

# THE VERTICAL URBAN ENVIRONMENT OF HONG KONG

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## HISTORICAL DEVELOPMENT OF URBAN HONG KONG

Hong Kong<sup>1</sup> has some six million people living on just slightly over 1,000 km<sup>2</sup> of land. A satellite photograph of Hong Kong will reveal that the urban areas where the bulk of the population lives take up only about one-tenth of the land. Hong Kong's urban areas concentrate mainly in two places: on the triangular tip of Kowloon Peninsula and along a thin coastal strip on the northern side of the Hong Kong Island. These urban areas hold a staggering population density of over 55,000 persons every square kilometre, and urban districts such as Wanchai and Mongkok even have twice that population density, ranking them among the most densely populated places in the world.

Why are so many Hong Kong people crowded into just a small portion of the territory? The answer lies very much with Hong Kong's topographic character. All of Hong Kong's urban areas are built on land with flat and relatively flat terrain, and most of this land was reclaimed from the sea. The rest of Hong Kong is of such hilly terrain—from 100 to about 1,000 metres above sea-level—that large scale development is technically difficult and economically unfeasible.

Since the end of the Second World War, the population of Hong Kong has been increasing at an astounding rate of about a million people every decade. In 1946, just a year after World War II ended, the population of Hong Kong stood at one-and-a-half million. But political and social turmoil in China brought successive waves of illegal Chinese immigrants swarming into Hong Kong. The vast majority of these Chinese immigrants eventually settled permanently in the territory<sup>2</sup>. By the early 1970s, the economy of Hong Kong began to grow steadily, and as a result, there was a great need to develop land for offices, factories and other commercial use. At the same time, a fast rising population of four million people called urgently for land to be developed for housing and other related facilities. The great demand exerted on Hong Kong's very limited supply of land soon set in motion the escalation of property prices in the territory.

## ANARCHY IN THE KOWLOON WALLED CITY

The combination of post-war population growth, rapid economic development, and the government's laissez faire economic policy caused property value in Hong Kong to skyrocket over the years. Today, property prices in Hong Kong are among the most expensive in the world. With so much money at stake, no property developer is willing to squander precious gross floor area of any building for anything that cannot be

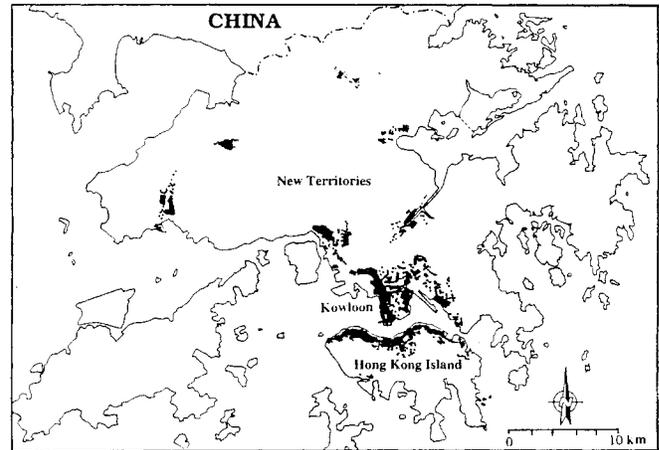


Figure 1: Map of Hong Kong showing the built-up areas (indicated by the darkened patches). The built-up areas on Kowloon and Hong Kong Island are the main urban areas, while those in the New Territories represent new towns developed in the 1980s.

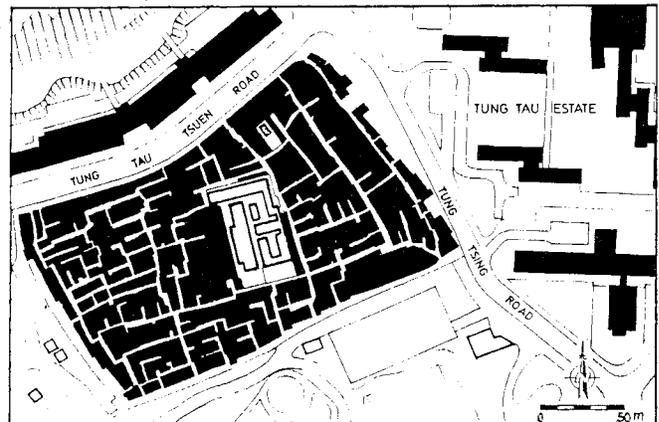


Figure 2: Ground floor plan of the Kowloon Walled City showing its labyrinthine network of streets. The group of buildings in the centre of the Walled City were single-storey buildings used as a school and a community centre.

translated into money. This mercenary attitude has determined the urban form and character of Hong Kong by giving rise to a type of architecture in which the built-form is essentially the filling up of the entire buildable volume of a site as legally permitted.

The ultimate example of this squeeze-till-the-last-drop design principle in Hong Kong was expressed in the demolished Kowloon Walled City.<sup>3</sup> Imagine an entirely illegal development

where the buildings were designed without consideration for fire safety, ventilation and view. Imagine a “city” whose territory measured only about 100 by 200 metres, but inhabited by a population of nearly 35,000 (which translates to an astonishing population density of 1,750,000 persons per km<sup>2</sup>). Imagine a development where the consistent building height of about fifteen storeys represented the maximum safety limit from low-flying aircraft that passed directly overhead as they made their final descent towards a runway less than 500 metres away.<sup>4</sup>

The Kowloon Walled City was a place where speculative developers’ ingenious exploitation of the “buildable volume” attained a new level of creativity. Since statutory building controls and regulations did not apply in this infamous city, architecture here was a pure expression of the all-important gross floor area. As such, buildings that contained windowless units were not uncommon; so were buildings that had no entrances and stairs of their own. These units could only be accessed via entrances and stairs of adjacent buildings. As a result of the impulsive over-development, the internal streets of the Walled City were no more than a labyrinth of tunnel-like spaces where daylight was blocked out by the years of litter trapped on an overhead spaghetti web of illegal plumbing and electrical wiring.

Yet, despite the seemingly nightmarish physical conditions of the infamous Kowloon Walled City, the 35,000 residents of this urban ant-farm lived a surprisingly decent life. Although there were many vice activities going on in the Walled City, the crime rate was amazingly low, since the compactness of the Walled City made its residents a close-knit community who looked out for one another. The city’s public utilities were created by the residents themselves. There were commercial enterprises to bring water and electricity to every home. This was done by tapping from the water mains and street-lights outside the city. Sewage disposal was done in the reverse way, by connecting to the main sewer outside the city.

The Walled City’s socio-economic infrastructure was also self-generated. There were such community facilities as a residents’ administrative committee, several schools and kindergartens, churches, a Chinese temple, a senior citizens’ home, a drug rehabilitation centre, and even a part-time Chinese orchestra. Health care was well provided by about 200 experienced, albeit unlicensed, doctors and dentists practising within the city.<sup>5</sup> The vast and diverse range of commercial services and cottage industries within the city made the Walled City a completely self-sufficient urban community in every sense of the word.<sup>6</sup>

In many ways, the Kowloon Walled City mirrors the urban environment of Hong Kong in microcosm. For all its shortcomings and lack of prettiness, the Kowloon Walled City demonstrates that a high-rise high-density urban environment as extreme and abnormal as itself need not be inhumane and intolerable, but can be a lively and highly livable place. By allowing a city to develop freely in accordance to its own needs rather than subjecting it to artificial structuring, the Kowloon Walled City achieved an urban environment which is “as richly varied and as sensual as anything in the heart of the tropical rainforest.”<sup>7</sup>

#### RECLAIMING SPACE FROM THIN AIR

The inflated price tag attached to every piece of property in Hong Kong means that the size of apartment units



Figure 3: The infamous Kowloon Walled City seen from the air; the high density of the development made it appear to be a single gigantic structure.

must be kept small for it to be affordable to the common people. As housing became increasingly in demand in the 1960s, residential buildings began to grow skywards while the average apartment size started to shrink. At that time, a typical household was an extended family of three generations consisting of grandparents, parents and two or more children. A family of eight to ten members living together under one roof was not uncommon. For such a large family, the average size of 55 m<sup>2</sup> (or about 600 square feet) for a typical apartment at that time was simply not enough.

The severely crowded living conditions of urban Hong Kong soon forced people to devise ways to create more space for themselves. That was done by “reclaiming” extra footage from thin air by hiring a contractor to build a cantilevered platform on the external wall of the building, and enclosing it with a metal latticework or corrugated metal sheets. Another common local form of illegal construction are huts built of corrugated metal sheets on the roof decks of buildings. These roof huts are usually built by the owner of the entire building, if there is one, or the tenants of the highest floor, who have the right to use the roof deck. These illegal roof structures serve as a more affordable alternative to a normal apartment unit of a similar size which may cost at least three times as much in rent.

In the 1960s and 70s, lax controls against such illegal forms of construction was happily exploited by almost every Hong Kong household living in the crowded urban areas. During these periods, thousands of these illegal structures were built and the external wall surfaces and rooftops of buildings became festooned with these metal parasitic growths. But such architectonic parasites had not festered out of control. A combination of factors such as the inherent structural load limit of the host buildings, the typhoons that strike Hong Kong every year, and the contractors’ fear of legal consequences should their illegal constructions collapse, had produced a regulatory effect on the design of these illegal structures in terms of weight and size limitations; choice of material; method of construction; and structural integrity. Thus, amid the compositional anarchy created by these illegal structures there exists a technological discipline. This creates for Hong Kong’s urban environment a techno-organic quality which could be compared with Swiss painter H. R. Giger’s surreal half-organic and half-mechanical “bio-mechanic” world.<sup>8</sup>



Figures 4 & 5: Typical illegal structures that dot the walls and roofs of buildings in Hong Kong

### A VERTICAL VILLAGE IN THE URBAN JUNGLE

Back in the 1940s, Le Corbusier, one of the great masters of Modern Architecture, created the concept of a completely self-sufficient community within a single high-rise building. This eventually materialized into a building called the *Unite d'Habitation*, an eighteen-storey building consisting of about 400 residential units, and providing integrated commercial and communal facilities, such as a shopping arcade, a hotel, a kindergarten, and a rooftop exercise area complete with a swimming pool and a running track. The architectural and social concepts expressed by the *Unite d'Habitation* were revolutionary in its time. Le Corbusier argued that such a vertical community would use land much more efficiently than a similar community that sprawled horizontally across the land. Although Le Corbusier had hoped that his bold architectural design would serve as a prototype community for the world, only a few experimental blocks were built in France. However, Le Corbusier's vision of a city consisting of self-sufficient vertical communities is fulfilled in Hong Kong. Here, buildings in which residential and commercial functions coexist within the same structure are commonplace. But these vertical communities did happen not by design, but because of the circumstances of too many people living on too little land, and because of the highly enterprising nature of the Hong Kong people.

In highly congested urban areas such as the districts of

Wanchai and Mongkok, space for residential usage is just as in high demand as that for commercial purposes. The first three or four storeys of buildings are almost always reserved for commercial uses. The direct accessibility of the first few floors from the street level without the use of lifts make them highly suitable for commercial usage; for the same reason, the relatively lack of privacy on these floors compared with higher floors make them less than ideal for residential purpose. But commercial activities are not confined to these lower floors. Once above this purely commercial stratum, the scene is often a blend of homes and businesses. A home may also function as a workplace, with living rooms doubling as offices or the production area of cottage factories, and bedrooms may be converted to fully-equipped treatment rooms of medical or dental clinics.

The multi-functional nature of many of the buildings in Hong Kong's urban areas can be seen in a typical building in Thomson Road in the heart of Wanchai. Despite its age (built in the mid-1960s), this twelve-storey building is fairly well maintained by an "owners' committee" formed by the building's shop and home owners.<sup>9</sup> The ground floor of the building has a small eatery and a 24-hours convenient store. There is a cobbler stall set up on the pavement by the side of the building's entrance. On the first-floor is a barber shop and a computer outputting service. The floor above is occupied by an interior decorator-cum-contractor office and an optician. On the third floor, which marks the beginning of the residential floors, a

medical clinic operates out of one of the three residential units. For the rest of the residential floors, a mixture of residential units, home-offices and cottage industries can be found. Finally, the roof deck, which is unusually free of illegal construction, is used as a sports ground where children come to play and elderly residents go for their morning *tai-chi*<sup>10</sup> exercise.

The case-study example in Wanchai is one of the many buildings in Hong Kong filled with such a diverse range of business services that it is theoretically possible to live and work in the same building and have every basic necessity provided—food, personal grooming, medical care and recreation—without the need to leave the building. Such a high-rise community, so functionally reminiscent of Corbusier's *Unite d'Habitation*, and so complete with its own socio-economic structure and administrative body, is like an autonomous vertical village smack in the middle of urban Hong Kong.

### THE HONG KONG URBAN ENVIRONMENT: AN APPRAISAL

Hong Kong is like no other cities in the world. Beyond its rather unattractive surface, there is something that definitely appeals to the human spirit. The tectonics generated by illegal structures superimposed on the buildings of Hong Kong may appear to be visually chaotic, but such tectonics is derived from a necessary functional basis and represents the spontaneous expression of the creativity and resourcefulness of the city's inhabitants. Aesthetically, although the overall appearance may not produce a picturesque image, those illegal and seemingly anarchical architectonic elements do serve to counter-balance the controlled, institutionalized aesthetics of the primary architectural mass created by the academic discipline of the professionals and the rules and regulations set by the authorities. The saturation of socio-economic activities within so many of the buildings in Hong Kong is a truly unique aspect of urban Hong Kong. The intense commercial activities within the vertical realm of architecture coupled with the urban vitality that exists on the horizontal realm of streets turn the three-dimensional urban matrix of Hong Kong into a magnificent organic megastructure that pulsates day and night with life and energy.

To a very large extent, the success of the city of Hong Kong lies in the refusal of its inhabitants to yield to the handicap of living in a compact and congested environment. Instead of succumbing to the severely disadvantaged physical conditions of their habitat, the people have exploited and ultimately thrived on the *laissez faire* society in which there is a high degree of freedom in terms of economics, personal lifestyle and individual expression. This freedom balanced by the self-discipline of the Hong Kong people ensures that their complex urban environment does not degenerate into the social chaos found in so many inner cities throughout the world. Instead, it contains many surprises, attractions, opportunities and all those special qualities that make Hong Kong an exciting, exotic and fascinating place.

### NOTES

1. The territory of Hong Kong consists of Hong Kong Island (less commonly known as Victoria Island), Kowloon Peninsula (Kowloon), the New Territories, and over 230 outlying islands. Hong Kong was originally a part of Imperial China. Following the end of the Opium War in which Britain emerged as the victor, Hong Kong Island was retributively ceded to Britain in 1842, while Kowloon and the New Territories were leased from China in 1898 for a period of 99 years. It was agreed in the Thatcher-Deng

agreement signed in 1984 that the entire Hong Kong territory will revert back to Chinese sovereignty when the 99-year lease expires on 1 July 1997.

2. Prior to the joint agreement with China in 1984, which called for the immediate repatriation of Chinese illegal immigrants in Hong Kong, the Hong Kong Government adopted a humanitarian "touch-base" policy. The policy allowed illegal immigrants from China to apply for permanent residency in Hong Kong if they could reach the city limits and locate their relatives without getting caught by the local police.
3. The land on which the Kowloon Walled City stood was originally a military fort built during the late Qing Dynasty against pirate activities. When Britain leased Kowloon Peninsula and the New Territories in 1899, the Qing Government insisted upon Chinese jurisdiction of the fort as one of the lease conditions. As a result, the fort became a tiny piece of Chinese land stranded deep in the British territory. Following the overthrow of the Imperial Qing Government in 1911, the subsequent years of political turmoil in China eventually rendered the fort a no-man's-land that was unreachable by the Chinese Government and untouchable by the laws of Hong Kong. The fort ceased to exist physically during World War II when the Japanese forces occupying Hong Kong tore down the fort wall to use the granite to extend the runway of the nearby Kai Tak Airport. Although the fort was gone, Chinese jurisdiction of the land officially remained. In the late 1940s and the 1950s, immigrants from China who had nowhere to go in Hong Kong soon took advantage of the peculiar situation of the Walled City and developed a squatters' colony. Once a low-rise shantytown, high-rise buildings began to appear in the Walled City with the property boom in the early 1970s. As building rules and regulations did not apply within its boundaries, the Kowloon Walled City eventually became the biggest illegal piece of high-rise high-density urban development ever known. In 1984, the British reached an agreement with China to resolve the Kowloon Walled City issue before Hong Kong reverts back to Chinese rule in 1997. In 1992, with the last of the residents evacuated, the Kowloon Walled City was razed to the ground to make way for a public park.
4. In the 1960s, Kai Tak Airport, which was only about 400 metres away from the Kowloon Walled City, began to modernize its facilities to cope with the new generation of wide-bodied passenger jets. A new jumbo-jet capable runway was built. By sheer coincidence, the axis of the new runway fell in alignment with the Walled City, and this brought the aircraft approach to the airport directly over the Walled City. Thus the height limit of buildings in the Walled City was set by the safety distance from the aircraft coming in for landing at Kai Tak Airport.
5. These unlicensed clinicians were graduates from Chinese medical colleges whose qualifications were not recognized in Hong Kong.
6. *City of Darkness* (Girard and Lambart 1993) gives a most vivid and comprehensive account of the socio-economic life in the Kowloon Walled City. *Street Studies in Hong Kong* (Leeming 1977, 151-154) also contains a detailed description of the city's economic activities. In the latter book, there is a particularly interesting illustration (figure 23) which shows the diverse economic activities along a transect across the ground floor of the city.
7. Peter Popham, "The City of Darkness," *The Architectural Review*, (November 1993): 75.
8. The Swiss painter H.R. Giger is probably most famous for his Oscar-winning "bio-mechanic" designs in the movie *Alien* (directed by Ridley Scott, 1979).
9. In urban Hong Kong, residential buildings are almost entirely high-rise apartments. Most of these buildings belong not to a single owner, but multiple owners of individual apartment units. The lack of a single responsible owner necessitates a cooperative body to represent the owners' collective responsibility and interests. The owners' committee is a registered organization formed voluntarily by a building's multiple owners. It functions like a kind of micro-government of a building, being placed in charge of collecting money and hiring people to carry out the daily maintenance, periodic repair, and safety and security of the building. The committee is usually comprised of a small group of volunteers or elected representatives who act on behalf of the building's owners in matters pertaining to the wellbeing of their building.
10. Tai-chi or t'ai chi, sometimes erroneously called "shadow-boxing" in the West, is a traditional form of callisthenics commonly practised by elderly Chinese people in the morning, and is popular in China and Hong Kong. Derived from Taoist philosophy and martial art, tai-chi involves controlled breathing and slow, coordinated movements of the body.

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