Chapter 2

The role of narrative in shaping space: A morphological study on urban transformations in Hong Kong

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Introductory thoughts

The research presented here stems from a pilot study that develops a comprehensive programme to systematically investigate and represent the morphological evolution of urban complexes in Hong Kong, the People's Republic of China. Housing and mixed-use urban areas in Hong Kong are facing rapid economic and social change. While the city has been much-researched, this contribution presents a unique perspective and applies a different lens and theoretical approach better suited to this particular environment. A historical narrative of how the city has evolved has been compiled, allowing us to rethink how it may be sustained, thrive and further develop in the future by considering alternative strategies for design, funding, management and procurement in the built environment.

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An understanding of history is crucial to the envisioning of a future. Hong Kong's urban blocks and housing estates built before and immediately after the Second World War (WWII) have been partially demolished, inadequately maintained or increasingly transformed into high-rise and highly dense urban forms. As the author believes, they represent a unique urban development pattern, which planners and designers should acknowledge in the future. Successful urban regeneration cases must be adequately explained and illustrated; some are large and integrated, and others are small and fragmented. This chapter intends to create a coherent body of knowledge of the evolution in three central areas in Hong Kong: North Point, Quarry Bay and Wan Chai.

Firstly, this chapter discusses the nature of urban density and provides a general city background. Secondly, it introduces urban morphological concepts and research strategies applied in observing urban transformations at temporal and spatial levels. Thirdly, it provides three case analyses observed from the literature review and the mapping of physical changes. In conclusion, the chapter identifies the particular characteristics of urban transformation processes and housing prototype evolution. The study argues that the quality of mixed-use in the gentrification of a city, amidst pressure from the intensification of land use, can be achieved within the existing urban fabric and lessons extrapolated for new developments. The chapter concludes by showing how newly constructed narratives may help us gain a deeper understanding of our cities, influence us and help us better conceptualise our future. By changing the narrative and representation methods, new imaginaries may be broadened and new thinking and practice may be evoked.

A historical narrative on the evolution and significance of high-density urban form

As early as 1996, the United Nations (UN) called for high-density and integrated developments in the *Habitat Agenda and Istanbul Declaration* document. The document states (UN 1996):

> [*A*] city development should promote, as appropriate, socially integrated and accessible human settlements, including appropriate facilities for health and education, combating segregation and discriminatory and other exclusionary policies and practices, and recognising and respecting the rights of all. (p. 35)

Moreover, it seeks to promote land-use patterns that minimise transport demands, save energy and protect open and green spaces. Appropriate urban density and mixed land-use guidelines are primely crucial for urban development' (UN 1996, p. 87).

Urban form, including the pattern and density of development within and between settlements, influences travel patterns, the ability to maintain biodiversity and quality of life. A compact city form is essential for achieving energy efficiency and socio-economic advantages. Land use, transport facilities and infrastructure development should be well-integrated and well-connected to the city's major arterial networks to enhance mobility and accessibility (Jia 2000). Mixed use of land offers the opportunity to reduce vehicular movement inside the city and consequently minimise energy consumption in traffic. Through urban design, a balance of houses, jobs and facilities in each broad city sector will enhance liveability, increase convenience levels and stimulate cultural and social activities in different parts of the city. Hong Kong is one of the most important and significant high-density and mixed-use cities in the world; it has a territory area of 1,040 km^2 and, with over 76% of the land area being hilly terrains, it has posed physical challenges for development (Census and Statistics Department 1999). It is a very densely populated area with over 7.5 million residents living within the territory. However, only 6.9% of the land is used for residential purposes, compared with 64.1% of the total land area being used for open green space (Hong Kong Transport and Housing Bureau 2017). Considering the constraints of the terrain, the total developable landmass is not much more than 500 km^2, and over 90% of the total population is settled on less than 12% of the area designated as built-up areas (this area includes new towns). The density is nearly 26,000 residents per km^2 in the central urban areas, including North Point and Wan Chai, the case study areas of this research.

Shau Kei Wan is an urban fringe that was originally a fishing village in the 18th century. It was developed into a small community in the early 20th century with minimal urban planning and has since been transformed into an industrial town after WWII. Since the 1970s, it has become a residential and commercial centre (Figure 2.1). Figure 2.2 illustrates the expansion of the urban area through the construction of large residential estates in the reclamation land from the harbour in the north and upper hillside in the south. These housing estates represent typical modernist ideology in urban planning. Moreover, these estates are characterised by high-rise buildings and are surrounded by large open spaces. The central area in the urban fabric, which was planned in the early 20th century, has experienced intensified urban renewal in the last 20–30 years.

Hong Kong's high-density urban form was not just planned. It is a direct outcome of land-market and profit-driven land-use policies. The former colonial government intentionally created a shortage of land supply to maximise income from land leases. Historically, Hong Kong's urban development was regulated by the restricted release of land at a rate of 50 hectares per year. Land was a crown property leased by the government

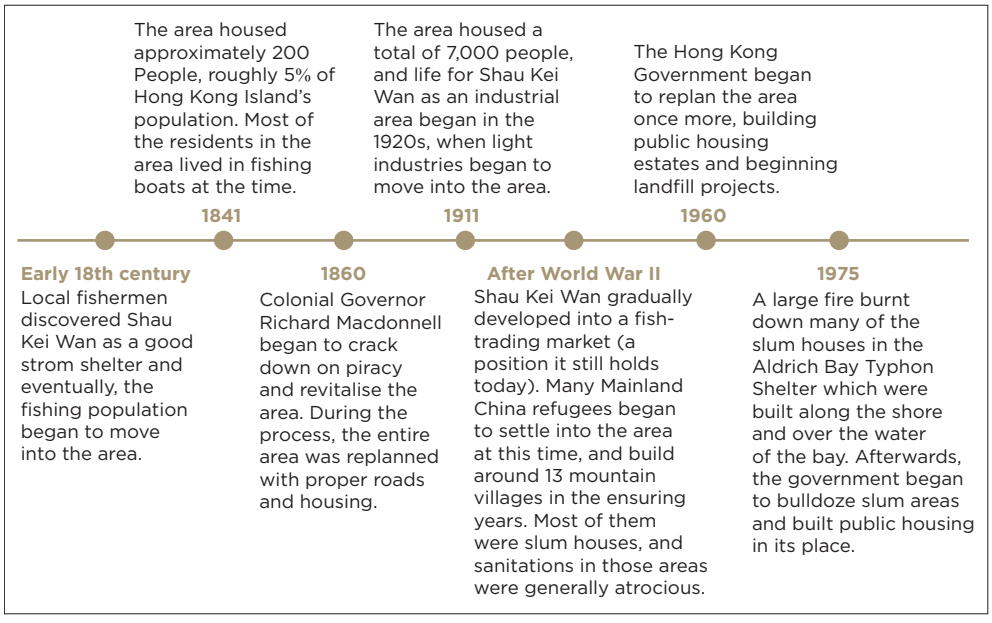

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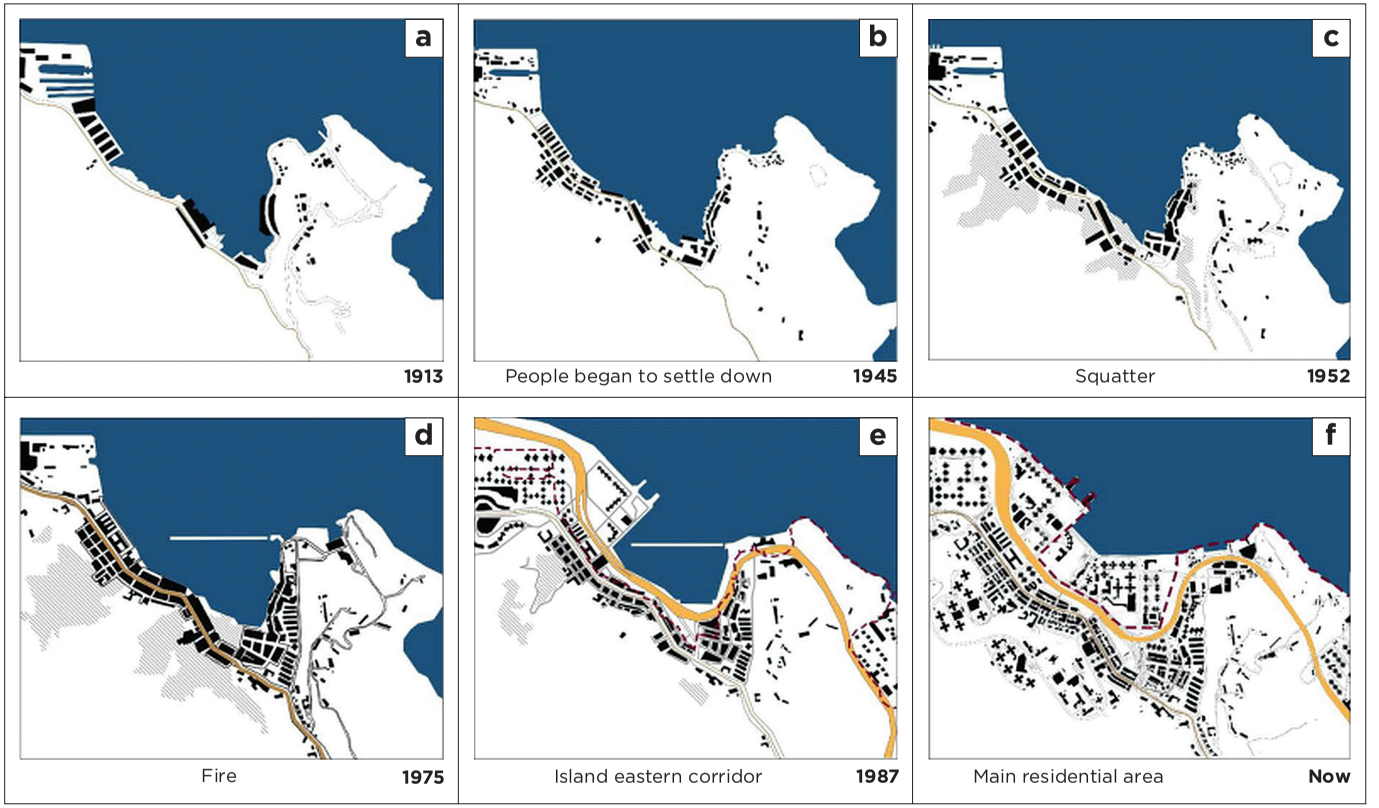
FIGURE 2.1: Timeline of historical moments of Hong Kong Island housing before the 1980s.

through open auctions to the highest bidders. In the early 1980s, land-related revenue amounted to over one-third of the government's total revenue.

Consequently, the high demand for housing and urban activities has made land very expensive. The private developer who buys the land development license tends to maximise profits by maximising the density. High-rise buildings concentrated on small pieces of land are the only solution to the high profits of land development. Although the government does not admit to pursuing a high land-price policy, the disposal method has contributed to high land prices, thus making Hong Kong's property among the most expensive in the world. This policy has created high density, high congestion, low living standards, polluted air and noise for the majority and low-income groups.

High density has caused the minimisation of open space in the city. The Hong Kong Planning Standards and Guidelines (HKPSG) recommend the provision of 15 hectares (ha) of open space per 100,000 people as a minimum standard in the main urban areas and 20 hectares in new town areas. In comparison, Singapore had a standard of 40 ha of open space per 100,000 people and proposed that a future standard of 80 ha be met by the end of the 20th century (Barron & Steinbrecher 1999, p. 72). The open space in Hong Kong is unevenly distributed, as country parks, conservation



Key: WWII, Second World War.
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FIGURE 2.2: Urban expansion by land reclamation in Shau Kei Wan, Hong Kong Island, depicted from 1913 to the present day.

areas and green belts are all at the urban fringe. A surplus of open space in one area does not compensate for the lack of open space elsewhere (Barron & Steinbrecher 1999, p. 72). The intensification of land use in Quarry Bay started in the 1970s. It has transformed the area into one of the central commercial areas in Hong Kong Island, with increased building heights and reduced open spaces (Figure 2.3).

The high density has also caused expensive land development and a shortage of adequate housing. The plot ratio of private housing reached 8:9. For public housing estates, a plot ratio should range 6:7 in terms of the net estate area to achieve a high standard of estate layout design while maintaining efficient use of land. Government statistics have shown that, at most, 2.3% of the housing stock in Hong Kong, which comprises public and private temporary housing, is not self-contained. In 2018, Hong Kong had approximately 740 homeless persons; 131,160 households were on the waiting list for public rental housing, and the average time to

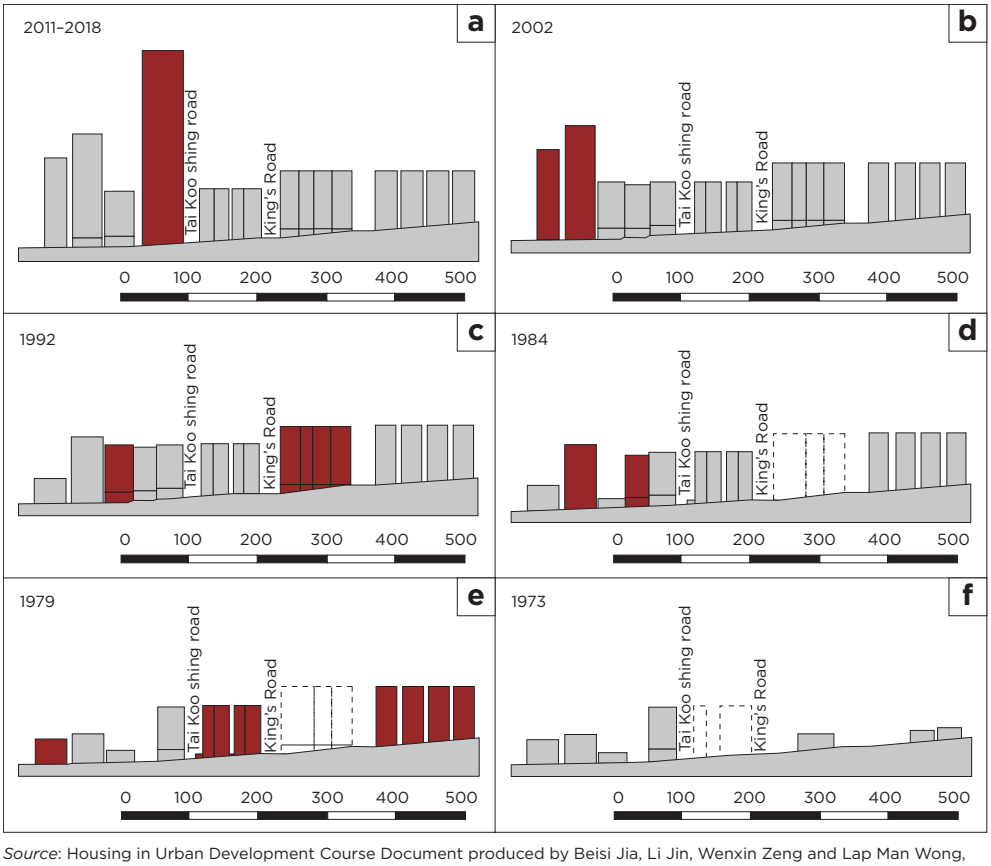

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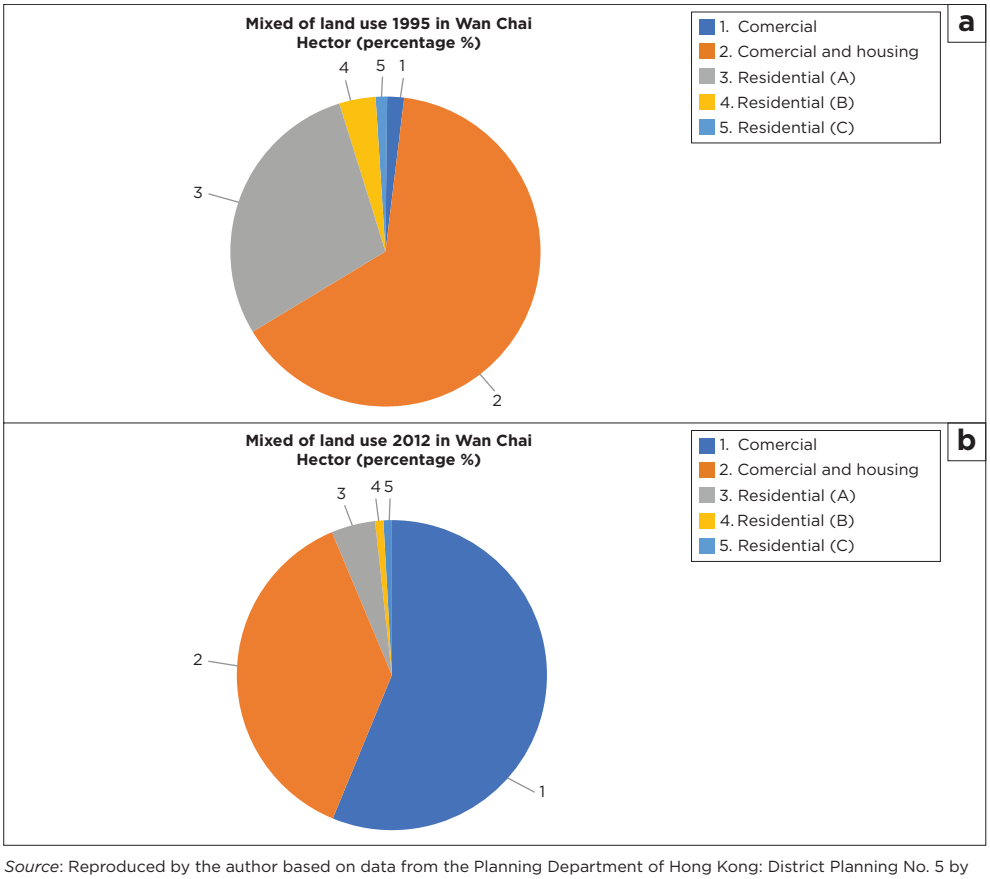
FIGURE 2.3: Land-use intensification in a sectional study of Quarry Bay, from 1973 to 2018.

obtain this benefit was 6.3 years (Census and Statistics Department 1999). Although the number has been decreasing, a sizeable proportion of the population continues to live in accommodation that does not meet the basic standards.

Throughout history, Hong Kong has developed a unique pattern characterised by a mixture of functions in high density (Figure 2.4). Retails, offices, restaurants and residential spaces overlap vertically in one block. The significance of dynamism in cities remains an undiscovered treasure for the success of Hong Kong and other Asian cities. In addition to having a modern business environment, Hong Kong has retained its traditional Chinese culture. Traditional streets, shops and buildings are still well-kept alongside modern buildings.

Moreover, the blend of Eastern and Western cultures has cultivated the city's development. Hong Kong's population is predominantly of Chinese



Source: Reproduced by the author based on data from the Planning Department of Hong Kong: District Planning No. 5 by Wan Chai [OZP] 1995 and 2012.

FIGURE 2.4: Representation of the types of land use 1995–2012 in Wan Chai.

descent (95%). In addition, it has a variety of ethnic and cultural groups with various religious beliefs. Buddhists and Taoists make up the vast majority. They co-exist with Christians (9%), Muslims (1.2%), Hindu people (0.2%), Sikhs (0.02%) and Jewish people (0.02%). Ancestor worship is also widely practised in Hong Kong, owing to the strong influence of Confucianism, which is not a religion but teaches a moral code based on human relations. Hong Kong also has diversified housing ownership: public housing ownership comprises 11.64% and private housing ownership comprises 52.74% (Table 2.1).

Besides the high efficiency and the mixture of land-use functions, another advantage of high density is public transportation. Approximately only 15% of Hong Kong families own a private car. Hence, unlike virtually any other place with a similar income level, Hong Kong's transport system is already strongly dominated by public transportation. It has a highly developed transport network and system supporting 90% of daily journeys on public transport, which is the highest percentage in the world (Hong Kong Transport and Housing Bureau 2017). The public transport system in Hong Kong, managed by private companies and public corporations with a high degree of autonomy, is praised for its effectiveness, efficiency and low cost. The pollution generated by the traffic is mainly from the intensity of trucks and buses, which use diesel engines, in the narrow streets.

The growing population and economy, land-use policy, topography, diversity of culture and society and pragmatic business manners all impact the highly dense urban and living form. The ideology of a modern city, characterised by its large open spaces and high-rise buildings, can also be found in suburban areas, especially in public housing. However, the congested urban form characterised by its streets and the gradual

TABLE 2.1: Different housing investment sectors and ownership structure, Hong Kong.

No.	Different sectors for housing investments	Stock of residential apartments in 1998 (thousands)	Percentage (%)	Population in 1998 (thousands)
1	Public housing			
	• Home ownership scheme • Private sector participation scheme	233[a]	11.64	797[b]
	Housing authority's subsidised sale of apartments	9[a]	0.55	–
	Housing authority's rental apartments	670[a]	33.47	2.279[b]
	Housing society's rental apartments	34[a]	1.7	–
2	Private housing	1056[a]	52.74	–

Source: [a] Housing Department, 1999 (http://www.info.gov.hk/hd/eng/hd/stat_99/mid_f.htm); [b] Housing Authority, *1997/98 Annual Report*.

regeneration dominate the central areas and represent the image of Hong Kong. In the city, the prevalent concept of Western urban design in the 20th century, based on logic and rationalism, confronts Hong Kong and the Eastern world of relativity and pragmatism. Instead of investigating the social, cultural and economic causes of life's high density and vibrancy, the following research offers an alternative paradigm where the observation and description of the urban form as a transition process are based on morphological research theories and methods.

An alternative (Eastern) paradigm in the development of urban morphological research frameworks

Cities frequently develop in complex and organic ways, which makes them unique. All cities have their own network of special internal connections. Moreover, the factors involved in a city's development range from economic to political and social. Hence, their development is complicated and multifaceted. A thorough analysis that utilises a comprehensive approach is needed to understand a city's formation and attain insights into the urban morphology of any given area (Wang & Jia 2019). Hong Kong represents a unique urban form marked by verticality. However, a view of the classical morphological theory, especially the framework, will lead to a more precise methodology revision.

Social and economic changes in cities occur in numerous ways. However, urban morphological analysis can help us connect these developments when studying an urban environment. MRG Conzen and Gianfranco Caniggia developed a series of methods that act as an effective schematic for analysing the urban morphology of specific cities. In the 1960s, Conzen argued that a city is a physical form accumulated through time and complicated both in temporary and spatial dimensions. To better understand the city form, the form needs to be clarified using drawings in various scales. The dimensions of spaces and buildings need to be precise and divided into specific and clear properties (Conzen 1960).

'Urban tissues' or 'character areas' in urban morphology offer a useful analytical tool for studying cities (Conzen 2004; Kropf 2011). Urban tissues can be used to explain the history and physical structure of cities and the relationship between different urban areas and buildings. At the housing or land utilisation level, residential districts have more consistent function and form than the other units of spatiality. These features reflect the universal characteristics of the spatiality of compactness and homogeneity. 'Tissue' refers to the horizontal fabric of a city rather than the vertical city. However, the compactness, open spaces and patterns of high-rise complexes are

also determined largely by planning on the tissue. The verticality is presented by the sections of the city map, as shown in the section 'Analysis of the cases observed'. Caniggia stated that the different change processes in residential areas impact urban form and tissue and are closely linked with city life and the cities' physical structure (Caniggia 2001; Wang & Jia 2019). This long-term evolution process reflects the findings of various collective construction and operation types at two levels: diachronic and synchronic. Moreover, this evolution is representative of the 'operational history' of the majority of cities. Evolution and transformation in time are also a focus of this study regarding tissues and sections.

An urban tissue is a level that represents and is controlled by common values and serves the broad community. It has two sublevels on the building level: support or base structure and in-fill. Habraken divided residential buildings into 'support' and 'detachable units' and eventually proposed the 'level' concept (Habraken 2002). For Habraken, the issues are both technical and social. The built environment should be understood as territories controlled by a different power. A territory denotes a space or an arrangement of spaces that is under the control of one power (Habraken 1983, p. 29). By using the term 'power', Habraken gives people in any built environment or any person or group of persons the ability to change the physical reality of the territory (Habraken 1983, p. 15). The territory is never homogeneous. Moreover, physical hierarchies are found to respond to the impact of the people.

To better understand the morphological research methods, especially spatial levels, tissues, morphological character and 'power', Figure 2.5 illustrates three housing estates with high-rise buildings in a similar site scale. The figure-ground mapping shows that the three have distinguished characters. Figure 2.5a and Figure 2.5b demonstrate a united planning pattern at the tissue level because they are dominated by a single power – Figure 2.5a with a large developer and Figure 2.5b with a housing authority. However, Figure 2.5a is denser than Figure 2.5b because the developer intends to maximise the land value. Figure 2.5b shows various building types: short slab, long slab, triangle, T-shaped and U-shaped. Different architects designed each building type; hence, a diversity of powers exists at the building level. Neither Figure 2.5a nor Figure 2.5b has experienced any significant changes since the 1960s. Figure 2.5c demonstrates diversity at the urban tissue level. At least four characters of urban tissues can be distinguished. It has four estates built by four powers and designed and planned by four different architects.

Most importantly, they have been constructed at different times since 1970. As residents' socio-economic conditions are also different, variety within the prototype of the 'podium tower' can also be observed at the

building level. Moreover, the 'podium tower' prototype has dominated building development all over Hong Kong since the 1980s.

Figure 2.5a and Figure 2.5b also present the ideology of Western modernism; free-standing single-function buildings (residential) surrounded by large open spaces and streets are omitted. They also show that the land-price of public housing shown in Figure 2.5b was only one-third of that of private housing shown in Figure 2.5a.

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FIGURE 2.5: A visually mapped representation of urban morphological characters in three housing estates: (a) Mei Foo Sun Chuen, 1960 private housing estate; (b) Wah Fu, 1969 public housing estate and (c) Tai Koo, 1970 mixed housing estate.

The morphological analysis distinguishes four normal spatial levels: urban tissue, building form and structure, unit types and interior fittings. In the following case analysis, the focus is given to the first three levels for brevity. The following case studies describe the verticality, contributing to this study's morphological research for high-rise and high-density cities. Each case's historical and socio-economic backgrounds are also provided, addressing transformation in time.

Applications of morphological analysis on the case studies

Hong Kong Island has been the social and economic centre of Hong Kong since the end of the 19th century. Three cases are selected along the coastline of Victoria Harbour on Hong Kong Island. These three cases are gradually generated from history, thus representing the varieties of urban tissues created in history. Most importantly, they present the image of the city and the energy of economics, especially the land market in the economic boom that has occurred since the 1960s.

North Point

North Point has had a history of land reclamation since the 1880s. Most of the land north of King's Road is reclaimed. Meanwhile, the south of King's Road has shallow slopes. Then, up the shallow slopes are a series of terraces. These terraces all have stepped walkways connecting to the lower area of the city.

The site studied can be regarded as the traffic node of North Point. King's Road is the busiest road in this area. Moreover, several buses and trams go back and forth on this road. A Mass Transport Railway (MTR) underground station is within a 150 m walk. In addition, the North Point Ferry Pier is within 400 m of the site. Residential buildings in this area are of great convenience and commercial value. Here, the roads become more pedestrian-orientated as they extend to the northern and southern sides.

In 1936, the site was turned into a canning factory, and the southern part was turned into a settlement of refugees during WWII. At this stage, the site was for industrial and residential purposes because of the turbulent societal changes. After 1952, the site was bought by Dah Yuan Real Estate, and private housing started to be built. In addition, the construction of the Metropole Building (Figure 2.6 to Figure 2.8) began during the third reconstruction phase when some old buildings were demolished. Large housing projects, such as the Metropole Building, could be constructed with the development of the urban fabric and the prosperity of King's Road. After WWII, a new Western typology of private housing was proposed

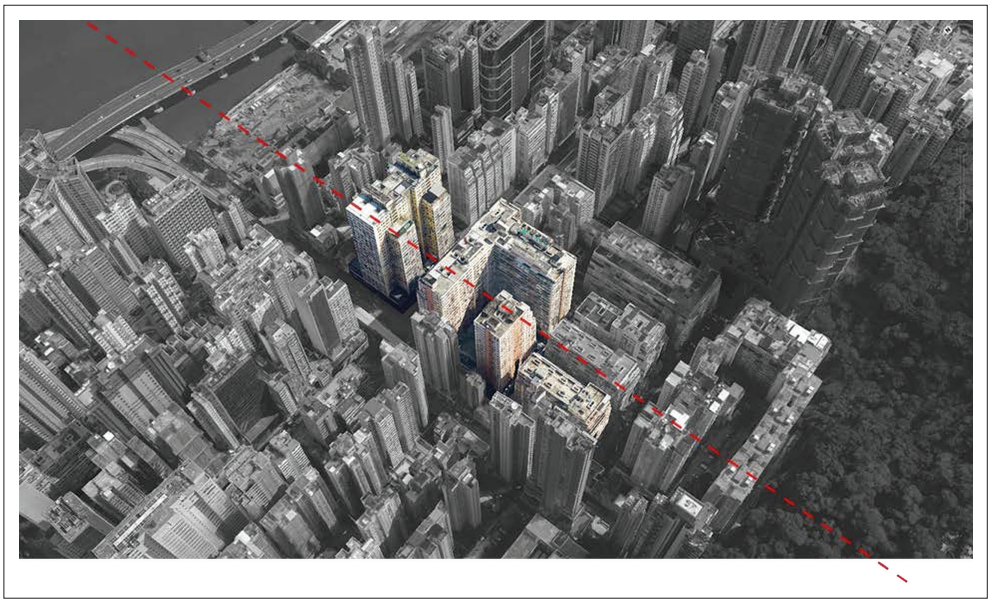

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FIGURE 2.6: Urban tissue: Bird's eye photographic view of the study area with the dotted line indicating the location of the section.

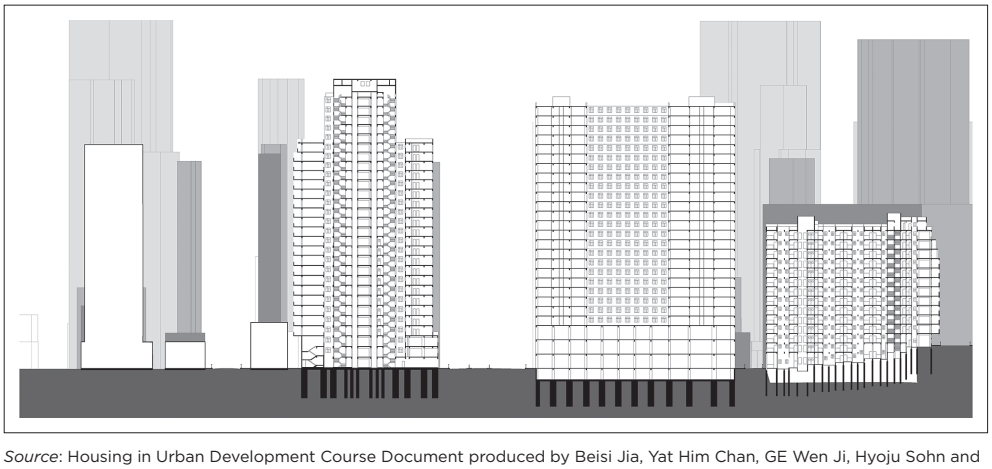

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FIGURE 2.7: Building form: An illustrated section of King's Road in the middle and buildings studied.

to replace shophouses to solve the problem of population explosion. The Metropole Building was one of these high-standard, high-density housing typologies. Designed by Szeto Wai and built in 1967 and 1972 successively, the building is a large private housing with 1,037 living units. Long double-loaded corridors characterise its plan. Several light wells grace the building

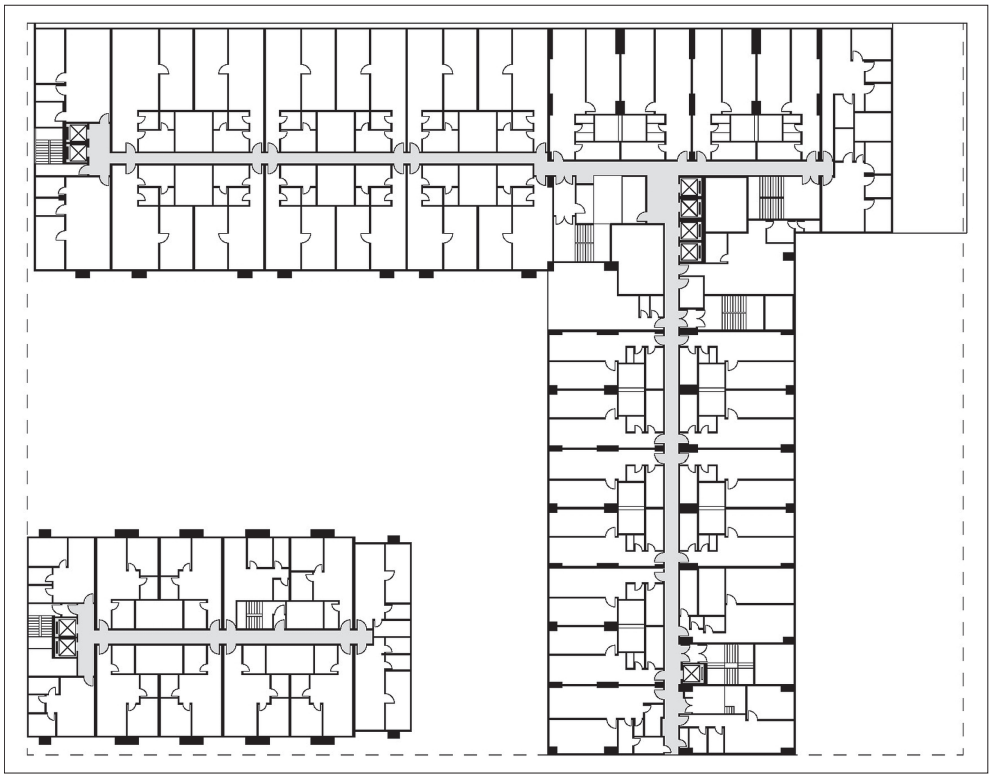

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FIGURE 2.8: Building level: An illustrated lift structure and unit circulation of the Metropole Building.

to offer sunlight and ventilation. Each building block has a service core, lift, and fire escape. This design is a typical typology of slab block housing in Hong Kong in this period and has the advantage of land-use efficiency.

The Metropole Building has much more variations in its unit types (Figure 2.9). The positions of the units on each floor mostly determine these differences. Usually, corner units have more customisations, while the middle units tend to be identical. The various arrangements of the units demonstrate the complexity and massiveness of the Metropole Building.

Fortress Hill

The area has a rich history dating back to the colonial period, and two roads have turned out to possess the section's unique characteristics today. While wide motorways dominate King's Road, Chun Yeung Street is filled with urban activities celebrating its vibrant street life. This study investigates the intriguing contrast between these areas. It suggests reasons for such variance in urban history, building typology and space qualities from public

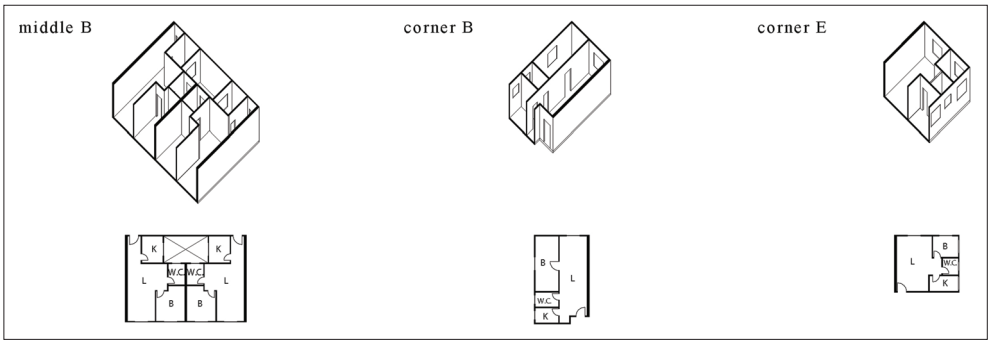

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FIGURE 2.9: Unit level: The diversity of major apartment unit types in the Metropole Building scaled 1:400.

to private territories. Two buildings are studied in particular to demonstrate how specific architectural features affect people's living and activities in the street.

Given that the MTR, bus and tram stations are concentrated on King's Road, the major flow of pedestrians is also located there. Occasionally, people spread to the streets, branching off the two sides depending on the activities in these paths. Thus, a hierarchy of the main road supported by the surrounding streets is established. In addition, the walkability in the area is high because of this tight but extensive street network. Reclamation occurred in Causeway Bay and North Point in the 1900s, from west to east (Figure 2.10). The area north of King's Road and west of Tong Shui Road was reclaimed in the 1920s, whereas the eastern area was reclaimed in the 1930s. Therefore, the urban grid is tilted according to the coastline. Streets were drawn parallel to King's Road, and plots were arranged perpendicularly.

The buildings constructed initially after reclamation were primarily residential. A significant example was the group of 40 interlinked row houses built by a Fujian merchant on Chun Yeung Street. These houses were subdivided and rented out, particularly to numerous Fujian and Shanghai workers. Some of the buildings were in the shop-house typology with ground-floor shops. People communicated in dialects and formed communities in the area, thus giving rise to commercial activities in the street with markets, theatres, hubs and other establishments. More public amenities and diversified programmes were established over the years. Then, tramways were introduced in 1953. Interlinked row houses began to be replaced by separated mansion blocks in the 1980s. Towards the 2000s, podium towers began to emerge with planned malls on the ground floor to

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FIGURE 2.10: Urban tissue: A photographic view of the streets as dominant characters planned and built in the early 20th century.

replace the ground-floor shops of the tenement houses. In general, dated buildings have been replaced more along the major road than in the surrounding streets, as newer types, such as podium towers, have been observed on King's Road. Meanwhile, several old tenement buildings remain on the side streets.

Given the rapid renewal of buildings on the main roads, the tall mansions and podium towers along King's Road and Java Road reach over 20 stories. In contrast, the average height of buildings is much lower along Chun Yeung Street because of the tenement buildings built in the 1960s (Figure 2.11 and Figure 2.12). The traces of reclamation can also be observed from the overall section. King's Road has the longest road width of 30 m and stands on the slightly higher ground of the coast boundary before reclamation. The narrower streets in parallel and residential phases show the development process reaching out to the sea.

The scales and typologies of buildings pose different effects on the street conditions. The podiums of the buildings on King's Road are closely connected to one another, almost forming a continuous wall on the side of the pavement. Despite having entrances to the shops and malls, the podiums are strictly planned, and the boundary from the outside to the inside is clearly defined, thus resulting in a relatively weak dialogue between the shops and the streets. Meanwhile, the side streets have lower buildings, which are more related to the human scale. The buildings' elevations embrace the street; on the ground are shops that spill out to the pavement

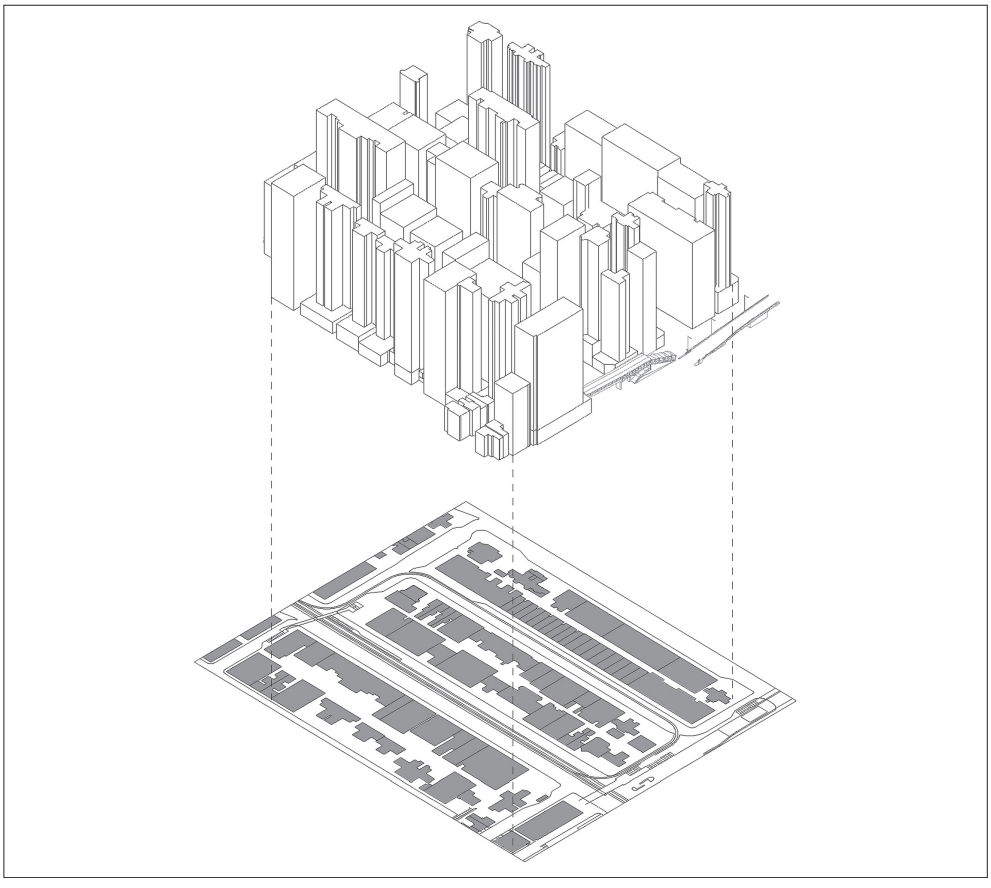

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FIGURE 2.11: Urban tissue level: An illustrated volumetric study.

when the owners use the cantilever and place the goods outside, while the units above have extrusions, such as clothes racks, air conditioners and advertisements. The creative ways of people occupying and making spaces are celebrated. Thus, the architecture reflects the people's livelihood and adds various textures to the urban fabric.

Kung Lee Building is a tenement building constructed in 1964 with 27 units (Figure 2.13a and b). While it has a similar unit arrangement to Ming Shou Building, the two staircases are at the back. This setup maximises the balcony spaces of the units while providing a large cantilever for the ground shops. These shops extend to the pavement under the cantilever, and an extra row of sheds (e.g. flower store) has been constructed as the second tier of commercial activity. Pedestrian circulation has been pushed onto the road as the pavement has been privatised.

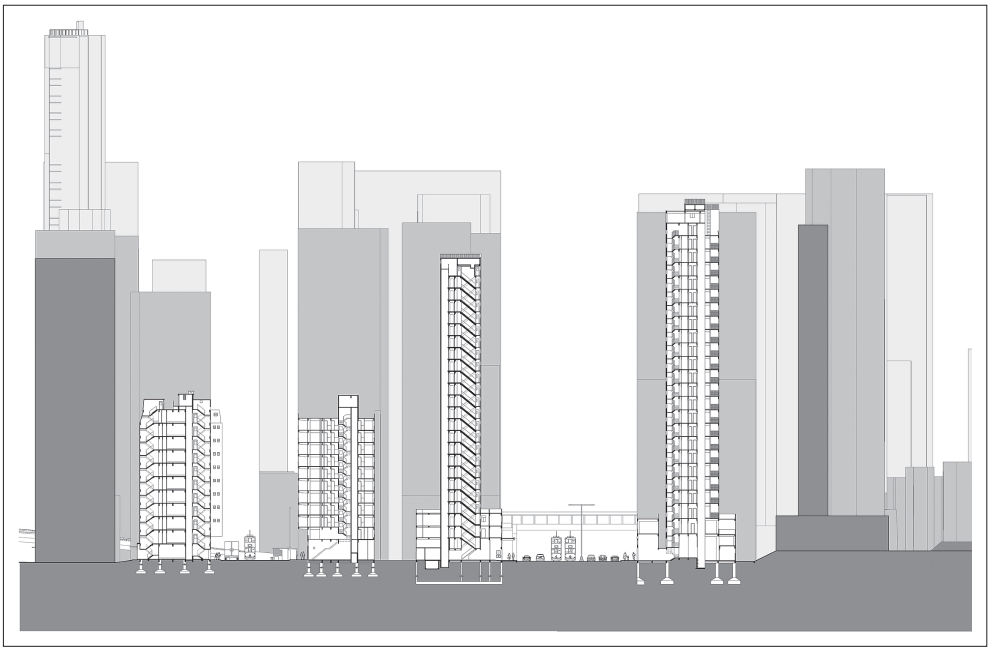

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FIGURE 2.12: Building level: An illustrated section with the wide King's Road in the middle.

Wan Chai[2]

Wan Chai is one of Hong Kong's oldest areas, infused with a rich tapestry of traditional culture and contemporary living customs. During the 1970s, the inner city of the Hong Kong Special Administrative Region entered a new phase of gradual reconstruction which introduced higher buildings (Shi, Jia & Wee 2019):

> Following economic transformation, increasing land prices became the most critical inducing factor for the renewal. In the process, urban spaces performed in various ways concerning their original parts, resulting in various effects such as confrontation, juxtaposition, interweaving, combination, mutation, evolution, and so on. (n.p.)

A large amount of renewal in small spaces has dominated the transitions of Wan Chai since then (Figure 2.14, Figure 2.15 and Figure 2.16). Besides a similar study on the building level (Figure 2.11) and unit level (Figure 2.12) to those in the previous two cases, the following discussion zooms in on the details of urban tissues – the open space in transition.

2. Facets in this section represents a reworking of Shi et al. (2019, pp. 9–28)

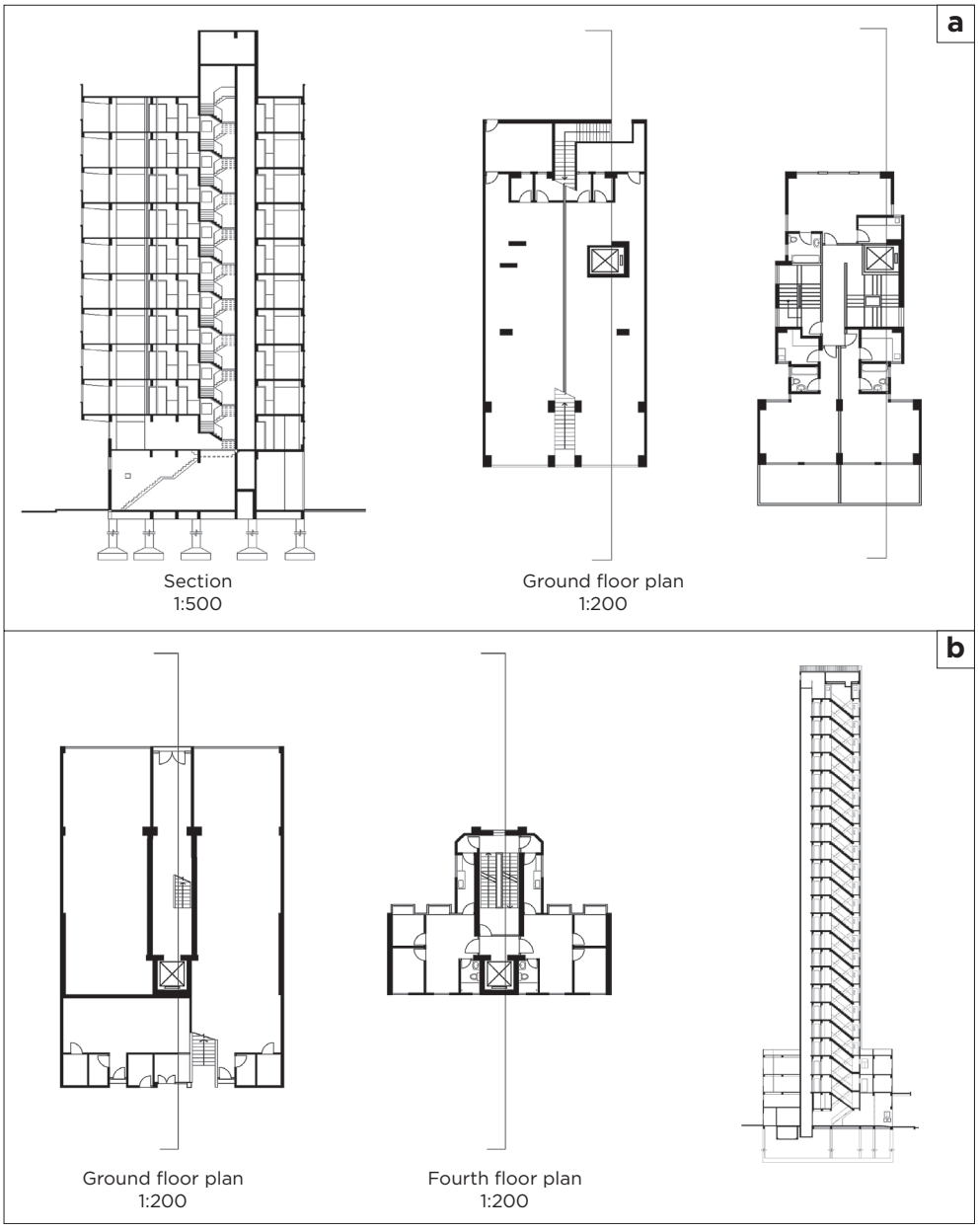

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FIGURE 2.13: (a and b) Unit level: An illustrated plan and section of Kung Lee Building.

In 1975–1992, the renewed building heights were similar to those of the remaining ones because the street structure had not changed since 1975. Increased density mainly relied on building construction on previously undeveloped land. In 1992–2014, although the projected area of renewed plots was much smaller than that of the remaining plots, new buildings

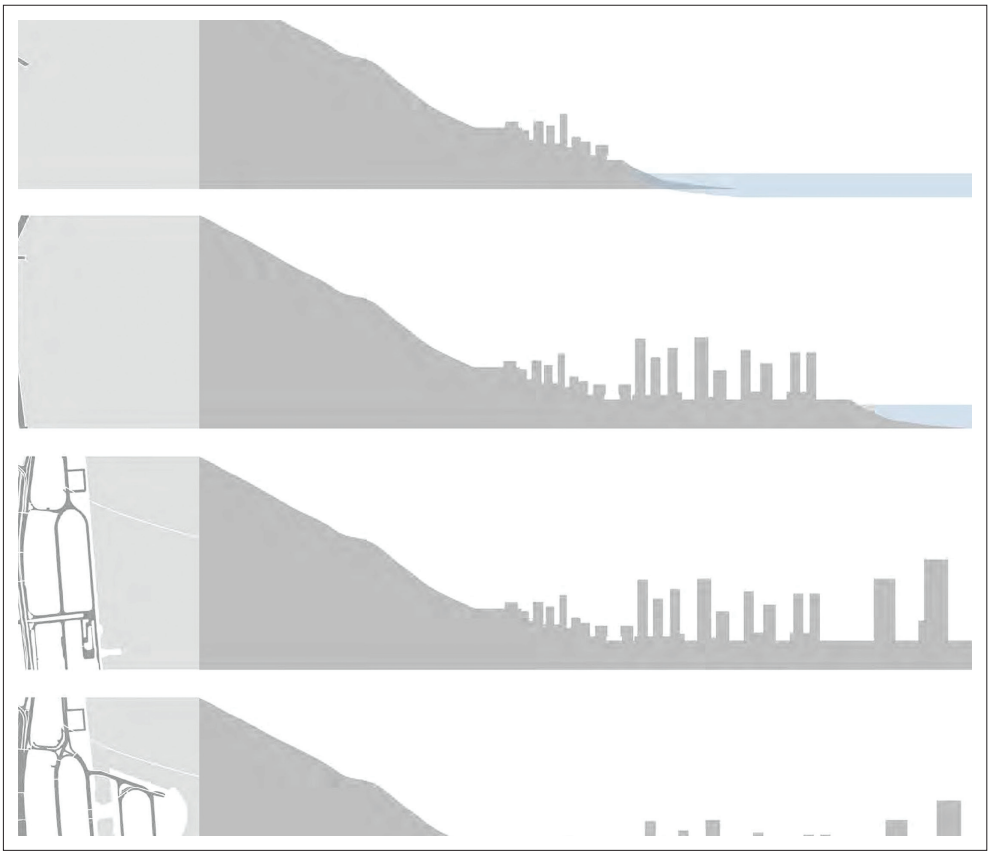

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FIGURE 2.14: Tissue level: An illustrated view of the intensified and mixed-use development in Wan Chai from 1963 to 2014.

were considerably higher than previous ones. This kind of development is a welfare consequence of the increasing density in 1992–2014 in the study area of the Wan Chai District (Table 2.2) (Shi et al. 2019).

Open public spaces are among the important components in morphological studies on the tissue level. When buildings became higher, and the density increased, several new types of open spaces appeared on the podium floor and replaced previous residential spaces, such as small lanes and pocket parks, after 1992 (Shi, Jia & Wee 2018). This change was mainly because of the emerging types of open spaces continuously located in places outside of the previous scope of land, such as upon the podium or on previously uncultivated land in urban or private and closed land areas.

The study also found that both the quantity and quality of open spaces on publicly owned land have improved since 1975. The open spaces on

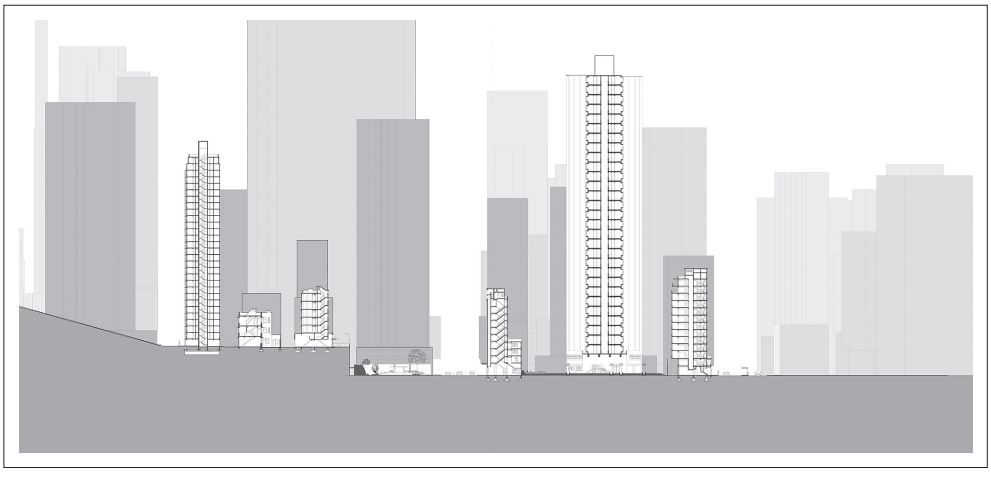

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FIGURE 2.15: Building level: An illustrated section depicting Queen's Road in the middle and various building types.

privately owned land relating to contemporary commercial activities have benefited from more prosperous and influential developments than those on publicly owned land. The business benefit is the primary driving factor behind the increase in open spaces on privately owned land. Various connected, open spaces on the podium level improve the efficiency of the whole open space system in the case of the Wan Chai District by improving the boundary along the connections lying between different types of open spaces.

Thinking beyond the confines of modernist planning

The well-being of city life is more complex than the ideology of the modernist planning and design that dominated new towns and cities worldwide in the 20th century. A sustainable city mode also drives social, economic and cultural needs and resource efficiency. A compact city form is generally accepted as a sustainable urban form. The high mixed-use residential, commercial, industrial and services developments provide maximum social and economic efficiency. Mixed use of land offers the opportunity to reduce vehicular movement inside the city and consequently decrease energy consumption in traffic. Through good urban design and a balance of houses, jobs and facilities in each broad city sector, liveability, increased living convenience and stimulating cultural and social activities in different parts of the city will be enhanced.

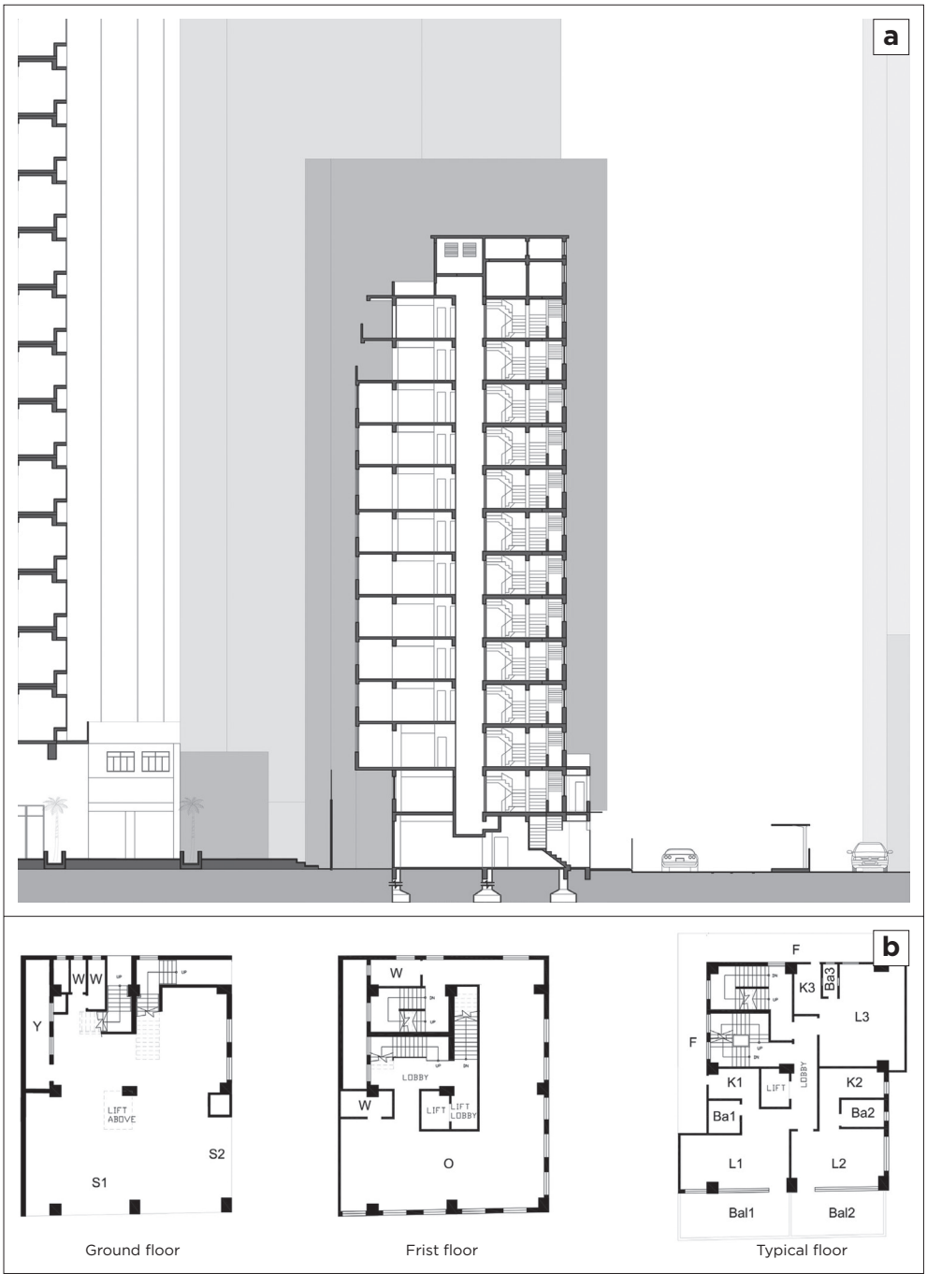

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FIGURE 2.16: Unit level: A visual study of one building in Wan Chai.

TABLE 2.2: The density change in buildings from 1975 to 2014 in Wan Chai.

Category	Year 1975	Year 1992	Year 2014
Building density	5.23	7.14	9.47
Nearest distance between buildings (measured in metres [m])	5.48	5.85	5.65
Site coverage	0.53	0.58	0.66
Average floor numbers	7.2	9.2	10.2

Source: Shi et al. (2019).

Hong Kong is among the highest-density cities in the world and is one of the fastest-growing economies in Asia and developing or emerging countries, such as China. It still retains the basic urban fabric grounded in the early 20th century in core areas with unique high-rise and highly dense urban patterns. The contribution of this research is found in the form of the city's core areas in narratives and graphics. After briefly reviewing the city's history, topography and land-use policy, the study addresses the significance of high-density development, mixed use of land, public transportation efficiency and land value increase.

The theories and methodology of the morphological study are introduced. The city fabric should be understood in terms of spatial levels and transitions in time. The decision-makers, or 'powers', and the distribution of their rights are fundamental in generating and sustaining urban form. The concept levels and methodology are tested and illustrated with three housing estates in Hong Kong. The powers are exercised differently at the spatial levels and create a different urban form – characteristics at the urban tissue and building levels.

The analyses of the three cases in the core area of Hong Kong represent the significant findings of this work. Firstly, at the urban study methodology level, the sectional mapping reveals the verticality of urban forms more strongly than the mapping of urban tissues. For example, a close look at the elements of the urban fabric and open spaces in the cases of mixed-use areas in Hong Kong demonstrates the potential of urban morphological research at different spatial levels. Secondly, the analysis reveals that the street and block urban tissues implemented in the early 20th century have successfully sustained the dramatic change in the economy and society for more than 100 years. Thirdly, the diversity is more evident at the lower spatial levels, such as building forms, structures and units.

Further study on the utilities, functions and façade will ensure similar findings. Lastly, the most important finding of this research is that the powers intervening in the dynamics and vibrancy of the city are small 'powers'. These are developers and institutions that can only develop small pieces of land, especially in areas with high land prices, and target particular user and buyer groups.

The limitation of this chapter is not only found in the utilities, demographic structure, façade of buildings and interior level but also in the exercise of powers in creating 'territories'. However, this work indicates the possibility of morphological studies in high densities and the potential to reveal part of the phenomenon which would otherwise remain as only a superficial impression of high density.

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