Notes on the South-East Research Framework public seminar on the Post-medieval and Modern periods, and Industry (01/12/07)

Chair: Luke Barber

Speakers: Jeremy Hodgekinson, David Dungworth , Wayne Cocroft, Robert Hutchinson, Andrew Hann, Jim Preston and Allan Brodie

Notes: Jake Weekes

Introduction

Luke Barber (LB)

LB pointed out that this was a huge subject to cover in a day's seminar and also in a single chapter of the research framework Resource Assessment. The archaeology of the Post-medieval period is still lagging behind somewhat, and in multi-period site reports/syntheses still often gets 'squeezed' as compared with earlier periods. An exception to this is London, which has had some good new work on housing and ceramics in particular. The counties of the region have been subjected to differential study in the past: Sussex has had lots of work on the industrial but not as much on housing, for example (although there has been historical analysis on this). Kent lags behind in most areas, with exceptions such as the work on defence being carried out by Victor Smith and others. Even within the theme of industry there has been differential levels and types of work. A lot has been studied historically but not a lot through archaeological excavation. Again, in terms of defence structures, there has been a lot of pillbox spotting in the region but not much excavation of more ephemeral sites.

We need regional surveys for a lot of material. The problem is that there are different datasets for different areas. Also there is a special need with the Post-medieval and Modern periods to work with historians in an integrated fashion (not just providing separate sections in a report). Recent work at Bishopstone Mill example has combined excavation with historical sources and oral testimony: this multidisciplinary research has been integrated to produce one cohesive narrative for site. Oral history is important for understanding the experiential aspects of sites. Also, with particular relation to industrial archaeology, we should recognise that we are not just dealing with sites and processes. There are also the lives of associated workers to consider, through housing and the domestic sphere.

Wealden Iron

Jeremy Hodgekinson (JH)

JH pointed out that Wealdon Iron is probably the most explored industry in the region, and traced the development of work from that carried out by Lower in 19th century through to Straker's work in 1931. The latter became the standard synthesis for the next 50 years, only superseded by Cleere and Crossley in the late 80s and 90s.

There are a large number of Post-medieval sites. (101 forge sites on JH's distribution map, as well as 112 blast furnace sites). Some sites are known from documentary evidence, but no exact location for them is known; other sites have been located by fieldwork where they were not known of before.

Excavations have often tended to concentrate on areas that were under direct threat from development, so many sites have not been looked at in total, often excluding working areas and other areas that are not as obviously of technical interest. Scheduling and heritage conservation protect most sites, although because the extent of sites not always understood damage can easily be done (for example at Newbridge in Sussex).

The medieval water powered bloomeries predominate in northern Weald, but only a relatively small number have been securely identified as water driven. Much more needs to be put into the Research Framework about the medieval Iron industry than any other period. JH then listed a number of sites of interest, including the early 14th century Chingley Forge (adjacent to a furnace, and the earliest remains a water powered mill with forging slag), Roffey, just outside Horsham (which includes a pond, and is corroborated by documentary and good pottery evidence), and Woolbridge near Mayfield (no excavation near this site, but there are indications that it was a water powered bloomery). The water power in these examples could be shaping the Iron or being used to power the forge. There are also numbers of sites known that existed before blast furnaces in the area, which require further examination.

Another important area of research is Iron ore mining. We need more mapping of what is on the ground. The geology of the Weald is highly complex, making discovery of sources of iron ore more difficult. Mapping the region for this activity is equally difficult because of tree cover and access. The Wealden Iron Research Group survey of Iron ore pits at Tugmore showed that it was difficult enough to carry out such work in relation to one site, let alone the entire Weald area. Cotswold archaeology have found further evidence at Grinstead Wood where signs of ore extraction are under a specific threat from brick clay extraction. JH suggested that a LiDAR survey of the Weald was called for in this regard, and demonstrated results from a similar survey of the Forest of Dean.

Further areas to focus research would be to investigate instances reverberatory furnaces used for re-melting iron (air furnaces). These are generally associated with urban settings, but there are half a dozen sites in the Weald where they were used (at Brenchley in the 16th century, for example). JH also reiterated LB's earlier call for further investigating the social aspects of industry, including temporary housing, and even shanty towns.

Discussion:

The possibility that bloomery slags were being used as an ore was raised. There is no documentary evidence for this in relation to the Weald. Beyond the Weald there is some evidence of bloomery working on the South Downs. In Kent and Surrey there is also some evidence of late Iron Age and Roman working on North Downs. Metal

mills in the Thames tributaries (e. g. the Cray) were also mentioned, the mills processing Iron that has been made elsewhere.

Glass industry of the Weald

David Dungworth (DD)

Even at its height, this industry was geographically highly restricted to a few parishes around Chiddingfold and Wisborough Green, with only about 20 families from a small number of parishes (13) involved. The industry did not have a big economic impact but nonetheless was nationally important. Before looking at the recent advances from archaeological evidence and science, DD would focus on the historical outline.

The earliest historical evidence is an early 13th-century document which records the grant of land at Chiddingfold to 'Laurence Vitriarius'. The term *vitriarius* could mean glazier or glass manufacturer, however, as Chiddingfold was a centre of the later industry, 'it seems a little perverse to suppose that Lawrence was anything other than a glass-maker' (Charleston 1984, 29). A document of 1351 records the payment of 43s 6d to John Alemayne (John the German) for 'white' (i.e. uncoloured) glass for St George's Chapel at Windsor and 8s to William Holmere for transport of the glass from Chiddingfold to London. There are further 14th century documents that record the purchase of 'white' window glass (mostly by churches). Interestingly, there are then no references to the industry in the 15th century.

Historical evidence is available again in the early Post-medieval period. There are two families of yeoman farmers (the Peytowes and the Strudwicks) who are named as glassmakers in the 16th century. Historical documents attest to the Peytowes as glassmakers at Pickwick from 1536 to the early 17th century. In 1557 Henry Strudwick left his house and glasshouse at Idehurst to his sons. There are two known glasshouses at Idehurst and it is believed that one of these was built by Henry's sons (more of this later). There are references to Strudwicks as glassmakers until the end of the 16th century.

In 1567 the immigrant glassworker Jean Carré offered to build up to 12 furnaces in England and 6 in Ireland. He succeeded in obtaining a royal patent (monopoly) for glass manufacture and brought over glassmakers from France (Normandy and Lorraine) and other parts of Europe (eg Tyzack, Henzey, Titry, and Bungar). In 1589 George Longe said there were 14 to 15 glasshouses in England. Not all French glassmakers were welcomed: Carré had agreed to teach English glassmakers continental methods but many of the Frenchmen he brought over (especially the Normans) refused to reveal any secrets. The production of glass in the Weald ceased quickly after 1615 and a royal proclamation banning the use of wood for glass furnaces. The French glassworkers moved on to new glassmaking areas based on the coalfields (e.g. Bristol, South Staffordshire and Newcastle); last one glassmaking site closed in 1618.

Antiquarian and archaeological activity have added much to this picture, and by the late 1990s about 47 sites were known (more recently Colin Clark has revisited earlier work and found another site).

This was a forest industry: using wood for fuel, sand from nearby pits and also bracken for flux. Scientific analyses of the residues left by the process is adding more detail still in terms of developments in method and chronology overall. The sites at Knightons and at Blunden's Wood have provided good evidence that has been examined in detail via doctoral research. The research has shown that these early sites produced 'forest glass' while late sites (Sidney Wood) produced high-lime low-alkali glass. While the exact reasons for these changes remain unclear, it seems that the new recipe/technique arrived in the Weald in the late 16th century and was brought by the immigrant glassmakers.

In collaboration with Colin Clark, DD has started a programme of chemical analysis of evidence from Tanland, Idehurst North, Idehurst South, Blunden's Wood, Gunter's Wood, Horsebridge and June Hill. Results of initial analyses concur with and add further detail to the above pattern, with the Idehurst sites in particular seeming to mark the crossover from the earlier to the later methods.

DD finally drew attention to a project proposed by Rob Poulton, Surrey County Archaeological Unit, which is seeking English Heritage funds to:

- Re-locate all known sites (geophysical survey, Aerial Photographs, fieldwalking, etc)
- Assess the current condition of all known sites
- Determine the rate at which sites have been discovered (Cooper, Winbolt, Kenyon, Crossley, and Clark) and destroyed
- Relate condition of evidence to current land use
- Survey 'neglected' areas, e.g. Barnfold
- Undertake excavation of already excavated/damaged sites to carry out archaeomagnetic dating
- Carry out excavation to modern standards with programme of scientific analysis (glass composition, crucible composition, etc).

Discussion:

A lot of the Iron industry was based on sea travel, but very little glass was exported by sea. The material was moved overland to London, which was the main market (window glass in the main). In the late 16th century a whole series of Tudor houses were being built where window glass was required (as a form of conspicuous consumption): improvements in technique also lowered prices. A problem with recognising earlier activity is that earlier glass tends to be more brittle and degrades more easily, and glass condition can also be affected by local soil conditions. LB pointed out that if the proposed English Heritage survey goes ahead it would bring the archaeology of the glass industry up to date.

The gunpowder industry

Wayne Cocroft (WC)

WC listed examples of sites directly associated with the gunpowder in the region, giving a brief history of each, as well as an idea of the degree to which they are understood and how they should be curated in future.

There are many sites clustering in the London/Surrey area that are associated with Evelyn family in Surrey especially. One such is the important site at Chilworth Mills outside Guildford, which was producing gunpowder from the 16th century until the 1920s, and which potentially provides a particularly good example of what powder works would have looked like in 16th century. The site, which contains evidence of the German take-over in the 1880s, and the bringing in German machinery, also therefore elucidates a critical point in the development of the industry, and the 'last gasp' for Brown Powder. The latter was superseded by cordite (a mixture of nitro-glycerine and cotton), and Chilworth Mills was primarily an explosives factory from the 1890s.

Faversham was also important for this industry, with older works dating from the 1650s that skirt the north of town. These were bought out as first royal gunpowder factory in 1670. Huguenot immigrants were involved in the Oare works, which operated from early 18th century to the 1930s. Again, the Dartford Mills site is one of the earliest powder works to have been published on. More fieldwork is needed in the Dartford area to tie down where we do get pockets of survival of this archaeology. The group of mills around Battle dating to the 19th century are probably the least researched), and a focus of this activity around Tonbridge provides another avenue of research.

There are also the sites where the raw materials were processed to consider. In the Weald, for example, we have charcoal factories at Fisher Street and Firnhurst (dating to the 1790s). Charring of the charcoal was carried out in cylinders (making the charring more standardised than could be achieved in a pit). This advance brought a major improvement in canon powders. Another Cylinder House survives at Hythe, and this only came to light in last year or so.

From the mid-19th century onwards gunpowder generally starts to lose out to chemical explosives. There were works associated with this new form at Oare Creek at Faversham, for example, the material mainly being for industrial use at home and abroad throughout the Empire (the location of the works near what was obviously important). There are few surviving buildings associated with this manufacture (many have burnt down), but remains of chemical processing installations are extant. These need to be carefully planned as there is not a lot of documentary evidence for the processes involved. There were further works at Cliffe marshes (1890s to 1920s). No factory drawings are available but again a number of processing buildings survive.

A number of other aspects are also worth further consideration, such as the fact that there were lots of connections outside the region needed in order to to make the industry work. Regional research should not therefore be too inward looking in terms

(there were a lot of chemical depots along north Thames shore for example, which formed part of the same industry).

In terms of curation , the Chilworth Mills site can perhaps be taken as a good example of the challenges involved. Not much of a footprint is left from the works itself, and the area is mostly wooded and so difficult to survey. The large site is mostly scheduled, but some areas around the edge could do with 'clearing up'. Work on this has been carried out by the Crockers, English Heritage (WC), and now a local group of enthusiasts has become involved. Another local group has been carrying out fieldwork at Lie (near Tonbridge), and the Faversham history society has been very active in researching the works there for 30 years or so.

This local focus is clearly something to be developed and carried forward, but more synthetic work also needs to be carried out across the region, with further exploration of the links between the study of this industry and other research subjects: such as Defence (another SERF theme). There are also matters that relate to the industry that haven't been looked at thus far, such as the archaeology of the firework industry, for example, and sites such as Fort Halstead in Kent, which was important for the development of solid fuel rockets (as well as the British Atomic Bomb).

Discussion:

In investigating an early mill site, there is first a need to look for evidence of early processing technology (the mill site). Once the mill leat is established the later mills tend to be superimposed on the same sites thereby destroying earlier evidence. In terms of the development of raw materials, not until the 1780s did William Congreve start to specify preferences for wood species and the size of wood used for charcoal. This attempt to standardise was followed by the German introduction of rye straw charcoal (which contained no air pockets, unlike wood charcoal).

LB pointed out that, because of the many adaptations of industrial sites, even late nineteenth and early twentieth sites, it is difficult disentangle and understand them in plan and understand the activity represented. Frequently archaeologists are faced with a complex palimpsest reflecting many changes of use.

Change and decay: Post-medieval church archaeology

Robert Hutchinson (RH)

There are a large number of Post-medieval church buildings (even just within the Anglican sphere), but not a great deal of archaeology has been carried out on them. Churches are in a constant state of flux in terms of structure, fixtures and fittings, resulting from changes in liturgy, the need for toilet blocks, access, etc. There is a constant threat, even though faculties must be obtained for changes to be made. Theft is also a growing problem, even of bells. Moreover, antiquarians often ignored the later aspects of churches. For a number of reasons therefore, churches and churchyards can perhaps be considered the new context for rescue archaeology.

Some individually inspired projects have begun the recording of this vast resource; all the heraldic hatchments (objects carried before funerals) for England and Wales have been recorded (by one man) for example. Brasses have been entirely recorded up to but not after 1700. These also subject to theft, and the indented slabs for these still largely unrecorded, as are ledger slabs (approximately 10000 in the UK, beginning to be recorded).

The true level material impact of the Reformation on the structures, fixtures and fittings of churches is still unaccounted for, and Georgian and Victorian non-conformist chapels have not really been investigated to any extent. In fact, very little attention has been paid to the mechanics of the Dissolution of monasteries and the recycling of their material (for example at Lewes), and many of the larger monastic sites have been completely ignored. Lewes church was almost twice the size of Chichester cathedral. It was brought down in 10 days, using undermining and pit props at Lewes, but know very little of exactly how this was done because of a lack of excavation. Excavation would tell us much, but revisiting the archives and reinterpreting them is a more realistic strategy, given funding problems.

Another aspect of the Reformation involved movement of tombs out of threatened houses by those who are trying to protect them. Some medieval tombs were in fact appropriated, as at Herstmonceux, for example; the tombs of Battle Abbey were also appropriated, and there wasn't even any attempt to change heraldic aspects of the decoration. Fixtures and fittings of churches were another target, with the painting over of medieval iconography and destruction of rood screens. Other fittings were smashed by iconoclasts, and altar screens thrown out. There being no need for tall west doors (no banners would be carried through them in protestant services), work was carried out to lower many of them. Many monastery churches continued to be used by the parish after the monastery was defunct.

Indeed many changes to these buildings continued to be made, and makers also left their mark in the form of graffiti (e.g. hand and shoe prints). Church archaeology of the Post-medieval period in the South-East is still a largely untouched subject, and a wide range of disciplines and skills will need to be brought to bear on this complex and so-far undervalued aspect the historic environment of the region.

Discussion:

LB highlighted the importance of churchyard surveys. Different styles of headstones over time, biographical detail, and the ambit of local mason's workshops, (masons marks shows distribution of funerary industry) are all significant sources of information. The choice of lettering and of stone, as well as the wider economic aspects show the different social groups represented. A regional research framework could be useful in this area because there are a lot of microstudies at parish or project level but no regional syntheses. Churchyards are PCC funded, and there is as a consequence generally no money for dealing with them from an archaeological perspective. A frightening amount of archaeological evidence can be destroyed. Also there is the ethical problem relating to how early we should be analysing the bodies in burials. The Church of England stance is that all bodies shouldn't be disturbed, and, moreover, archaeology is but one aspect of Diocesan surveys. The same problem

encountered with much 'developer funding', an emphasis only on the immediate impact of ground works, also applies to graveyards. If we are carrying out a watching brief on the digging of a cable trench, should we or should we not be looking at the rest of the body other than those small parts of it that might be encountered within the trench itself? Should we not be matching burial cuts to headstones etc? LB gave the example of a Quaker burial of the 17th or early 18th century that he had personally excavated, which contained a ball of ash instead of the head, and special placement of walnuts in the grave. Our anthropological study of variant and changing attitudes to death ought to come right up to the present (J. Litton has done some excellent work on the 18th and 19th century in this regard). Also, to complement the evidence of Post-medieval churches, there is further evidence of militancy in graveyards; tombs were sometimes attacked in the early 1560s: an example of Elizabethan iconoclasm.

Wider discussion followed. There is a need to look beyond period boundaries in terms of Iron industry, glass industry, ceramics etc. Researchers can study that industry on its own, but we need to tie it in with a wider picture (i.e. the society of which it forms a part). Transitions within the period are also important to recognise. A lack of a sufficient skills base in terms of building recorders for industrial archaeology was pointed out (with reference to SERF seminar on the 'urban' theme, which had put heavy emphasis on this problem generally). There are certain dedicated people within voluntary sector, but there probably aren't enough trained industrial archaeologists in in the professional sphere (apparently because this is not seen as cost effective). Industrial archaeology is a wide field, and a variety of methods, and therefore specialised training, are required. The paper industry should be considered more from a regional perspective (again various local initiatives are taking place, but these need to be brought together in synthesis). The issue of localised interest is an important one, and sometimes researchers are completely unaware that similar work is going in adjacent towns or counties. This is something the research framework could help with. There is also similar related problem where, if a site has been used for different activities, interest groups only pick out information relating to their own area of interest. Changes of use on industrial sites would make an interesting research project in itself. The example of the Canterbury Archaeological Trust's work on copperas industry at Whitstable was raised as a rare example in the developer funded context of a well researched investigation of the wider context. The articulation of manufacturing and service industries in towns is another area for research: archaeologically there is often not a lot left, again due to changes of use and the less material nature of service industry. Oral testimony is important here and researchers need to extract the information now before it is lost.

The next three papers are adapted from texts supplied by the speaker in each case.

Experiencing the urban in a rural setting: the lower Medway valley of Kent, 1750–1900

Andrew Hann (AH)

Processes of industrialisation transformed the environment, economy and culture of the lower Medway valley between 1750 and 1900. Fields, hop gardens and farmsteads were replaced by brickfields, cement works, quarries and rows of workers cottages.

By the late nineteenth century the valley shared many of the attributes of an urban area, but within a rural setting. AH's paper explored the 'urbanisation' of the lower Medway valley on three different levels:

- Changes to occupational structure using census data
- The transformation of the landscape, with a particular focus on the built environment
- The ways in which these changes were experienced by those living in the area, drawing on evidence from the print media and written and pictorial representations.

AH also drew contrasts between the impressions of locals and those of outsiders, and traced changes in the way the valley appeared and was perceived over time, questioning whether conceptions of urban and rural are relevant to such peripheral industrial localities.

The paper drew on research from a previous project 'People and work in the lower Medway valley, 1750–1914', part of the Victoria County History's (VCH) England's Past for Everyone initiative.

- This was a two-year project focusing on the industrialisation of eight parishes in the lower Medway valley
- A large group of volunteers was involved in both researching and writing material as part of the project
- Main outputs will be an accessible paperback volume in the VCH's new 'VCH Studies series' [due to be published in 2008] and an interactive website containing datasets, images, short articles and other material collected and collated as part of the project
- There is also a schools element of the project which will be delivered in 2008
- Part of an ongoing initiative to resurrect the VCH in Kent. This is now being taken forward with a new project led by Dr Sandra Dunster and focusing on the history of the Medway towns.

The paper had been initiated by the realisation, quite early in the project, that the lower Medway valley was quite different from the surrounding areas of Kent, and that this distinctiveness arose from the semi-urban feel of the area. There was a distinctive quasi-urban culture not dissimilar to that found in industrial districts of the north or Midlands. Today the area suffers from similar social problems as other areas suffering post-industrial decline. AH would attempt to unpick some elements of this 'urban culture' and explore how the lower Medway valley came to be so distinctive, and would set out areas in need of future research.

The area in question lies between Maidstone and the Medway towns. Today it is an area of mixed industrial and agricultural use, with relatively high levels of unemployment, low skills, low incomes and higher levels of deprivation than Kent or the South-East as a whole. Until the mid 19th century the valley was largely rural and agricultural in character, though the river Medway was an important trading conduit, linking inland Kent and Sussex with London and wider markets. From around the 1830s industrial development began to gather pace, centred primarily on the brick and

cement industries, though with papermaking in the south, and ship and barge building in the north of the area.

What was distinctive about the lower Medway valley was the rapid onset of industrialisation, and its similarly rapid demise in the early twentieth century. Although there was some manufacturing before 1800, this was diverse and mainly linked to agriculture or maritime activities such as shipbuilding, milling, and fishing. From the 1820s brickmaking and lime burning began to develop, meeting the needs first of the nearby dockyards and growing Medway towns, but later of London and the rest of the UK, plus overseas markets. Bagshaw (1849) for instance notes that the lime burners of Snodland were by this period supplying much of the lime to London which had previously come from Dorking. Works sprung up along both sides of the Medway from Frindsbury to Aylesford – with clusters on Frindsbury Ness, around Halling, Wouldham and Burham.

The building supply industries benefited from many natural advantages – vast supplies of raw materials (chalk, mud, and clay), easy access to fuel from the North East, access to London and overseas markets via the Medway, and a concentration of early innovators leading to agglomeration economies. By the later 19th century the Medway and nearby Thames estuary dominated the brick and cement industries. These industries in-turn dominated the economy of the valley. Associated Portland Cement Manufacturers (APCM) combine formed in early 1900s, bringing together many of the main players on the Thames and Medway – this represents the beginnings of rationalisation to meet foreign competition. Post-1914 new technology, overseas competition and economic slump decimated the industry leading to amalgamations and plant closures. By the 1950s only a handful of works survived. Today there are no brickworks in the valley, and only one cement works.

AH would outline the impact of this industrialisation and de-industrialisation of the area on the cultural landscape of the valley with the aim of showing why the culture of the area has taken on so many ‘urban’ characteristics and ‘urban’ problems, and would argue that industrialisation led to dislocation as the physical landscape was transformed, cultural markers erased, traditional rhythms and rituals of life disrupted, and communities displaced. De-industrialisation in the late twentieth century has unleashed a second bout of dislocation, with industrial communities fractured and the landscape again remade. The paper would focus on three elements to this process of making and remaking the cultural landscape: the built environment, the people and cultural markers

Built environment

It is possible to read historical narratives from the landscape of an area. In the lower Medway valley the dominant narrative visible today is one of industrialisation. Evidence of the industrial past can be seen literally carved into the landscape in terms of the vast chalk quarries that scar the hillsides. Passing along the valley their white cliffs seem to wall-in the river Medway. On a smaller scale we have the tramways, the vestiges of long abandoned cement works, and the lower ground surfaces that identify former brickfields. Possibly most visible today, however, are the former brick and cement villages, with their terraces of worker’s cottages. These seem to an extent an alien intrusion into the downland landscape: an urban impostor in a rural setting. The traditional Kentish downland landscape consisted of small villages or hamlets with

scattered farmsteads, the consequence of early enclosure. Industrialisation led to rapid population growth and greater nucleation of settlements which transformed the character of these places.

Many of the parishes in the lower Medway valley were relatively sparsely populated in the early 19th century. Population growth took off after 1851 when brick and cement works began to appear along the banks of the Medway. Population growth had a dramatic effect on many of the small villages in the valley. Terraces of worker's cottages were grafted onto existing villages, and some new settlements emerged (e.g. Eccles and Bill Street). The expansion of these settlements gave them a more urban feel. The new housing was laid out in terraces, sometimes with a grid-iron layout as at Eccles. The rows of worker's cottages also contrasted sharply with traditional vernacular architecture. They were built using bricks, tiles and cement from the new industries of the valley and were generally of higher quality than existing cottage accommodation. In some cases innovatory building techniques were used – some of the earliest houses built from cement blocks were in the Medway valley at Halling and Burham. Development proceeded in a similar manner to urban areas. In some cases houses were erected by local landowners, or the manufacturers themselves; elsewhere speculative builders took the lead.

The development of Eccles, for example, began in the 1850s with the establishment of a large brick works on the east bank of the Medway at Burham by Thomas Cubitt. Prior to this the locality was known as Bull Lane and consisted of a few scattered cottages and farmsteads. Noting the influx of skilled workers to the areas, an enterprising local farmer, Thomas Abbott erected a terrace of 22 cottages subsequently known as Eccles Row. Further cottages were added in the 1860s, plus an infants school. This produced a community of 30 households isolated from the main parish centre of Aylesford over two miles away and almost all employed in brickmaking. The main body of Eccles village grew up south of Eccles Row on a rectangular strip of land owned by William Varney, manager of the Burham works. Streets were laid out on a grid pattern. Building took place haltingly at first due to a slump in demand for bricks, but recommenced after 1876 when prosperity returned. Varney sold off small plots in piecemeal fashion to local building firms who erected fairly standardised rows of cottages three or four at a time. Most building work was complete by the 1890s.

Early photographs from Eccles show the impressive uniformity of both Eccles Row and Alma Road, and the other north-south streets. This produced a morphology and streetscape which would not have looked out of place in a northern industrial town. Yet Eccles was and still is a fairly isolated settlement surrounded by fields. The uniformity of the streets in part reflected the rapid pace of development, but also probably the involvement of Varney and Burham Brick Lime and Cement Company. The erection of uniform housing for its workers in brick and terracotta which were the company's products would not only have been of practical value but would also have advertised the vitality of the business.

The development of Snodland was somewhat different as here there was already a long established village. Development was driven by the two main industrialists of the locality, the paper manufacturer Charles Townsend Hook and cement maker, William Lee who sponsored and encouraged the building of cottages to houses their expanding

workforces during the second half of the nineteenth century. Hook laid out a series of streets close to his paper mill, renting out the accommodation to his workers on reasonable rates. Between 1859 and 1882 the workforce at the paper mill rose fivefold, from 70 to over 350. Census records show Charles was responsible for at least 91 of the 149 houses built in the village between 1861 and 1871 at a cost of approximately £11,000. These cottages had to fit in and around the existing development of Snodland. A recent survey of the village shows the laying out of Mill Street and May Street during the 1860s and 1870s, and the addition of workers terraces on the High Street too. There is no evidence of Hook specifying the quality of building work, though the houses are generally well built. Rents were fair, and the houses were available to all workers, not just those at the paper mill. Lee adopted a more *laissez faire* approach, buying up land and then selling it off for building in lots. His activities were concentrated in the Holborough Road nearest to his cement works in Halling. Again the houses built were largely terraced cottages suitable for industrial labourers and were constructed over a relatively short period of time – helping to give Snodland an urban-industrial feel

The actions of Lee and Hook mirror those of nineteenth century philanthropists such as Owen, Lever or the Cadbury's albeit on a much smaller scale. There are precedents in Kent such as William Aspdin's building of terraces of workers cottages in Swanscombe for his cement workers. All shared a concern for the welfare of their workers, and a desire to ensure efficient running of their business. The parallels with urban areas extended to the provision of services, with Hook laying on gas lighting to much of Snodland from his plant near to the paper mill, and both Hook and Lee supportive of the setting up of the Mid Kent Water Company which was providing piped water to many of the industrial villages in the valley such as Snodland and Halling by 1888.

The actions of these industrialists explain why the housing of the lower Medway valley, village morphology, and building materials used all have an urban iconography. The fact that the dominant industry of the valley was the manufacture of building materials is of course not a coincidence. The same materials that were shipped to London and elsewhere to build the 19th century industrial towns were also used to provide housing for the workers in these industries.

People

Rural areas during the nineteenth century are often characterised as having relatively locally-oriented communities. Each village had a core group of residents with deep roots in the locality. Migration was extensive, but most migrants moved within a relatively restricted area. Mobility was driven and defined by the needs and rhythms of agriculture, particularly the hiring of farm servants

The industrial communities of the lower Medway valley do not fit neatly into this characterisation. A significant proportion of those working in the new industries during the 1850s and 60s were outsiders. These were often skilled craftsmen brought into the area by manufacturers, or labourers drawn into the valley from other parts of Kent by the higher wages on offer. Thomas Cubitt was keen to employ local agricultural labourers in his modern brick works, but skilled workers were brought in from his other work in the London area. It is these skilled craftsmen that were housed in Eccles, the new village erected in piecemeal fashion a short distance from the

works. The 1861 census reveals that 80% of adult male residents of Eccles Row were brickmakers, and over 60% were born outside the county, though this fell to 30% by the end of the century. This explains why the people of Eccles were considered as a 'little commonwealth' quite separate from the wider parish community in Aylesford.

Analysis of mobility patterns suggests a reorientation of local patterns of interaction after the emergence of industry in the valley. Whereas in the mid- 19th century neighbourhood area defined by the mobility of agrarian labour can still be defined, by the 1880s interaction appears to be more closely aligned with the distribution of brick and cement works along the banks of the Medway. Thus Halling was most closely aligned with Luddesdown, Snodland and Birling in the early nineteenth century – the river Medway acting as a barrier to interaction. Indeed, the four parishes shared the workhouse at Halling. By the 1880s movement along and across the river was more extensive. For instance, the cement labourer, Thomas Stevens, was born in Halling, but lived across the river in Wouldham in 1881. Similarly, Charles Rogers was born in Maidstone, raised three children in Aylesford, but had been living in Halling for at least six years at the time of the 1901 census. This suggests the development of an occupational community rather than one based on locality.

Cement workers appear to have moved frequently between the Medway valley and other cement-producing districts around Gravesend, and across the Thames in Essex. These migration patterns suggest a considerable circulation of workers between the different industrial districts of north Kent in the mid-19th century. In part this must have stemmed from the instability of employment in the brick and cement industries at the time. Many small brickfields were short-lived speculative ventures, worked for a number of years until the brickearth was exhausted. In the lime and cement industry too there were frequent bankruptcies, particularly in the 1850s and 1860s, leading to the laying off of workers, who must often have moved in search of work. Thus we find brickmakers such as William Whatman, who was born in Hoo, baptised children in Grays, Essex and Frindsbury, but was living in Cuxton in 1861. Significantly, it appears that the establishment of a new works was often associated with an influx of skilled workers from outside the immediate area.

Thus these villages had extensive networks of contacts outside their locality based on occupational communities as compared with earlier more localised communities. Industrialisation widened social horizons for many people.

Cultural markers

One way in which communities express their identity is in spatial terms, through building spatial narratives, stories through which they make sense of and interpret their surroundings. Crucial to the definition of these narratives are cultural markers, specific elements within the landscape which are seen as representing that space, and through which individuals relate to their local environment. The process of industrialisation led to the erasing of many of these cultural markers, often quite literally, as field boundaries, cottages, lanes, trees etc were quarried away to feed the lime and cement industries. With time, however, the tall chimneys of the cement works, the lines of tramways up the hillside with the hard-working steam engines themselves became landmarks – cultural signifiers that this was now a land of cement. This can be seen in the paintings of Donald Maxwell which depict the smoking bottle kilns, tall chimneys and red light of the furnaces as a mythical backcloth for Medway

life. Their demolition and the current agenda to regenerate the Medway area has been just as disorientating for the communities of the Medway valley as was the process of industrialisation a century earlier.

For example, Windmill Hill on the Frindsbury Peninsula was so named because of the iconic windmill that lay on its slopes, facing across the river Medway towards Rochester. This is clearly depicted on Harris' print of 1705. Quarry house, sitting at the top of the ridge also became a local landmark, was used as a meeting place for the elite of the Medway towns, who could walk in the terraced gardens and admire the view. By the 1900s this was still an iconic landscape but for different reasons, with the forest of smoking chimneys from the lines of chamber kilns epitomising the industrial emphasis of the valley. They were the first image of industrialisation seen by visitors crossing over Rochester Bridge. Contrast this with the image of the peninsula today. The slope of the peninsula has been quarried away, and the area is now covered by a modern industrial estate. Past cultural markers have been erased, and the historical narratives that went with them, surviving only in representations in print and on film.

This emphasises the fact that any landscape can harbour multiple layers of meaning, each inscribed upon the last, and erasing what has gone before to a greater or lesser degree. In the lower Medway valley the two periods of transformation – industrialisation and deindustrialisation – marked periods of rapid change when much of what had gone before was planed from the landscape and a new set of features and structures put in place. Whereas elsewhere the landscape may have gradually evolved, in much of the Medway valley it has been recast on two separate occasions.

This explains why vestiges of the industrial past are cherished, and why there are moves to encourage preservation of what remains, or at least commemoration. In a sense this is an effort to record the landscape narratives of the area before they are lost This desire for commemoration can be seen in the paintings and writings of Donald Maxwell, and more recently John Austen. The latter depicts a landscape in decline, the decaying remnants of a glorious industrial past. The desire for commemoration can also be seen in the interest shown by local people in the 'People and work' project. The planned Medway Gap 'Valley of vision' project has similar aims in seeking to uncover history from the landscape, and capture memories of those who lived and worked in the area.

Despite the losses of the past fifty years, however, much evidence of industrial Medway survives. Cultural markers of the industrial past abound in the villages of the valley. This would particularly apply to the iconic buildings and institutions which speak of a prosperous industrial past, and commemorate the great men who brought brick, cement and paper making to the Medway valley. Such buildings can be seen most readily in Snodland, where the institutions and iconography give it the trappings of urbanity and the feel of a small town (it only acquired urban status in the 1980s). Prominent public buildings include the clock tower, Devonshire Rooms, bath house, fire station, National school, Swedenborg church; the parish church in contrast feels fairly peripheral. This is a common feature of the Medway valley villages – prominent public buildings and utilities one would not normally associate with a rural setting.

This focus on cultural markers is picked up in the way the villages have been represented in photography, art and literature. An emphasis on iconic public buildings, on the busy river and the industries themselves suggests that these aspects of the landscape were key to individual and collective identities. It also suggests a sense of local pride in their industrial past and again a desire to commemorate. We can see this in the images of village institutions, paintings of cement works. It is instructive which features of the villages are picked out as noteworthy – often the parts which link to a peri-urban identity (i.e. the working men's club, clock tower, friendly society parade). This is also picked up in writings. Buss says Eccles is a 'little commonwealth', quite apart from neighbouring Aylesford with its hierarchical deference: a sense that the Medway valley communities were different than their rural neighbours. From these writings we also get a sense of the negative side of industrialisation. Terraces were seen as an alien intrusion, there were problems of pollution: an equivocal attitude to industrialisation. Perhaps this intrusion of urbanism into the rural Medway was not something to be universally welcomed.

Discussion:

It was noted that volunteers make a very important contribution to research, especially in terms of collecting data and archiving. The Medway project had drawn on a considerable amount of interest locally. Such inclusiveness is also key to capturing oral histories. For all periods, historic environment research is fuelled by and contributes to a sense of place, both for locals and for those that have left a particular area but still have ties there.

The cement industry

James Preston (JP)

JP discussed the cement industry with reference to the Kent experience, bearing in mind that North Kent was the centre of experimentation and innovation, and that with its advantages in the form of raw materials, cheap water transport and markets; it became the leading centre of production of Roman and Portland cement.

A requirement for a strong hydraulic cement arose from the increasingly ambitious civil engineering projects from the late 18th century onwards. A major breakthrough was James Parker's 1796 patent for what became known as Roman cement. This was a 'natural' cement made from 'septaria', nodules containing chalk and clay in approximately the right proportions, which, when broken and fired in a kiln at 900 to 1200 degrees centigrade, and ground to a powder with mill stones and sieved, produced a strong cement. The 'cement stones' were initially obtained from the Sheppey shore, the Essex coast and by dredging between. Parker produced Roman cement at Northfleet, his works quickly passing into the hands of the Wyatts, and in 1846 to Maude, Jones and Aspdin.

When Parker's patent ran out in 1810 the Roman cement industry spread in the Thames area with Francis at Nine Elms (1812), Samuel Sheppard at Faversham Creek (1816), the Wyatts at Millwall, and to other areas with similar 'stones', including

Essex (Harwich), North Yorkshire (Earle at Hull in 1826), the Isle of Wight (Francis' Medina cement), Dorset, Derbyshire, South Staffordshire (Wolverhampton) and Somerset (Bridgewater).

With the relative scarcity of 'cement stone', experiments continued to create an 'artificial' cement in which the ingredients, chalk and clay, were mixed by the manufacturer. In 1822 James Frost patented 'British' cement, which he produced at Swanscombe from 1825, the works being bought by Francis and White (J.B) in 1833. In 1824 Joseph Aspdin of Leeds patented 'Portland' cement with a process which appeared to involve slaking lime before adding clay, but otherwise similar to Frost's process.

The early 'artificial' cement was not a reliable product. There was vagueness about the proportions of chalk to clay, which was measured in barrow or cart loads at 5 to 2 or 3 to 1, and the mix was not burned to vitrify into a clinker, though generally burned at a higher temperature than Roman cement. There was little knowledge of chemistry in the industry and testing was rudimentary. Something approaching a reliable cement appears in the mid 1840s. In 1845, I.C. Johnson, the works manager at J B White, Swanscombe, utilised vitrified clinker to make a superior cement. William Aspdin claimed to have done the same in *ca*.1843, although Aspdin shrouded his activities in secrecy with a 20 feet high wall around his works, and giving the impression that he was adding extra ingredients (perhaps even ground bones).

The artificial cement industry spread to areas with suitable limestone or chalk and clay such as Buckinghamshire, Essex, Oxfordshire and Warwickshire, and to the North East to which colliers returned with chalk as ballast. A surge of cement works promotion in the 1850s was followed by business failures, for example the Wouldham Works, Kent, largely due to the inconsistency of the cement produced by rule of thumb methods. High costs incurred through (a) being labour intensive, (b) the inefficiency of power using low-pressure boilers and (c) the rising cost of coke, were a constant incentive to innovate.

The first major step forward was the 1870 William Goreham patent for the wet grinding process, wherein after the washmill the mix was ground between horizontal burr stones using less water in the slurry, which could then be pumped to the next stage in the process. This was followed in 1872 by Isaac Johnson's patent 'chamber' kiln in which the hot kiln gases were channelled through a long chamber into which slurry was pumped to a depth of 8 to 10 inches to dry during firing, the dried slurry becoming the next charge to be shovelled directly into the kiln. The chamber kiln was modified by Batchelor to have shorter chambers of two or three drying floors, which took up less space, but needed tall chimneys to get sufficient draught.

These innovations were economical to use as they reduced the amount of labour required, made slurry backs unnecessary, eliminated the need for drying floors with separate coke ovens and made cement production less dependent on the weather. Together with new testing, for example briquettes tested for tensile strength (encouraged by Grant) and a greater understanding of the chemistry of cement which became widespread in the late 1870s, acceptable cement was marketed. The fortunes of the industry tended to follow the building cycle, and, as there was no bar to new entrants to the industry, new firms were set up in times of boom. Some quickly failed,

for example, on the Medway both Adams and the Reliance Cement Company at the Wickham Works, Strood, and J L Spoor at Borstal Manor.

Attempts were made to economise through the introduction of a continuous burning process. Attempts to convert bottle kilns into shaft kilns met little success. The first successful shaft kiln was the imported Schneider kiln of 1898 which was to prove a less expensive alternative to the rotary kiln. Schneider kilns were employed at Halling Manor, Trechmann Weekes and possibly Lees on the Medway in the early 1900s. The Schneider kiln burned dried slurry and the works probably used tunnel driers. After 1913 rotary grates were installed to give a more regularly burnt clinker. The advantage was economies in labour and fuel.

Experiments with rotary kilns date from *ca*.1877 onwards by Crampton, Ransome and others. A kiln tested at Arlesey in 1887 proved a failure, and it was not until Hurry and Seaman patented their kiln in 1895 that there was a viable rotary kiln. Martin Earle at the Wickham Works erected their first rotary kiln in 1900, set up engineering works and eventually had a battery of 16 kilns, and the newly formed APCM took on the innovation in 1900.

The rotary kiln with its comparatively huge production capacities and economies was to transform an industry that was already suffering from overcapacity, cut throat pricing and foreign competition. There had, in the last years of the 19th century, been some small-scale movement towards mergers. The appearance of new technology in the form of rotary kilns, roller or ball grinding mills (usually imported), mechanical handling between the slurry store bins and the cement silos, machine chalk digging and improved packaging plant required capital at a time when conditions were less than buoyant. This led to a reorganisation of the industry with, firstly, the formation of Associated Portland Cement Manufacturers (1900) of 30 firms, mostly on the Thames and Medway, and when this failed to solve the problems, of British Portland Cement Manufacturers (1911) of a further 33 firms.

The move led to the closure of many of the small, obsolete works between 1900 and 1914. This, however, did not inhibit new entrants to the industry. The Batchelor brothers built kilns at Halling (*ca*.1910), Broads, the London builders merchants, opened works at Cliffe (1913), and Goldsmiths, the Tilbury barge owners, the British Standard Works at Rainham, Kent (in the same year). After WWI, the Kent Works, Stone opened in 1922, Holborough in 1924, while Rugby Portland developed the Halling works in *ca*.1938, with all but the latter eventually becoming part of APCM. After WWII, APCM continued the rationalisation policy by centralising to cut costs. This led to the building of the new Northfleet Works, opened in 1969, which was to replace Bevans (Northfleet), Alpha Works (Cliffe), Holborough, Johnsons (Greenhithe), the Kent Works at Stone, and the Metropolitan and Wouldham Works in Essex. This was followed by the wholesale demolition and redevelopment of works sites and of the quarries (for example, the Western Quarry, Northfleet, ahead of the Bluewater shopping centre).

Our knowledge of the cement industry derives largely from the literature, the most important of which is summarised in AJ Francis' *The Cement Industry 1796-1914* (1977) whose 'notes and references and additional sources' gives an extensive but not exhaustive range of sources. Other important publications include Gilbert Redgrave's

Calcareous cements, their nature, manufacture and uses (1895), AC Davis' *A Hundred Years of Portland Cement, 1824-1924,* G and T Earle Ltd's *The Making and Testing of Portland Cement* (c1926), the writings of Charles Pasley RE, the autobiography of IC Johnson, H Osbourne O'Hagan's account of the formation of APCM in *Leaves from my Life,* Peter Pugh's *The History of Blue Circle,* and David Eve's *The Cement Industry In Kent* (2000: Kent County Council, *unpublished*).

David Eve identified 125 cement making sites in Kent (boundaries of these often overlap), the bulk of which were on the Thames and Medway, an area that was a major producer of Portland cement into the second half of the 20th century. Of these there remain no Roman cement sites. Early Portland cement is represented at Northfleet by the Aspdin kiln block. The post- 1850 resource includes the nationally important industrial landscape at Cliffe which contains two kiln blocks of special importance, firstly, the nine kiln block of the Nine Elms Works (Francis and Co) dating *ca*.1866–8, together with the remains of a grinding mill base, possible drying flats and the footprint of other feature,and, secondly, the chamber kiln block which is probably the prototype of the Johnson chamber kiln.

The Monument Protection Programme Step 4 report of 2002 proposed the Wouldham Hall/ West Kent, Burham site to be of special national importance as 'an unusual survival of a group of later 19th century buildings and warehouses for the [cement] industry, of historic and architectural interest', despite which most of the Wouldham Hall site was cleared. (Building recording was carried out, but the report is not accessible). Part of the combined site remains to be investigated.

Sites of regional importance, though substantially buried, include: Sharps Green, Rainham; Elmley on the Swale; and Lees, Halling (possibly endangered). At Burham there are extensive slurry backs and the footprint of successive phases should survive (at risk from developers). Some trace of works (Johnson's [1853] and Emson Holcombe) at Cliffe Creek (cleared but on RSPB land), British Standard works, Lower Rainham (cleared but with its footprint on a nature reserve) and Barron's works at Otterham Creek may also survive. The footprint of the Trechmann Weekes site at Cuxton may survive (buildings apart from the office have been demolished), and some trace of the Borstal works.

Twentieth century sites include Swanscombe, Northfleet and Halling, where there is also a possibility of finding traces of earlier works. However, this resource is likely to be short-lived as a result of the pressure to regenerate in the Thames Gateway area, as well as house building on 'brown field' sites and a premium on 'waterside' housing. There is no possibility of a modern works being preserved. The other sites have been completely lost.

From documentary sources we know on a macro level about the development and location of the cement industry, its personalities and technology, and its overall business history. What we do not know is a great deal of detail about individual sites and businesses. We know little about the layout of sites. Slurry backs and particularly bottle kilns can be located from maps and plans, but not all structures marked can be identified. This gives rise to questions. Where were wash mills, grinding mills, engine and boiler houses, packing sheds, stores or silos, coopers shops, locomotive sheds,

workshops or stables located? What sorts of kilns were employed, and how were they constructed?

We have only a sketchy knowledge of the business history of individual firms. Little can be gleaned from early returns from companies apart from ownership. We know little about other aspects of the businesses such as barge building and operation, engineering and machine making or brick and tile making. We need to know more about the cement works and the communities in which they existed, and to investigate workers housing, facilities and welfare.

Some specific actions are needed:

- More documentary research. There is possibly much information that can still be gathered from searching local newspaper collections and library and archive sources (among others Kent and Medway archives, Rochester Bridge Wardens, the Church Commission)
- Schemes like Andrew Hann's Victoria County History project have potential. This might also provide a means of sharing information that is often held by individuals and unpublished. Co-operation between local historians, often 'amateurs', and 'professional' archaeologists might be fostered
- The involvement of local historians, local history and archaeological societies, schools, and further and higher education institutions in a structured approach to research could provide an answer. (Students on Access courses, social science certificates and diplomas, and economic history degrees have to complete a dissertation as part of their course, and might be channelled in the direction of research into industrial history)
- Easier access to archaeological reports and assessments, and information in general through the deposit of copies with the County Library or Archives would be helpful. There is a need for somewhere for people to publish their research which is accessible and cheap
- Access to the archives of Lafarge and Cemex (or Rugby Portland) would also be helpful, though Blue Circle is rumoured to have shredded quantities of documents [access to plans enabled Ron Martin to report on the more modern layout of Shoreham Cement Works (Sussex Industrial History, 34, 2004)].
- Archaeology would play a part at the Cemex, Halling works which are likely to be cleared for redevelopment in 2008, and at the Northfleet works, which will close soon after. Both sites need investigation and recording. Both stand on previous cement works sites.
- At the Nine Elms Works, Cliffe, apart from a thorough recording of the site before it is further vandalised (edge runners from the site have been recently removed to be used as parish boundary markers), investigation of possible drying flats and how they worked could provide useful information. Also at Cliffe, the Johnson chamber kiln needs recording and investigation. Sites should be scheduled.
- Excavation at other sites might draw the interest of students as well as providing new information. However, at some sites, such as Emson

Holcombe or Johnson's 1853 works at Cliffe Creek, there is little to show but patches of concrete floor and traces of external walls.

- The question remains as to how any work or research is to be funded, or how it is to be organised, as there is no county Industrial Archaeology society in Kent.

Discussion:

Some archaeological work has been done, for example at Cliffe, but this merely involved site walkovers. There is a real problem of perception with this resource. A lot of historical and photographic evidence exists, but it is still extremely difficult to work out the functionality of various areas in the field. Archives exist, but private companies often deny access. The business history of all these firms is very sketchy as well. The other problem is again one of microstudies having been undertaken by individuals: when these lone researchers die their material is often lost (thrown away by those unwitting of the value of the material). Kent needs an Industrial Archaeology Society. It is also difficult to get information published. There are particular problems with access to sites, especially when sites have been demolished prior to getting planning permission. Sites are very often overgrown (e.g. the Cliffe site, which is the only one of its type in the country, and yet not scheduled). Not just clearance of vegetation but cleaning off of moss is required to see exactly where steel rods for mounts are, for example. There is also very little detail on maps, and it is difficult to know the detail of what functions various buildings had. In terms of dissemination of research web publishing is increasingly important.

For industry especially there needs to be a regional rather than just county based research outlook. The problem for many sites is that records are so poor; they have either been destroyed or are hard to get to.

Seaside Resorts in the South-East (and beyond …)

Allan Brodie (AB)

Despite the best efforts of Margate to claim primacy in the race to be crowned England's (and therefore the world's) first seaside resort, it nevertheless was at the forefront of a revolution: not the scientific, agricultural or industrial revolutions, but a leisure revolution. By the early 18th century, England was sufficiently prosperous and educated to be able to sustain a new fad: the holiday, involving bathing in the sea and enjoying the curative properties of the coast. AB would outline the major types of seaside resort development in the 18th, 19th and 20th centuries, and illustrate how these are manifested in the South-East of England.

Margate wasn't the first seaside resort (despite all the signs in the town proclaiming otherwise); this claim can actually be made in the North of England, at Scarborough (as early as 1626). There are also references to the resort at Whitby in the early 18th century including a puppet show in 1710 and a poem proclaiming (in 1718) the virtues of sea bathing.

The truth is that early sea bathing could take place anywhere, if there was easy access to the sea and a farm to rent a room at. A good example is Sir Hardnolf Wastnage, who spent three months in 1725 on the Lincolnshire coast, staying in a farm and bathing in the sea. Resorts, in the modern sense, were not a prerequisite for sea bathing, but if a bather wanted any substantial facilities he would be forced to venture into a town. He or she would want accommodation, a supply of meals, the company of fellow bathers and entertainment facilities like the ones they enjoyed in London or at existing spa towns.

By the mid- 18th century a range of existing towns had been pressed into use, particularly in the South-East, due to their proximity to London. A key characteristic of these locations is that they were usually pre-existing working towns where at least rudimentary facilities existed and which during the mid 18th century would begin to be transformed into towns with dedicated facilities for visitors.

In 1736 Margate was a small working town with a failing fishing industry and in need of an economic lift: the seaside provided this. The plan of the town formed a characteristic half onion shape focussed on the sea. This was subjected to phased development. The immediate seafront was built first, then filled in behind. On the front, lodgings were in four storey buildings, while behind buildings were of three stories for less expensive lodgings, or two storey just as houses. Brighton had an historic core with some timber framed buildings (now the fashionable area known as the Laines). Again there was phased development of an initial half onion form but with some emphasis on the seafront, again the taller, larger buildings face the sea, while those behind are smaller.

But before change was evident in the overall plan, there was smaller scale development within the footprint of the original towns. Development occurred one house at a time: as at Hastings a barn became a theatre or a room behind an inn became an assembly room. Hastings' Eastcliff House is an example of how sometimes grander houses were built in this phase. Edward Capel, a Shakespearean scholar, spent summers here, in a building overlooking fishermen and net lofts. Soon single houses were supplemented by terraces – signs of the growing confidence of investors in the seaside.

Development also changed the relationship between the sea and land, between man and nature, for example the Sidmouth storm 1824 led to the first sea wall in 1835. Cecil Square at Margate marks the first development there by houses and terraces and responds to the 1769 sea change. Investors put up the money for a square, in this case inland rather than on the seafront. The buildings were "swish" houses, with a row of shops, and an assembly room attached to the hotel.

By the late 18th century there was also a move to create resorts beside existing inland villages. These were 1-2 miles inland, and were originally agricultural communities. Examples include: Herne Bay, Bognor, and Bexhill. At Bexhill it is clear from maps how the new seafront community gradually expanded to envelope the pre-existing village. By the early 19th century we also get new development on virgin coastline. One of most ambitious but unsuccessful was that at Hayling Island. Southport was also created on virgin coastline and St Leonard's was established beside Hastings as a new resort, though now the two towns have merged. Some resorts had huge new

developments added to their side, almost the size of new towns. Grandest was probably Kemp Town established by Thomas Read Kemp in the 1820s to the east of Brighton.

The forms of transport available in the 18th and 19th centuries tended to concentrate people near the heart of a settlement, but with the arrival of the car new forms of resort developments appeared, which might be uncharitably described as sprawl. Plotlands allowed people to settle who could not afford to purchase a property in the heart of a resort, or did not wish to live in the more formal environment of a seaside town. Keeping costs down inevitably brought a poor standard of architecture and design, and in 1938 an essay entitled 'Leisure as an Architectural Problem' analysed the planning challenges facing the seaside:

> 'Bungalow colonies, camps, city refuse dumps and general ribbon development along coastal roads all contribute to the general decomposing process which will soon leave very little of England's 1,800 miles of coastline that is not irreparably damaged.'

The car also led, inexorably, to the caravan. James Walvin, writing in 1978, said that 'One by-product of the advance of the private car was the rash of caravan parks which erupted around the coast'. Ingoldmells, to the north of Skegness is at the heart of this Lincolnshire sprawl, which may contain up to 10% of Britain's caravans. Freedom from having to stay in the hearts of resorts also helped to create the holiday camp, as at Butlins (first in 1936 – modernised in the 1990s).

Today we are not creating new resorts, but we are trying to renew resorts. Much emphasis is placed on refreshing the seafront. Much of the public realm of Margate has been renewed, and promoted as such. Other resorts are also creating new seafronts, with some eye-catching modern schemes. However, there are some less appealing developments at seaside resorts, particularly the more generic, which seem not to respond to the particular place they are supposed to enhance. In the South-East there are two good examples of a more organic approach to regeneration. Margate is transforming its once rundown Old Town, the original settlement (and an area designated for comprehensive demolition in the 1960s). It is doing this by doing up its buildings, and attracting new creative industries as well as restaurants.

Folkestone, with its rundown seafront, a little-used harbour and a once fashionable shopping street now strewn with cheap takeaways, also has a plan, based on a seed corn fund of around £30m provided by Roger de Haan, this charitable, but ultimately self-sustaining, fund is being used to stimulate the creation of small businesses in and around the High Street, and during the seaside project AB has seen this area being transformed from largely derelict, to a street full of lively, media-related businesses.

The once rundown image of the seaside, a mythology that is still being pedalled by the media, is no longer true. There are shabby resorts, there are scruffy areas of many resorts, but too often there is confusion between 'scruffy' and historic character. The historic environment is inevitably less pristine than newly built resorts abroad, but anyone who has visited these resorts a few years later sees the modern version of 'scruffy'. English Heritage held a two day conference in at Hastings in October 2007 to highlight the special character of our seaside resorts, and through this and our recent book on the subject, they have been able to get the government to reconsider providing seaside towns with special help.

Discussion:

Discussion initially centred on the varied fortunes of different resorts. Bognor never seemed to be quite able to compete, but actually there were waves of development in other resorts in general. From the1760s hoys brought visitors from London and the Thames area to Margate, for example, and then Steamers from the 1820s. The population dropped in the 1850s and 1860s, however, because railways offered more choice. Different resorts attracted different clientele because of varied perceptions of status (Brighton vs. Weymouth vs. Margate). Also people were sometimes driven out of resorts as perceptions of the desired 'social tone' changed. Such fluctuations had an effect on housing, with, for example, large houses that had housed 'upper classes' being divided up into smaller lodgings. Winter gardens and other facilities were innovated to try keep people at the resorts outside the summer season. Resorts need to have a major study of their history, with base level information being collected and recorded: these resorts have a particular set of questions to deal with demanding specialist research criteria.

Wider discussion of matters raised in the meeting as a whole followed. The evidence for this period is especially under threat [because it is sometimes considered less significant than earlier periods): the priority is to collect data, whether on buildings or artefactual material, documentary evidence or oral traditions: more social aspects of material can then be reconstructed in more detail. It is important to relate the data to the ways in which use of artefacts ties in with people and social status. LB has a planned involvement with a future project sorting through a dump of 56 dustbins of ceramic materials from the town dumps of Winchelsea in East Sussex. The 20th century had been relatively little discussed during the session, and a number of subjects that could have been raised could have been docks, ferry ports, communication links, leisure, retail shopping, and park layouts. Another subject is that of migrant workers (e.g. hop pickers), and migration in general. Colonial matters also need to be taken into account, and how the massive changes in the material culture of the region in the late Post-medieval and Modern periods tie in with changes in society. The subject of industrialists controlling society and settlement in order to produce profit had already been raised, as had the de-industrialisation of the region. These broad socio-economic changes, as well as more localised or even individual experiences of the period need to be investigated further via multidisciplinary approaches to the historic environment of the region.