenavon, a classic relic industrial landscape, was the first to be inscribed as a World Heritage Site and the following year the World Heritage Committee inscribed three linked sites from the UK to represent the industrialisation of processing and manufacture as exemplified by the textile industry – Derwent Valley Mills, New Lanark and Saltaire. Subsequently, the Liverpool Maritime Mercantile City, the Cornish Mining Industry World Heritage Sites and the Pontcysyllte Aqueduct and 10 km of canal approaches have been inscribed.

Elsewhere, nominations were becoming more adventurous in date, extent and content as evidenced by the Neolithic Flint Mines of Spiennes in Belgium, the Great Copper Mountain at Falun in Sweden, the vast Zollverein Coal Mine complex in Germany dating from the 20th century (illustrated on p.50), the Varberg Radio Station in southern Sweden representing 20th-century communications, and the two mining complexes in Chile – commemorating human endeavour under extreme mining conditions – for saltpetre at Humberstone and Santa Laura and for copper at Sewell.



Built between 1667 and 1694 and inscribed as a World Heritage Site in 1996, the Canal du Midi's 360-km network of navigable waterways linked the Mediterranean and the Atlantic and provided the inspiration for England's first canals.

© Keith Falconer

SAVING THE AGE OF INDUSTRY

The Ironbridge Gorge nomination broke new ground in seeking recognition for an extensive industrial landscape rather than a single site or complex. The emphasis on themed industrial landscapes in the 1999 UK Tentative List built on this, setting an ambitious international agenda. Around the world Tentative Lists of potential nominations now include landscapes such as the late 19th and early 20th-century coal, iron and steel landscape of Ostrava in the Czech republic; the silk-related sites around Tomioka and the sites of modern industrialisation in Kyushu-Yamaguchi, both in Japan; a dozen mining landscapes ranging geographically from Greece and China to the Klondike and in date from prehistory to the 20th century; and many transport and trading sites – all bearing testimony to the burgeoning recognition of industrial heritage. The momentum of these Inscriptions is being maintained by further ground-breaking nominations such as Bassin Minier in northern France, which seeks to celebrate more than just a physical monument – it considers the entire coalfield to be a living and evolving cultural landscape.

New UK Tentative List

The UK government announced in March a new Tentative List of sites that might be nominated to the World Heritage List over the next decade. These 11 candidate sites were selected from 38 applications submitted in an open competition and subsequently evaluated by an Expert Panel. Unlike the previous Tentative List, this one was not based on selected themes, which then included cultural landscapes, industrialisation and Britain's global influence, but there is still strong representation of Britain's technical and industrial heritage.

Of the eight cultural sites included, four (the Forth Bridge, the Slate Mining Industry of North Wales, Jodrell Bank and Chatham Dockyard) are focused on the British contribution to industry and technology. To these have been added two sites from the previous List that are still under active consideration by UNESCO. One of these is Darwin's Landscape Laboratory, which represents Britain's scientific prowess as the place where Charles Darwin carried out much of the work leading to his development of the theory of evolution.

One thematic area not covered on the new Tentative List is the early railways of the UK. Railways were a crucial part of the process of industrialisation because of the way they revolutionised transport and enabled wide-scale movement of raw materials and finished goods. Britain is



Liverpool's pioneering Albert Dock is one of the six areas of the maritime mercantile City of Liverpool inscribed as a World Heritage Site in 2004.

© Keith Falconer

the place where they started and should be best placed to provide a World Heritage property representing this early development. However, none of the proposals in this area were judged by the panel to be viable. The panel has recommended to government that a further study should be carried out to identify a more achievable nomination of early railways.

In producing a Tentative List, it is necessary to balance UNESCO's policy requirements for fewer nominations of well-represented categories from countries that already have many sites on the World Heritage List against the need to ensure that places of outstanding universal value are put forward. The new UK Tentative List does this. It is much shorter than the previous list and the UK government has said that it does not intend to nominate sites every year in the future. It also eschews well-represented categories by focusing on areas of outstanding importance to all humanity not yet well represented on the World Heritage List. As a consequence, industrialisation, a process in which Britain was truly a world-leader in the 18th and 19th centuries, retains a strong presence in future UK nominations. ■

The International Committee on the Conservation of the Industrial Heritage

Miles Oglethorpe

Head of Education, Outreach and Publications,
Historic Scotland

During the last four decades, The International Committee on the Conservation of the Industrial Heritage (TICCIH) has made a significant contribution to the conservation of industrial heritage in many countries. Its origins can be traced back to a conference hosted in Ironbridge in 1973, after which subsequent international congresses were organised at Bochum in 1976 and then Sweden in 1978. During the 1980s, TICCIH evolved into a formal organisation, publishing a newsletter, the *TICCIH Bulletin* and a journal, *Patrimoine de l'industrie*, both of which remain in print today.

A cycle of congresses ensued, but the work of the membership initially remained largely confined to the founding countries in Europe and North America. During the 1990s, however, the balance began to shift, with new centres of excellence in the conservation of the industrial heritage becoming prominent, most notably in Germany and Catalonia. Driven by this rejuvenating tide of energy and enthusiasm, Eusebi Casanelles, the director of an extraordinary network of science and industrial museums in and around Barcelona, took on the presidency, generously deploying resources from his museums to support the progress of the organisation.



World Heritage 'in the pipeline' – Tyssedal in Norway, where TICCIH's Hydro-electric and Electrochemical Industries Section is co-ordinating efforts to share information on industrial heritage more effectively via the internet.

© Historic Scotland

The period of the Catalan presidency had major implications for TICCIH, transforming it into a truly global organisation. The key strands of this evolution included the expansion of its membership base into South America and Asia. This was accompanied by the establishment of national TICCIH groups to consolidate membership. In the UK, this resulted in an agreement with the Association for Industrial Archaeology and the creation of TICCIH GB.

A second major development strand has been the formation of 'Specialist Sections' catering for specific industries, and organising intermediate conferences. Of these, early examples included Mining, Textiles and Food, but many others have emerged since then. These had the major advantage of allowing TICCIH to marshal its expertise and work towards further developing international thematic studies. At the time, this was especially important because ICOMOS did not have sufficient expertise to advise UNESCO on industrial heritage. At its 2000 congress in London, TICCIH therefore signed an agreement with ICOMOS, and has since provided formal input into the World Heritage Site assessment process. In the meantime, a number of thematic studies have been completed by TICCIH and are available on the ICOMOS website, and the Nizhny Tagil Charter, signed in 2003 during the Russian congress, laid down the principles underlying the conservation of industrial heritage.

A third evolutionary strand in this period stemmed from the accelerated collapse of the former Soviet economies. The speed of the economic decline posed severe challenges for new East European members of TICCIH, who brought new energy and urgency to the organisation from countries such as Hungary, Poland, Romania, Russia and the Czech Republic, and who have hosted memorable TICCIH conferences and workshops. In the case of the Czech Republic, the current series of *Vestiges of Industry* annual conferences continues to be a great success.

A prominent consequence of these activities has been an increase in the profile of industrial heritage across the world, and a growth both in the number of inscribed industrial world heritage sites, and in the number of industrial sites on the Tentative Lists of many countries. Taking the case of the UK, there was a long gap after the inscription of Ironbridge in 1986, but since 1999, eight more industrial properties have been inscribed, with a further two now included on the recently released, heavily trimmed UK Tentative List.

SAVING THE AGE OF INDUSTRY

The presidency of TICCIH has, since 2009, shifted west to Professor Patrick Martin in Michigan, and there is a drive to use emerging new information technologies to harness the growing expertise that exists within the membership. A key area of development centres on the hydroelectricity and electrochemical section, which, via Scottish and Norwegian colleagues, is working on the development of a standardised GIS-enabled database into which approved correspondents from across the world can securely enter data on their key sites via standard internet browsers. When complete, the plan is to roll this pilot out to other thematic sections.

Looking back, TICCIH has undoubtedly done a great deal to promote the visibility and survival of key industrial heritage sites across the world, and has actively contributed to the inscription of many of these as World Heritage Sites, with several more now also appearing on national Tentative Lists, such as in Japan. However, looking forward, perhaps its greatest contribution will be to allow its members and correspondents together to share knowledge of international industrial heritage far more effectively. Genuinely 'knowing what's out there' will be hugely valuable to all those charged with caring for the industrial heritage, especially those with responsibility for world heritage. ■

European Route of Industrial Heritage

David de Haan

ERIH UK Lead, Ironbridge Institute

Five years ago I did a desk study which identified 124 key museums and visitor attractions in the UK with industrial and social history as their core offer. Tracking them back over nine years showed an impressive total of 103 million visits between them, with the yearly figure for 2005 standing at 12.4 million. This clearly demonstrates that industrial heritage tourism is far from a niche market in this country. It is a major market segment that is still showing growth, and one that is now rapidly developing across the rest of Europe.

In *Conservation Bulletin* No 38 (August 2000) Philip Davis outlined the beginnings of an ambitious programme to develop industrial heritage tourism routes across Europe. With EU funding a pilot European Route of Industrial Heritage (ERIH) was developed, which by 2004 included sites in the UK, Germany and Holland. The starting places for exploration were 'Anchor Point' sites that had full visitor facilities – effectively industrial



A UK Anchor Point: the blast furnace, Museum of Iron, Coalbrookdale, part of the Ironbridge Gorge Museum complex.

© David de Haan

sites that had become fully-fledged museums such as Ironbridge and Big Pit in the UK, the Zollverein steelworks in Essen, Germany, and the Cruquius pumping station near Haarlem in Holland. By the autumn of 2005 there were 32 Anchor Points and around 100 lesser industrial heritage sites, plus a new website. Leaflets, Google maps, website entries about what there was to see and hot links to their home websites – all encouraged visits to these sites of industrial interest.

With an established corporate identity and a good track record, a second round of EU funding allowed ERIH to produce signs and multilingual information panels, leaflets and web pages (in English, German, French and Dutch), and to hold annual international meetings to share best practice. By 2008 the network had spread to four more countries – France, Belgium, Luxembourg and the Czech Republic – and the number of Anchor Points had grown to 66, with hundreds more associated sites described and illustrated on the website. Potential tourists could access a site by name, by region, by subject, or via 10 different Regional Routes and 10 European Theme Routes (the latter grouping themes across international borders under the headings of textiles, mining, iron & steel, manufacturing, energy, transport & communications, water, housing & architecture, service & leisure industry and industrial landscapes). A hundred historical biographies were added to the website, as well as news items, advisory papers, and house-style manuals. The ERIH network has become recognised as a European sector standard to benchmark industrial heritage tourism, so much so that both Germany and Holland have been able



A Spanish Anchor Point: the roof of a modernista textile factory, Terrassa, now the Catalan Museum of Science & Technology.

© David de Haan

to use this to get ERIH-branded tourism signage on the countries' roads paid for out of regional funds.

Up to 2008 membership had been covered by the EU grants, but when this ceased the network was reconstituted as a legal entity with paying members. For the UK in our current financially straitened times the membership fees can be an issue, as they tend to fall back on the individual

sites, whereas in the rest of Europe it is usually the regional tourism authorities who cover the cost. But far from slowing down, the network continues to grow and the website now describes 850 sites in 32 countries, with recent additions in Austria, Bulgaria, Croatia, Denmark, Greece, Hungary, Italy, Norway, Poland, Romania, Slovakia, Spain, Sweden, Switzerland and Turkey. There are 77 of the top-rated Anchor Points in 12 different countries, including 8 industrial World Heritage Sites (Ironbridge, Blaenavon and Cromford in the UK; the coalmining complex at Zollverein, the Völklingen ironworks and the Rammelsberg silver mine in Germany; the copper mine at Falun and the Varberg Radio Station at Grimeton in Sweden). Regional Routes continue to be developed, with currently six in Germany, four in the UK, two in Holland, a cross-border one in Saar/Luxembourg/Belgium and another cross-border one in Poland/Czech Republic. There is scope for a lot of development and not surprisingly more are under discussion, including another two in the UK. Industrial heritage tourism is definitely not a niche market. ■

For further information go to: www.erih.net.

The UK desk study can be found at: www.erih.net >

Download > Conference Presentations >

Presentation UK Industrial Heritage Visitor Figures by David de Haan

The coking plant for the steelworks of the German Anchor Point of Zollverein in Essen; in the winter the flat area in the foreground is turned into an ice-skating rink.

© David de Haan



Investing in the Future

Our industrial past has a vital part to play in our post-industrial future – provided we are willing to collectively invest in that future.

Official commitment to England's industrial heritage has a long and fairly distinguished track record, dating back to the early 1960s when the Ministry of Public Buildings and Works part-funded the CBA's pioneering National Survey of Industrial Monuments. Throughout the 1970s and early 80s the Department of the Environment supported the creation of industrial preservation trusts and provided grant aid for repairs before passing on the baton on to the newly created English Heritage which spent some £12.4 million on industrial heritage in its first decade.

Then in 1994 came the Heritage Lottery Fund (HLF). Since then, as Ian Morrison recounts, HLF has allocated a staggering £780 million to industrial projects from a funding budget that is the envy of the world. As Russell Walters explains, this has allowed English Heritage to target its resources on supporting owners with advice and repair grants as well as occasionally stepping in with major funding to rescue entire sites. HLF also supports, as Ian Lush elaborates, the work of the Architectural Heritage Fund and its important Challenge Fund and Cold Spots initiatives. Lastly, Victoria Hunns and Vince Holyoak explain how Environment Stewardship is helping to conserve England's rural industrial heritage – just another part of our priceless industrial legacy that needs to be sustained into the future.

Inspiring our future by investing in our past

Ian Morrison

*Head of Historic Environment Conservation,
Heritage Lottery Fund*

Since its inception in 1994, the Heritage Lottery Fund (HLF) has given out more than £4.5 billion of funding, of which £780 million has been allocated to an astonishing array of industrial heritage projects across the UK.

Many of these projects have repaired the fabric of industrial sites and opened them up as heritage attractions to allow people to learn about the many important technological developments that created our modern industrialised world and transformed our society and culture. Opportunities have been created for people to directly understand how early industrial innovations functioned and to experience at first hand the conditions endured by the

adults and children who worked in these early industries. Visitors can learn about 19th-century canal technology while being raised 18m in a glass-topped boat on the restored 1875 hydraulic Anderton boat lift in Cheshire, or take part on a guided tour of worked coal faces 100 metres underground at the Big Pit Museum in Blaenavon.

Many projects have combined the conservation and interpretation of industrial sites with other recreational activities as an effective means of ensuring their long-term survival. The large open-plan proportions of former industrial buildings are often ideal candidates for the public display of museum and art collections. HLF has helped fund many such adaptations, including the conversion of the Smithery building at Chatham Historic Dockyard into a gallery for the public display of the National Maritime Museum's collection of more than 4,000 model ships and marine paintings. As well as museums, conserved industrial structures have also been used to add interest to outdoor trails and public amenity spaces. Miles of canals and tramways have been adapted as recreational trails, which allow people to enjoy the countryside at the same time as learning about our industrial past.

Adaptation into visitor attractions or places of recreation is not the only way to provide the relics of our industrial past with sustainable new uses. Partnerships with public sector or commercial enterprises to provide other kinds of practical re-use are becoming increasingly important. Schemes such as the restoration of the world's first railway roundhouse and its adaptation into an award-winning campus for vocational learning at Derby College, or the conversion of two canal warehouses at Sowerby Bridge Wharf, West Yorkshire, into office and workshop spaces for small businesses, are but two of a growing portfolio of projects that demonstrate the benefits of integrating heritage with contemporary working life.

It is not just the built fabric of industry that has secured HLF funding. Machinery, archives, collections, equipment and technological innovations have been conserved and made more accessible thanks to Lottery funding. The recently opened Brunel Institute in Bristol, a first-class conservation and learning centre for the uniquely important Brunel library and archive, provides an inspirational resource both for the general public and for future generations of engineers and scientists.

Other HLF-supported projects have not



Young visitors admire the National Maritime Museum's model ship collection, now on display in the restored No. 1 Smithery at Chatham Historic Dockyard.
© Chatham Historic Dockyard Trust

involved any physical conservation work at all, but have instead focused on the stories, memories and traditions of the people who worked in these early industries. Projects such as the recording of oral histories of immigrants who worked in Bradford's textile mills and a film made by students about the construction of the Settle–Carlisle railway illustrate how modern media can be used to keep history alive, particularly for young people.

More recently HLF has placed greater emphasis on volunteering and training in recognition of the

importance of keeping the specialist skills and knowledge required to sustain industrial machinery and sites. Practically all HLF projects offer volunteering opportunities, and the *Skills for the Future* grants programme is helping to fund work placements for young people to develop the practical skills to maintain working industrial exhibits.

Over the last 17 years HLF's unparalleled investment has helped support this country's uniquely important industrial legacy with grants ranging from a few thousand to several million pounds in value. All of the funded projects share one thing in common – they offer measurable benefits for both heritage and people. So what of the future? From 2012 HLF will have around £300 million a year to allocate to new projects, but competition for these funds is likely to be stiff as other sources of funding are reduced. The decisions taken over the next few years will be critically important, and HLF will publish a new strategy next year that will set out how Lottery funds can best be used to sustain and transform our heritage for the benefit of all. ■

For more information, visit www.hlf.org.uk

The Architectural Heritage Fund and industrial heritage

Ian Lush

Chief Executive, *The Architectural Heritage Fund*

The Architectural Heritage Fund (AHF) was founded in 1976 with a remit to act as a 'revolving fund'. It would lend money to Building Preservation Trusts (BPT) to buy historic buildings at risk and then restore and sell them, using the proceeds to repay the AHF's loan, with some interest. Any surplus generated would be put towards the next project, hence making each BPT its own revolving fund.

This model remained largely unchanged for the next 15 years, during which the AHF's funds grew from an initial £1 million (half given by government, half from individuals and other charities) to more than £10 million. The property-market recession of the 1990s had a severe impact on the AHF and its clients, however, with loans having to be extended and less money available for new projects.

Equally significant in the 1990s was the formation of the Heritage Lottery Fund (HLF). This made unprecedented sums available for the restoration of buildings, including many that had hitherto been considered impossible, some involving



The conversion of these canal warehouses at Sowerby Bridge Wharf in West Yorkshire into space for small businesses shows how industrial heritage can be adapted to meet the needs of modern working life. The project was led by The Prince's Regeneration Trust with partnership support from Heritage Lottery Fund, Calderdale Council, British Waterways, Yorkshire Forward and stakeholders in the local community.

© The Prince's Regeneration Trust

SAVING THE AGE OF INDUSTRY

ex-industrial sites. Recognising the need to support project development, the AHF in partnership with English Heritage and Historic Scotland introduced grants towards options appraisals, project organiser and administration costs.

Some headline statistics show the extent of the AHF's work over the last 35 years. More than 1,000 projects have been funded, with in excess of £108 million offered in loans. The average loan is now £300,000, while as recently as 1999 it was just £120,000. Since grants were introduced in 1990 more than £6 million has been offered towards project development costs. The key criteria for support from the AHF have remained the same: that a building should be changing ownership and/or use (no maintenance costs are funded); that the applicant is a charity; and that the building is listed or in a conservation area. Equally, every project needs to show that the building's eventual use will be financially viable.

Industrial buildings and those associated with industrial processes are ideal for conversion to sustainable new uses and have often been supported by the AHF. Some of our longest-standing clients are restoring industrial sites, including the Arkwright Society in Derbyshire and the Ironbridge Gorge Trust in Shropshire, both of which have been supported by the AHF for more than 30 years.

Other projects have been carried out by trusts with a broader geographical remit but whose work has included industrial buildings, such as the North of England Civic Trust (Gayle Mill in North Yorkshire); Heritage Trust for the North West (Higherford Mill, Lancashire, featured, as was Gayle Mill, in the BBC's *Restoration* television series); and the Heritage of London Trust (St Pancras Waterpoint). The latter was notable for the building having to be moved several hundred yards to make way for the Channel Tunnel Rail Link, uniquely remaining listed throughout its short, and very slow, journey.

The AHF is now working closely with English Heritage in an effort to target new grants at the restoration of industrial buildings. The 'Cold Spots' initiative, with additional funding from the Pilgrim and J Paul Getty Junior Charitable Trusts, supports inexperienced groups, and those that have not carried out projects for some time, at the start of their projects. It is aimed at generating activity in two specific areas – the East Midlands and South Wales – and generically for industrial buildings in England. The AHF and English Heritage are together identifying projects where this funding



The Enginuity design and technology centre is one of a series of Ironbridge Gorge Trust projects supported by the Architectural Heritage Fund over the past 30 years. Its combination of interactive exhibits and real objects is a source of inspiration for budding engineers and makers of all ages.

© Ironbridge Gorge Museum Trust

could make a real difference and where other factors – ownership, potential use, local community interest – could also lead to a successful scheme.

Finally, the AHF has just announced its new 'Challenge Fund'. Over the next five years English Heritage and the Andrew Lloyd Webber Foundation are putting £2 million through the AHF for capital grants for England's most endangered Grade I and II* buildings at risk. These may well include industrial buildings, and full information on this exciting opportunity is available from the AHF at www.ahfund.org.uk. ■

Environmental Stewardship – a lifeline for rural industrial heritage?

Victoria Hunns, *Senior Historic Environment Specialist, Natural England* and Vince Holyoak, *Senior National Rural and Environmental Adviser, English Heritage*

The Rural Development Programme (England) (RDPE) is a strand of the European Commission's Common Agricultural Policy, a seven-year programme administered by the Department for the Environment, Food and Rural Affairs. Environmental Stewardship (ES) – a scheme that pays for the maintenance, conservation and enhancement of wildlife, resource protection, historic and landscape features on farm holdings – is

funded via the RDPE and delivered by Natural England, in collaboration with local and national partners.

Since the launch of ES in 2005 the historic environment has been a key objective in the scheme, which guarantees an ‘Entry Level’ agreement to any agricultural holding that meets a points threshold. Options for historic features include annual payments for scrub control or the management of permanent grassland over archaeological remains. The ‘Higher Level’ strand (HLS) is a more focused, competitive scheme that can support capital works to consolidate, repair or restore historic buildings and structures.

Six years on, more than 8,500 HLS agreements include historic environment options, covering 100,000 hectares of archaeological and landscape features and representing a financial commitment in excess of £59 million. Given that Stewardship now covers almost 70% of agricultural land it is no surprise that examples of almost every type of heritage asset – designated or undesignated – are being managed or protected through ES.

It is difficult to judge how much of our rural industrial heritage survives on farmland, but at the end of 2010 holdings with HLS agreements (covering just 9% of usable agricultural land) included 288 land parcels containing lead-mining remains, 349 with coalmining, more than 8,000 with traces of quarrying in its various forms, 930 kilns and 568 industrial buildings. Scheme conditions mean that these must be protected for the length of the

Last active in the 19th century, the Low Slit lead mine in Weardale is not only designated as a scheduled monument but also as a Site of Special Scientific Interest (SSSI). Restoration of a drystone wall around the floor has provided protection to the large colony of plants previously at risk from flooding of the adjacent Middlehope Burn.

© Tom Gledhill, Natural England



As well as being one of the best-preserved small-scale industrial landscapes in the country, the 19th-century limeworks at Brockham, Surrey, are also an internationally designated site for bats. The habitat and historical importance of the site were recognised in an HLS agreement, which funded a management plan and emergency works in 2010.

© Clive Dawson, Hockley and Dawson Engineers

agreement, irrespective of whether the owner ‘opts’ to maintain or repair them.

Among those being directly managed are a number of scheduled and listed industrial assets. Work at the Low Slit lead mine in Weardale has consolidated buildings and prevented further damage to the ore dressing floor by flooding from the adjacent burn. The site includes a number of rare surviving features and the work was timed to minimise damage to the site’s ecology, including unusual lead-tolerant plants such as Spring Sandwort.

At Brockham in Surrey a conservation management plan and emergency work to consolidate the limeworks was funded through ES, with English Heritage providing the scaffolding. The work also had to take into account the site’s international designation as a bat habitat. But capital works do not have to be large or expensive in order to make a difference. Repairs to a small watermill at Thorganby Hall, Lincolnshire, a now-rare structure locally, have ensured its long-term survival. For £6000 a new tin roof was placed over the old one, failed joints on the wheel were held in place with a zinc plate and the structure was coated in tar. Here again the work was done in such a way to ensure that the mill’s residents – owls – were disturbed as little as possible.

Environmental Stewardship might fundamentally be about brokering agreements with individual landowners, but its partnership approach also provides opportunities for multi-objective management at a landscape level. Following the

inscription of the Cornish Mining World Heritage Site in 2006, Natural England devolved the preparation of HLS agreements for priority industrial sites to the WHS team. This has since led to the consolidation of an engine house, balance bob pit and office ruins as well as facilitating educational access to previously inaccessible sites.

The RDPE is due to end in 2013, and discussions are under way in Europe about the future of the Common Agricultural Policy, and with it the priorities for rural development. Notwithstanding the achievements of the past six years, it seems inevitable that the inclusion of cultural heritage within the programme will once more be under review. Meanwhile, the Comprehensive Spending Review has re-emphasised the need to use ES in an intelligent and targeted fashion and the heritage sector – nationally and locally – is actively collaborating in identifying historic environment priorities for ES to deliver. Initiatives such as Heritage at Risk and the local authority Selected Heritage Inventory for Natural England (SHINE) dataset have an important role to play in this dialogue, but the key to the success of ES is its balanced, proportionate approach to landscape management. ■

English Heritage grant aid to the industrial heritage

Russell Walters

Head of Operations, National Planning Department,
English Heritage

While 2011 may be the year in which we are shining the spotlight on industrial heritage, English Heritage has a much longer history of working to help conserve the nation's industrial past. The catalogue of nationally designated industrial sites extends back into prehistory, but the bulk of our grant aid has been targeted at the legacy of the industrial revolution – an inevitability given the extent of structural survival and the fact that many are at a critical point where if decay is not stopped they may suffer often catastrophic collapse.

Prehistoric, Roman and medieval industrial sites are usually designated as scheduled monuments and a relatively small amount of funding is often enough to help an owner to maintain the historic significance of their site. By contrast, the more substantial buildings and structures from the years when England was a powerhouse of industrial innovation tend to need much greater investment to bring them back into use – rarely the original use, but one which can at least be sensitive to their

historic significance as well as being sustainable in the longer term.

Grant aid is not about preserving in aspic: it is about maintaining historic significance. Since their publication in 2008 our *Conservation Principles* have provided the framework within which we operate our constructive approach to managing change in the historic environment. The central focus is to make sure that the essential historic significance of a place is maintained for future generations at the same time as allowing its buildings to continue to serve socially or economically useful purposes.

In recent years English Heritage has used its grant aid in three principal ways:

- to identify, understand and increase our knowledge of industrial sites and landscapes, now to be linked in with our new National Heritage Protection Plan priorities (for example, a recently completed survey of the brewing industry by the Brewery History Society)
- to provide funding to owners to help them look after and manage their sites
- to take ownership of a small number of sites in order to repair them before transferring them back to a new owner able to give them a long-term sustainable future.

The proportion of grant aid allocated to industrial sites inevitably reflects the local historical legacy. The South-East and the East of England are not regions traditionally associated with large-scale extractive or manufacturing industry, so have received comparatively little industrially focused grant aid. The more heavily industrialised North, Midlands and South-West, by contrast, have seen considerably more support for industrial sites.

Analysis of grant aid to industrial sites, by region, offered since 1994/95

	Number of grants	Value (£)
North-East	36	2,398,834
North-West	66	3,772,771
Yorkshire	46	2,455,699
West Midlands	40	11,216,689 *
East Midlands	33	2,180,130
East	25	1,106,127
South-West	65	3,086,518
South-East	26	1,310,068
London	27	2,066,434
National	7	129,564
Total	371	29,722,834

* Including the direct investment by English Heritage in Ditherington Flax Mill and JW Evans Silverworks

Anderton Boat Lift

The Anderton Boat Lift, Cheshire, connecting the Weaver Navigation with the Trent & Mersey Canal 50ft (15.2m) above, was built in 1875 and converted from hydraulic to electric operation in 1908. It closed in 1983. Restored to hydraulic working by British Waterways at a cost of £7 million, it reopened for its original use – albeit for leisure craft rather than freight – in March 2002. The offer of an English Heritage grant of £0.55m at an early stage in the process was instrumental in helping British Waterways to raise funding of several million pounds from elsewhere.

© Ray Main



For smaller sites, usually scheduled monuments and often with limited structural remains, we have tended to focus on the longer-term management of the site as a preserved structure. Many of these structures belong to people for whom ownership of an historic site is an accident of geography. Our approach is therefore to offer practical advice about how best to manage the site, supplemented when necessary with financial assistance for occasional repairs. Sums are often small, often just a few hundred pounds, but enough to see the site conserved for the future.

Larger and more recent sites, typically but not exclusively Grade I and II* buildings, require a very different approach and often considerable financial support, for example £550,000 to the British Waterways Board to help them repair the Anderton Boat Lift in Cheshire and £300,000 towards the £4.3m cost of repairing and stabilising Manningham Mills in Bradford.

Although grant-aid to third-party owners remains our preferred way of helping to secure the future of important industrial buildings, there are rare occasions when more radical intervention is needed to turn the tide on decades of neglect and

under-investment. Two examples from West Midlands represent very different and individually tailored approaches:

- Ditherington Flax Mill (Shrewsbury), thought to be the earliest iron-framed building in the world, has been brought into the temporary ownership of English Heritage so that it can be repaired to a condition where a new owner can take it on and re-use it for the long term.
- JW Evans Silverworks (Birmingham), one of the last-remaining traditional silver-working factories, with its machinery and contents intact, has again been purchased by English Heritage, but this time so that it can be opened to the public.

Over the past 15 years, English Heritage has invested an average of £1.75 million per year on the industrial heritage. With 283 industrial sites on the Heritage at Risk Register the challenge remains enormous, but in partnership with private and public owners English Heritage is determined to ensure that this irreplaceable part of our common inheritance has a secure, sustainable and useful future. ■

News from English Heritage

Heritage Counts 2011

Heritage Counts was launched on the 11 October (www.heritagecounts.org.uk). This year the report focuses on the contribution of heritage to the aims and objectives of the Big Society. It summarises new quantitative research on the activities of civic societies and volunteers and a parallel exploration by the Heritage Alliance of the role of voluntary and third sector organisations. The report also outlines the actions needed if this contribution is to increase. Local groups will be particularly interested in a toolkit specially designed to help them involve more people from their community in heritage activities. As in previous years, *Heritage Counts* includes a summary of key heritage indicators, including planning data, visitor and membership numbers and listed building figures. Its update on heritage policy for the year focuses on issues surrounding the Localism Bill and the National Planning Policy Framework.

Contact: laura.clayton@english-heritage.org.uk

Solar electric (photovoltaic) panels and slates on listed places of worship

The installation of photovoltaic panels or 'solar slates' on an historic place of worship will potentially have an impact on the significance of the building and its setting. To help local authorities and denominational decision-making bodies that are dealing with such proposals, English Heritage has published a guidance note setting out the policy context provided by government guidance and giving advice on how to assess a proposal with a view to minimising harm to the significance of an historic place of worship (www.english-heritage.org.uk/professional/advice/advice-by-topic/places-of-worship/climate_change_pow).

Contact: diana.evans@english-heritage.org.uk

Knowing Your Place

Every village and parish in England has its own distinctive heritage that lies at the heart of its sense-of-place. In recent decades, an increasing number of rural communities have sought to identify and protect what makes their neighbourhood special through community-led Parish Plans and Village Design Statements.

English Heritage, in partnership with Action with Communities in Rural England (ACRE), has

recently published *Knowing Your Place: Heritage and Community-Led Planning in the Countryside*, which promotes best practice in community planning. The guidance is designed to help local people who are producing or updating plans. It provides 'plain English' advice to help them access information on their local history and to identify what matters about it and why. It will help communities to make sure that their heritage contributes to their aspirations for the future and is especially relevant as the government takes forward its proposals for a new generation of Neighbourhood Plans.

The guidance, which is available at www.helm.org.uk/communityplanning, is also supported by the Association of Small Historic Towns and Villages (ASHTAV), Campaign to Protect Rural England (CPRE), Civic Voice, Council for British Archaeology (CBA), Country Land and Business Association (CLA), European Council for the Village and Small Town (ECOV-AST), and National Association of Local Councils (NALC).

Contact: sarah.tunncliffe@english-heritage.org.uk



HELAC

English Heritage, the Local Government Group, the Association of Local Government Archaeological Officers, the Institute of Historic Building Conservation and the Planning Officers Society have joined forces to launch the Historic Environment: Local Authority Capacity (HELAC) partnership – part of our sector's response to the challenges to local authority historic environment services posed by budget cuts.

In May the HELAC Board selected five pilot areas that had an historic environment service from which others could learn or that were going through the process of adapting their service to meet new pressures – Cheltenham, Chichester, Cotswold AONB, Essex and Northumberland.

The results of these initial studies, plus some additional case studies, are now available via the HELM website. While HELAC cannot address the fundamental threat to the historic environment resulting from the dramatic loss of heritage skills and expertise in local authorities, it provides models of how the best use can be made of diminished resources.

Contact: helac@english-heritage.org.uk

Localism and the National Planning Policy Framework

The Department for Communities and Local Government published the draft National Planning Policy Framework (NPPF) for consultation on 25 July, with a deadline for responses of 17 October. Sitting alongside the Localism Bill, the NPPF contains the measures that are intended to develop more locally based decision-making in the planning system. The two connected elements represent the key tenets of the Localism agenda.

English Heritage has been working with colleagues in the heritage sector and in central government to ensure that these wide-ranging changes to the planning system do not weaken the protection afforded to the historic environment. We support the role of neighbourhoods in influencing how local places are shaped and experienced by those living and working in them. However, it is also important that the national and international significance and importance of heritage assets is properly reflected in that decision-making. We will continue to work with all partners to ensure that this protection is not eroded.

Our detailed response to the NPPF consultation can be found on the English Heritage website (www.english-heritage.org.uk/about/news/eh-responds). In addition, we have been working in partnership with the Historic Environment Forum on the development of guidance on the application of the NPPF to the Historic Environment, and a consultation draft can also be found on our website.

Contact: charles.wagner@english-heritage.org.uk

UNESCO World Heritage Committee

The 35th session of the World Heritage Committee met in Paris in June. There were no UK nominations this year but five UK World Heritage properties were the subject of State of Conservation reports. Two of these, for Edinburgh and Stonehenge, were simple updates. The three

remaining, covering the Tower of London, the Palace of Westminster and Westminster Abbey, and Liverpool Maritime Mercantile City, all dealt with development pressures. For the two London properties, these pressures relate to development in the setting of the site, but in Liverpool the specific issue is the proposal for re-development of 60 hectares of derelict dockland in the World Heritage property and its buffer zone. The Committee have agreed in all three cases to send a mission to examine the situation and will consider the cases again at their session next summer.

Contact: christopher.young@english-heritage.org.uk

West Dean College



Between November 2011 and May 2012, West Dean College will be offering the following courses in its English Heritage-validated Building Conservation Masterclasses programme:

7–10 November Conservation of Concrete

21–24 November Mortars for Repair and Conservation

16–18 January Practice and Theory: Managing Change in Historic Buildings

30 January–2 February Conservation and Repair of Architectural and Structural Metalwork

3 February Optional extra day of practical work – New

5–8 March Conservation of Stone Surfaces and Detail

19–22 March Specifying Conservation Works

2–5 April Conservation and Repair of Plasters and Renders

8–11 May Conservation and Repair of Masonry Ruins

14–17 May Conservation and Repair of Brick, Terracotta and Flint Masonry

2011 course fees from £473 and 2012 course fees from £497 (10% discount to English Heritage employees)

For more information please contact Liz Campbell at West Dean College, West Dean, Chichester, West Sussex, PO18 0QZ.

tel: 01243 818219 or

e-mail: cpd@westdean.org.uk

website: www.westdean.org.uk/college and click on CPD

The National Monuments Record

News and Events

Britain From Above

Later this year a new website will give free online access to around 18,000 of the earliest aerial photographs from the Aerofilms Collection. To keep up to date with developments you can sign up to receive our regular newsletter by emailing aerofilms@english-heritage.org.uk.

Following the award of a £1.7m Heritage Lottery Fund grant to English Heritage and its partners in Autumn 2010, a Britain from Above team is now conserving, digitising and cataloguing images that date back as far as 1919. Our partners at the Royal Commission on the Ancient and Historical Monuments of Scotland are simultaneously developing a fully interactive website for the collection. Once the images start appearing online we will be asking people to help us identify the buildings and places displayed.

The early part of the collection consists of more than 48,000 glass plate negatives, many showing their age in the form of broken or cracked glass, mould and dirt, and other problems arising from poor-quality storage. The preservation process includes repairing, cleaning and storing them correctly so they are preserved for future generations.

The project continues until 2014, by which time 95,000 images should be available online.



Top:

This fragile glass plate negative, which had been broken into several pieces and was suffering from mould and water damage, has now been cleaned and stabilised. The image shows Southwold in Suffolk as it was in June 1920.

EPW001926 © English Heritage.NMR

Middle:

The Bryant & May match factory at Bow, London, in 1921. The factory was closed in 1979 and fell into disrepair until 1988, when developers embarked upon one of East London's first urban renewal projects, the Bow Quarter.

EPW00521 © English Heritage.NMR

Bottom:

Ipswich Lock and Eagle Mill, Ipswich, in 1920. Regeneration of the area began in 1999.

EPW001827 © English Heritage.NMR

What's new on English Heritage Archives

We are continually cataloguing new items from our collections and adding the descriptions to the English Heritage Archives website, [www.englishheritage-archives](http://www.englishheritage-archives.org), which is your first stop in accessing the archive. More than a million catalogue descriptions are online and free to use.

To help people interested in industrial heritage a new *Guide to Industrial Collections* is available in the Downloads section of the website. This explains the links between different collections and industries and describes what each collection contains (eg reports, photographs, plans). It also confirms which collections have been fully catalogued and can thus be searched via the website.

Over the last few months the following catalogue entries have been added to the website. The reference numbers (shown in brackets) will help when searching.

Early Photographic Print Collection (RBO01)

This collection includes some of the oldest photography of historic buildings of England. It comprises early images that were removed from the NMR's 'red box' collection during the mid-1990s for reasons of security or fragility. The vast majority of the collection's 12,000 photographic prints, pieces of original artwork, printed illustrations and engravings date from the late 19th century to the early 20th century.

Bedford Lemere & Co (HBL01)

More than a thousand Bedford Lemere & Co images from the late 19th and early 20th centuries have been catalogued. The main subjects include country houses, ships, street scenes and industrial premises, such as warehouses and factories.

Julius Knoop Album (JKA01)

Thirty early black and white photographs of textile warehouses, mills and homes in the Manchester area, relating to the De Jersey Company run by Carl Julius Gerhard Knoop (1822–1893).

RCHME and English Heritage Photography (EHC01)

The catalogue includes new work by English Heritage photographers of subjects as diverse as post-war architects, places of worship at risk and Egypt in England. It also describes photographs taken in 1988 by RCHME photographers of more than 400 listed buildings, many of them at risk of substantial alteration or demolition.

English Heritage Plans (EHC01/22)

The cataloguing of plans and drawing relating to English Heritage properties continues; recent additions include Easby Abbey, Waltham Abbey, Dover Castle and Titchfield Abbey, along with a range of sites along Hadrian's Wall.

NMR Services

The NMR is the public archive of English Heritage, holding more than 10 million photographs, plans, drawings, reports, records and publications, covering England's archaeology, architecture, social and local history.

Find out more online at:

www.english-heritage.org.uk/nmr

Or contact: Enquiries & Research Services, NMR, The Engine House, Fire Fly Avenue, Swindon SN2 2EH

Tel: 01793 414600, fax: 01793 414606 or

email: nmrinfo@english-heritage.org.uk

English Heritage Archives

www.englishheritagearchives.org.uk

Descriptions of more than 1 million historical photographs and documents

Heritage Gateway

www.heritagegateway.org.uk

National and local records for England's historic sites and buildings

Viewfinder

www.english-heritage.org.uk/viewfinder

Historic photographs of England

Images of England

www.imagesofengland.org.uk

Contemporary colour photographs of England's listed buildings from the turn of the 21st century

PastScape

www.pastscape.org.uk

England's archaeological and architectural heritage

Heritage Explorer

www.heritageexplorer.org.uk

Images for learning, resources for teachers

The following **Designated Datasets** held by English Heritage are available for download via the English Heritage website, www.english-heritage.org.uk. The data are suitable for use in a Geographic Information System:

- Listed buildings
- Scheduled monuments
- Registered parks and gardens
- Registered battlefields
- World Heritage Sites
- Protected wreck sites

Legal Developments

Engineering a future for our industrial structures

Mike Harlow, *Legal Director, English Heritage*

We have an incomparable industrial heritage because we were (and still are) excellent at engineering. Excellently engineered machines and structures do just what they were designed to do – nothing less and, problematically for their conservation, usually nothing more.

This presents a real problem for decision-makers used to the flexibility of historic buildings in which four walls and a roof can house a variety of activities. We all know what you can do with a disused school or warehouse, but what future for a dock crane, mining pit head or gas-holder? Only so many can be expected to be looked after by publicly funded museums, deep-pocketed enthusiasts or to stand for the foreseeable future as untended, weather-resistant monuments.

Current historic environment policy, PPS5, encourages re-use as a principal means of funding the conservation of heritage assets, but the primary objective is still to conserve our heritage for this and future generations to enjoy. A lack of a viable use for the asset does not mean we give up on it.

When looking at uses for the site as a whole, PPS5 policy HE7.2 requires authorities and applicants to put effort into avoiding conflicts between the planning proposals and conservation of the asset. For designated heritage assets, HE9.2(i) reinforces this point, requiring proof that any demolition or substantial harm should be ‘necessary’ to deliver whatever substantial public benefits are said to outweigh that harm. The practice guide explains that for ‘the loss to be necessary there will be no other reasonable means of delivering similar public benefits, for example through different design or development of an appropriate alternative site’.

So there is a requirement to consider how the site may be brought back into use without necessarily removing the industrial kit that sits on it. Pit heads are large, but could one fit a building or useable open space beneath them?

But while that may save the asset from demolition for the time being, who is going to make it safe and paint it with Hammerite?

Of course development that neighbours or surrounds some industrial heritage may cause harm to its significance through an impact on the setting. For example, the new development may require the removal of associated buildings and structures that give it context – ancillary features that enable you to picture the processes that once went on there and to imagine the lives of those involved.

And where there’s harm there’s possible brass, as the saying doesn’t quite go. HE9.4 on ‘less than substantial harm’ says that harm may be permitted if it delivers public benefits that outweigh that

harm and, crucially, those public benefits may be aspects of the proposal that help to secure the future of the asset. So loss of some less important parts of the site or harm to the setting from the new development may be balanced by a properly secured promise to fund repairs and maintenance. This is enabling development of a sort, of course, and the principles in English Heritage’s guidance should be considered.

Ultimately, though, such salvation depends on the imagination and will of the property market. If no one comes forward with a creative conservation plan then do we wash our hands of it? No, not immediately, not even with Swarfega.

HE9.2 (ii) applies when the asset blocks uses for the site, cannot be used itself and no public or charitable body will take it on. One is then left with a final judgement about whether it is better still to keep the asset or to lose it in favour of bringing the land back into use.

If the asset is important, modest in size, safe and hardy, then it is difficult to see a decision leading to its demolition. But if it is mammoth, decrepit, decaying and dangerous then one can imagine the decision-maker wondering what, in these sad circumstances, we are waiting for. That said, the general tenor of heritage policy is that we should be slow to lose what we cannot get back. Patience may deliver a solution in the end.

For scheduled monuments PPS5 does not apply and physical works to them are subject to government’s guidance available on the DCMS website. It broadly follows the same principles. Development within their setting is covered by PPS5 and so all the possibilities for cross-funding from adjoining or neighbouring development apply.

Non-designated heritage assets that have an industrial archaeological interest equivalent to a scheduled monument are treated under PPS5 in the same way as a listed building, but of course their demolition may not need consent.

If they are less than nationally important and non-designated, then their conservation is still a planning objective and material consideration, albeit of lesser weight.

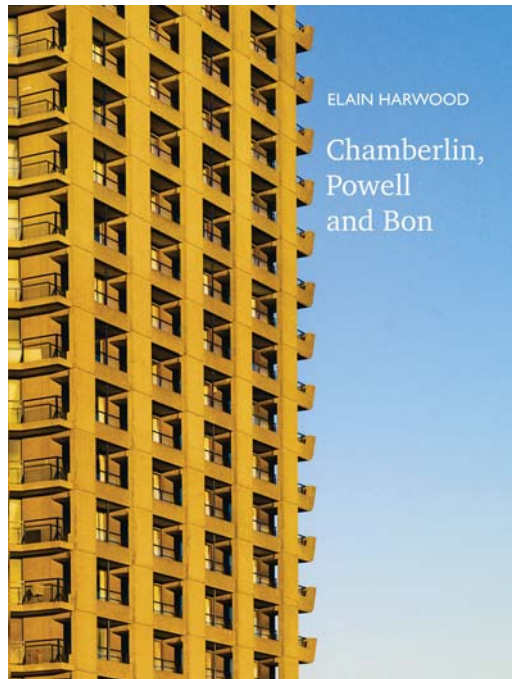
PPS5, like all other national planning policy, is about to be replaced by the National Planning Policy Framework, but the consultation draft published in July follows PPS5 pretty well and so the above thinking should not be out of date by the time you read this. I hope. ■

For all legal and policy developments and casework alerts, follow www.twitter.com/EHLegalDirector

New Publications from English Heritage

Chamberlin, Powell and Bon

Elain Harwood



The Barbican is one of London's landmarks and Britain's largest listed building, yet its architects, Chamberlin, Powell and Bon (CPB) are little known today. Their leader, Peter (Joe) Chamberlin, died young and little of their archive survives. But detective work has revealed a complex story about three determined characters and a surprising variety of fascinating architecture.

Chamberlin worked on the Festival of Britain, but the practice was formed only in 1952 when Geoffrey Powell won a housing competition in London. The resulting Golden Lane Estate is as light and brightly coloured as the adjoining Barbican (which followed later) is monumental. In between, the firm produced a range of buildings that pushed concrete technology to its limits, including houses and schools, Murray Edwards College (New Hall) in Cambridge, and major extensions to Leeds University.

Illustrated with images from CPB's rediscovered archive and specially commissioned colour photography the book is an essential read for anyone interested in learning more about a key practice in British post-war architecture.

PUBLICATION DATE: November 2011

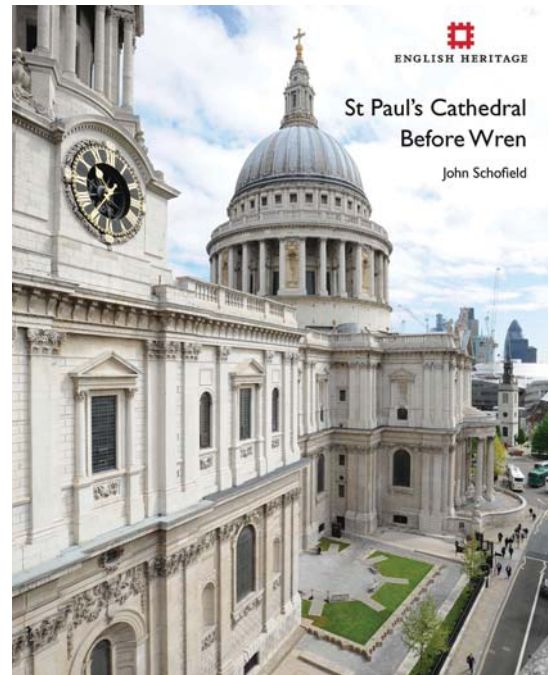
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St Paul's Cathedral Before Wren

John Schofield



St Paul's Cathedral is the City of London's most important monument and historic building. But Wren's great work is only the most recent of a succession of Anglo-Saxon and medieval cathedrals on the site, where Christianity was first established in AD 604.

This report is the first comprehensive account of the archaeology and history of the cathedral and its churchyard from Roman times up to the construction of the Wren building. The Anglo-Saxon cathedral is an enigma, and even its precise site somewhere in the churchyard is not known for certain. The medieval cathedral was probably the largest building in medieval Britain and one of the largest in Europe.

This book describes recent and older excavations in and around the Wren building, as well as documents, surveys and early maps showing the development of the religious complex and illuminating the lives of its occupants.

From these varied sources, the cathedrals that preceded Wren's resurfaced, allowing us to appreciate the cultural and religious importance of St Paul's over a period of more than 1,000 years.

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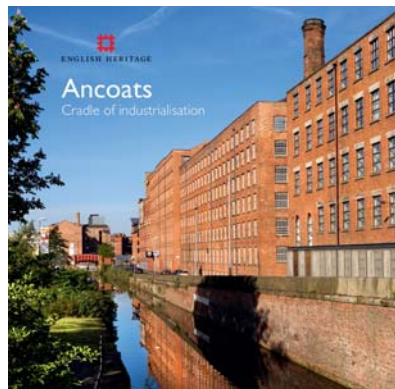
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Ancoats: Cradle of Industrialisation

Michael E Rose with Keith Falconer and Julian Holder



First hailed as a wonder of the new industrial world, to later 19th-century commentators Ancoats, in Manchester, became synonymous with dark satanic mills and urban poverty. This book intends to raise awareness of the range and variety of the historic mills, buildings and canals which constitute the Ancoats townscape, and the forces and trends which have contributed to its appearance. It outlines, through the buildings, how the area and its community have evolved over the last two and a half centuries.

This book will appeal to all those with an interest in the growth of towns and cities, and the legacy of socio-economic, industrial and technological change within the built environment. It will also be of interest to planners and conservation officers dealing with regeneration issues.

PUBLICATION DATE: September 2011

PRICE: £9.99

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A History of Aerial Photography and Archaeology: Mata Hari's Glass Eye and Other Stories

Martyn Barber

When a military balloon rose above Stonehenge in September 1906, aerial photography was already almost half a century old, and people had been flying since the late 18th century. Today, more archaeological sites are discovered in England through the study of aerial photographs than by any other method.

The book first tells the story of the balloonist-adventurers who pioneered the use of the airborne camera. The second half explains the development of aerial survey on the Western Front during the First World War and the subsequent adoption of these survey techniques by archaeologists.

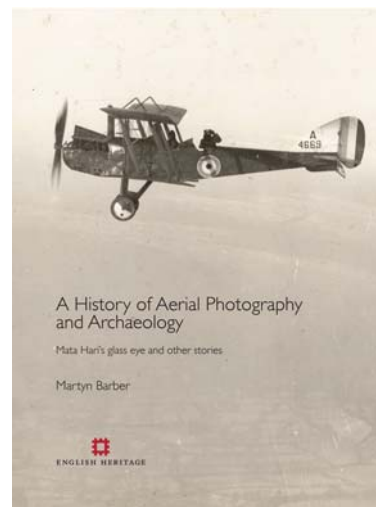
As well as describing some of the key individuals and discoveries of the inter-war years, the book outlines the role that many well-known archaeologists played as military air-photo interpreters during the Second World War.

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