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New Paradigms in High Rise Design

The First in a series of articles by Antony Wood, RIBA, University of Nottingham, UK, in association with Kohn, Pederson, Fox Architects, New York.

ABSTRACT
Tall buildings are perhaps the most keenly debated building typology currently in existence. Opinion on their contribution to the urban agenda is usually clearly divided: strongly for or strongly against. This is especially true of London, a city which has only recently embraced tall buildings and only in limited numbers. Unlike other parts of the world where there have been strong moves to create tall buildings rooted to the specifics of "place," London has tended to cling to the importation of the North American rectangular, commercially-driven, air-conditioned "box."

This paper presents alternative visions for tall building designs. It takes as its vehicle a high-rise design/research project undertaken at the University of Nottingham. Based on the Heron Tower project currently being developed in the City of London, and working together with Kohn Pederson Fox Architects, the Paper outlines differing design approaches developed and charts similarities in these approaches. By relating this to recent tall buildings internationally, the paper concludes by suggesting new paradigms for high rise designs.

1.0 INTRODUCTION

The popularity of tall buildings in the UK has seen dramatic pendulum swings over the past 40 years: first from a time when the genre could not disassociate itself from the loathed, ubiquitous post-second world war council tenement towers then to the heady days of the 1980s when the commercially-driven policies of the Conservative Thatcher government led to the huge docklands redevelopment, with the American architect Cesar Pelli's Canary Wharf Tower as its flagship (Pelli and Crosbie 1994

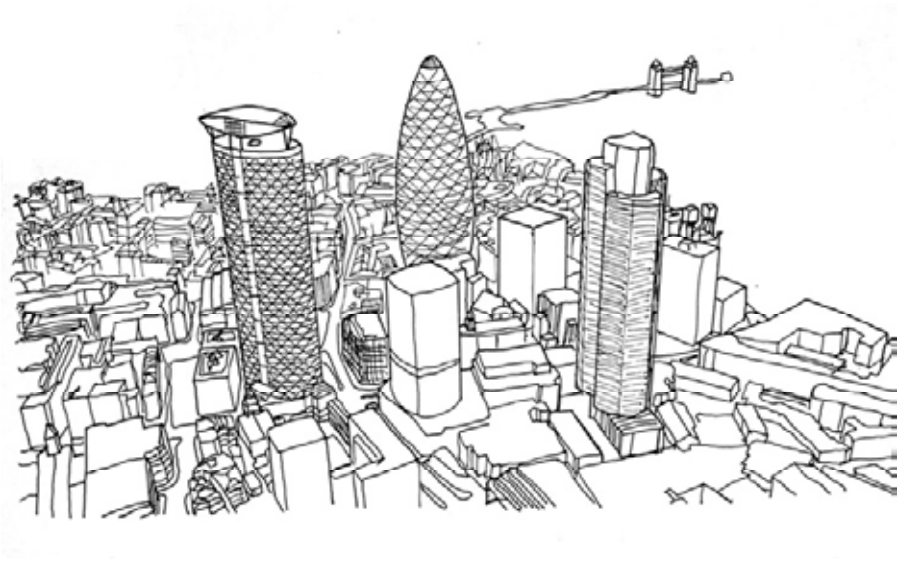

Fig. 1. Map of London (The City Docklands)

Today, under the enthusiastic endorsement of the Mayor of London, Ken Livingstone, tall buildings seem to be enjoying a popularity unlike anything seen previously in the UK (GLA 2001). The docklands development has recovered from the effects of the early 1990s recession to expand at a rapid rate, and public opinion seems to be warming to the idea of tall buildings in the City of London and elsewhere in the capital – something unthinkable only a decade or two before. The high level of public interest in the Norman Foster-curated High Rise exhibition at London's Royal Academy in the summer of 2003 (Abel 2003) surprised many.

Not everyone is convinced, though. The Heritage Lobby, and in particular English Heritage, are concerned about the impact of tall buildings will have on the historic fabric of London. For every report that is issued in support of Tall Buildings in the UK (CABE 2001), there seems to be a contradictory report condemning them (USAC 2002). The project that perhaps best typifies this battle of opinions in recent times in the UK is the Heron Tower project. This is the starting point for the design research project which is the essence of this paper (see Section 2.0). Originally granted planning approval from the Corporation of London's planning committee in 2001, the submission received objections by English Heritage, amongst others, for the detrimental impact it would have on strategic back-drop views of St. Paul's Cathedral. It was eventually called in for a lengthy Public Enquiry (costing 4 million pounds) and, over a year after the original submission, was finally granted Planning Permission in July 2002. Work on the site is anticipated in 2004 but many still considered it an inappropriate addition to the London skyline (Gates 2002).

Whilst this theoretical battle over the appropriateness of tall buildings in the UK rages, little has been done to improve the actual design of the built projects. Towers are appearing at an amazing rate within the Canary Wharf/docklands development, yet the whole project stands as a testimony to commercialism with little high-rise design of quality. It seems to be a piece of downtown American adrift in the east end of London. Carol Willis' "Form Follows Finance" play on Louis Sullivan's maxim, which was in relation to the early skyscrapers of New York and Chicago (Willis 1995), is now relevant on this side of the Atlantic.

The City of London and its environs have faired better than the docklands development in the high rise quality stakes, perhaps because of the added scrutiny required through the historic setting. But, even with notable high rise examples such as Norman Foster's Swiss Reinsurance Tower (2003) and Renzo Piano's "Shard of Glass" (anticipated 2009), one is left with the feeling that these tall buildings could be situated in any city of the world (for more on both buildings see Abel 2003, pp 643-69). Exciting edifices of steel and glass that they may be, but are they right for London? What makes them specific to the time and place in which they are set, rather than just another part of the "global" high-rise mono-culture which is sweeping the world and homogenizing "local" cultures in its path?

The tall building is obviously not a typology to "blend in" with its context. It is inevitably going to soar above, and dominate, its surroundings. But that does not mean it cannot become a positive element in the urban composition. It can and should related to its surroundings as positively as a high-quality, low-rise building' taking its cue from site and environment, as well as client and brief. The following paper gives examples of design research that, in the author's opinion, achieve just that. Taking the Heron Tower brief and site as the starting point, they are a sample of exciting theoretical design approaches that could serve as a model for future tall buildings.

2.0. PROJECT BRIEF

The Heron Tower project, currently being developed by KPG Architects for the Heron Corporation, is situated in the heart of the City of London (Gates 2002) at 110 Bishopsgate. It is on a prominent corner at the junction of Bishopsgate, Houndsditch and Camomile Street. Across the street is the Grade II-listed St. Botolph's Church, with its accompanying gardens and view of the London Wall development. Close by are the "Eastern High Rise Cluster" duo (see Figure 2) of Richard Seifert's

Figure 2. Eastern Hign Rise Cluster

1981 Tower 42 and Norman Foster's 2003 Swiss Reinsurance Tower (Abel 2003, pp 64-67.

Replacing the existing 1960s low-rise Bishops house and Kempson House on the site, the designed Heron Tower will provide 63,135 metre-squared of office space over 37 floors at a total height of 222 metres. The design brief pursued under this research project departed from the original brief. Intending to engage with the very real design issues in mixed-use towers, the research brief asked for a mix of residential, office and retail space (Wood 2002). Flexibility in the final floor space is to allow for a full consideration of the tower's size and proportion. The research brief asked for a minimum of 45,000 squared-metres of space in a tower of 20 to 40 stories in height. Guidelines were given for the total number of office workers and residences to be housed.

3.0 DESIGN RESPONSES

The design themes developed can be categorized into the four general design approaches as outlined below:

- Those predominantly inspired by the relationship between the building and the physical characteristics of the site (3.1-3.2)
- Those predominantly inspired by the relationship between the building and the environmental characteristics of the site (3.3-3.5)
- Those predominantly inspired by an organizing principle for the internal spaces (3.6-3.7)
- Those predominantly inspired by the relationship between the building and an abstract/practical philosophy (3.8-3.10)

In this issue, we shall look at the first design approach: physical characteristics of the site.

3.1 BUILDING AS BILLBOARD

This design (see Figure 3) partly takes inspira-

Figure 3.

tion from the pulsing, neon nighttime imagery of East Asian cities such as Tokyo or Hong Kong. In relating to the site, it acknowledges that a high rise building has a relationship not only to the direct site context as its base, but to hundreds of other sites around the city through the visual linkage. In setting up a dialogue with several significant "places" around the city, both near (e.g. St. Botolph gardens across the street) and far (e.g. Primrose Hill), the building becomes a billboard. The facade "planes," which are positioned in both plan and sectional angel to "speak" to the reciprocal place, often are several miles away. Internal functions are arranged so as to maximize the opportunity of solid areas for billboard coverage (e.g. lift/service cores etc.), whilst allowing light and air into the building and views out for the internal occupants. The building comes into its own during the nighttime when huge liquid crystal screens on the facade of the building, and within the atria for the occupants, pulse out over the city.