



CTBUH Research Paper

ctbuh.org/papers

Title: **The Tall Building, Reconsidered.....**

Authors: Simon Allford, Partner, Allford Hall Monaghan Morris
Paul Monaghan, Partner, Allford Hall Monaghan Morris

Subject: Architectural/Design

Keywords: Form
Sustainability
Urban Planning

Publication Date: 2008

Original Publication: CTBUH 2008 8th World Congress, Dubai

Paper Type:

1. Book chapter/Part chapter
2. Journal paper
3. **Conference proceeding**
4. Unpublished conference paper
5. Magazine article
6. Unpublished

© Council on Tall Buildings and Urban Habitat / Simon Allford; Paul Monaghan

The Tall Building, Reconsidered.....

Simon Allford¹, Paul Monaghan¹ in conversation with Jeremy Melvin²

¹Allford Hall Monaghan Morris LLP, Architects, 2nd Floor, Block C, Morelands, 5 - 23 Old Street, London EC1V 9HL

Tel: 020 7251 5261, Fax: 020 7251 5123, Email: info@ahmm.co.uk

²Jeremy Melvin; friend, colleague, long term collaborator



Simon Allford
info@ahmm.co.uk



Paul Monaghan
info@ahmm.co.uk

Biography

Simon Allford and Paul Monaghan are partners in Allford Hall Monaghan Morris which they co-founded in 1989 because they wanted to make architecture that is defined by a process of imagining, describing, making, using and enjoying.

Allford Hall Monaghan Morris design very different buildings, for very different people to use in very different ways and, since the dark and difficult early days, has grown from four to over a hundred people with budgets from a few thousand to hundreds of millions of pounds. Although each project has the individual specificity that comes from particular needs and particular places and time, there is an underlying consistency which comes from the thorough exploration of continuously developing ideas. Clarity of communicative working method facilitates discussion between clients, architects, collaborators, constructors and users to produce constantly evolving architecture.

Their aesthetic approach is shaped by this method. If a design concept is clear and logical, the resulting building will express function accordingly; it will be easy to recognise and enjoyable to use. It may also surprise but it must always delight. They innovate because they know that innovation is as much about finding simpler ways of doing things better as it is about finding new things to do.

Their success over eighteen years is reflected in the winning of many competitions and numerous design awards for houses, apartments, schools, sports and exhibition buildings, healthcare facilities, offices and the odd bus station, art gallery and now, interestingly, hybrids of many of the above. Most recently this approach has resulted in a series of tall buildings (by English standards!). These include Unity (a residential and office building of two towers) in Liverpool, as well as new mid-rise towers in London involving a mix of uses (office/retail/housing) and locations (city centre and city fringe): 21st century towers emerging from 19th century and 20th century infrastructure.

The Tall Building, Reconsidered.....

Simon Allford¹, Paul Monaghan¹ in conversation with Jeremy Melvin²

¹Allford Hall Monaghan Morris LLP, Architects, 2nd Floor, Block C, Morelands, 5 - 23 Old Street, London EC1V 9HL

Tel: 020 7251 5261, Fax: 020 7251 5123, Email: info@ahmm.co.uk

²Jeremy Melvin; friend, colleague, long term collaborator

Simon Allford, Paul Monaghan and Jeremy Melvin have had many discussions about architecture over the last two decades. In recent years the subject of tall buildings has come up with increasing frequency. In this paper Jeremy Melvin summarises and updates the themes which have emerged in these discussions¹.

Abstract

This paper examines the surprising revival of tall buildings in the UK since the late 1990s, through the work of one architectural firm who are active participants in it, Allford Hall Monaghan Morris. Founded in 1989 by four young architects, AHMM's approach to tall building design is unsullied by the perceived failure of earlier generations of tall buildings in the UK, and spread across sectors and geography, gives useful insights in this revival. The paper identifies eight linked themes which inform AHMM's approach, and outlines how they operate through six recently completed or ongoing schemes. Through this examination, the paper proposes that these conditions redefine the parameters of pragmatics and aesthetics.

Keywords: tall building, shape, surface, sustainability, skyline

Introduction

Across the UK tall buildings are undergoing a revival that would have been unthinkable only a decade ago. (Fig1)². It should be noted that tall is a term relative to each setting. As developer Stuart Lipton has noted at twelve storeys you can see across London and, subject to proportion anything over this height in London can therefore be considered tall (this has led Allford Hall

Monaghan Morris to coin the phrase "Pockets tower" for such buildings).



Fig.1 Map of the UK, with tall building "hotspots"

¹The authors would like to convey their apologies to Louis Sullivan for shamelessly adapting the title for this paper from his famous essay (Sullivan 1896), though in mitigation they do follow in the illustrious footsteps of Ada Louise Huxtable (1993).

²An indication of this condition in British architecture a generation ago was presented at the Royal Academy of Arts in the series of displays (1977) 'The Architecture Space', curated by Kate Goodwin and Jeremy Melvin, which ran from August 15 to November 6 2007, showed works by architects who were or subsequently became members of the Royal Academy which were completed in or around 1977. Almost all were low rise, and designed to blend into a landscape or urban setting rather than to pierce it. They included the Centre Pompidou (Piano + Rogers), the Staatsgalerie in Stuttgart (James Stirling and Michael Wilford), the Sainsbury Centre (Foster Associates), and the National Theatre (Denys Lasdun).

The 1960s had seen a short-lived boom in both local authority residential towers and high rise commercial developments, but between the early 1970s and the late 1990s, new towers were limited geographically and functionally – almost all were London's Docklands, and most given over to commercial uses. Since 2000, however, tall buildings have pierced

famous skylines in Birmingham, London, Liverpool and Manchester; viable proposals are in the pipeline in Leeds, Sheffield, Newcastle and Brighton, and they include almost every function, and combination of functions imaginable. (Fig2)³

Louis Sullivan identified the first in his seminal essay, 'The tall office building, artistically reconsidered', as imparting graciousness to "... this sterile pile, this crude, harsh, brutal agglomeration, this stark, staring example of eternal strife..."(Sullivan,1896) It remains a more or less accurate description of the condition of tall building – both as a verb and a noun.



(Fig 2. 30 St Mary Axe or the Gherkin, Foster and Partners.)

The second is the need to overcome a condition that arises from notoriety which accrued to tall buildings in the UK, and the negative place this gave them in British public opinion.⁴

For this reason the most interesting and notable examples of the revived genre are unaided and unsullied by workable precedents. Their architects have had to conceive of their designs from first principles, and this may in due course be seen as a significant step in the evolution of the building type.

This paper examines these points through the work of one firm of architects who are among the more prolific contributors to the revival, Allford Hall Monaghan Morris

(AHMM).⁵ Obviously their work does not tell the whole story of this revival, but it does for various reasons mark out some of the most salient points. Their projects are diverse geographically and functionally, ranging from London to Liverpool, and include residential and commercial projects for a variety of clients. All four principals are in their 40s and began working together as a quartet while graduate students at the Bartlett more than 20 years ago, so their direct experience is specific to their generation and not sullied by participation in previous attempts to design towers. Additionally their education honed particular interests which have a bearing on their approach to designing tall buildings: an appreciation of urban conditions, and a propensity for logically expressed construction. The second has a long history in British architecture; the first is an issue which was arguably not brought into focus until the 1980s. For this reason their work helps to distinguish between generic influences – or at least those which affected the earlier generation of tall buildings in the UK-and those concerns which are specific to the present day.

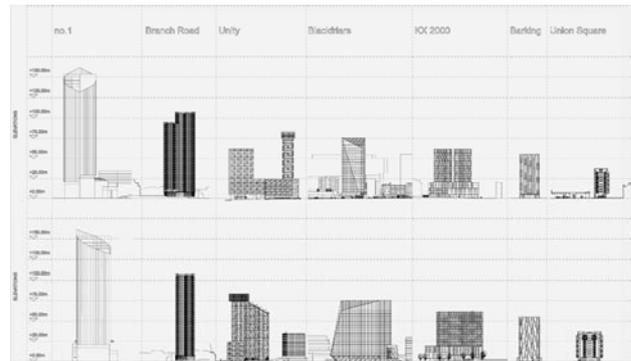


Fig.3 Comparative elevation of AHMM's tall buildings discussed in this paper. From left to right: Branch Road, Unity, Blackfriars,

³Among the factors driving the revival are: the liking of London's mayor, Kenneth Livingstone, for tall buildings; government policy which in various iterations since the early 1990s has encouraged certain forms of high density, inner city development, especially on Brownfield land, a process accelerated by the report of the Urban Task Force (1999) chaired by the architect, Richard, Lord Rogers. There are also changes in lifestyle, including a rapid rise in the projections for single person and child-free households, which might be more amenable to high rise living. Meanwhile project management, development finance and construction management have all adopted techniques that help to quantify and minimise risk, and bring predictability to the construction process itself, reducing some of the impediments to tall building construction.

⁴ "I asked him why it had to be so tall" wrote The Prince of Wales(1989, p54) '*A Vision of Britain*' of a discussion with Cesar Pelli, architect of One Canada Square at Canary Wharf which usurped the NatWest tower as Britain's tallest building. The heir to the British throne managed to convey condescension through a grimace in a way that only Royalty can affect with a facial expression that implied a self-evident answer, and one with which most of the public and many architects would have concurred

⁵ Allford Hall Monaghan Morris was founded by Simon Allford, Jonathan Hall, Paul Monaghan and Peter Morris in 1989, three years out of college and just before the construction industry fell into a precipitous recession. Early work was sparse and required creativity with minimal resources, which has continued to inform their approach to design, even as projects and budgets have increased. Since 1990, when they hired their first assistant, the practice has grown to 100 with work in many sectors, across the UK and several other countries. For an overview of AHMM's first decade and half in practice, see Borden (2003).

and close examination of their interaction might amount to an embryonic theory of tall building design.

Two of the themes, shape and surface, make up central dynamic of AHMM's approach. Distilling contextual, commercial and constructional influences into a shape is akin to a strategy, while the tactics that derive from this strategy define the surface, as Simon Allford puts it. From that nexus further themes lead in different directions. Two, setting and skyline, emanate outwards into physical urban and social issues, the first viscerally and the other as an abstracted derivative. Another pair, core strategy and section, moves into pragmatic issues like construction and planning internal spaces. Surrounding and interacting with all of these are sustainability and symbolism. For the purposes of this paper the first is treated mainly from a social and economic rather than an environmental perspective, while the second deals with the way in which buildings communicate ideas-whatever they may be- through their appearance.

The effect of these factors is cumulative and interactive. If defining the shape of a tall building is the most crucial, that process definition and the range of possibilities that result from it will have a direct bearing on each of the others. Like the overlapping circles of a Venn diagram, the parameters of one may determine the optimum condition for another.

To paraphrase the musing between Ernest Hemingway and Scott Fitzgerald on the rich, tall buildings are different to short ones because they are taller.⁶ But where as the rich simply have more money than "us", extra height in a building changes parameters for designers. The engineer Albert Taylor, co-founder of Adams Kara Taylor who are frequent collaborators with AHMM, identifies two critical points.⁷ First is a need to triple or quadruple the roles that every component plays. Simply imbuing each component with a double function does not achieve adequate efficiency. All available

structural potential must be exploited in some way, even if that means devising routes for forces that would be illogical in low rise buildings where double or single structural roles might be practical.

Taylor's second key point is the choice of an internal or external structure. In the latter case, and following his first point about eliminating redundancy, the



Fig.4 Interior, Monsoon Accessorize HQ

⁶The quote, for anyone who does not have it at their fingertips, is: "The rich are different to us." "Yes, they have more money". Its origin is apocryphal.

⁷Interview with Jeremy Melvin, 10 July 2007

structure has to become part of the architecture. There is no scope for rival systems of structure and decoration. Though essential in tall building design, it is also a principle that can inform medium and low rise buildings as well. In the headquarters for fashion retailer Monsoon Accessorize the structure devised by AHMM and AKT minimises weight and mass by using inclined columns which give lateral stability as well as taking vertical loads. (Fig4)

Many buildings assign this role to a central core, imposing a dark mass at their heart. Monsoon, by contrast is light and airy-a significant example of how an approach to structural design which is essential in tall buildings can be adapted to bring aesthetic and experiential benefits to lower rise.

From their educational grounding in appreciating urban context and clearly expressed construction, AHMM have always respected and even sought pragmatic starting points for their designs. By identifying the particular challenges of height as a spur towards ever greater pragmatism, Taylor's precepts would appear to offer just such a platform. In one sense they do. There is another sense however, which goes right to the crux of AHMM's approach to tall building design and the contribution it makes to architecture more generally. Their powerful, sometimes even ruthless drive for pragmatism means they can accept the contingent conditions of permitted development volumes and economic constraints.

But this "augmented pragmatism" also shows up another condition. It brings an intensified clarity to those aspects of a design which are not susceptible to pragmatism or logic, in a way that is unique to tall buildings.

This is not to suggest that aesthetics starts where pragmatics end. It is certainly possible to demonstrate that architecture, in particular among the visual arts, derives its effects from the interaction and entwining between them. Rather it is to suggest that tall buildings, especially those of this generation in the UK designed by AHMM, help to clarify the relationship between aesthetics and pragmatics, and so provides a small but identifiable step in architecture's ongoing development. Paradoxically, discussing aesthetics in this context becomes possible, and certainly more piquant, because of the intensity of the pragmatic base from which the discussion starts. Taking a closer look at each of the themes will unfold this in more detail.

Shape

In AHMM's approach shape is the fundamental element that establishes the strategic parameters from which all other decisions emanate. Shape is also the most visceral interface between the physical constraints of a site, programmatic drivers such as economic viability and aesthetic vision, and practical considerations such as buildability. It has a decisive impact on almost every criterion by which a building may be judged, from its visual appearance, to its practical usability and its value.



(Fig 5.Blackfriars)



Fig.6 Branch Road

But if the constraints set out the possible shapes, they do not necessarily determine a particular one. That choice still depends on other contingent factors including aesthetic judgement.

Two from the septet of projects, Blackfriars Road and Branch Road demonstrate how AHMM make shapes on different sites and to suit different programmes. Blackfriars is a crystalline, glass commercial tower on the fringe of London's commercial core, while Branch Road is a pair of interlocking cylinders of different heights with 230 apartments in the Docklands. Blackfriars resembles a cut diamond, Branch Road a pair of interlocking cylinders, (though about as different an interpretation of that motif from Melnikov's famous house in Moscow as it is

possible to be). These varied shapes derive from different programmatic and practical constraints. (Fig 6.)

At Blackfriars the constraints derive from two sources. One is the shape of the site as it became defined by transportation routes, firstly with the building of Blackfriars Bridge Road in the late 18th century, and then the railway viaduct half a century or so later. Together they made the site long and thin, as well as noisy and in a context composed of fragments. These factors define the footprint and so are major determinants of the plan shape. (Fig7).



Fig.7 Plan of Blackfriars

The second source of constraints moves into three dimensions and comes from a cat's cradle of abstract lines which define a complex volume within which the building must fit. Some are statutory controls, including the protected view corridors leading from prominent vantage points around London to famous landmarks - in this case is the dome of St Paul's Cathedral and rights of light to adjacent properties. Others are self-imposed; they include an over-riding wish to give views from the building to the River Thames which adds considerable value and extra land purchases by the client adjacent to the original site during the design process, so shifting the

parameters of an already complex geometrical pattern. (Fig8)

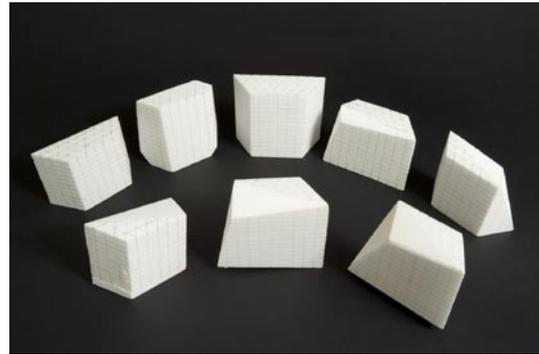
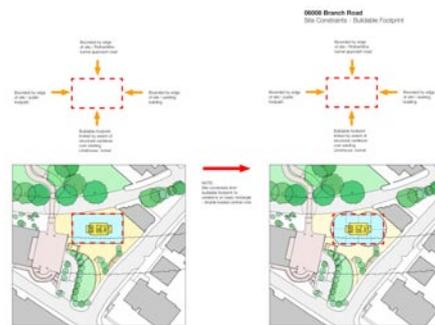


Fig.8 Shape studies for Blackfriars

Devising a viable floorplate, maximising the proportion of lettable space and finessing the appearance, trigger the tactical themes of internal planning including core strategy, and surface treatment. AHMM's many studies of the possible shapes in context – including one which shows how it would be concealed from a strategic view corridor in St James' Park, are testimony to the interplay between pragmatically defined constraints, and aesthetically and experientially determined refinements which lead to the final outcome.

In this case the determinants of shape have a specific and literal effect on the overall volume. On this site, where values of commercial space are relatively high investing in a complex form is worthwhile. It falls to the structural and external envelope concepts to achieve the optimum result. (Fig.9)



(Fig9 Plan studies for Branch Road, showing rectangle where building is possible)

Despite using the cylinder form, Branch Road is not an exercise in platonic solids. Indeed its ultimate shape is as dependent on contingent circumstances as the Blackfriars' block. But these contingent circumstances start in the ground rather than on the surface or in the air. Two road tunnels determine precisely where load can be brought to the ground. (Fig10)

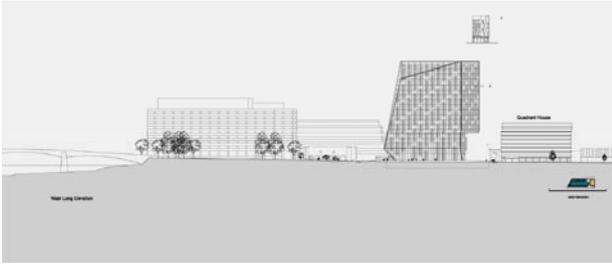


Fig10 Elevational context of Blackfriars



Fig.11 Balconies, Adelaide Wharf

One, the Limehouse Link actually runs under part of the site while the northern approach to the Blackwall Tunnel under the Thames runs hard along the northern edge. Even with a cantilever over the Limehouse Link the building is limited to a rectilinear footprint in this section of the site.

In previous projects AHMM accepted such logical determinants of shape directly. Generating an identity for each apartment would have fallen to

surface treatment, including devices such as balconies. (Fig 11) Indeed an earlier design for Branch Road did so, and resulted in an orthogonal building with several units on each floor. However in the final Branch Road scheme they adopt a different strategy which shows an evolution in their approach to shape-making. Their old method depended on a sequential resolution of pragmatic factors, working logically from the most to least important. Here various factors are treated almost diachronically and what results is a more fluid and richer form which offers a greater variety of space and experience.

The most obvious outcome from this interaction is the curved perimeter which resembles a shallow figure of eight. As a formal device it helps to give each apartment a specific identity, as each arc can be identified from the outside and angles particular views from the interior. It also helps to resolve a series of complications at ground level. (Fig12).

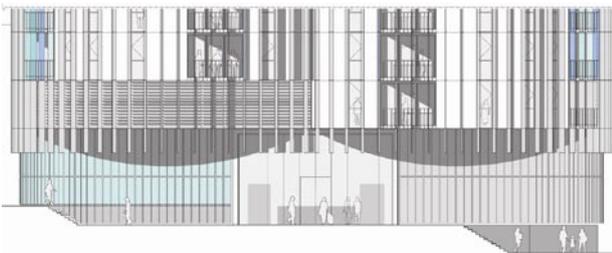


Fig.12 Branch Road, elevation of lower levels

The double cylinder form helps to distinguish between the two entrances which the building has to have, one for homes managed by a registered social landlord,

and the other for privately owned and managed units. The curves also help to ease the building into the site which falls three metres across the site, and to slot in the necessary loading bay for deliveries and refuse collection. Most far-reaching, though, is the relationship between the curved perimeter and an essentially orthogonal room layout. (Fig 13)

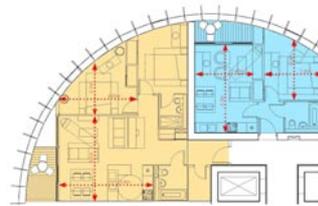


Fig.13 Branch Road, part typical floor plan.

are too awkward to incorporate into any usable space. These voids give a sense of height extension, which is very rare in a tall building conceived as a stack of similar floorplates. Again a significant aspect of the internal character derives from the fundamental shape.

A shape which derives a plan form of two interlocking circles does not immediately generate a volume or skyline – in contrast to the Blackfriars project where the volume, and so the top of the building, is to a considerable extent pre-determined. In resolving the shape AHMM made a series of studies of the relative heights between the two cylinders, giving rise to the working title of “Mother and Daughter”. This is the counterpart to the numerous design studies of Blackfriars in its context, which also examine a dialogic relationship between a drab context and a crystalline insertion. From a root in pragmatic resolution, AHMM’s designs begin to pick up narrative or symbolic connotations. How it moves further from pragmatic and contingent factors to something as abstractly aesthetic as the skyline will be discussed later.

For now the point to bear in mind is that the dialogues which inevitably emerge in balancing pragmatic factors take on aesthetic implications that may introduce the possibility of other layers of meaning, symbolism and narrative. Though connected to pragmatism they also relate to subjective mental formations and states which might have no knowledge of or interest in the original determinants of a particular shape.

Surface

Surface brings to visual fruition all the possibilities established in the process of shape-making. As the tactical corollary of shape’s strategy, it is what makes the building visible and carries a large degree of any building’s symbolic content. It also is the mediation between inside and outside, with all that that implies for the division between public and private space, and for energy use. Two further projects in addition to the pair discussed above, help to show the range of AHMM’s

approach to the surface of tall buildings. They are KX200 and Unity in Liverpool.

KX200 is the clearest demonstration of the relationship between surface and shape because; being an existing pair of stumpy towers, the shape already existed. An early proposal to add extra floors, whose load the structure could take, became impossible because of an imminent redefinition that would have brought them out of, strategic view corridors, was not defined in time indeed; this change has still yet to be confirmed by statute. But the effect was to make the new surface, replacing an obsolete curtain walling system, the only means of adapting the given shape to its evolving physical context, stricter energy conservation regulations, and change of function from office to residential use.

Recent revisions to building codes in the UK have significantly changed how glass can be used on a building envelope. One possibility is to have triple glazing with double cavities and mechanical louvres which respond to sunlight. That is expensive.



Fig.14. KX200, façade detail

A cheaper option is to insulate some of the glass, in effect to make a glass surface to an insulated panel, leaving other panes clear. (Fig14).The resulting pattern fits well with AHMM's previous essays in patterning the exteriors of buildings, but tall buildings offer more possibilities for creating illusions, such as making part of the building disappear against the sky so that its proportions might be disguised.

KX200's explores some of these possibilities. It is inevitably eye-catching and makes a visual analogue to the more lively use as a student hall of residence. In this case changing the surface infuses the existing structure and shape with a new range of possibilities for modern uses, and transforms the building's identity to make it commensurate with the those uses, and the changing character of the city around it.(Fig15).



Fig.15 KX200, showing new podium and part street context

Unity, a pair of buildings in Liverpool, shows an even more dramatic exploitation of surface treatment to reflect internal uses and spaces, and to create a positive identity in a location where new and old buildings hotly compete for attention. The 27 storey residential tower rather overshadows its 17 storey office partner. Its form steps up to a penthouse which cantilevers outwards from the basic footprint. (Fig16)

Perhaps a reference to a ship's bridge, it has become an



Fig.16 Unity, the residential tower.

important presence of the historic skyline of the Liverpool waterfront. AHMM nicknamed them C3PO and R2D2 after the lovable robots of contrasting shape in the film Star Wars. The drama of this form, however, is extra ordinarily intensified by the surface treatment.

Several contrasting sources combine to generate that treatment. One, which is often one of AHMM's starting points and a common theme in

British modernist architecture, is to represent the construction and internal spaces on the elevations. Here the internal spaces are complex, as the apartments are interlocking L-shapes in section, and while the long side elevations give clues to this internal layout, the short front elevation looking towards the River Mersey makes it explicit. But rather than leave the potential for visual expression at that single level, AHMM interweave another completely different precedent into the pattern. It comes from a historical source. Nearby in the Liverpool dockyards, during World War I, a team working under the painter Edward Wadsworth devised dazzle painting as a way of camouflaging ships so that they would be hard to spot from the German U-boats which were causing significant losses to British shipping. (Fig.17)



Fig.17 Dazzle painting

Their patterns were bold, abstract sweep- ing forms that broke up the mass of the ship, making some parts appear to merge into the heaving sea while others reflected light.

The complexity of the internal section meant that if expressed on the elevation, the surface would inevitably be a complex pattern. Even the most austere of contemporary British architects have recently turned their attention to decoration, but AHMM's adoption of the dazzle patterns intensify and add new dimensions of allusion and reference to the surface that could not come from the simple expression of interior arrangements.

That was a technique they adopted in several earlier housing schemes. (Fig19) But because of Unity's



(Fig18 Unity, Residential tower (left) and office block (right) from the River Mersey)

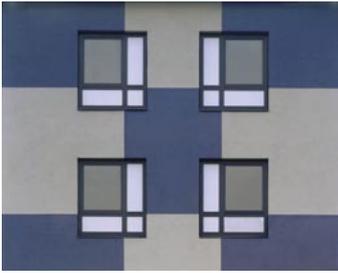


Fig.19 Dalston Lane housing, an AHMM study in façade patterns

height and prominence in the cityscape it had an obligation to express something beyond its own self, and to respond to the city in which it has become a landmark. That Dazzle painting was conceived a stone's throw away is a convenient coincidence, but one that has expanded AHMM's

repertoire of visual expression precisely to evolve their design approach to deal with the specific challenges of a tall building and the extra dimensions of meaning its status demands from it.

Setting

The shape and surface of a tall building inevitably have a bearing on the relationship with setting, but they are unlikely to define it precisely. There will always be local, detailed adjustments that stem from particular surrounding conditions. Some will be measurable with a degree of objectivity, such as interaction with established patterns of movement or locally important views; others will belong almost entirely in the realm of subjective judgement.

At Unity, for instance, the setting is within the historic grid pattern of central Liverpool, and the neighbours date from the 18th to late 20th centuries. Fitting the block size and massing help to relate the buildings to their surroundings, but adapting the dazzle painting patterns across the exterior surface weaves an historic allusion together with AHMM's standard theme of expressing the interior arrangements and construction on the elevations. In this instance the surface becomes a



Fig.20 Unity, Commercial building interior.

purveyor of ideas that are not just self referential, but have the potential to convey other narratives or meanings.

Where the literal and metaphoric coincide is in the entrance foyers to the two buildings. (Fig 20)

In them the bold angles and colours of the dazzle paintings line the walls, their source more explicitly recognisable than on the elevations. These spaces, too, are easily visible from the surrounding streets and

become nodes between the public and private realms. It is as if their functional importance demands a symbolic layer of meaning, which itself helps Liverpool to recover a small part of its maritime history, and make that apparent in a pair of buildings which set standards for the future.

Blackfriars and KX200 show different approaches to the relationship with their setting. At KX200, as described above, part of the challenge was to adapt outmoded towers to both a different function and to a changing area around them, as King's Cross transforms from an area of low rent activities to ones more commensurate with its central location and recently completed international train terminus at St Pancras. AHMM's strategy here is to remake the base, providing a more generous foyer that acts as a mediating zone between the private homes above and the public spaces of the streets.

At Blackfriars the relationship to setting starts with the extrapolations of the surroundings, in the shape of rights of light and view corridors. As discussed above they have a significant bearing on the shape. The impact each different shape study made on the setting was one criterion by which they were developed or rejected. Again this shows how designing tall buildings has for AHMM brought a new focus on aesthetic sensibilities which the mainstream of British architecture would prefer to leave to pragmatic problem-solving.

But AHMM's most far-reaching study of the relationship between a tower and its setting so far is at Barking, a poor district in London's outer east end. (Fig21)



Fig.21 Barking town centre, design study

Here the task was to create a dense urban heart to the borough with the sort of mix and intensity of activities more common to an inner city. It involves weaving new forms and functions into the existing buildings and amenities they offer, in effect creating a new urban quarter. Buildings in the first phase are essentially low rise, bringing a new identity to the overall area and forming specific smaller civic spaces within the precinct that have their own identity. Part of these improvements comes through upgraded landscaping, both hard surfaces and planting. It is a similar exercise to AHMM's work at Bracknell, a 1960s new town to the west of London where civic buildings were laid out amid acres of unallocated, unused and unlovely open space – and where too the basic principle is to weave a richer mix of activities around more densely developed buildings. But at Bracknell no high rises are planned.

At Barking the density and character of the enhanced urban quarter specifically creates a setting that is appropriate for a high rise building. Without that densification, a high rise would merely be a gratuitous monument, but instead it is designed to act as a beacon

for the new quarter from a distance, even though it does not reveal the precise character in any detail. The high and low rise buildings are also intended to be complementary. The low rise are inevitably horizontal in emphasis, though their surfaces are patterned, variegated and syncopated, and the tower picks up similar patterning but seen against an essentially vertical rather than horizontal emphasis, the effect is different. Inevitably the budget is very tight. Even more than normal in a tall building, every element has to work three or four times over; space and equipment must be optimised. Effects come from simple moves, such as changing the colour of materials and other patterning devices. In many ways surface and shape are less rich than the new low rise residential buildings, but they draw on the symbolic power of sheer height to exude a dignified authority.

Here the setting and tower are conceived as one piece of urban design, rather than an imposition into an existing fabric. But the basic principles are the same in either case, essentially to create a symbiotic relationship between a tower and its surroundings, where different opportunities (types of space, mix of activities and sometimes enhanced values that a tower brings) can stimulate improvements across a broader area. These threads are perhaps even more vital than the prominence which a tall building can give to an area, and in any case the symbolic, practical and commercial considerations all need to weave together because if one part of them does not work, it will act to the detriment of the others. All that clearly has a bearing on the potential that towers have for urban regeneration.

Skyline

Skyline is a counterpart to setting but it follows a very different modality. In essence a skyline is both an abstracted diagram of the concerns that exist at lower levels-though it may take considerable expertise to decode this-and a plane for icons. Starting to design a tall building with the impact it would make on the skyline, would be inimicable to AHMM's approach, which involves building up and interweaving layers of pragmatic considerations. As described above, these pragmatic considerations are powerfully suggestive rather than literally deterministic, and within themselves and in the interstices that inevitably open up between them, there is a certain amount of room for aesthetic manoeuvre. The skyline is an important category in AHMM's approach to tall building design precisely because it shows how these points come together.

Making an impact on the skyline is clearly important at Barking, but the tight budget dictates rigid floorplates so surface treatment is the only device available to do so – and of course the surface cannot be designed solely with the skyline in mind. For various reasons the surface is broken into a series of planes, some of which are void and others solid, which has the effect of reducing the apparent width and so making what is not an especially tall tower appear to be more slender. On all floors it means balconies can be recessed and so protected

from wind, while at the top there is no single horizontal line which a building on this budget could so easily be. Here the pragmatics of construction cost and internal layout, to suit the client's templates for living spaces, determine the surface, which in turn suggest a way of making the impact on the skyline clever rather than clumsy (as local precedents suggest it might otherwise be).

Branch Road called for more extensive skyline studies. The development sits in a cluster of towers-current planning policy in London holds that towers should be in clusters rather than isolated-in Limehouse, approximately midway between the larger and higher clusters of the City and Canary Wharf. (Fig22)



Fig.22 Long elevation

In the gaps are several other towers, mainly built by local authorities in the 1960s. AHMM's small scale studies show variations in the relative heights of the two cylinders, examining the effect of making them more or less the same, or extending the difference to make a powerful contrast. Each variation makes a different impact and conjures its own reading: in the end the "mother and daughter" configuration reflects the balance between two related forms whose size distinguishes them. Unity's impact on its skyline, the Mersey waterfront in Liverpool, is clearly important. (Fig23)



Fig.23 Liverpool Mersey Skyline, with Unity.

One of its most remarkable characteristics is its panoramic width. Even Unity's 27 storey residential tower is not very much higher than its neighbours but its very slender shape and the metal-clad penthouse box cantilevering over its edges are enough to make it stand out. Shape, as much as height, can make an impact on the skyline, and it has the advantage of suggesting dialogic rather than domineering relationships with its neighbours. This characteristic suits the delicate balancing act that Unity had to perform, being both a symbol of a better future for the unhappy city, but also, very importantly, belonging to its best known image rather than an alien import.

Internal planning, core strategy and section.

Most tall buildings are conceived as extrapolations of the Maison Dom-Ino, as stacks of similarly spaced horizontal layers. That simplifies construction and limits scope for internal spaces to manipulation on plan. Although some architects like Norman Foster - Jean

Prouve idealised model referred to from the Hong Kong and Shanghai Bank onwards -have explored different approaches to organising internal volumes of a skyscraper, most have been in high value, high budget commercial buildings. More recently Ken Yeang and Christoph Ingenhoven, as well as Foster have explored ways of using vertical linkage between different levels to assist with servicing and to improve the quality of internal spaces.

So far AHMM have achieved nothing on that scale. What they have shown, however, is that in relatively modest, low budget towers, it is possible to introduce variety in the section to create spatial variety. The apartments at Unity, for instance, have a complicated interlocking section, owing something to Le Corbusier's Unite d'Habitation and Erno Goldfinger's Trellick Tower, that means each apartment has two storeys at one end and one at the other.

In each case their goal is to optimise the relationship between technology, such as lifts and plant, with the external constraints which drive the shape. A maximum height permitted by regulatory control may not, for instance, be the optimum height when lift provision is taken into account, because a given number of lifts can service a fixed number of floors. Adding even a single floor may require an extra lift, not just incurring the cost of its purchase, installation and maintenance, but also giving up floor space in a fixed floorplate that could otherwise represent income. Justifying another lift on economic grounds could well require adding more floors than planning officers will allow. So if sheer commercial pressures will always tend to drive height upwards because of the increase in space, and planning controls impose a cap on that, lifts- perhaps amusingly appropriately-will sometimes push up and at others pull down the overall shape. All this adds to the variety of fluctuating forces that drive tall building design.



Fig.24 Union Square, a "pocket tower"

By a clever servicing strategy it manages to create variety in floor to ceiling heights in individual flats. This makes the living rooms higher than the other spaces, an experience which few apartments offer, and they tend to be very high value units where double height volumes can be created. Here AHMM manage the effect in a relatively modest development.

How Branch Road's shape both gives as much variety as possible to the views from each apartment, and creates small zones which create illusions of extra height has been discussed above. But another tower, Union Square in Southwark, on London's South Bank, takes the principles of internal planning further. (Fig24).

Sustainability

Though other architects have made great strides in showing how tall buildings need not be energy-guzzling glass towers, the degree to which a tower can be sustainable is just as contingent on particular circumstances as any other aspect of its design.

Locations where a tall building may genuinely be the most sustainable solution to a need for more development are almost certain to be in the inner city, where density and reduced pressure on transportation might offset the inherently higher costs of building and servicing a tower. Density, of course, also brings benefits for economic and social sustainability as well as to the environment. In another extension of the general principles behind tall building design, in this case the



Fig.25 Tall tower study, city centre location

need to triple and quadruple the role of each component, AHMM are looking at a tower design (which at the time of writing is confidential), which consciously allows for its surface to be intermittently upgraded without affecting the structure and core. (Fig25) If successful, it will perpetuate the life and amortise the embodied energy of the structure over a longer period, allowing existing frames to benefit from improvements in façade technology which may

not be foreseeable now. AHMM's experience at KX200 informs the thinking behind this project, where despite the less than ideal shape of the original towers, changing the skin gives them a new lease of life without the environmental impact of demolition and rebuilding. This is the goal of a series of design studies for this confidential 40 storey tower.

Symbolism by way of conclusion

This paper opened with the hypothesis that the greatly increased range of pragmatic issues that arise in tall building design, compared to low rise, has helped AHMM move beyond pragmatism as a strategy for shape generation, and beyond expression of construction and internal layout as the source of expression on the exterior. In some of their most important early work, such as the Dalston Lane housing, they proved themselves prepared to design bold elevations, but there, as at the later Raines Dairy, those bold patterns were still ciphers of construction and internal layout. The greater aesthetic, functional and economic impact that tall buildings inevitably make naturally invites different interpretations and brings in other criteria of judgement. When a building makes an impact on a skyline, for instance, it will naturally invite interpretations that have nothing to do with the politics of planning or economics of construction. Symbolic power is something many architects are reluctant to represent, hence Foster's

reported dislike of the “gherkin” label which has now become indelibly attached to the building he would prefer to call 30 St Mary Axe.

Though soubriquets like C3PO and R2D2, or “mother and daughter” may sound naïve, they are at least starting points for developing a narrative between the symbolic potential of tall buildings and the other factors which drive their very existence. The incorporation of dazzle painting within the elevational expression at Unity is another point of interweaving layers of reference that come from outside the realms of construction, pragmatics and function. In this way, the challenge of designing tall buildings is helping AHMM to rise above the cat’s cradle of pragmatic concerns, and suggesting how the design of tall buildings might help architecture to expand its range and means of communicating ideas. It may even point it towards Charles Moore’s memorable characterisation of the one euphoria which along with eleven agonies constitute design, “...that combination of research and understanding and intuition and improvisation that tries out solutions to problems in too many unknowns to be susceptible of solution by the disciplines based on logic and words”.(Moore, 2001, pg.166)

References

- BORDEN, I. (ed) (2003). *Manual, the Work of Allford Hall Monaghan Morris*, August/Birkhauser, London
- ESHER, L. (1981). *A Broken Wave*, Penguin, Harmondsworth
- HUXTABLE, AL. (1993). *The Tall Building Artistically Reconsidered*, University of California Press
- MARRIOTT, O. (1967) *The Property Boom*, Hamish Hamilton, London
- MOORE, C. (2001). “Eleven Agonies and one Euphoria”, in *You Have to Pay for the Public Life, Selected Essays of Charles Moore*, Keim, K. (ed). The MIT Press, Cambridge Mass and London, England, 2001
- SULLIVAN, L. (1896). ‘The Tall Office Building, Artistically Reconsidered’, first published in *Lippincott’s Magazine*, March 1896
- Wales, HRH the Prince of (1989). *A Vision of Britain*, Doubleday, London