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# Towers and Urbanism in the context of China

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**Biography**

Stefan Krummeck is a Partner of TFP Farrells, and leads the design of corporate headquarters buildings, commercial office buildings and civic and cultural facilities. He was involved as design architect on Kowloon Station in 1992 and his particular expertise in the delivery of very large scale complex project reflects on the design, planning and construction of mixed use developments and integrated transport related infrastructure projects.

Recently, he has designed several high-rise towers, including Shenzhen Noble Tower, the Centre in Shanghai, China Petroleum Headquarters in Beijing. Other completed buildings include the Richardson Boutique Hotel in Perth, Villa South West in Hong Kong and the Sheraton Dameisha Resort.

He is currently leading the design of the Kingkey Finance Centre in Shenzhen which was won in an international competition where TFP Farrells have been commissioned to design the 439m tall Kingkey Finance and Cultural Centre. Scheduled to begin construction late 2007, it will be Shenzhen's tallest tower as well as one of the world's tallest mixed use buildings when completed in 2010.

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**Abstract**

Taking a look at Hong Kong, Shenzhen, Shanghai, Beijing, Singapore, Dubai, London, and New York and one will see that all developed and developing cities are running though the process of urbanization. All are increasingly occupied by tall buildings predominate in the skyline. So what is urbanization and urbanism? Is it necessary that tall buildings be associated with urbanism and are tall buildings a good indicator of the level of urbanization of a city? In this paper, I am going to examine how different types of tall buildings are inter-connected with urbanism, i.e. the context in which the buildings are located, illustrated by the example tower projects from Terry Farrell & Partners (TFP).

**Keywords**: Urbanism, Skyscraper, Connectivity, Signifiers, Icon.

## Introduction

From ancient times, the first type of tall building built was defensive towers or annexes of palaces. They connoted the prestige, wealth, and boastful aggressiveness of the kings or nobles. (Gutkind, 1969). Now, buildings have expanded in functions like residential, commercial, industrial, hospitality, etc. This has happened in response to the high land costs (Heathcote, 2007) and today's market-driven demands for efficient use of high-priced urban real estate and maximizing investment returns. They are not solely the asset of people with high social status, but are occupied by the general public.

Not only have tall buildings increased immensely in number in both developed and developing cities or countries, but the newly designed or constructed tall buildings are reaching heighter than ever, from the Sears Tower in 1974 to the Petronas Towers in 1998 to Taipei 101 in 2004. It is expected that the world's tallest building for next year will be Burj Dubai standing at more than 800m, thanks to architects and structural engineers who strive to expand the meaning and content of the word 'tall'. Structural engineers are principally concerned with the structural form of a building, whereas architects are concerned with the harmonious integration of the building functions, forms, mechanical, systems, as well as the building itself (Sev, 2001).

How do these tall buildings relate to urbanism, since they are located in urban surroundings? Modern architecture in this and the last century taught us to think of buildings as 'things' standing in isolation in a characteristic, transparent open space. However, an actual site has a surrounding environment, its own seasonal, social and cultural climates, and its own historical background. (Gutierrez & Portefaix, 2003). More and more voices nowadays are persuading that buildings, including both low-rises and high-rises, should not be isolated against the surrounding environment. Actually, they are located within their own context, which covers the political, social, economical, socio-economical, cultural, business and physical environment. Any building, even one that is newly constructed, is in its nature an addition, if we look at it in a broad context. Buildings are points in the chaos of the city.

## Tower as signifiers

As US and European cities snag starchitects and the Middle East pushes the limits of height, East Asia continues to dominate in its density of residential towers as it has since Hong Kong embraced the idea in the early 1970s. The former British colony has nearly 8,000 skyscrapers, as opposed to New York's fewer than 6,000. (Heathcote, 2007) Although oppressive crowding and lack of public space have discouraged some Chinese cities from following that example, there's no question that high-rises are still seen as the high-tech solution. Shanghai, Guangzhou, Chongqing, Shenzhen and Beijing continue to build towards the sky so that construction can keep pace with the demands of its expanding economy. (ARUP, 2006)

In the original high-rise cities, New York and Chicago, the design of buildings was traditionally dictated by the city grid. A similar case could be found in Shenzhen, the first Special Economic Zone of China. Still a rural village 15 years ago, Shenzhen has developed itself at a rocket's pace into a modern city in the Pearl River Delta. The urban planning of Shenzhen was an extension of Hong Kong with urban oriented development. Luohu, the old Central Business District (CBD) bordering Hong Kong due to its need to be the Special Administrative Region (SAR) to implement its economy, is gradually being replaced by, or is extending to, the eastward Futian. China has become an economic powerhouse in the last 5 years. Home to many high-rises; Shenzhen's urban development looks towards

Guangzhou and Beijing via a new railway, which is expected to shape the city's design.

This phenomenon leads to the linear development in the Shennan Road linking Luohu and Futian, along which many tall buildings can be found – and more of them are still coming. Among them is Kingkey Financial Tower designed by TFP, which is going to be the tallest building in Shenzhen upon its completion in 2010.

Figure 1 Kingkey Tower, Shenzhen Farrell & Partners

Several tall towers are already placed along the civic axis of Shennan Road, in addition to TFP's commission from the Kingkey Group after winning the international design competition.

Kingkey Financial Tower has 98 storeys in a 493 metre building envelope. It is a mixed-use complex containing grade A offices, trading areas, conference and business facilities, a fitness centre, a 6-star hotel at the top and a sky garden with numerous dining options. One of the design features is the curving building profile, which aesthetically resembles the allusion of a spring or a fountain. The intent is to connote the wealth and prosperity of Shenzhen. The perimeter column arrangement provides each level with an unobstructed working environment and stunning views towards Lizhi and Renmin Park as well as over all of Shenzhen and beyond.

The height is one of the factors that make Kingkey Financial Tower stand out from the crowd of tall buildings along the Shennan Road. What's more, the exceptional architectural qualities make this building an urban landmark. The location and scale of Kingkey Tower, in combination with its mercurial design, are set to establish the development as both an attraction and a catalyst for the continued progress of China's most successful economic zone. It is believed that the building will significantly improve the fabric of the surrounding neighborhoods by stimulating economic growth and prosperity and that it will become an urban landmark in its own right thanks to its exceptional architectural qualities.

The city strategy of Shenzhen, which features the linear civic axis with a series of towers, is essential in signifying the city itself. The height and silhouette of Kingkey Financial Tower offers an identifiable marker by its presence in both the local environment and the city skyline. It is one member of the tower series along the road; however, it is also a signifier which leads the way to the dense urban fabric in the CBD. (Strelitz, 2005)

**Centralcon**

Near Kingkey Tower there is another site that TFP had been designing and planning. It is the former site of Special Zone Daily, developed by Centralcon Group. Although our proposal was not adopted, it is still interesting to look in details at the design concept and issues of the tower in regards to the physical context of Shennan Road. The location of the building is very close to Kingkey Financial Tower and is situated right next to Lizhi Park, which is a lush and open green park with lakes and recreational facilities. This would have afforded the tower majestic open views across the park to the North.

The building profile expanses progressively from the bottom towards the top, offering more leasable areas at higher levels. This would have provided additional revenue for the client. The top of the tower is stepped in a crown, resembling the blossoming of a beautiful flower. Visibility of the tower, from along Shennan Road towards the site, was a major consideration for the design. The overall disposition indicates a continuity of open space within the development linking the green spaces surrounding the site, with the tower signifying a destination landmark. There are several relatively tall buildings situated along Shennan Road and the tower forms a part of the urban design chain of towers. It also provides a counterpoint to the orientation of the floor plates rotated relative to the axis of Shennan Road.

**Noble Tower**

Noble Tower, another TFP project, is also located along Shennan Road. It is a rather long road and Noble Tower is located a distance from Kingkey Financial Tower and the Centralcon Building. TFP finished the design in 2003 and the tower was built in 2005.

It is a 190m 40-storey building, lying immediately between a strip of significant civic buildings to the west and residential neighbourhoods to the east. It houses 70,000m2 of prime office space.

In its design, the continuation of the vertical mullions reinforced the exterior's elongated effect and resulted in a slim, rhythmic tower. Recessed rectangles, at the top of the building, enabled glass shafts to run skywards from the ground and further lengthened the whole tower. These recessed panels stand out as a dramatic architectural feature as well as create a glittering effect through the interplay of the glass shafts and rooftop lighting. They also echo the imposing ground-floor entrance.

As a tall building with aesthetic elegance, Noble Tower is another example of how tall buildings can act as signifiers to the city, which is part of Shenzhen's Special Economic Zone strategy.

**Towers as urban hubs**

Looking now at a narrower focus, from the city-scale to the district or area that the tall buildings are located in, how does a tower react to its surrounding district? How does it positively affect and enrich the district?

It is generally thought that tall buildings can only grow in one dimension and the strict linearity of its extension accounts for its characteristic poverty of connectivity. (Thomas, 2002) As time goes by, developing residential and commercial accommodations in clusters has become a growing trend. This concept in urban development was found to be very effective and is tremendously successful. It has extended to other areas and these developments have enjoyed similar successes. This trend has had a great influence on large-scale developments on the Chinese mainland. (Luk, Lau, Mak & SHK Properties Group, 2006)

It leads to another question relating to how buildings meet the ground, which makes a significant impact on the public. The quality of the public realm in and around tall buildings encompasses the character of the spaces themselves and the activities they support. The engagement between these spaces and the surrounding city must be carefully judged in terms of their scale, character and permeability. (Strelitz, 2005). Buildings in the public realm that do not create the possibility of a connection with the outside world , and that do not invite the public, will present an image of being aloof, private territories and exclusive to those who are inside. Such buildings add nothing to the amenity of the urban environment. (Thomas, 2002)

Also, the height of tall buildings has led to the larger demand and need for better transportation networks and more amenity facilities. There are increasing requests for multi-use tall buildings giving way to tall buildings as urban hubs and mini-cities.

**Kowloon Station Masterplan (From Kowloon Transport Super City)**

An embodiment of this type of building is the Kowloon Station Masterplan and Property Development, which was initially designed by TFP. The idea of turning the region into a transport super city is the basis of the current development of the several buildings on top of KCRC Kowloon Station, especially the International Commerce Centre (ICC), formerly known as the Union Square.

Whether ICC is designed by Kohn Pederson Fox or Union Square by TFP, it flows from the masterplan concept that the tower should create a three-dimensional node. The infrastructure is organised in layers above the mass transportation center, composing flats, offices, community facilities, hotels and service apartments linked together by air-conditioned shopping streets and public places. The gardens, squares, and vehicle- and

Figure 2 Kowloon Station Masterpan, Hong Kong, Farrell & Partners

pedestrian- circulation routes are on the podium above. All parts of the design work together in the formation of an integrated, balanced city. This landmark tower is a signature statement of the masterplan scheme, marking the importance of Kowloon Station on the Airport Railway. The tall building here forms a regional transportation hub of land, sea and air. (Luk, Lau, Mak & SHK Properties Group, 2006) In this location, the tower will mark the road entrance to West Kowloon from the Western Harbour Tunnel and, with its counterpart at Hong Kong Station in Central, form a gateway entrance to Victoria Harbour.

The development is largely a vertical city, with the horizontal development of the podium (mostly retail, parking, and transport facilities) as a counterpoint. The compact composition offers great convenience, speed,

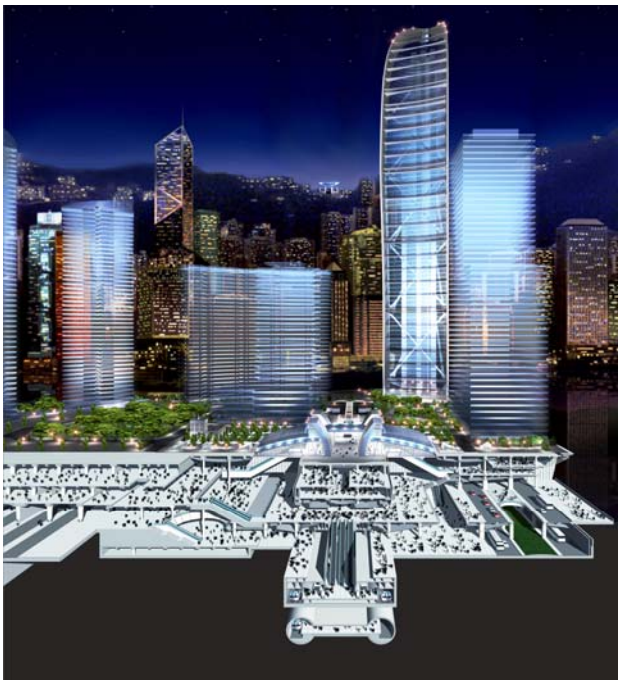

Figure 3 Kowloon Station Masterplan, Hong Kong, Farrell & Partners

accessibility, and efficiency to users and occupiers who live or visit here. This is what urbanism is all about. The development is by itself a 'super city', offering a great range of facilities and star attractions. (Luk, Lau, Mak & SHK Properties Group, 2006)

**Kowloon Southern Link Property Study**

Another example is the KCRC Kowloon Southern Link Property Development Study. It is a 720,000 m² mixed-use property development above the Canton and West Kowloon Stations, encompassing residential, retail and office spaces, a public transport interchange and government facilities.

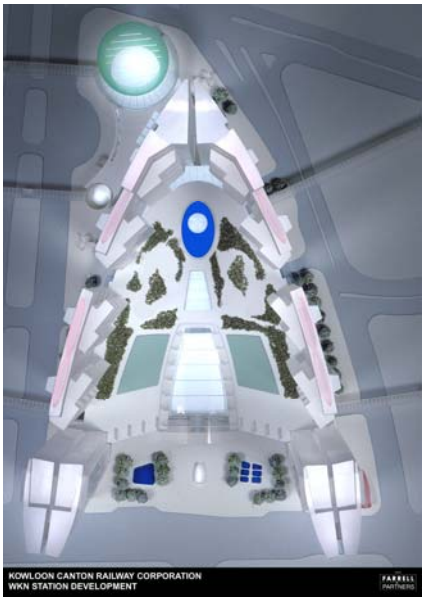


Figure 4 Kowloon Southern Link Masterplan, Hong Kong, Farrell & Partners

The site is surrounded on all sides by key developments, such as the waterfront's arts, cultural and entertainment district, the West Kowloon MTRC development and the extensive TST retail complex along Canton Road. To the southeast lies the new Victoria Tower development with Kowloon Park further south. Jordan Road and Austin Road, key trunk roads running east to west, encircle the site. Although a major multiple-land road was originally designed to the west, extending into the Kowloon Point Reclamation, this is now on hold. To reinstate the street is more favourable to pedestrians. A connection with prime waterfront sites, like in Hong Kong, has so far failed to capitalize. From a commercial point of view, the KCRC can use this new dimension to compete with Union Square.

**Towers as beacons**

Ever since the word' skyscraper' entered into our architectural vocabulary in the late 19th century, architects and engineers have strived to push the boundaries of structural possibility. Now those boundaries are not only concerned with height but also with form itself. (ARUP, 2006) Tall buildings can also act as beacons and vehicles for economic success. They signify prosperity and expand the supply of office space where there is occupier demand but scarcity of land suited to contemporary requirements and expectations. Visually, they have the potential to improve the appearance of city centres. (Strelitz, 2005).

For building occupiers and residents, modern high-rise buildings have become corporate icons throughout the world as well as symbols of progressive economic activity and prosperity. Functionally, they offer appropriate accommodations to house international businesses, for which cities compete.

Tall buildings have become default devices for making 'place' (Heathcote, 2007), whether in the West like Europe and the US, or in the East like China or the Middle East. What's more, to act as beacons of the city, the design of tall buildings should not only be driven by quantity but also respond to the increased levels of social and urban complexity, specific and distinct to the surrounding site. Tall buildings have special potential to establish a new urban focus or enhance an existing building cluster. They can assist the city in meeting the requirements of modern commerce, and help to define and strengthen urban localities that are centered on particular activities (Strelitz, 2005).

**Walton Plaza**

Walton plaza, located in Shanghai, can also be seen as a 'beacon' of the city. Shanghai is divided into two district areas by the Huangpu River – Puxi is the traditional Shanghai, trying to establish itself as a Chinese style modern city, while Pudong identifies itself with Shanghai's future and is almost a competitive arena for architectural celebrities to showcase their talents.

Figure 5 Walton Plaza, Shanghai, Farrell & Partners

Walton Plaza is situated in the Xuhui District of Pudong, which is a former French Concession. The building is simultaneously sensitive to its surroundings and integrates harmoniously into the existing neighbourhood. Rising 40 storeys, the development includes an 80,000 square metre office tower, 3 high-rise buildings and 4 low-rise apartment buildings.

The appearance of the tall office tower has four curved planes, like shields with recessed corner detailing,

that extends to the upper most point of the office tower's structure to create a unique silhouette. On the sides, there are fin-like glasses of 300mm to reinforce the vertical order, providing a sense of transparency and lightless to the façade and reducing the solar heat gain and glare. The lighting on the top of the building generates striking effects, which truly resembles what a 'beacon' is like.

**Global Finance Tower**

Another TFP project, which acts as a beacon in the city of Shanghai, is the Global Finance Tower. It is located at Lujiazui in Pudong. It is a 180m high, 40-storey, grade A office building on top of a 5-level podium. It sits next to the Jin Mao Building, which is currently the tallest skyscraper in Shanghai.

Figure 6 Global Finance Tower, Farrell & Partners

Global Finance Tower finds its own identity by three principal forms: a central circulation and service core; two floor plates on either side; the dominant west wing of the building rising above the other two components. The creation of this stepped effect brings a level of clarity and directness to the building's mass and enhances the building's view potential and its silhouette on the skyline. The various façades of the envelope react differently to the environment through orientation, materials and technology. The different types of cladding respond to solar gain and improve operational efficiency. This maximizes sustainability, in response to China's increasing concern for environmental protection but also contributes to the city's visual and spatial dynamism.

**Not always towers**

Tall buildings or skyscrapers have always been functioning as rare, exceptional, symbolic landmarks. They also carry an expression of power and hubris, of vanity and domination by their superior height and vertical mass, and by their implied potential of control, defense and force (Gutkind, 1969). What if iconic tall buildings come in numbers in a city? Dubai is booming in status, becoming a symbol of extravagant architecture and creating an instant city composed solely of landmarks.

Tall buildings are good but every good thing has its drawbacks. The modernist tall buildings may also work against networks of transportation, communication, and utilities. They lead to higher densities, overloaded roads, more extensive water supply systems, and, more importantly, they form vertical networks. These can create many additional problems. Specifically, they may deform the quality, the function, and the long term health of urbanism in general by overloading the infrastructure and the public streets. They may work against nature, or, in modern terms, against the environment. High-rise buildings work against man himself because they isolate him from others. They may kill the city by creating a mathematical singularity. (Kunstler & Salingaros, 2001)

When a city is building more and more tall buildings, the important question to ask is if they right for the city? What makes a tall building specific to the time and place in which it is set, rather than just another part of the 'global' high-rise monoculture that is sweeping the world and homogenizing 'local' cultures in its path (Wood, 2003)?

**Home Office**

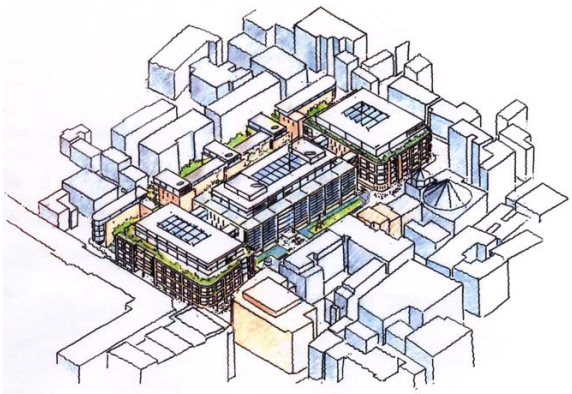

Figure 7 Home Office, London, Farrell & Partners

London has, to a certain extent, considered these concerns. One of its new headquarters, for an important government body, has gone back from the trend of having more and higher buildings. It has instead demolished the high-rise in order to build the low-rise.

Home Office responded to the needs of the government to restructure the old building in order to improve internal and external communication and to promote best practices in the workplace. TFP will

modernize the department to create a vibrant neighbourhood to replace the previously unappealing towers, know as 'the Ugly Sisters'. This will revitalize and improve the existing impermeable site condition. A low-rise complex is proposed as opposed to the existing tall, ugly towers. The same number of people will be housed into the available space.

The new building complex consists of three office blocks, two of seven storeys and one of five storeys, linked by a continuous underground floor. They are naturally lit by the internal atria. The primary naturally lit internal 'street' houses shared facilities, including cafes, meeting points and shared services connecting all three buildings.

The new buildings' improve working interactivity by removing the divisive monolithic towers, developing building forms to a scale appropriate to the surrounding context, and creating a vibrant community with a strong sense of place. It looks not at individual buildings but at the whole environment in the area, respecting local issues and constraints.

The existing buildings used to be a concrete monolith obliterating the skyline, closing off the links between Marsham Street and Monck Street. The healing of this damaged cityscape was brought about by good urban design, which looked to restore the character of the area and community, creating an environment where landscape, buildings, people and activity blend as a harmonious whole. The site includes residential apartments, shops, community space and the new Home Office headquarters, now crossed by public footpaths. This has re-awakened the site's historical use as a mixed development.

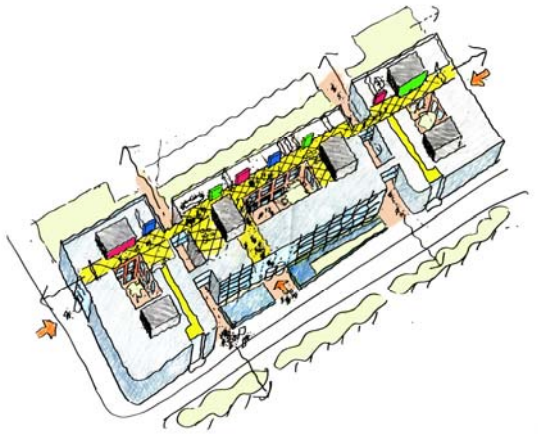

Figure 8 Home Office, London, Farrell & Partners

## China Petroleum

China Petroleum Headquarters in Beijing is another example that is not high-rise but embraces the benefits brought about by tall buildings. The building places great emphasis on total building environmental impact, technical innovation, and corporate identity. The design exploits the clustered organizational structure by connecting common atriums and internal streets. Building mass is broken down into four 24-story, L-shaped towers sitting on the top of a common base. This maximizes southern exposure, natural lighting and ventilation into the buildings. Double skin facades are adopted to mitigate air and noise pollution and to provide a climatic buffer to reduce energy consumption with greater end-user comfort.

## Conclusion

Different functions of tall buildings have been presented to enrich the tower typology. They can be developed as signifiers, as urban hubs, or as beacons of the city. The final goal of tall buildings, however, is a city that is three-dimensional and porous, not the competitive sake of height alone. Height is never the only means to create icons. When we re-examine the most basic aspects of urbanism, we know that the desire for connectivity, rather than pure quantity, is the concern.

More than ever, the task of architectural design is about the transparent articulation of relations for the sake of orientation and communication. This is what Terry Farrell & Partners, whose projects were cited above, is working on. Our projects could be seen as 'urban' not by their heights but by the details and qualities of their design. This truly responds to the urban context as being part of the environment that surrounds them.

A city requires tall buildings but not all of them should stand out as 'tall'. This image of the city will demonstrate how we may arrest the incessantly spreading city, while creating a new stage for urban culture in the next generation.

## References


EDWIN, H. (2007). ***Touch the Sky.*** Published on the section of "Arts & Weekend House & Home". www.ft.com August 3, 2007 20:34

BOYARSKY, N. & LANG, P. (Ed.) (2003). ***Urban Flashes Asia: New Architecture and Urbanism in Asia.*** Wiley-Academy. Chichester, West Sussex.

GUTKIND, E. (1969). ***Urban Development in Southern Europe: Italy and Greece.*** The Free Press. New York.

KUNSTLER, J.H. & SALINGAROS, N.A. (2001). ***The End of Tall Buildings.*** This article first appeared on PLANetizen at www.planetizen.com on September 17, 2001.

LUK, LAU, MAK & SHK PROPERTIES GROUP. (2006). ***The International Commerce Centre, Hong Kong: a developer's perspective.*** CTBUH Review, No.4: Summer 2006.

MOORE, A. (2006). ***China's Newest Super Structure.*** An Article from "A Glimpse into Arup's Creative World". ARUP.

SEV, A. (2001). ***Integrating Architecture and Structural Form in Tall Steel Building Design.*** CTBUH Review Vol. 1, No.2: February 2001

STRELITZ, Z. (2005). ***Tall Buildings: a strategic design guide.*** The British Council for Offices and RIBA Publishing. London.

THOMAS, D. (2002). ***Architecture and the urban environment: a vision for new age.*** Oxford Architectural Press. UK

VISWANATH, TOLLOCZKO & CLARKE. (1997). ***Multi-purpose High-rise Towers and Tall Buildings: Proceedings of the Third International Conference "Conquest of Vertical Space in the 21st Century".*** E & FN Spon. London.

WEBB, C. (2006). ***Tall Orders.*** An Article from "A Glimpse into Arup's Creative World". ARUP.

WOOD, A. (2003). ***New Paradigms in High Rise Design.*** CTBUH Review, No.3: Fall 2004