Conservation and Renovation of Industrial Heritage Buildings

Some Recent UK Experience in the Manchester Region.

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1. Introduction and Historical Background

Prestigious buildings such as palaces, castles, monuments and chateaux attract kudos to those who own them and are therefore more likely to have been preserved by the individuals who have them or by the communities in which they are situated.

Industrial and domestic property, particularly in urban areas of large cities, is unlikely to enjoy this privilege.

The industrial revolution commenced in the middle of the eighteenth century. It was unique to Europe and North America, but its greatest flowering was in the aptly named Great Britain.

Despite having lost possession of the United States in 1776, Britain was, for the whole of the nineteenth century, the most powerful country in the world. Its power and influence was based on the extent of its empire, the strength of its armed forces – particularly its navy, the size of its mercantile fleet and its foremost position as the greatest industrialised nation in the world. A nation whose industry created and developed a phenomenal series of scientific and engineering discoveries; these were mainly made by the British, but some were made by others and improved and implemented by British.

British possessions, colonies and protectorates circled the whole globe and existed in every continent. It was rightly said that the British Empire was the empire “upon which the sun never set”.

2. The Growth of the British Cotton Manufacturing Industry (1750 – 1920)

Of the numerous great British industrial enterprises that flourished throughout the late eighteenth and the whole of the nineteenth century, probably none was more charismatic than Britain’s cotton industry.

Britain did not grow its own cotton, but it controlled virtually the whole of the world’s supply including that from Egypt, the Indian sub-continent and substantially that from the Southern states of the fledgling US. The latter connection was particularly influential during the period either side of the American War of Independence (1861-65).

Interestingly, the actual cotton industry within Britain was concentrated almost exclusively in one county of north west Britain – Lancashire – and it was centred around the city of Manchester, which was in many respects the heartland city of the Industrial Revolution. It could therefore be said that the single city of Manchester, among other among its other many claims to fame during the 19th century, controlled virtually the whole of the cotton industry of the world. Its mills, warehouses, spinning, dyeing, weaving and processing

works and its canal, road and railway systems grew to match this influence and the resulting demand.

Unlike the growing of cotton, to process it and to make it into manufactured goods, needs a relatively cool but damp environment. Manchester and the numerous towns within 50km north of it had the ideal climate.

Over a period of 100 years the cotton industry of the Manchester region developed from a domestic enterprise of individual weavers working in the enlarged attics of their homes into the construction of five and six storey machinery based mills with floor areas of 7,000 sq metres containing blowing, carding, drawing and spinning machines as well as looms and all the other advanced mechanisation required for that 'new' industry.

During the last half of the nineteenth century large cotton mills were being built in Manchester and its surrounding towns at the rate of something like 20 or 30 per year. This meant that by the early part of the 20th century there were nearly 2000 mills in this relatively small region, plus hundreds of warehouses to store raw cotton and finished goods. The region handled the substantial portion of the whole of the world's raw cotton and was supplying over 80% of the world's finished cotton goods.

It was an enormously successful and extremely rich enterprise fuelled by constant improvements based on the development of its engineering, production and management techniques.

Along with the other new industries developing in and around Manchester, the cotton industry required workers and such a large enterprise required tens of thousands of workers. They flocked to Manchester and its surrounding towns from the rural areas across the North of England. The vast majority of these workers were poorly paid and accommodated in cramped and concentrated housing immediately around the mills that employed them. Almost all these workers had also to be within walking distance of their mills and the associated warehouses and that added to the concentration of small cramped and unhealthy workers homes in the immediate vicinity of the mills. At the beginning of the 20th century 25% of the whole working population of Lancashire worked in the cotton industry. In some 'cotton towns' it was over 60%.

This industry and its associated supply industries of transport (canals, road and rail), coal mining (which was also very active in Lancashire) and machinery manufacture were entirely based on free enterprise and individual success. It was said that there were more millionaires per square metre in Lees (a small cotton town 15km from Manchester) than there were anywhere else in the whole world.

Mill owners not only wanted their mill to be more efficient than any of their immediate competitors neighbours mills, but they also wanted the mill buildings and the machinery contained in them to reflect the individual success of the mill owners and the companies they controlled. Architectural features and decorative tiling in even engine-houses was common.

Towards the end of the nineteenth century, cotton mills were being built to a higher standard of workmanship and even more structural engineering enterprise, than any other buildings in Britain and probably in the world.

(Illustrations of some typical mills and their structural arrangement and development will be shown)

3. The Decline of the British Cotton Manufacturing Industry (1920 – 1960)

But all good things come to an end. Manchester and the British cotton industry was a victim of its own success. Those who supplied them with cotton wanted to be manufacturers themselves. Mills were opened in India and in the United States, based exactly on the "Manchester design". Indeed British machinery manufacturers sealed the fate of the industry

by enthusiastically selling machinery and mill designs to Britain's competitors in India, the United States and Egypt. Whole mills were packaged and exported – bricks, beams columns, roofs – as well as the machinery.

By the early twentieth century Britain's influence in the world was rapidly declining. Two world wars were won by Britain and its allies at enormous cost to the British economy. Britain was left with massive national debts and little or no enthusiasm to modernise its industry – particularly its now uncompetitive and dilapidated cotton industry. The import of much cheaper finished cotton goods from its original supplying countries – principally because of their cheap labour – eventually sealed the fate of Manchester's world dominance of the cotton industry and, despite occasional flurries of prosperity, the industry was in terminal decline.

Mills started to close, the whole industry was in decline by the 1930/40's. In 1959 the UK government passed an Act (the Cotton Industry Act) to encourage the UK cotton industry to turn away from its basic activity. Between 1951 and 1964 nearly 900 mills closed and others changed to the manufacture of synthetic cloth.

This meant that buildings and machinery, which were already suffering from neglect because of lack of investment, became almost completely redundant. Unemployment was a major problem. An industry, which had sustained large communities of people around Manchester and throughout southern Lancashire, was vilified. Communities and their civic leaders turned their backs on these large industrial and immensely impressive "palaces". This was because cotton was seen as a failed industry with its recent history of closures and redundancy.

The machinery was stripped out and sent for scrap. Hundreds of mills were demolished and the sites cleared for "new enterprises".

4. The Realisation and Reaction

On a personal note, having married a local 'lass' – as they say in Lancashire - I moved to Manchester from London in 1966. These great mills overawed me; I had the opportunity to look at the quality of these buildings and their historical importance with fresh eyes. I became interested in how these magnificent buildings might be re-used. In a paper to the local branch of the Institution of Structural Engineers, I suggested a number of ways in which they might be re-used. I was awarded a prize for the paper, but my suggestions were ignored - perhaps I was a little before my time! I was only 26yrs old and an "incomer". As do most established communities, they will tolerate 'incomers', but will not allow them to say how they should run local affairs. I wrote a number of papers and gave lectures on the subject but to little avail.

Demolition of historic industrial buildings, including cotton mills, continued into the 1980's, but alongside this trend there was an increasing awareness of the heritage value of the Manchester region's industrial past. This was further underlined by the realisation by the commercial community that much of the "new era" development, which occurred in the 1960's and 70's within UK cities, was of much poorer quality, architecturally unattractive and of less adaptability than many of the buildings, which were being demolished. and the civic leaders and the ordinary members of the public

However, it was not until about 1980 that any of the Local Authorities in the Manchester region started to overcome their prejudices and to realise the quality and historical and social importance of the industrial heritage of the region, particularly of its cotton mills. Of course, by this time, some 60% of all the cotton mills that had been constructed during the previous two centuries had been closed and most of them demolished during the period 1951-66, including some of the most architecturally impressive examples. A further 20% were closed and demolished during the next 20yrs.

Under this pressure Local Authorities in the towns around Manchester started to carry out hasty appraisals of what was left of the mills and warehouses in their area.

Bolton (a large satellite town within 15km of the City of Manchester – population 230,000) was one of the first to do the audit exercise of its mills. Bolton and its satellite towns had once boasted 174 mills within their boundaries. Bolton produced its 'mill strategy' in a 20 page simple typed document in November 1985.

Bolton found that only 71 (of its original 174 mills) were partially or totally in beneficial use' - 70 had been demolished and the rest were empty and/ or in very poor condition. This pattern was typical of the mill audit for whole region. Fortunately some splendid/ good examples of cotton mills had survived and steps commenced to see what could be preserved and re-utilised for modern purposes – including even using them for domestic accommodation.

5. The problem of conservation, renovation and re-use.

Unfortunately, it takes time to change the direction of any built environment economy and this is particularly so when the public sector, in the form of government and regional administration are involved as the principle motivators of change. Bureaucracy and the conflicting pressures on scarce public financial resourses are the main problems. It is not helped if the buildings in question are very large – as most mills were – and if alternative uses are difficult to find. Add to this, the general public antagonism (at best disinterest) towards the cotton industry and its symbols – the mills - and the task facing the conservationist becomes starkly clear.

However, there were a number of noticeable successes with individual mills, or even parts of mills, being saved. Some became heritage museums and visitor centres; others were converted for everyday use. Trencherfield Mill in Wigan (a town 25km west of Manchester) is a good example of a heritage preservation, as is Styal Mill (20km south of Manchester). In 1985 Summerseat (a small village 25km north west of Manchester) saw the successful conversion of its only mill for domestic accommodation.

At Ellen Road Ring Mill (north of Manchester), the mill building was demolished but its steam driven engine, the engine house itself and the chimney that served it, have all been preserved in good working order.

Dealing with individual buildings is a significantly difficult problem for any community, even with the benefit of National Heritage Grants.

Dealing with a whole area of a town or city is a truly daunting task. But such an enterprise was embarked upon in Manchester in 1996.

6. The Ancoats Urban Village Project – Manchester City Centre

The task was to resurrect a 22 hectare site of derelict buildings within 1km of the centre of Manchester itself. The area was called Ancoats.

The site is almost rectangular in plan (600m x 350m) with a grid iron pattern of streets. It contains one of the largest concentrations of listed buildings in the City of Manchester with some of them dating back to 1790. Historical records show that at its industrial height, the site accommodated up to 13,000 people both working and living in the area.

Unfortunately, during the 30 or 40 years preceding the commencement of the project, many of the buildings within the boundaries of the site had been demolished because they had become unsafe, or the owners feared that their building might be 'Listed' by the authorities. 'Listing' would officially categorise the building as being of national historical importance and would legally require the owner to maintain it – so some were demolished

before ‘listing’ could be implemented. These cleared sites were then left vacant or are at present being used for low quality shed type warehouse storage and manufacturing.

Despite this neglect and demolition, the site still contains a great number of Listed buildings.

The remaining historically important buildings were generally in very poor structural condition as, before the project commenced, it was anticipated that the remaining old buildings would in due course themselves be demolished.

Almost all the property was privately owned – both the new and the old.

7. The mechanism for the project

The first step was to form a joint enterprise between the City Council and one or more independent public funded bodies. So a development company (Ancoats Urban Village Company) and an independent preservation trust (Ancoats Preservation Trust) were formed to partner with the City in the project.

It was the job of this consortium – particularly the Company and the Trust - to tackle the problem of bringing the Ancoats area back to life and, as well as preserving an important part of the City, to also make it a vibrant and commercial successful area. The task has been started and much progress has been achieved, but it is far from completion.

The problems faced by the consortium are probably typical of those likely to be faced by similar enterprises in any other city of the UK or indeed any other country in the world – particularly countries with similar histories, such as those in North America and throughout Europe.

In essence the problems can be categorised under three headings:

1. Ownership of the land and buildings.
2. Conservation difficulties.
3. Time constraints to undertake the individual necessary tasks.

Underlying any of these there must be a commitment and determination to see the programme through.

Interestingly, among the buildings on the site are two of the oldest industrial buildings in Manchester and indeed in the UK, Murrays Mill built 1798 – 1806 (with 1.5 hectares of floor area) and Royal Mills built 1824 and variously extended at different times up to 1918 (with 2.7 hectares of floor area).

In the centre of the whole site is St Peter’s Church, which 10 years ago was derelict and with much of its roof missing.

That was the size of the regeneration task to be attempted - and a formidable one it was.

8. Ownership of the land and buildings.

Almost all land and buildings in the area were privately owned. Their condition was poor or, in the case of the modern buildings, it was of very basic quality. In commercial terms the buildings (old and new) were of little value but many of the old ones were of immense social and historical value.

Persuading the owners of dilapidated historical buildings to spend money on them was clearly impossible – a problem which exists throughout the UK. The national organisation

dealing with conservation and preservation is English Heritage. For tourism and political reasons English Heritage tends to spread its patronage among smaller market towns and rural villages and not on the larger urban areas.

When funds do become available form national funds for historical buildings in cities and large towns, it will normally only be to pay for “enveloping” buildings to make then basically weather tight (i.e. for the making good of walls, roofs, windows, etc.). Heritage grants are given on a 50/50 basis with the owners making an equal contribution to the public grant.

With little of or potential use seen for the properties after ‘enveloping’, owners are rarely encouraged even by this offer. As, in addition to the enveloping costs, the whole of the internal refurbishment and fitting out costs must be borne by the owner. The owner then has to find tenants or prospective purchasers – residential, commercial or industrial. Further, the proposed usage must comply with the designated Town Planning usage for the area – although in most regeneration schemes, local government Town Planners tend to be reasonably flexible as to usage, provided environmental and historical considerations are catered for.

But, as we all know, one must never underestimate the enterprise and determination and enterprise of parasites. Especially when they own property and land and money is involved.

Manchester successfully applied for and obtained a World Heritage Site designation for the Ancoats area. At the same time Manchester was making a bid to host the 2000 Olympic Games – and it stood a reasonable chance of being successful.

Speculators decided to concentrate on the Ancoats area because of its close proximity to Manchester City Centre and the perceived likely demand for hotels, sporting and other facilities to accommodate the games; also because of the substantial amount of money likely to flow in from government and private enterprise sources . Sites and buildings were bought and sold for ever increasing prices over a period of a couple of years.

It is said with reasonable authority that one complex of buildings was progressively assembled for a total cost of £1.2 million. This far exceeded the real value of the buildings themselves pre 1990, although being of great historical importance, the buildings were derelict and un-useable. I am told that recently the independent District Valuer has recently placed a value on this particular complex of buildings as between £300,000 and £600,000; this being a loss to the owners of up to 75% on their investment. The owners have no use for the buildings; it was purely a speculative venture.

It was estimated that to carry out a shell/envelope exercise on the buildings would cost £13 million (for which there may be a 50% grant available). But in addition £10 million would be required to fit out and modernise the interior of the buildings to make them comply with modern fire precautions, circulation requirements and general present day standards. It is then thought that the complex might be worth £14.5 million. Basically therefore, it has, or wil,l cost the owner some £18 million pounds for a return of only £14.5M. Why should the owner bother?

The property is probably owned by a “shell” company so the owners as individuals are protected in law and have no incentive to do anything with these listed and historically important buildings, other than to let them deteriorate, which is happening.

In the event, Manchester did not get the Olympic Games and the procedure for awarding grants for regeneration purposes of historical buildings was changed. This made obtaining such grants a more complex procedure.

9. Conservation difficulties.

The procedure for inspecting, assessing and categorising historical buildings is in itself both expensive and time consuming. After it has been completed, it is then necessary to present appropriate renovation/ conservation proposals to the City Council, a number of interest groups, the funding organisations (both public and private) and also to the owners.

In the Ancoats Project, the first decision made by the Trust was to concentrate on buildings that were smaller and therefore less expensive to "rescue".

St Peter's Church has been the flagship success. Also renovated was a small building on the North West corner of the site, which was only about a 100 years old, but had an interesting history. It was built by the Methodist church about 120 years ago as a "night shelter for fallen women". Both these buildings were renovated and stand as a credit to the Ancoats Preservation Trust. Otherwise the Development Company and Conservation Trust have restricted funds. They have concentrated their attention on improving the general infrastructure of the area and some of the smaller landmark buildings. Even the work that they have done, is, on their own admission, of the most basic nature because that they must spread their funds widely, if thinly.

Another problem is that, to restore Ancoats to it former self is to ignore the fact that it thrived before the advent of the motorcar. There is great difficulty in providing facilities for motorists, particularly those who may be thinking of living in The Village.

Mention has been made of the fact that in the UK up to 50% grants are available to renovate listed buildings and buildings of historical importance - providing the heritage fund budget has money left in it!

However, and to discourage speculators, the rules have been changed in recent years, so that only "original owners" of buildings can - in some instances - claim these grants. It is now necessary for buildings to have been owned for a minimum of two years and for the owners to demonstrate that they are not speculators, but that they have a serious intention of developing the site for specific purposes. As many of the owners do not have this intention, they forfeit the opportunity to get the grants, making their financial predicament even worse and the incentive to carry out basic maintenance negligible. It is said that none of the 'speculator owners' want to be the first to take the plunge and develop their property (even with the grants). They want someone else to do it first, so that they can see what to do and what not to do - so they can maximise their profits.

It has been the policy of both the Development Company and the Preservation Trust over the last 3yrs to try and encourage genuinely interested owners to renovate their buildings and to apply for grants.

A further problem, which has arisen recently, is that EU Regulations have again been changed. This change has caused further delay and frustration to UK existing policy for awarding grants for conservation projects.

It has been decided by the EU Commission that the existing UK policy is not sufficiently competitive and open in offering opportunities to companies and agencies from other European countries to undertake UK conservation and regeneration work. To date no such interest had been shown by any outside firms or bodies for this type of work, but this requirement has brought another layer of complexity, delay and speculation onto the stage.

10. Compulsory Purchase of Property

The most recent development in the saga of the regeneration of Ancoats has been to fall back on the available legal procedure of obtaining Compulsory Purchase Orders (CPOs) against owners who will not renovate their properties or sell them to the Development

Company to do so. At present this applies to about 35% of the property in the Ancoats Village area.

Those owners who are not prepared to show positive interest in either selling their properties for realistic market value prices to those who will develop them, or who will not themselves develop them, will have their properties purchased compulsory but legally by the Ancoats Village Company and at their genuine market value. The properties will then be renovated by the Council/ Development Company/ Trust and then offered for sale at a "market price" back to the original owner or to any other person wishing to purchase.

Unfortunately the sites where the order is likely to be imposed are spread throughout the Ancoats area making the Compulsory Purchase Order operation more complex for the Development Company. A total of about 70 individual sites of various sizes are involved in the CPO.

That brings us conveniently on to the next section.

11. Time versus deterioration.

Outside times of national emergency , activities requiring compulsion on the populace, invariably require that a long and tedious democratic process be followed.

In the UK the procedure to acquire sites from the recalcitrant owners in the Ancoats Village commenced in October 2001. It is first necessary that a 'dilapidations notice' be served on all those individual owners informing them that they have 12 months to implement essential repairs (envelope and major structural repairs) or legal action will be taken against them.

Following the issuing of the dilapidations notices, some have complied but most have not.

The documentation has now to be prepared for a full Public Enquiry, which takes place before a government appointed Inspector. The documentation is copious for a case of this complexity. The Enquiry is scheduled for June of this year. The Inspector will hear arguments for and against the compulsory acquisition by the Development Company of the properties whose owners have not shown interest in conserving or redeveloping their buildings – particularly those, which have Listed Buildings status. Obviously, it is assumed that the Inspector's Report will with little modification recommend the implementation of the CPOs.

It is anticipated that the report of the Inspector will be available in August 2002. It will then be lodged with the Government Ministry responsible (Department of the Environment, Transport and the Regions), who will decide whether or not to enforce the findings of the Report. Again, it is assumed that the Ministry will support the recommendations of the Inspector (whatever they may be!) and we should see a formal decision issued confirming the compulsory purchase of the relevant buildings early in 2003.

The individual owners will have then a six-week period during which they may legally lodge an appeal against any decision affecting their particular property. The appeals have to be heard at the High Court before a panel of senior judges. It normally takes 12 months to get such an appointment at the High Court. After the appeal (or appeals!), which might take a number of weeks, the judges will give their decision a few weeks later.

Clearly, even if everything goes smoothly – and it rarely does! - it is likely that the normal process will take us through to the middle of 2005.

Meanwhile these historical buildings are deteriorating and are open to abuse, both from natural forces and by unlawful malicious activities of their owners.

12. Co-operation and Progress.

But it is not all a tale of doom and gloom. There have been a number of successes.

Much archaeological and historic research work has been done on the area, its buildings and infrastructure. For example, it has been discovered that one of the very old mills was originally connected to the adjacent Rochdale Canal and that it had a basin within the mill yard for loading and unloading goods. This was filled in about 100yrs ago. Now it is hoped to open the basin as a water attraction for those in the surrounding buildings.

One building is being converted to apartments and many of these are already sold. As said above, the Women's Shelter and the St Peter's Church schemes are completed.

One of my own companies **P3KT** has been involved extensively in the project. Eighteen months ago I was asked to become the chairman of an IT start-up company based at the University of Manchester – which you will all know is where the first working computer in the world was built! The company uses state of the art computer techniques to assist the planning and construction process.

We have in particular developed a series of integrated 3D computer modelling processes for regeneration projects.

We call it **4D Urban Regeneration**.

First Dimension – Providing information

This is based on the database, its management and its flexibility. It circulates information between parties involved.

It has been successfully used in bids for funds from private and public agencies.

Second Dimension – Providing visual information

Among other things this allows people to have a virtual reality experience of the environment that will be created.

Highly accurate images show the true urban context of the project, by superimposing exact computer images onto photographs with a 360 degree view from the site and of the site.

Again this has been used very successfully to examine different options for the site based on a true representation of the site. It has been used to assist planning departments to see in context a real representation of what they are being asked to approve.

Third Dimension – The 3D Computer Model

Models range from straight forward representational images through to highly detailed models, which can incorporate design items and textures.

Accurate reconstruction of existing buildings by photogrammetric techniques.

Clash detection avoids expensive hold-ups and abortive work during construction. The more complex the building the greater the potential for mistakes. Models can be used to explore potential layouts and services.

The options are endless with the right modelling processes.

Forth Dimension – Consultation Processes

This Dimension is based upon various options, but has been very successful via web-site consultation on the Ancoats Village scheme.

Successful processes have been developed for multi level consultation procedures. Any group or groups can participate. For example, the public can be involved; they can

see what is intended, how far the project has advanced and they can they even have an input by commenting on the proposals as the planning process proceeds.

Staff and customers can see just how the new building is coming on and can comment on the item relevant to themselves.

It is often difficult to appreciate the full potential that 3D modelling can bring to a built environment project and the economies and benefits that can achieved. The opportunities and possibilities are vast.

If time allows, I hope to show a few examples of the work that we at P3KT are doing in the regeneration field.

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