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Learning from the Past - Tall Buildings and the Evolution of Old Cities

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Abstract

The theme of the Council of Tall Buildings and Urban Habitat conference in Seoul 2005 is the development of Tall Buildings in Historical Cities and Culture and Technology for Sustainable Cities.

This paper considers the essential aspects of historical continuity in established cities and compares them with conventional, predominantly visual, conservation priorities that are becoming more influential.

The paper draws attention to the similarities of the impact of high-rise structures upon historical cities with past new development and re-development, particularly with respect to the preservation of street layouts, distribution of land ownership and maintenance of recognizable city limits.

The urban renewal value of compact incremental district re-development enabled by high-rise approaches is also discussed and contrasted with alternative low-rise approaches to provision of increased floor space. Examples of recent buildings in Hong Kong that have achieved substantial densification in concert with urban renewal and conservation of historical buildings are presented.

Keywords

Incremental
Hong Kong
Densification
Conservation

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INTRODUCTION

Probability of Demand for Growth in Established Historical Cities; Momentum of Incumbency

It is likely for the foreseeable future that the commercial momentum and concomitant demand for growth of existing major historical cities is unlikely to be eclipsed either by new towns or, despite the hyperbole that surrounds it, teleworking. Existing successful cities will need to accommodate growing populations as they continue to provide decisively better employment opportunities than rural or suburban hinterlands.

This is of course a continuation of a longstanding historical trend. The dominant *raison d'être* of cities, save for military or religious exceptions, has been the efficient concentration of business activity.

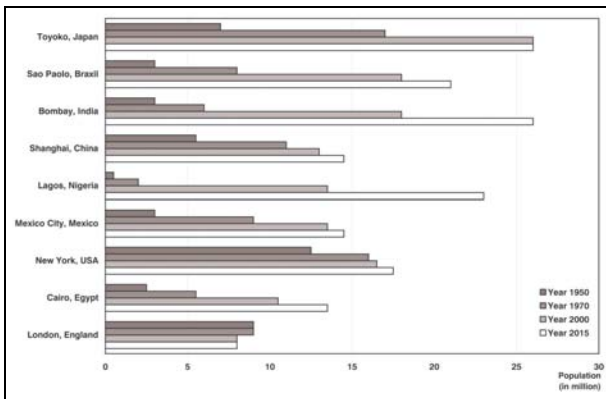


Figure 1. Growth of Urban Agglomerations, 1950–2015. Source: United Nations, *World Urbanization Prospectus*

Figure 1 forecasts absolute population growth in eight out of the world's nine largest urban agglomerations.

Even where populations are not expected to grow substantially we anticipate continuing upward pressure on space standards in major cities.

In Hong Kong both trends of absolute population growth and increasing floor area provision have been particularly acute during the last fifty years. The population rose from three and three quarter millions in 1967 to six and three quarter million in 2002.

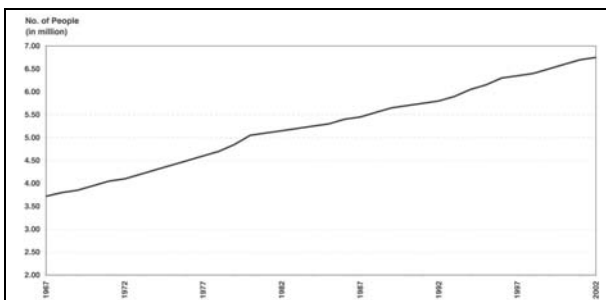


Figure 2. Hong Kong Population, 1967–2002. Source: Demographic Statistics Section, Census and Statistics Department of Government of the Hong Kong SAR

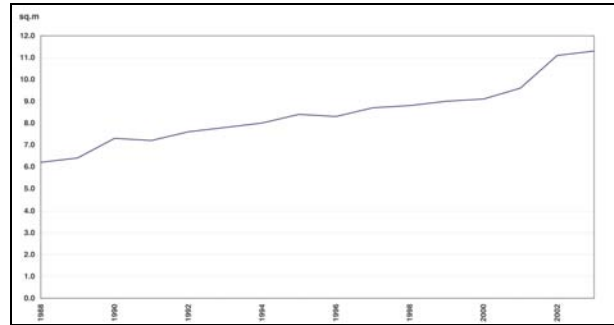


Figure 3. Median Living Space per person in Public Housing, Hong Kong. Source: Hong Kong Housing Authority, Government of the HKSAR

Concurrently, the squatter population that was housed in slum conditions is now accommodated in permanent purpose-designed high-rise apartment buildings. Since the 1980's alone floor area per person in Hong Kong public housing has almost doubled.

It is anticipated that both trends will continue, Hong Kong will be required to contain more floor area in the future.

Incumbency confers a considerable advantage upon a city in attracting trade, commerce and population growth. None of the world's nine largest cities is recently established. Historical trends indicate that overwhelmingly growth will be concentrated in existing historical cities that are mostly over 150 years old such as Hong Kong or Mexico City and that in some cases date back over two millennia.

The well documented growth of Asia in recent decades is not likely to change this need. Our work in the region is likely to remain focused upon economic centres of such as Shanghai, Beijing, Bangkok, Hanoi and Jakarta, that are generally old, if not ancient, established cities in their own right, and upon regional cities such as Chengdu, Wuhan, Nanjing or Chiangmai that are also of some antiquity.

We are thus likely, for the foreseeable future, to encounter historical urban contexts when embarking upon in new development in the region.

Acceptance of Historical Cities As Found

Owing to the established patterns of ownership and development and the concomitant social and financial costs of removal of incumbent uses it is highly unlikely that luxuries of '*tabula rasa*' approaches will be available to us, even if we were to wish for them.

We seek to avoid sentimentality about cities; the commercial imperatives that form the foundation for the spectacular modern metropolises of today are really no different from those of the past. Indeed the high-rise architecture of today is inevitably a product of deep-rooted patterns of land-ownership distribution, property law, and the need for personal subsistence that are more or less historical constants of any

established city and that any rate change very slowly over time in stable pluralistic societies.

As development intensities increase, the scope for the type of wholesale comprehensive redevelopment within existing cities that it was possible to envisage in the 1950s and 1960s becomes more remote because of the cost and social implications. In the context of today's established cities really large scale comprehensive redevelopment would entail disruption of existing property rights and unsupportable resumption costs. As densification continues in established cities, the costs of alternative approaches become even higher as the value of built stock rises.

In our view, a fundamental omission that is a commonplace of theory that militates against high-rise buildings in existing cities, for example as exemplified by Martin and March's influential urban space and structure, is that it does not generally acknowledge the radical social and economic upheaval that would be required for its practical implementation. It was for a brief period possible, even fashionable to engage in wholesale clearance of inner cities for the purpose of comprehensive redevelopment. Martin, an architect of formidable talent, wrote of '*only a new framework*' – involving comprehensive clearance, could open up a free (re)development of parts of nineteenth century London. This is now unthinkable; we have no choice but to build incrementally upon existing cities as we find them, not as we might wish them to be.

Architecture Conditioned by Practical Circumstances

Talk of towers as icons, spiritual markers and like is so much hot air. In common with the majority of buildings of any vintage, contemporary high-rise buildings are formed by the commercial and legislative forces of their time. Naturally the practice of Dennis Lau & Ng Chun Man Architects & Engineers (H.K.) Ltd takes some pride in having designed a number of the world's tallest buildings, but we recognize that their height is merely consequence of the societies that give rise to them.

Architecture is not transforming society; society is transforming our architecture, and only very slowly in its fundamental aspects. Experience of the property market suggests to us that the unit of the multi-room apartment will not be superseded in the foreseeable future.

Commercial Architecture

Leon Krier, who has eloquently reasoned in favour of visually historicist low rise development has said in interview that there is no sound reason to build high utilitarian buildings except for financial gain.¹

We disagree that there are no other sound reasons, the obvious lack of space in Hong Kong being a further pre-eminent reason that Krier has elsewhere acknowledged.

Nonetheless, the profit incentive is a fundamental aspect of virtually all surviving traditional societies and cannot be lightly brushed aside. Indeed we consider it to be a key and essential motivator of constructive growth and redevelopment in our cities.

Modes of architecture that are not amenable to development for profit fly in the face of tradition. Profit, and competition, are key factors in the increasing quality and levels of public amenity of Hong Kong's urban environment. Profit was the motive behind now cherished Georgian developments such as the Royal Crescent in Bath and the Regent's parade facing Regent's park in London.



Figure 4. The Centre: a for-profit urban renewal development

Experience of the Centre redevelopment at Gilman's bazaar shows that densification for profit imparts a critical mass of investment that allows neighbourhood improvement that is in the interests both of developer and remaining incumbent low-rise building occupants.

Conformity with Longstanding Urban Fabric

Our high-rises are not utopian or ideal structures; they are practical solutions that answer the demands of the contemporary market that is based on laws and customs that date from the foundation of Hong Kong

Hong Kong in 1847 and that have much longer antecedents elsewhere. Whilst our buildings clearly depart in form and scale from their older neighbours, they embody a continuity of the social and legal fabric of society.

Fantastic alternatives that may superficially bear a closer physical resemblance to existing physical contexts generally imply socio-economic upheaval that is antithetical to historical continuity.

Garden cities, the ville radiuse and broadacre city, none of these address the fact of economic inertia of contemporary metropolitan centres and their enduring desirability as places to live for populations seeking to improve their economic circumstances.

Seeded new towns, or any type of satellite development that imposes substantial commuting upon its residents are arguably far more synthetic than high-rise developments that enable populations to live in close proximity to their places of work and major services.

Tall buildings that conform to the discipline of longstanding urban fabrics are in this sense are more traditional than freshly seeded new towns. We would not seek to overturn the pattern of cities in which we work even if we could; always we have to accept the vicissitudes and antecedents of different contexts, some of which were established as human settlements hundreds of years ago.

The Constant of the Shock of the New

New buildings have typically, contrasted starkly with their predecessors. This is an inevitable consequence of the adoption of new technologies.

The initial reaction to new and contrasting development in an existing successful urban environment is often initially negative; subsequently the value of high quality additions does come to be appreciated both at functional level, and because a visually variegated urban environment is typically a stimulating one.

Figure 5 illustrates the extreme contrast between 17th and 19th century architecture in Kings Lynn in England. The contrast in scale and finishes of the different buildings would historically have been considered severe but these days is commonly accepted as part of a uniform historical backdrop.



Figure 5. King's Lynn, Norfolk, England. The severe contrast between late medieval and early Georgian styles

Naturally the appearance of buildings is important to us as architects. However, it is one least topical factors in organic urban development insofar as it one of the most likely to resolved satisfactorily every time; commercially it is a prerequisite for buildings to impart a pleasant appearance and to offer an attractive living environment. We seldom give much consideration to appearance at the inception of a project as an acceptable visual outcome can normally be worked out once disposition and layout that delivers a usable and user-friendly built environment has been perfected.

We absolutely concur with Overby's observation that *'There are many ways to place new buildings successfully alongside old buildings, but what goes best with good old architecture is good new architecture'*.

A example with special resonance for DLN is the development of Highcliff next to the Villa Monte Rosa in Hong Kong. The Villa Monte Rosa is an early 1970s high-rise luxury apartment building that was designed by DLN at around the time of its establishment. Highcliff, enabled by advances in construction technology to be built far higher within reasonable cost, is a contemporary response to the same brief.



Figure 6. The constant shock of the New, Villa Monte Rosa (left, to rear), Highcliff (centre) and The Summit (right)

Obviously there is a contrast in disposition of the two structures, but nothing suggests to us that the relationship would have been improved if Highcliff had been reduced to one third of its height and three times its present footprint in order to 'respect its context'. To the contrary

- apartment layouts of Highcliff would have been compromised
- views from the existing building Villa Monte Rosa would have been much more severely affected
- picturesque contrast of two buildings would instead be replaced by a more uniform massing

Cities are functional environments for living and working; dogmatic planning criteria that suppress the scope for building according to need or that compromise the livability of buildings must be eschewed.

OBSERVATIONS AND PRACTICAL EXPERIENCE OF DEVELOPING HIGHRISE BUILDINGS IN THE HISTORICAL CITY OF HONG KONG

Context

The Hong Kong land registry was established shortly after the possession of Hong Kong by the British in 1847 and set a template for development of land that survives today.

With the exception of the grounds of one cathedral and a small number of indigenous villages antedating the colonisation of Hong Kong, there was no private freehold of land in Hong Kong and this remains the case. Land leases were and are auctioned. Initially there were few conditions upon permitted land uses, but as Hong Kong developed restrictions upon land use, and even later upon building bulk came to be introduced as conditions of land grant. Upon expiry of leases either an extension of grant would be awarded upon payment of a premium, or the land would be resumed by the government. This arrangement, originally established in the mid-nineteenth century remains more or less unchanged in Hong Kong today.

From the mid 1850s until the late 1960s the dominant form of development, with exception of colonial buildings in Hong Kong was the shop house. Gradually the height and sophistication of these structures grew whilst they essentially conformed to contemporary patterns of shop-house design in the interior of China and elsewhere in the region. Mature types of shop house built between the two world wars were typically four storeys high and had a plot ratio of around 4.

The shop house was a multi-purpose building used for dwelling, storage and commonly houses artisans' workshops on their ground floors.

Shop house depths gave rise to distinctive land parcel sizes and layouts of primary streets and secondary lanes known as *li*.



Figure 7. Surviving pre-war shop houses in Hong Kong

Formal and systematic regulation of all building development in the territory was only introduced with the enactment of the Buildings Ordinance in 1952. Until that time zoning and building control was administered on a case by case ad hoc basis.

Hong Kong is older than the major cities of the North American Interior and West Coast.

Incremental Densification of Cities, The Centre

The Centre in Hong Kong is a pioneer urban renewal project situated in one of the oldest parts of Hong Kong's Central Business district known as Gilman's Bazaar. It was completed in 1997.

Although the majority of the buildings in the vicinity of the project site were of post-war vintage, the layout of the streets and *li* (lanes) between them dates back to the mid-nineteenth century and had its roots in the traditional pattern of shop house buildings. At the time of redevelopment the neighbourhood was very run-down.

The proposal for the Centre, which is an example of incremental urban densification is the antithesis of comprehensive low rise development. By restricting redevelopment to a single large plot block the following results were achieved:

- Disruption of the indigenous community is minimized as redevelopment work is confined to a compact building site
- The value of surviving low rise buildings around the development is increased, increasing the scope for renovation and rehabilitation of those hitherto somewhat degraded structures. The development mode has furthermore allowed the overwhelming majority of residents to remain in their existing homes and has avoided the undesirable dislocation of communities caused by compulsory relocation.
- The compactness of the redevelopment project and the consequent large residue of existing buildings

increased the scope for permanent retention of historically valuable/interesting structures.

- The concentration of accommodation at high level has allowed the creation of generous public open spaces at ground level that are based upon the original layout of lanes, or *li*, on the site.
- The compactness of the redevelopment site allowed site purchase costs to be contained within reasonable levels.

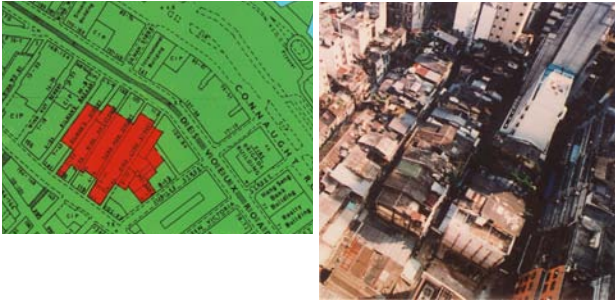


Figure 8. Shophouses, and characteristic layout of *li* at Gilman's Bazaar

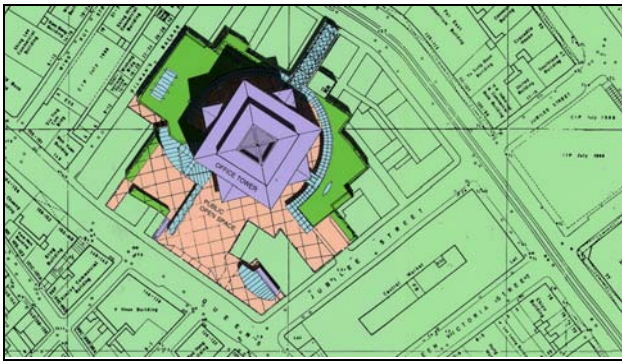


Figure 9. Public Open Spaces and Routes Across the Site of the finished project reflect the original *li*



Figure 10. The *li*, before and after redevelopment

From the beginning of the project it was intended to preserve what could be of the historical lanes, or *li*, that sub-divide urban blocks in Hong Kong. This has been substantially achieved because, using an point block, site area was liberated allowing for a permeable ground floor that is traversed by various pedestrian routes that recall the original *li*.

The Centre preserves the memory of Open Space, Streets and Lanes and, by virtue of its compactness, has allowed the surrounding community to largely remain in situ. Inevitably the neighbourhood has been changed and we are

now witnessing a gradual gentrification of nearby buildings that were dilapidated. This process is however taking place in an incremental fashion that allows new uses to co-exist with existing ones.

Preservation of Open Space and City Footprint – Highcliff and the Summit

As late as the beginning of the twentieth century the outlying boroughs of London was still recognisable as discrete satellite villages. As of 1950, owing to massive low rise development facilitated in part by railways and motor transport they had all been absorbed into a continuous urban agglomeration. The form of historical London now is discernable not principally from its Urban footprint but from vestigial traces of the villages in the form of historical buildings.

In this respect Hong Kong's development is an exact inversion of the evolution seen in London. Although the city has spread and grown somewhat during the last one hundred years, the relationship today of its constituent neighbourhoods to each other and the surrounding open spaces exhibits recognizable similarities to that pertaining at the end of the nineteenth century.

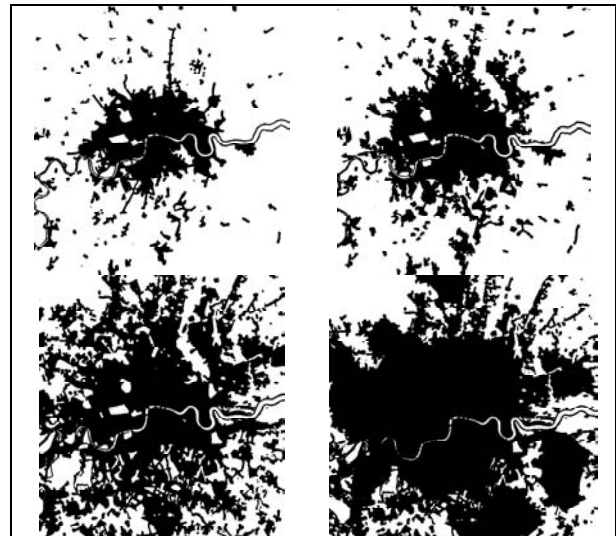


Figure 11. Growth of London 1880, 1900., 1930 and 2000

It is precisely because of the adoption of high-rise high density building types that Hong Kong's overall form today exhibits similarities to that of 100 years ago. We reason that Hong Kong's footprint more closely resembles that of its historical antecedent than any other major city that undergone similar growth in the past century.

We consider the resemblance of the contemporary city to its historical counterpart in this respect of extent and definition of neighbourhoods to be an culturally worthwhile consequence of high-rise design. Arguably Hong Kong today has a far more fundamental resemblance to its historical counterpart than sprawling conurbations whose architecture happens to resemble past building forms in terms of scale and material.

Highcliff and the Summit exemplify the type of architecture that have enabled this containment of the city limits. Both buildings, built to plot ratio ten, typify the type of development that has allowed Hong Kong to reserve 80% of its land area as open space, of which around 40% is contiguous public park.

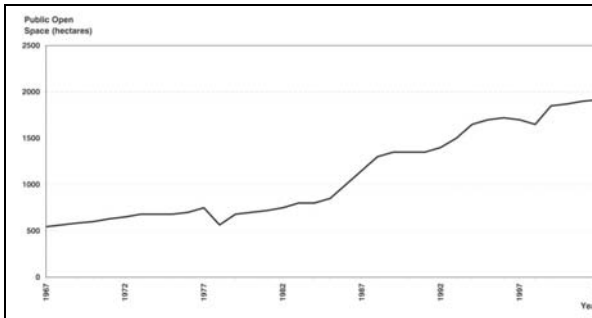


Figure 12. Availability of Public Open Space in Hong Kong, 1967-2002 Source: Leisure and Cultural Services Department, Government of the Hong Kong SAR

Delivery of Optimum Floor Layouts – Buildings that are Fit for Purpose

We stress that buildings such as Highcliff and the Summit are not designed as monuments to the vanity of their developers which has regrettably come to be a common criticism of tall buildings these days. In common with past building in Hong Kong they are straightforward responses to the demands of the property market and the unique characteristics of their sites.



Figure 13. Typical floor plan, Highcliff

A consideration of the alternatives to the layouts adopted reveals clear limitations that would have compromised the quality of the accommodation delivered by the two buildings.

The impact of lower, bulkier developments on the same sites would also have created a more intrusive building presence at street level. In the case of these particular buildings, situated along Hong Kong Island's celebrated Bowen Path tree walk. The impact of low-rise large footprint alternatives would, besides compromising floor plans, have had a most undesirable impact upon the arcadian atmosphere of the path.

Preservation of Existing Buildings – Robinson Heights

Returning to theme touched upon by our consideration of the Centre, Robinson Heights, a twin-tower residential condominium of 48-storeys designed by Dennis Lau & Ng

Chun Man Architects & Engineers (H.K.) Ltd in the early 1990's was developed on the site of the Hong Kong synagogue. The point block design delivered a plot ratio of ten and at the same time to preserve the synagogue which is both a culturally important place of worship in Hong Kong's heterogeneous society and also a historically interesting building.

Only high-rise development can achieve the compactness that allows the city to grow within its existing limits and at the same time allow retention of and, hopefully harmonious, co-existence with historical stock.

OTHER ADVANTAGES OF HIGH RISE DEVELOPMENT IN SUSTAINING HISTORICAL CITIES – NOTES ON HONG KONG

Hong Kong's commitment to high densities and the corollary high-rise structures has had positive consequences that have served to make the historical city a viable and livable environment.

Compactness and Intimacy

Density facilitates experience of all parts the whole city by the population as a whole, Hong Kong is not a balkanized city of hermetic districts that are experienced exclusively by discrete subsets of residents. In contrast to London for example, where massive low-rise outward growth and a extreme degree of specialisation of land use has resulted in the financial district becoming almost deserted outside of office hours, the Hong Kong CBD, in common with most other parts of the city, is used intensively and permanently in by a transient population of shoppers, commuters in transit, and casual visitors for whom the CBD is conveniently accessible, unlike London's which definitely not conveniently accessible.

Our CBD is thus well used and known by the community at large and, in consequence, there is sense of popular connection to the historical urban environment. This healthy and desirable intimacy with the core of our city is only possible because of the prevailing mode of high-rise development and is in instructive contrast to other large cities. Whereas it is quite possible to live in the *banlieux* of Paris or Suburbs of London and to only rarely experience the centre, in high density Hong Kong it is an absolute commonplace for almost all residents to experience key urban areas on fairly regular basis.

Density and Public Transportation

The compactness and density of the city has, for much of the population, rendered car ownership impractical and inefficient. This has notable social and environmental effects.

On the one hand efficient public transportation in Hong Kong has clear practical quality of life benefits –

productive time lost to and energy spent upon commuting per capita are lower than in other established cities.

A further effect of the penetration of public transport into everyday life is that inhabitants of Hong Kong tend to enjoy far greater direct citizen to citizen exposure than residents of cities and suburban areas where private transportation remains a more viable option.

Hong Kong's intensive use of communal public facilities, in particular transportation, is a further fundamental respect in which Hong Kong more closely resembles its historical counterpart than its architecture at first suggests.

APPROACH TO ARCHITECTURE

The historical pattern of land-use in Hong Kong, since its foundation, indicates a pattern of more or less continuous redevelopment and growth. The historical trend is one of replacement of building stock and steady densification.

The city's continued prosperity and competitiveness is contingent in part upon continued growth and delivery of better space standards, in line with prevailing trends through the past one hundred and fifty years.

In common with any practical endeavour, and in particular one undertaken at societal level, we have no doubt that the development pattern pertaining in Hong Kong contains inefficiencies. Many of these however are inherent in our free market that is Hong Kong's *raison d'être*. The inefficiencies are largely the concomitants of an organisation of society that at the same time has made a reasonable job of creating prosperity using the raw material of human resources.

Unreformed Marxists may refer to the free market society as one based on greed and fear; nonetheless the template of the free market is one that has proved durable and in the context of Hong Kong one that is historically continuous. The overwhelming majority of meaningful historical development around the world has been commercially motivated. This fact cannot be wished away.

Architecture is the practice of the possible and architects are not powerful agents. Our job is to respond to natural forces of custom, law and hitherto organic evolution of cities in the most efficient and generous way that we can. We do not set out to necessarily design tall buildings. Some projects happen to be tall as a consequence of the societal forces that given rise to them. Tall buildings are not universal panaceas but, for us, practical circumstantial responses to the prevailing needs and the technological resources at our disposal to address those needs.

The context of our buildings is not merely physical, but legal, commercial, social, cultural. Invariably, and rightly, the latter four contexts are the prime determinants of the bulk and height of today's structures. In common with architects before

us, it is within the discipline of these constraints that we respond to and seek to preserve the vitality of historical contexts. In common with the buildings of the past our tall buildings also reflect the construction techniques and level of demand for floor space of their time and, in common with past development, stand in contrast with their older neighbours.

CONCLUSIONS

In the light of our observations and practical experience of the implementation of high-rise projects in an existing historical city we conclude that:

1. There is likely to be demand for increased floor area in established cities of more than 100 years age in the South-east Asian region for the foreseeable future
2. Demand for residential and working spaces is motivated by the relatively higher incomes and greater availability of business and career opportunities in cities. We consider this to be virtually a historical constant,
3. High-rise development in Hong Kong that offers high plot ratios, enables incremental densification that:
 - Allows existing commercial and cultural activity in existing neighbourhoods to continue concurrently with very large scale property developments.
 - Affords scope for preservation of historically valuable building stock in concert with urban densification.
 - Can commonly take place in the context of longstanding existing property ownership structures and street patterns.
 - Permits containment of city size to a scale whereby, in the fashion of the smaller metropolises of the past, residents can enjoy intimate knowledge of all of its parts.
4. Contrast between succeeding generations of buildings in both scale and appearance is historically commonplace.
5. City footprint and accessibility are fundamental aspects of historical cities that merit consideration when planning expansion of floor area.

Notes

- 1 Leon Krier in interview with Nikos Salingaros, Nov. 05, 2001 Planetizen (www.planetizen.com)

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